City of San Diego

CONTRACTOR'S NAME: Flatiron West, Inc.
ADDRESS: 1770 La Costa Meadows Drive, San Marcos, CA 92078
TELEPHONE NO.: 760-916-9100 FAX NO.:
CITY CONTACT: Antoinette Sanfilippo, Contract Specialist, Email: ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, Fax No. (619) 533-3633
J. Garcia / A. James / egz

BIDDING DOCUMENTS

e - Bidding

FINAL

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.: **K-18-1472-DBB-3**
SAP NO. (WBS/IO/CC): **S-00871, B-12110, B-12097**
CLIENT DEPARTMENT: **1714, 2000, 2116**
COUNCIL DISTRICT: **2**
PROJECT TYPE: **GF, IB, JA**
FEDERAL AID PROJECT NO.: **BHLS-5004(049)**

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE ☒ FEDERAL ☒
- APPRENTICESHIP
- THIS IS A FEDERAL HIGHWAY ADMINISTRATION FUNDED CONTRACT THROUGH THE CALIFORNIA DEPARTMENT OF TRANSPORTATION.

BID DUE DATE:
2:00 PM
NOVEMBER 2, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

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ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

1) Registered Engineer — 7/14/2017 — Date — Seal:

2) For City Engineer — 7/13/2017 — Date — Seal

NOTICE INVITING BIDS

1. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **West Mission Bay Drive Bridge.** For additional information refer to Attachment A.

2. **FULL AND OPEN COMPETITION:** This contract is open to full competition and may be bid on by Contractors who are on the City's current Prequalified Contractors' List. For information regarding the Contractors Prequalified list visit the City's web site: http://www.sandiego.gov.

3. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **$99,400,000.**

4. **BID DUE DATE AND TIME ARE: NOVEMBER 2, 2017, at 2:00 PM.**

5. **PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.

6. **LICENSE REQUIREMENT**: The City has determined that the following licensing classification is required for this contract: **A**

7. **SUBCONTRACTING PARTICIPATION PERCENTAGES**: Subcontracting participation percentages apply to this contract.

7.1. The City affirms that in any contract entered into pursuant to this advertisement, DBE firms will be afforded full opportunity to submit Bids in response to this invitation.

7.2. This Federally assisted project includes subcontracting participation percentages for DBE participation. DBE goal commitments and Good Faith Efforts (GFE) shall be made prior to bidding. DBE commitments and GFE made after the Bid opening will not be considered for the Award of Contract.

7.3. This project is subject to the federal equal opportunity regulations and the following requirements. The City reserves the right to audit the Contractor's compliance with the federal requirements set forth below.

7.4. Following are federally subcontracting participation percentages for this contract. For the purpose of achieving the subcontractor participation percentage, Additive or Deductive, and Type II Allowance Bid Items will not be included in the calculation.

7.5. **FHWA** - CERTIFIED DBE Bidder(s) shall meet the DBE goal or have a good faith effort. They receive no credit toward the goal for their own DBE status. The City has determined that the following goals shall apply to this project:

1. DBE Percentage 6.7%

The Contractor shall meet the Project specific goals for DBE's as outlined in the Specifications or satisfy GFE documentation requirements.

7.6. Bid may be **declared non-responsive** if the Bidder fails any of the following conditions:

1. Submission of GFE documentation, as specified in the Special Provisions.
2. Attending the Pre-Bid Meeting.
3. Bidder's submission of Good Faith Effort documentation, saved in searchable Portable Document Format (PDF) and stored on Compact Disc (CD) or Digital Video Disc (DVD), demonstrating the Bidder made a good faith effort to outreach to and include DBE Subcontractors shall be submitted within **4 Working Days** of the Bid opening.

8. PRE-BID MEETING:

8.1. Prospective Bidders are **required** to attend the Pre-Bid Meeting. The purpose of the meeting is to discuss the scope of the Project, submittal requirements, the pre-qualification process and any Equal Opportunity Contracting Program requirements and reporting procedures. To request a sign language or oral interpreter for this visit, call the Public Works Contracts Division at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. Failure to attend the Mandatory Pre-Bid Meeting may result in Bid being deemed non-responsive. The Pre-Bid meeting is scheduled as follows:

Date: **SEPTEMBER 14, 2017**
Time: **10:00 AM**
Location: **1010 Second Avenue, Suite 1400, San Diego, CA 92101**
Large Conference Room

Attendance at the Pre-Bid Meeting will be evidenced by the Bidder's representative's signature on the attendance roster. It is the responsibility of the Bidder's representative to complete and sign the attendance roster.

Bidders may not be admitted after the specified start time of the mandatory Pre-Bid Meeting.

9. PRE-BID SITE VISIT: All those wishing to submit a bid **MUST** visit the Work Site with the Engineer. The purpose of the Site visit is to acquaint Bidders with the Site conditions. To request a sign language or oral interpreter for this visit, call the Public Works Contracts at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. The Pre-Bid Site Visit is scheduled as follows:

Date: **SEPTEMBER 14, 2017**
Time: **1:00 PM**
Location: **3931 Sports Arena Blvd., San Diego CA 92110 (Intersection of Sports Arena Blvd. and Ollie St.)**

10. AWARD PROCESS:

10.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions of Award as stated within these documents and within the Notice of Intent to Award.

10.2. Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening. The City will then award the Contract within approximately 14 days of receipt of properly signed Contract, bonds, and insurance documents.

10.3. This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.

10.4. The low Bid will be determined by Base Bid plus all Alternates.

10.5. Once the low bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone.

11. SUBMISSION OF QUESTIONS:

11.1. The Director (or Designee) of Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction and completion of any public improvement except when otherwise set forth in these documents. Any questions related to this solicitation shall be submitted to:

Public Works Contracts
1010 Second Avenue, 14th Floor
San Diego, California, 92101
Attention: Antoinette Sanfilippo

OR:

Asanfilippo@sandiego.gov

11.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.

11.3. Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.

11.4. Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Bidder's responsibility to be informed of any addenda that have been issued and to include all such information in its Bid.

12. SUPPLEMENTAL AGREEMENTS: Supplemental agreements attached to this contract for the items of Work such as extended revegetation maintenance and monitoring shall be signed by the BIDDER at the time of submission of the primary BID. The signed agreements shall be accompanied by the evidence of a bond (i.e., labor and materials) and insurance as specified in 2-4, "CONTRACT BONDS," 7-3, "LIABILITY INSURANCE," and 7-4 WORKERS' COMPENSATION INSURANCE. Bonds shall be in amount of the Contract Price for the Work included in the supplemental agreements.

13. Partial Release of Performance Bond and Labor and Materialmen's Bond: For information regarding partial release of bonds for this Contract, see Supplementary Special Provisions, **Appendix P and Appendix Q**.

14. ADDITIVE/DEDUCTIVE ALTERNATES:

14.1. The additive/deductive alternates have been established to allow the City to compare the cost of specific portions of the Work with the Project's budget and enable the City to make a decision whether to incorporate these portions prior to award. The award will be established as described in the Bid. The City reserves the right to award the Contract for the Base Bid only or for the Base Bid plus one or more Alternates.

14.2. For water pipeline projects, the Plans typically show all cut and plug and connection work to be performed by City Forces. However, Bidders shall refer to Bidding Documents to see if all or part of this work will be performed by the Contractor.

INSTRUCTIONS TO BIDDERS

1. PREQUALIFICATION OF CONTRACTORS:

1.1. Contractors submitting a Bid must be pre-qualified for the total amount proposed, including all alternate items, prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified may be deemed **non-responsive** and ineligible for award. Complete information and links to the on-line prequalification application are available at:

http://www.sandiego.gov/cip/bidopps/prequalification.shtml

1.2. The completed application must be submitted online no later than 2 weeks prior to the bid opening. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or dstucky@sandiego.gov.

1.3. Due to the City's responsibility to protect the confidentiality of the contractors' information, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on PlanetBids™.

2. ELECTRONIC FORMAT RECEIPT AND OPENING OF BIDS:

Bids will be received in electronic format (eBids) EXCLUSIVELY at the City of San Diego's electronic bidding (eBidding) site, at: http://www.sandiego.gov/cip/bidopps/index.shtml and are due by the date, and time shown on the cover of this solicitation.

2.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit and electronic bid.

2.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.

2.3. The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. **The system will not accept a bid for which any required information is missing.** This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.

2.4. BIDS REMAIN SEALED UNTIL BID DEADLINE. eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the "Bid Due Date and Time" are not available for review by anyone other than the submitter which has until the "Bid Due Date and Time" to change, rescind or retrieve its proposal should it desire to do so.

2.5. BIDS MUST BE SUBMITTED BY BID DUE DATE AND TIME. Once the bid deadline is reached, no further submissions are accepted into the system. Once the Bid Due Date and Time has lapsed, bidders, proposers, the general public, and City staff are able to immediately see the results on line. City staff may then begin reviewing the submissions for responsiveness, EOCP compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.

2.6. RECAPITULATION OF THE WORK. Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.

2.7. BIDS MAY BE WITHDRAWN by the Bidder only up to the bid due date and time.

2.7.1. Important Note: Submission of the electronic bid into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure their bids are received on time by the City's eBidding system. The City of San Diego is not responsible for bids that do not arrive by the required date and time.

2.8. ACCESSIBILITY AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE. To request a copy of this solicitation in an alternative format, contact the Public Works Contract Specialist listed on the cover of this solicitation at least five (5) working days prior to the Bid/Proposal due date to ensure availability.

3. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT

3.1. The bidder, by submitting its electronic bid, acknowledges that doing so carries the same force and full legal effect as a paper submission with a longhand (wet) signature.

3.2. By submitting an electronic bid, the bidder certifies that the bidder has thoroughly examined and understands the entire Contract Documents (which consist of the plans and specifications, drawings, forms, affidavits and the solicitation documents), and that by submitting the eBid as its bid proposal, the bidder acknowledges, agrees to and is bound by the entire Contract Documents, including any addenda issued thereto, and incorporated by reference in the Contract Documents.

3.3. The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certification, forms and affidavits submitted as part of this bid are true and correct.

3.4. The Bidder agrees to the construction of the project as described in Attachment "A– Scope of Work" for the City of San Diego, in accordance with the requirements set forth herein for the electronically submitted prices. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at $500,000 or less) from the date of Bid opening. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent.

4. **BIDS ARE PUBLIC RECORDS:** Upon receipt by the City, Bids shall become public records subject to public disclosure. It is the responsibility of the respondent to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the Bid. General references to sections of the California Public Records Act (PRA) will not suffice. If the Contractor does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Contractor will hold the City harmless for release of this information.

5. **CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:**

5.1. **Prior** to the Award of the Contract or Task Order, you and your Subcontractors and Suppliers must register with the City's web-based vendor registration and bid management system. For additional information go to:

http://www.sandiego.gov/purchasing/bids-contracts/vendorreg.shtml.

5.2. The City may not award the contract until registration of all subcontractors and suppliers is complete. In the event this requirement is not met within the time frame specified in the Notice of Intent to Award letter, the City reserves the right to rescind the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer.

6. **JOINT VENTURE CONTRACTORS:** Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 10 Working Days after receiving the Contract forms. See 7-6, "The Contractors Representative" in The GREENBOOK and 7-6.1 in The WHITEBOOK.

7. **PREVAILING WAGE RATES WILL APPLY:** Refer to Attachment D.

8. **SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract. Refer to Attachment E.

9. INSURANCE REQUIREMENTS:

9.1. All certificates of insurance and endorsements required by the contract are to be provided upon issuance of the City's Notice of Intent to Award letter.

9.2. Refer to sections 7-3, "LIABILITY INSURANCE", and 7-4, "WORKERS' COMPENSATION INSURANCE" of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

10. REFERENCE STANDARDS: Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards:

Title	Edition	Document Number
Standard Specifications for Public Works Construction ("The GREENBOOK") http://www.greenbookspecs.org/	2015	PWPI070116-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")* https://www.sandiego.gov/publicworks/edocref/greenbook	2015	PWPI070116-02
City of San Diego Standard Drawings* https://www.sandiego.gov/publicworks/edocref/standarddraw	2016	PWPI070116-03
Citywide Computer Aided Design and Drafting (CADD) Standards https://www.sandiego.gov/publicworks/edocref/drawings	2016	PWPI092816-04
California Department of Transportation (CALTRANS) Standard Specifications – http://www.dot.ca.gov/des/oe/construction-contract-standards.html	2015	PWPI092816-05
CALTRANS Standard Plans http://www.dot.ca.gov/des/oe/construction-contract-standards.html	2015	PWPI092816-06
California Manual on Uniform Traffic Control Devices Revision 1 (CA MUTCD Rev 1) - http://www.dot.ca.gov/trafficops/camutcd/	2014	PWPIO92816-07
NOTE: *Available online under Engineering Documents and References at: http://www.sandiego.gov/publicworks/edocref/index.shtml		

11. CITY'S RESPONSES AND ADDENDA: The City, at its discretion, may respond to any or all questions submitted in writing via the City's eBidding web site in the **form of an addendum**. No other responses to questions, oral or written shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addenda are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.

12. CITY'S RIGHTS RESERVED: The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.

13. CONTRACT PRICING: This solicitation is for a Lump Sum contract with Unit Price provisions as set forth herein. The Bidder agrees to perform construction services for the City of San Diego in accordance with these contract documents for the prices listed below. The Bidder further agrees to guarantee the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee may be extended, by mutual consent of the parties, by the number of days required for the City to obtain all items necessary to fulfill all contractual conditions.

14. SUBCONTRACTOR INFORMATION:

14.1. LISTING OF SUBCONTRACTORS. In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the **NAME** and **ADDRESS** of each Subcontractor who will perform work, labor, render services or who specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also state within the description, whether the subcontractor is a **CONSTRUCTOR**, **CONSULTANT** or **SUPPLIER**. The Bidder shall further state within the description, the **PORTION** of the work which will be performed by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement may result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3, "Subcontracts", which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which Bidders are seeking recognition towards achieving any mandatory, voluntary (or both) subcontracting participation goals.

14.2. LISTING OF SUPPLIERS. Any Bidder seeking the recognition of Suppliers of equipment, materials, or supplies obtained from third party Suppliers towards achieving any mandatory or voluntary (or both) subcontracting participation goals shall provide, at a minimum, the **NAME**, **LOCATION (CITY)** and the **DOLLAR VALUE** of each supplier. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for materials and supplies unless vendor manufactures or substantially alters materials and supplies, in which case, 100% will be credited. The Bidder is to indicate within the description whether the listed firm is a supplier or manufacturer. If no indication is provided, the listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage.

14.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES. For subcontractors or suppliers to be used on additive or deductive alternate items, in addition to the above requirements, bidder shall further note "ALTERNATE" and alternate item number within the description.

15. SUBMITTAL OF "OR EQUAL" ITEMS: See Section 4-1.6, "Trade Names or Equals" in The WHITEBOOK and as amended in the SSP.

16. AWARD:

16.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.

16.2. Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.

16.3. This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.

17. SUBCONTRACT LIMITATIONS: The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 2-3, "SUBCONTRACTS" in The GREENBOOK and as amended in the SSP which requires the Contractor to self-perform not less than the specified amount. Failure to comply with this requirement shall render the bid **non-responsive** and ineligible for award.

18. **AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: http://www.sandiego.gov/cip/. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Public Works Contracts.

19. **ONLY ONE BID PER CONTRACTOR SHALL BE ACCCEPTED:** No person, firm, or corporation shall be allowed to make, file, or be interested in more than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.

20. **SAN DIEGO BUSINESS TAX CERTIFICATE:** The Contractor and Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, First floor and submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms within these documents.

21. **BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY) FOR DESIGN-BID-BUILD CONTRACTS:**

21.1. For bids $250,000 and above, bidders shall submit Bid Security at bid time. Bid Security shall be in one of the following forms: a cashier's check, or a properly certified check upon some responsible bank; or an approved corporate surety bond payable to the City of San Diego for an amount of not less than 10% of the total bid amount.

21.2. This check or bond, and the monies represented thereby, will be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into the contract and furnish the required final performance and payment bonds.

21.3. The Bidder agrees that in the event of the Bidder's failure to execute this contract and provide the required final bonds, the money represented by the cashier's or certified check will remain the property of the City; and the Surety agrees that it will pay to the City the damages, not exceeding the sum of 10% of the amount of the Bid, that the City may suffer as a result of such failure.

21.4. At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a properly certified check or an approved corporate surety bond payable to the City of San Diego, the bid security must be uploaded to the City's eBidding system. Within twenty-four (24) hours after the bid due date and time, the first five (5) apparent low bidders must provide the City with the original bid security.

21.5. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original within twenty-four (24) hours may cause the bid to be rejected and deemed **non-responsive**.

22. AWARD OF CONTRACT OR REJECTION OF BIDS:

22.1. This contract may be awarded to the lowest responsible and reliable Bidder.

22.2. Bidders shall complete ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.

22.3. The City reserves the right to reject any or all Bids, to waive any informality or technicality in Bids received, and to waive any requirements of these specifications as to bidding procedure.

22.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City within 3 Working Days of the bid opening, written notice from the Bidder which shows proof of honest, credible, clerical error of a material nature, free from fraud or fraudulent intent; and of evidence that reasonable care was observed in the preparation of the Bid.

22.5. A bidder who is not selected for contract award may protest the award of a contract to another bidder by submitting a written protest in accordance with the San Diego Municipal Code.

22.6. The City of San Diego will not discriminate in the award of contracts with regard to race, religion creed, color, national origin, ancestry, physical handicap, marital status, sex or age.

22.7. Each Bid package properly signed as required by these specifications shall constitute a firm offer which may be accepted by the City within the time specified herein.

22.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of the base bid and any proposed alternates or options as detailed herein.

23. BID RESULTS:

23.1. The availability of the bids on the City's eBidding system shall constitute the public announcement of the apparent low bidder. In the event that the apparent low bidder is subsequently deemed non-responsive or non-responsible, a notation of such will be made on the eBidding system. The new ranking and apparent low bidder will be adjusted accordingly.

23.2. To obtain the bid results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the bid name and number. The bid tabulations will be mailed to you upon their completion. The results will not be given over the telephone.

24. THE CONTRACT:

24.1. The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.

24.2. If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.

24.3. If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.

24.4. Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City, and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.

24.5. The award of the Contract is contingent upon the satisfactory completion of the above-mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee and approval as to form the City Attorney's Office. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.

25. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK: The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 2-7, and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work, the quantities of materials to be furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

26. CITY STANDARD PROVISIONS: This contract is subject to the following standard provisions. See The WHITEBOOK for details.

26.1. The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.

26.2. The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

26.3. The City of San Diego Municipal Code §22.3004 for Contractor Standards.

26.4. The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.

26.5. Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.

26.6. The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).

26.7. The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

27. PRE-AWARD ACTIVITIES:

27.1. The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified in the herein and in the Notice of Award. Failure to provide the information as specified may result in the Bid being rejected as **non-responsive.**

27.2. The decision that bid is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

Executed in Triplicate

Liberty Bond No. 015200915
Travelers Bond No. 106832333
F&D/Zurich Bond No. 9267733
Federal Bond No. 8246-06-15
CNA Bond No. 30025044
Berkshire Bond No. 47-SUR-300033-01-0194

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Flatiron West, Inc., a corporation, as principal, and See Attachment A, a corporation authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of **One Hundred Ten Million Seven Hundred Forty-Two Thousand Nine Hundred Eighty-Five Dollars and Zero Cents ($110,742,985.00)** for the faithful performance of the annexed contract, and in the sum of **One Hundred Ten Million Seven Hundred Forty-Two Thousand Nine Hundred Eighty-Five Dollars and Zero Cents ($110,742,985.00)** for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract with the City of San Diego, California, then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Article 2. Claimants, (iii) public works of improvement commencing with Civil Code Section 9100 of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND (continued)

Dated February 6, 2018

Approved as to Form

Mara W. Elliott, City Attorney

By _____
Deputy City Attorney

Approved:

By _____
Stacey LoMedico
Assistant Chief Operating Officer
City of San Diego

Flatiron West, Inc.

Principal

By _____

Dale A. Nelson, Vice President

Printed Name of Person Signing for Principal

See Attachment A

Surety

See Attachment A

By _____

Attorney-in-fact

See Attachment A

Local Address of Surety

See Attachment A

Local Address (City, State) of Surety

See Attachment A

Local Telephone No. of Surety

Premium $ 866,788.00

Bond No. See Attachment A

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego)

On February 9, 2018 before me, Jannette M. Carter, Notary Public
(insert name and title of the officer)

personally appeared Dale A. Nelson,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Jannette M [signature] (Seal)

JANNETTE M. CARTER
Notary Public – California
San Diego County
Commission # 2220349
My Comm. Expires Nov 28, 2021

ATTACHMENT A

Executed in Triplicate

Liberty Bond No. 015200915
Travelers Bond No. 106832333
F&D/Zurich Bond No. 9267733
Federal Bond No. 8246-06-15
C N A Bond No. 30025044
Berkshire Hathaway Bond No. 47-SUR-300033-01-0194

Liberty Mutual Insurance Company, a Massachusetts Corporation;
Travelers Casualty and Surety Company of America; a Connecticut Corporation;
Fidelity and Deposit Company of Maryland, a Maryland Corporation;
Zurich American Insurance Company, a New York Corporation;
Federal Insurance Company, an Indiana Corporation;
The Continental Insurance Company, a Pennsylvania Corporation;
Berkshire Hathaway Specialty Insurance Company, a Nebraska Corporation;

Liberty Mutual Insurance Company – A.M. Best Rating A XV
175 Berkeley Street, Boston, MA 02116 - Fax (212)-221-5608
Contact: David D. Roberts, Branch Manager – (212) 719-7750 – davidd.roberts@libertymutual.com

Travelers Casualty and Surety Company of America – A.M. Best Rating A++ XV
Construction Services, One Tower Square, Hartford, CT 06183
Contact: Brian Bialaski – VP, (860) 277-1914, Fax –(860)-277-3931 – bbialaski@travelers.com

Fidelity and Deposit Company of Maryland/Zurich American Insurance Company – A.M. Best Rating A+ XV
1299 Zurich Way, Schaumburg, IL 60196 - 1056 – Fax (410)-261-7957
Contact: Douglas Sauer, Underwriting Officer – (410)-559-8739 – douglas.sauer@zurichna.com

Federal Insurance Company – A.M. Best Rating A++ XV
202B Hall's Mill Road, Whitehouse Station, NJ 08889 – Fax (908)-526-2060 – mlubin@chubb.com
Contact: Matthew Lubin, Director, National Engineering and Construction Group – (908) 903-3461

The Continental Insurance Company – A.M. Best Rating A XV
333 S. Wabash Avenue, 41st Floor, Chicago, IL 60604 – Fax (212)-440-7351
Contact: Jon Fullerton, Branch Manager (212)-440-7356 – jon.fullerton@cnasurety.com

Berkshire Hathaway Specialty Insurance Company – A.M. Best A++ XV
100 Federal Street, 20th Floor, Boston, MA 02110, Fax (410)-559-8787
Contact: D. J. Conroy, Vice President - (770)-625-2509 – D.J.Conroy@bhspecialty.com

By: _____
Mary R. McKee Attorney-In-Fact

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY
COUNTY OF BERGEN

On this __6th____day of __February_____, __2018_____ before me personally came MARY R. McKEE to me known, who, being by me duly sworn, did depose and say that she/he resides in SADDLE BROOK, NEW JERSEY that she/he is the ATTORNEY IN FACT of the LIBERTY MUTUAL INSURANCE COMPANY, TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, FIDELITY AND DEPOSIT COMPANY OF MARYLAND, ZURICH AMERICAN INSURANCE COMPANY, FEDERAL INSURANCE COMPANY, THE CONTINENTAL INSURANCE COMPANY, BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, the corporation described in and which executed the above instrument that she/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

(SEAL)

Charo J. Rosemond
Notary Public of New Jersey
Comm. # 50062328
My Commission Expires 6/13/2022

Liberty Mutual SURETY

LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT — DECEMBER 31, 2016

Assets

Cash and Bank Deposits	$1,092,914,837
*Bonds — U.S Government	1,406,763,970
*Other Bonds	11,379,916,523
*Stocks	10,349,761,988
Real Estate	290,265,760
Agents' Balances or Uncollected Premiums	4,709,977,463
Accrued Interest and Rents	112,757,395
Other Admitted Assets	14,659,523,751
Total Admitted Assets	**$44,001,881,687**

Liabilities

Unearned Premiums		$6,929,723,299
Reserve for Claims and Claims Expense		17,233,877,300
Funds Held Under Reinsurance Treaties		208,362,823
Reserve for Dividends to Policyholders		944,909
Additional Statutory Reserve		39,649,905
Reserve for Commissions, Taxes and Other Liabilities		3,061,117,958
Total		**$27,473,676,194**
Special Surplus Funds	$95,257,334	
Capital Stock	10,000,000	
Paid in Surplus	9,229,250,104	
Unassigned Surplus	7,193,698,055	
Surplus to Policyholders		**16,528,205,493**
Total Liabilities and Surplus		**$44,001,881,687**

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2016, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 23rd day of March, 2017.

T A Mikolajewski

Assistant Secretary

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7827779

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Elliott W. Wolffe; Lisa M. Scavetta; Maria L. Spadaccini; Mary R. McKee; Nicholas F. Walsh; Sherryanne M. DePirro; Vincent C. Miseo

all of the city of Paramus, state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 7th day of July, 2017.

The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 7th day of July, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of February, 2018.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2016

CAPITAL STOCK $ 6,480,000

ASSETS		LIABILITIES & SURPLUS	
CASH AND INVESTED CASH	$ 23,923,843	UNEARNED PREMIUMS	$ 879,381,216
BONDS	3,472,067,233	LOSSES	758,091,002
STOCKS	321,318,705	LOSS ADJUSTMENT EXPENSES	224,272,289
INVESTMENT INCOME DUE AND ACCRUED	42,069,894	COMMISSIONS	39,769,777
OTHER INVESTED ASSETS	3,108,073	TAXES, LICENSES AND FEES	13,875,052
PREMIUM BALANCES	217,181,397	OTHER EXPENSES	42,557,946
NET DEFERRED TAX ASSET	69,571,968	CURRENT FEDERAL AND FOREIGN INCOME TAXES	11,351,548
REINSURANCE RECOVERABLE	23,137,819	REMITTANCES AND ITEMS NOT ALLOCATED	9,443,140
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	6,917,816	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	73,697,600
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	9,661,930	RETROACTIVE REINSURANCE RESERVE ASSUMED	977,978
ASSUMED REINSURANCE RECEIVABLE AND PAYABLE	593,147	POLICYHOLDER DIVIDENDS	9,082,602
OTHER ASSETS	6,199,678	PROVISION FOR REINSURANCE	3,555,060
		ADVANCE PREMIUM	1,786,267
		PAYABLE FOR SECURITIES	3,948,166
		PAYABLE FOR SECURITIES LENDING	6,917,816
		CEDED REINSURANCE NET PREMIUMS PAYABLE	26,818,735
		REINSURANCE PAYABLE ON PAID LOSSES & LOSS ADJ. EXPENSES	686,744
		OTHER ACCRUED EXPENSES AND LIABILITIES	1,349,281
		TOTAL LIABILITIES	$ 2,107,562,219
		CAPITAL STOCK	$ 6,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,647,905,524
		TOTAL SURPLUS TO POLICYHOLDERS	$ 2,088,189,284
TOTAL ASSETS	$ 4,195,751,503	TOTAL LIABILITIES & SURPLUS	$ 4,195,751,503

STATE OF CONNECTICUT)

COUNTY OF HARTFORD) SS.

CITY OF HARTFORD)

MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST DAY OF DECEMBER, 2016.

Michael J Doody

SECOND VICE PRESIDENT

SUBSCRIBED AND SWORN TO BEFORE ME THIS
17TH DAY OF MARCH, 2017

NOTARY PUBLIC

SUSAN M. WEISSLEDER
Notary Public
My Commission Expires November 30, 2017

SUSAN M. WEISSLEDER NOTARY PUBLIC CONNECTICUT

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 231084 **Certificate No.** 007400403

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Mary R. McKee, Sherryanne M. DePirro, Maria L. Spadaccini, Nicholas F. Walsh, Elliott W. Wolffe, Vincent C. Miseo, and Lisa M. Scavetta

of the City of Paramus, State of New Jersey, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 5th day of October, 2017.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 5th day of October, 2017, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2021.

MARIE C. TETREAULT NOTARY PUBLIC CONNECTICUT

Marie C. Tetreault
Marie C. Tetreault, Notary Public

58440-5-16 Printed in U.S.A.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

FIDELITY AND DEPOSIT COMPANY

OF MARYLAND
600 Red Brook Blvd., Suite 600, Owings Mills, MD 21117

Statement of Financial Condition
As Of December 31, 2016

ASSETS

Bonds		$ 141,903,342
Stocks		22,845,654
Cash and Short Term Investments		3,080,053
Reinsurance Recoverable		13,996,720
Other Accounts Receivable		27,147,872
TOTAL ADMITTED ASSETS		$ 208,973,641

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 896,428
Ceded Reinsurance Premiums Payable		40,193,693
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 41,090,121
Capital Stock, Paid Up	$ 5,000,000	
Surplus	162,883,521	
Surplus as regards Policyholders		167,883,520
TOTAL		$ 208,973,641

Securities carried at $62,166,344 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2016 would be $209,350,832 and surplus as regards policyholders $168,260,711.

I, DENNIS F. KERRIGAN, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2016.

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 1st day of March, 2017.

Notary Public

DARRYL JOINER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
February 24, 2018

ZURICH AMERICAN INSURANCE COMPANY
COMPARATIVE BALANCE SHEET
ONE LIBERTY PLAZA, 165 BROADWAY, 32nd FLOOR, NEW YORK, NY 10006
As of December 31, 2016 and December 31, 2015

	12/31/2016	12/31/2015
Assets		
Bonds	$ 17,161,451,744	$ 17,260,128,973
Preferred Stock	-	-
Common Stock	3,241,050,263	3,457,354,146
Real Estate	1,026,001,064	743,791,691
Other Invested Assets	1,948,564,541	2,048,959,102
Derivatives	15,084,953	-
Short-term Investments	655,803,775	403,620,083
Receivable for securities	119,469,175	86,823,468
Cash and cash equivalents	(66,647,236)	182,127,374
Securities lending reinvested collateral assets	112,477,509	86,554,110
Employee Trust for Deferred Compensation Plan	156,985,102	153,274,854
Total Cash and Invested Assets	$ 24,370,240,890	$ 24,422,633,801
Premiums Receivable	$ 4,231,447,148	$ 3,598,435,742
Funds Held with Reinsurers	1,783,310	1,906,522
Reinsurance Recoverable	623,035,654	521,790,582
Accrued Investment Income	123,371,546	123,257,424
Federal Income Tax Recoverable	947,211,719	1,045,367,647
Due from Affiliates	110,421,961	200,022,690
Other Assets	595,372,223	558,041,597
Total Assets	$ 31,002,884,451	$ 30,471,456,005
Liabilities and Policyholders' Surplus		
Liabilities:		
Loss and LAE Reserves	$ 14,267,336,824	$ 14,173,584,657
Unearned Premium Reserve	4,253,376,558	4,463,409,342
Funds Held with Reinsurers	215,284,071	203,459,214
Loss In Course of Payment	534,413,839	386,200,590
Commission Reserve	136,388,581	120,630,088
Federal Income Tax Payable	89,598,056	93,480,741
Remittances and Items Unallocated	142,307,982	178,038,986
Payable to parent, subs and affiliates	264,541,870	69,640,403
Provision for Reinsurance	56,323,818	44,528,436
Ceded Reinsurance Premiums Payable	934,904,370	939,196,923
Securities Lending Collateral Liability	112,477,509	86,554,110
Other Liabilities	2,144,252,359	1,947,276,015
Total Liabilities	$ 23,151,205,837	$ 22,705,999,505
Policyholders' Surplus:		
Common Capital Stock	$ 5,000,000	$ 5,000,000
Paid-In and Contributed Surplus	4,394,131,321	4,394,131,321
Surplus Notes	-	-
Special Surplus Funds	52,465,000	56,772,000
Cumulative Unrealized Gain	178,672,890	430,546,047
Unassigned Surplus	3,221,409,403	2,879,007,132
Total Policyholders' Surplus	$ 7,851,678,614	$ 7,765,456,500
Total Liabilities and Policyholders' Surplus	$ 31,002,884,451	$ 30,471,456,005

I, Dennis F. Kerrigan, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2016, according to the best of my information, knowledge and belief.

Corporate Secretary

State of Illinois
County of Cook } **SS:**

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 1st day of March, 2017.

Notary public

DARRYL JOINER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
February 24, 2018

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **Michael P. Bond, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Mary R. MCKEE, Maria L. SPADACCINI, Sherryanne M. DEPIRRO, Nicholas F. WALSH, Lisa M. SCAVETTA, Elliott W. WOLFFE and Vincent C. MISEO, all of Paramus, New Jersey, EACH** its true and lawful agents and Attorney-in-Facts, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 19th day of September, A.D. 2017.

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Michael P. Bond
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 19th day of September, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Michael P. Bond, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2016

(in thousands of dollars)

ASSETS		*LIABILITIES AND SURPLUS TO POLICYHOLDERS*	
Cash and Short Term Investments	$ (86,990)	Outstanding Losses and Loss Expenses	$ 11,482,308
United States Government, State and Municipal Bonds	8,135,311	Unearned Premiums	2,723,875
Other Bonds	5,471,330	Ceded Reinsurance Premiums Payable	566,868
Stocks	130,689	Provision for Reinsurance	29,339
Other Invested Assets	1,289,903	Other Liabilities	1,144,976
TOTAL INVESTMENTS	14,940,243	TOTAL LIABILITIES	15,947,366
Investments in Affiliates:			
Chubb Investment Holdings, Inc.	3,727,406	Capital Stock	20,980
Pacific Indemnity Company	2,926,619	Paid-In Surplus	3,106,809
Executive Risk Indemnity Inc.	1,250,965	Unassigned Funds	8,296,020
Great Northern Insurance Company	504,162		
Vigilant Insurance Company	319,505		
Chubb European Investment Holdings, SLP	277,361	SURPLUS TO POLICYHOLDERS	11,423,809
Chubb Custom Insurance Company	214,956		
Chubb National Insurance Company	162,929		
Chubb Indemnity Insurance Company	163,668		
Other Affiliates	70,204		
Premiums Receivable	1,510,107		
Other Assets	1,303,050		
TOTAL ADMITTED ASSETS	$ 27,371,175	TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS	$ 27,371,175

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2016, investments with a carrying value of $565,702,495 were deposited with government authorities as required by law.

State, County & City of New York, — ss:

Dawn M. Chloros, Assistant Secretary of the Federal Insurance Company being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2016 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2016.

Subscribed and sworn to before me
this March 3, 2017.

Jeanette Shipsey
Notary Public

JEANETTE SHIPSEY
Notary Public, State of New York
No. 02SH5074142
Qualified in Nassau County
Commission Expires March 10, 2019

Dawn M. Chloros
Assistant Secretary

Form 15-10-0313A (Rev. 3/17)

CHUBB

Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, and **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, do each hereby constitute and appoint Sherryanne M. DePirro, Mary R. McKee, Vincent C. Miseo, Lisa M. Scavetta, Maria L. Spadaccini, Nicholas F. Walsh and Elliott W. Wolffe of Paramus, New Jersey----------

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** have each executed and attested these presents and affixed their corporate seals on this **31st** day of **July, 2017.**

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney, Vice President

STATE OF NEW JERSEY

County of Hunterdon ss.

On this **31st** day of **July, 2017** before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof; that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with Stephen M. Haney, and knows him to be Vice President of said Companies; and that the signature of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal

KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No. 2316686
Commission Expires July 16, 2019

Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

(1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.

(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.

(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this 6th Day of February, 2018

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

THE CONTINENTAL INSURANCE COMPANY
Radnor, Pennsylvania
Statement of Net Admitted Assets and Liabilities
December 31, 2016

ASSETS

Bonds	$	1,134,642,999
Stocks		146,454,381
Cash and short-term investments		208,940,675
Receivables for securities		15,218
Investment income due and accrued		14,853,145
Amounts recoverable from reinsurers		86,857,208
Funds held by or deposited with reinsured companies		1,463,083
Net deferred tax asset		56,055,855
Premiums and considerations		16,951,925
Other assets		1,251,000
Total Assets	$	1,667,485,489

LIABILITIES AND SURPLUS

Losses	$	812,077,677
Loss adjustment expense		37,646,991
Unearned premiums		-
Other expenses		750,799
Ceded reinsurance premiums payable (net of ceding commissions)		23,147,409
Funds held by company under reinsurance treaties		2,535,486
Provision for reinsurance		76,000,000
Other liabilities		(785,015,440
Total Liabilities	$	167,142,922

Surplus Account:			
Capital paid up	$	53,566,360	
Gross paid in and contributed surplus		1,423,436,994	
Special Surplus		257,617,903	
Unassigned funds		(234,278,690)	
Surplus as regards policyholders			$ 1,500,342,567
Total Liabilities and Capital			$ 1,667,485,489

I, Troy Wray, Assistant Vice President of Continental Insurance Company hereby certify that the above is an accurate representation of the financial statement of the Company dated December 31, 2016, as filed with the various Insurance Departments and is a true and correct statement of the condition of Continental Insurance Company as of that date.

THE CONTINENTAL INSURANCE COMPANY

By _____
Assistant Vice President

Subscribed and sworn to me this 10th day of March, 2017.

My commission expires:

YOLANDA JIMENEZ
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
September 24, 2017

_____
Notary Public

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That The Continental Insurance Company, a Pennsylvania insurance company, is a duly organized and existing insurance company having its principal office in the City of Chicago, and State of Illinois, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Mary R McKee, Sherryanne M DePirro, Maria L Spadaccini, Nicholas F Walsh, Elliott W Wolffe, Vincent C Miseo, Lisa M Scavetta, Individually

of Paramus, NJ, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the insurance company and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Board of Directors of the insurance company.

In Witness Whereof, The Continental Insurance Company has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 3rd day of October, 2017.

THE CONTINENTAL INSURANCE COMPANY

The Continental Insurance Company

Paul T. Bruflat — Vice President

State of South Dakota, County of Minnehaha, ss:

On this 3rd day of October, 2017, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of The Continental Insurance Company, a Pennsylvania insurance company, described in and which executed the above instrument; that he knows the seal of said insurance company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said insurance company and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance company.

J. MOHR
SEAL NOTARY PUBLIC SOUTH DAKOTA SEAL

My Commission Expires June 23, 2021

J. Mohr — Notary Public

CERTIFICATE

I, D. Johnson, Assistant Secretary of The Continental Insurance Company, a Pennsylvania insurance company, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance company printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance company this 6th day of February, 2018.

THE CONTINENTAL INSURANCE COMPANY

The Continental Insurance Company

D. Johnson — Assistant Secretary

Form F6850-4/2012

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY

1314 Douglas Street, Suite 1400, Omaha, Nebraska 68102

ADMITTED ASSETS*

	12/31/2016	9/30/2016	12/31/2015
Total invested assets	$ 3,707,827,160	$ 3,227,738,364	$ 3,186,498,049
Premium & agent balances (net)	193,621,498	217,789,751	111,888,220
All other assets	185,024,482	149,308,523	73,200,653
Total Admitted Assets	$ 4,086,473,140	$ 3,594,836,638	$ 3,371,586,922

LIABILITIES & SURPLUS*

	12/31/2016	9/30/2016	12/31/2015
Loss & loss exp. unpaid	$ 142,981,337	$ 115,650,774	$ 33,586,302
Unearned premiums	160,310,927	147,682,695	62,997,856
All other liabilities	446,041,395	299,250,489	230,891,273
Total Liabilities	749,333,659	562,583,958	327,475,431
Total Policyholders' Surplus	3,337,139,481	3,032,252,680	3,044,111,491
Total Liabilities & Surplus	$ 4,086,473,140	$ 3,594,836,638	$ 3,371,586,922

* Assets, liabilities and surplus are presented on a Statutory Accounting Basis as promulgated by the NAIC and/or the laws of the company's domiciliary state.

A.M. Best: A++ Rating **Standard & Poor's: AA+ Rating**

Berkshire Hathaway Specialty Insurance

Power Of Attorney

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY
NATIONAL INDEMNITY COMPANY / NATIONAL LIABILITY & FIRE INSURANCE COMPANY

Know all men by these presents, that **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at 100 Federal Street, 20th Floor, Boston, Massachusetts 02110, **NATIONAL INDEMNITY COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Connecticut (hereinafter collectively the "Companies"), pursuant to and by the authority granted as set forth herein, do hereby name, constitute and appoint: **Vincent C. Miseo, Sherryanne M. DePirro, Elliott Wolffe, Mary R. McKee, Andrew Waterbury, Maria L. Spadaccini, Nicholas F. Walsh, Lisa M. Scavetta, 650 From Road of the city of Paramus State of New Jersey,** their true and lawful attorney(s)-in-fact to make, execute, seal, acknowledge, and deliver, for and on their behalf as surety and as their act and deed, any and all undertakings, bonds, or other such writings obligatory in the nature thereof, in pursuance of these presents, the execution of which shall be as binding upon the Companies as if it has been duly signed and executed by their regularly elected officers in their own proper persons. **This authority for the Attorney-in-Fact shall be limited to the execution of the attached bond(s) or other such writings obligatory in the nature thereof.**

In witness whereof, this Power of Attorney has been subscribed by an authorized officer of the Companies, and the corporate seals of the Companies have been affixed hereto this date of November 2, 2017. This Power of Attorney is made and executed pursuant to and by authority of the Bylaws, Resolutions of the Board of Directors, and other Authorizations of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, which are in full force and effect, each reading as appears on the back page of this Power of Attorney, respectively. The following signature by an authorized officer of the Company may be a facsimile, which shall be deemed the equivalent of and constitute the written signature of such officer of the Company for all purposes regarding this Power of Attorney, including satisfaction of any signature requirements on any and all undertakings, bonds, or other such writings obligatory in the nature thereof, to which this Power of Attorney applies.

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY,

By: _____
David Fields, Executive Vice President

NATIONAL INDEMNITY COMPANY, NATIONAL LIABILITY & FIRE INSURANCE COMPANY,

By: _____
David Fields, Vice President

NOTARY
State of Massachusetts, County of Suffolk, ss:
On November 2, 2017 before me appeared David Fields, Executive Vice President of BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY and Vice President of NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, who being duly sworn, says that his capacity is as designated above for such Companies; that he knows the corporate seals of the Companies; that the seals affixed to the foregoing instrument are such corporate seals; that they were affixed by order of the board of directors or other governing body of said Companies pursuant to its Bylaws, Resolutions and other Authorizations, and that he signed said instrument in that capacity of said Companies.
[Notary Seal]

_____
Notary Public

I, Ralph Tortorella, the undersigned, Officer of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies which is in full force and effect and has not been revoked. IN TESTIMONY WHEREOF, I have hereunto affixed the seals of said companies this date of February 6, 2018.

_____
Officer

To verify the authenticity of this Power of Attorney please contact us at: BHSI Surety Department, Berkshire Hathaway Specialty Insurance Company, 100 Federal Street. 20th floor, Boston MA 02110 (617) 936-2971 or by email at Courtney.Walker@bhspecialty.com, **THIS POWER OF ATTORNEY IS VOID IF ALTERED.**
To notify us of claim please contact us on our 24-hour toll free number at (855) 453-9675, via email at claimsnotice@bhspecialty.com, via fax to (617) 507-8529, or via mail 500 Northpark Town Center, 1100 Abernathy Road, N.E., Suite 1200, Atlanta, GA 30328.

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY (BYLAWS)

ARTICLE V.

CORPORATE ACTIONS

. . . .

EXECUTION OF DOCUMENTS:

. . . .

Section 6.(b) The President, any Vice President or the Secretary, shall have the power and authority:

(1) To appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company bonds and other undertakings, and

(2) To remove at any time any such Attorney-in-fact and revoke the authority given him.

NATIONAL INDEMNITY COMPANY (BY-LAWS)

Section 4. Officers, Agents, and Employees:

A. The officers shall be a President, one or more Vice Presidents, a Secretary, one or more Assistant Secretaries, a Treasurer, and one or more Assistant Treasurers none of whom shall be required to be shareholders or Directors and each of whom shall be elected annually by the Board of Directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the Board of Directors, and shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the Board of Directors; and the Board of Directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the corporation.

NATIONAL INDEMNITY COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BY-LAWS)

ARTICLE IV

Officers

Section 1. Officers, Agents and Employees:

A. The officers shall be a president, one or more vice presidents, one or more assistant vice presidents, a secretary, one or more assistant secretaries, a treasurer, and one or more assistant treasurers, none of whom shall be required to be shareholders or directors, and each of whom shall be elected annually by the board of directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the board of directors. The president and secretary shall be different individuals. Election or appointment of an officer or agent shall not create contract rights. The officers of the Corporation shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the board of directors; and the board of directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the Corporation.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

ATTACHMENTS

ATTACHMENT A

SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** The Work involves furnishing all labor, materials, equipment, services and construction for the replacement of the existing West Mission Bay Bridge over the San Diego River. These improvements include the installation of traffic signals and electrical facilities, widening the existing roadway starting at the intersection of Ollie Street and ending at the interchange with Sea World Drive from four (4) lanes to six (6) lanes, adding a southbound auxiliary lane for the eastbound I-8 on-ramp and barrier-separated Class 1 Bike facilities on both sides of West Mission Bay Drive.

Further improvements include the widening of the westbound I-8 off-ramp to West Mission Bay Drive that will extend the current four-lane configuration to a total approximate length of 1,200 ft.

The Work also includes approximately 12 acres of compensatory wetland mitigation for project jurisdictional impacts.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **39475-01-D** through **39475-283-D, 39475-T1-D** through **39475-T91-D, 39475-E1-D** through **39475-E23-D** inclusive.

2. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **$99,400,000**.

3. **LOCATION OF WORK: The location of Work is as follows:**

See Project Location Maps in **Appendix E.**

4. **CONTRACT TIME:** The Contract Time for completion of the Work, **including 90 calendar days of the 1-year Plant Establishment Period (PEP) and 120 calendar days for Mitigation Areas,** shall be **900 Working Days**.

ATTACHMENT B

INTENTIONALLY LEFT BLANK

ATTACHMENT C

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ATTACHMENT D

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FUNDING AGENCY PROVISIONS

IN THE EVENT THAT THESE REQUIREMENTS CONFLICT WITH THE CITY'S GENERAL EOC REQUIREMENTS, THE FUNDING AGENCY'S REQUIREMENTS WILL CONTROL.

1. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246).

1.1. The goal and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, as follows:

		Goal
1.	Minority Participation:	16.9%
2.	Female Participation:	6.9%

1.2. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs Work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the Work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both federally involved and non-federally involved Work.

1.3. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals.

1.4. The hours of minority and female employment and training shall be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

1.5. The Contractor shall provide written notification to the Director the Office of Federal Contract Compliance Programs within 10 Working Days of award of any Subcontract in excess of $10,000 at any tier for Work under the Contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employer identification number of the Subcontractor; estimated dollar amount of the Subcontract; estimated starting and completion dates of the Subcontract; and the geographical area in which the subcontract is to be performed. The "covered area" is the City of San Diego.

2. NONDISCRIMINATION PROVISIONS FOR FEDERALLY ASSISTED CONSTRUCTION CONTRACTS AND PROJECTS:

2.1. During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but shall not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by, on behalf of, the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of worker with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advertising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, or of the rules, regulations and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the portion of the sentence immediately preceding Paragraph 1 and the provisions of Paragraphs 1 through 7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or Vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or Vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

3. EQUAL OPPORTUNITY CLAUSES:

3.1. The following equal opportunity clauses are incorporated by reference herein:

1. The equal opportunity clause located 41 CFR 60.1.4(a), which specifies the obligations imposed under Executive Order 11246.

2. The equal opportunity clause located at 41 CFR 60-741.5, which contains the obligations imposed by Section 503 of the Rehabilitation Act of 1973.

3. The "Equal Opportunity Clause" (Resolution No. 765092) filed on December 4, 1978, in the Office of the City Clerk, San Diego, California and incorporated in the "Standard Federal Employment Opportunity Construction Contract Specifications (Executive Order 11246 - Document No. 769023, filed September 11, 1984, in the Office of the City Clerk, San Diego, California) is applicable to all non-exempt City construction contracts and subcontracts of $2,000 or more.

4. Age Discrimination Act of 1975, Pub. L. 94-135.

5. Title VI of the Civil Rights Act of 1964, Pub. L. 88-352.

6. Section 13 of the Federal Water Pollution Control Acts Amendments of 1972, Pub. L. 92-5200 (the Clean Water Act).

7. Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112 (Executive Orders 11914 and 11250).

8. Women's Minority Business Enterprises, Executive Orders 11625, 12138 and 12432.

9. Section 129 of the Small Business Administration Reauthorization and Amendment Act of 1988, Pub. L. 100-590.

4. STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS:

4.1. The Contractor is required to comply with the 16 "Standard Federal Equal Employment Specifications" located at 41 CFR 60-4.3 for federal and federally-assisted construction contracts in excess of $10,000, set forth below.

4.2. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions The Contractor shall document these efforts fully, and shall implement affirmative actions steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign 2 or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

3. Maintain a current file of the names, addresses and telephone numbers of each minority and female walk-in applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

5. Develop on-the-job training opportunities, participate in training programs for the area, or both which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 1 above.

6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreements; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignments, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, foreman, etc., prior to the initiation of Work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and dispositions of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

10. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

13. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

14. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

5. VIOLATION OR BREACH OF REQUIREMENTS:

5.1. If at any time during the course of the Contract there is a violation of the Affirmative Action or Equal Employment Opportunity requirements by the Contractor, or the Subcontractors, the City will notify the Contractor of the breach. The City may withhold any further progress payments to the Contractor until the City is satisfied that the Contractor and Subcontractors are in full compliance with these requirements.

6. MONTHLY EMPLOYMENT UTILIZATION REPORTS:

6.1. Refer to GENERAL EQUAL OPPORTUNITY CONTRACTING PROGRAM REQUIREMENTS, CONSTRUCTION CONTRACTOR REQUIREMENTS in The WHITEBOOK and the following:

1. State of California Department of Transportation Payroll Report. Due to the City weekly.

2. Federal and Non-Federal Work in San Diego County. Submit an updated list only if work is complete or new contracts have been awarded during the span of this project.

7. RECORDS OF PAYMENTS TO DBEs:

7.1. The Contractor shall maintain records and documents of payments to DBEs for 5 years following the NOC. These records shall be made available for inspection upon request by any authorized representative of the City, DOT, or both. The reporting requirement shall be extended to any certified DBE Subcontractor.

8. FEDERAL WAGE REQUIREMENTS FOR FEDERALLY FUNDED PROJECTS:

8.1. The successful Bidder's work shall be required to comply with Executive Order 11246, entitled "Equal Employment Opportunity,", as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR chapter 60).

8.2. This Executive Order pertains to Equal Employment Opportunity regulations and contains significant changes to the regulations including new goals and timetables for women in construction and revised goals and time-tables for minorities in construction.

8.3. Minimum wage rates for this project have been predetermined by the Secretary of Labor and are set forth in the Decision of the Secretary and bound into the specifications book. Should there be any difference between the state or federal wage rates, including health and welfare funds for any given craft, mechanic, or similar classifications needed to execute the Work, it shall be mandatory upon the Contractor or subcontractor to pay the higher of the two rates.

8.4. The minimum wage rate to be paid by the Contractor and the Subcontractors shall be in accordance with the Federal Labor Standards Provisions and Federal Wage Rates (see Wage Rates below) and General Prevailing Wage Determination made by the State of California, Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1, whichever is higher.

8.5. A Contractor having 50 or more employees and its Subcontractors having 50 or more employees and who may be awarded a contract of $50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the specifications.

8.6. To be eligible for award, each Bidder shall comply with the affirmative action requirements which are contained in the specifications.

8.7. Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards of requirements for the employment of minorities.

9. PREVAILING WAGE RATES: Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding $25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding $15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.

9.1. Compliance with Prevailing Wage Requirements. Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of

the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.

9.1.1. Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.

9.1.2. The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.

9.2. **Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed.

9.3. **Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.

9.3.1. For contracts entered into on or after April 1, 2015, Contractor and their subcontractors shall furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.

9.4. **Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.

9.5. **Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on design professionals and subcontractors of $25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections1810 through 1815.

9.6. **Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.

9.7. **Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract."

9.8. **Labor Compliance Program**. The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Equal Opportunity Contracting Department at 619-236-6000.

9.9. **Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. As of March 1, 2015, no contractor or subcontractor may be listed on a bid or proposal for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5. As of April 1, 2015, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5 By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City upon request.

9.9.1 A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within

twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107

10. WAGE RATES: This contract shall be subject to the following Davis-Bacon Wage Decisions:

General Decision Number: CA170001 08/11/2017 CA1

Superseded General Decision Number: CA20160001

State: California

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

County: San Diego County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/27/2017
2	02/17/2017
3	02/24/2017
4	03/03/2017
5	03/10/2017
6	03/24/2017
7	05/05/2017
8	05/12/2017
9	05/26/2017
10	06/09/2017
11	06/30/2017
12	07/07/2017
13	07/14/2017
14	08/04/2017
15	08/11/2017

ASBE0005-002 07/04/2016

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)	$ 38.37	20.13
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls)	$ 26.15	17.31

ASBE0005-004 07/04/2016

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)	$ 18.38	10.82

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER	$ 41.17	28.27

BRCA0004-008 11/01/2016

	Rates	Fringes
BRICKLAYER; MARBLE SETTER	$ 35.30	17.35

BRCA0018-004 06/01/2016

	Rates	Fringes
MARBLE FINISHER	$ 29.20	12.93
TILE FINISHER	$ 24.53	11.08
TILE LAYER	$ 35.89	16.24

BRCA0018-010 09/01/2016

	Rates	Fringes

TERRAZZO FINISHER.....$ 28.53 12.27
TERRAZZO WORKER/SETTER.....$ 35.57 13.14

CARP0409-002 07/01/2008

	Rates	Fringes
Diver		
(1) Wet	$ 663.68	9.82
(2) Standby	$ 331.84	9.82
(3) Tender	$ 323.84	9.82
(4) Assistant Tender	$ 299.84	9.82

Amounts in "Rates' column are per day

CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer	$ 17.00	7.41

CARP0547-001 07/01/2016

	Rates	Fringes
CARPENTER		
(1) Bridge	$ 40.33	17.03
(2) Commercial Building	$ 35.10	17.03
(3) Heavy & Highway	$ 40.20	17.03
(4) Residential Carpenter	$ 28.08	17.03
(5) Residential Insulation Installer	$ 18.00	8.16
MILLWRIGHT	$ 46.70	17.03
PILEDRIVERMAN	$ 40.33	17.03

CARP0547-002 07/01/2016

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories		
Drywall Installer/Lather	$ 30.15	16.03
Drywall Stocker/Scrapper	$ 10.00	6.67
(2) All other work		
Drywall Installer/Lather	$ 27.35	9.58
Drywall Stocker/Scrapper	$ 11.00	6.67

ELEC0569-001 06/05/2017

	Rates	Fringes
Electricians (Tunnel Work)		

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     Cable Splicer..............$ 49.41         3%+12.63
     Electrician................$ 46.97         3%+12.63
Electricians: (All Other
Work, Including 4 Stories
Residential)
     Cable Splicer..............$ 44.00         3%+12.63
     Electrician................$ 43.25         3%+12.63
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 ELEC0569-004 06/05/2017

                                   Rates          Fringes

ELECTRICIAN (Sound &
Communications Sound
Technician).....................$ 31.00         3%+11.53
  SOUND TECHNICIAN: Terminating, operating and performing final
  check-out
----------------------------------------------------------------
 ELEC0569-005 06/05/2017

                                   Rates          Fringes

Sound & Communications
     Sound Technician...........$ 31.00         3%+11.53

  SOUND TECHNICIAN: Terminating, operating and performing
  final check-out

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 ELEC0569-006 02/27/2017

Work on street lighting; traffic signals; and underground
systems and/or established easements outside of buildings

                                   Rates          Fringes

Traffic signal, street light
and underground work
     Utility Technician #1.....$ 30.48          3%+7.70
     Utility Technician #2.....$ 25.45          3%+7.70

STREET LIGHT & TRAFFIC SIGNAL WORK:

  UTILITY TECHNICIAN #1: Installation of street lights and
  traffic signals, including electrical circuitry,
  programmable controller, pedestal-mounted electrical meter
  enclosures and laying of pre-assembled cable in ducts.  The
  layout of electrical systems and communication installation
  including proper position of trench depths, and radius at
  duct banks, location for manholes, street lights and
  traffic signals.

  UTILITY TECHNICIAN #2: Distribution of material at jobsite,
  installation of underground ducts for electrical,
  telephone, cable TV land communication systems. The
  setting, leveling, grounding and racking of precast
  manholes, handholes and transformer pads.
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 ELEC0569-008 06/05/2017

                                   Rates          Fringes

ELECTRICIAN (Residential, 1-3
Stories).........................$ 32.81           3%+6.61
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 ELEC1245-001 06/01/2017

                                   Rates          Fringes

LINE CONSTRUCTION
     (1) Lineman; Cable splicer..$ 55.49         3%+17.65
     (2) Equipment specialist
     (operates crawler
     tractors, commercial motor
     vehicles, backhoes,
     trenchers, cranes (50 tons
     and below), overhead &
     underground distribution
     line   equipment)...........$ 44.32         3%+17.65
     (3) Groundman...............$ 33.89         3%+17.65
     (4) Powderman...............$ 49.55         3%+17.65

  HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,
  Independence Day, Labor Day, Veterans Day, Thanksgiving Day
  and day after Thanksgiving, Christmas Day

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 ELEV0018-001 01/01/2017

                                   Rates          Fringes

ELEVATOR MECHANIC...............$ 52.21            31.585

FOOTNOTE:
  PAID VACATION:  Employer contributes 8% of regular hourly
  rate as vacation pay credit for employees with more than 5
  years of service, and 6% for 6 months to 5 years of service.
  PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,
  Labor Day, Veterans Day, Thanksgiving Day, Friday after
  Thanksgiving, and Christmas Day.

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 ENGI0012-003 07/01/2016

                                   Rates          Fringes

OPERATOR:  Power Equipment
(All Other Work)
     GROUP  1....................$ 39.95            23.35
     GROUP  2....................$ 40.73            23.35
     GROUP  3....................$ 41.02            23.35
     GROUP  4....................$ 42.51            23.35
     GROUP  5....................$ 41.86            23.35
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GROUP 6	$ 41.83	23.35
GROUP 8	$ 42.84	23.35
GROUP 9	$ 42.19	23.35
GROUP 10	$ 42.96	23.35
GROUP 11	$ 42.31	23.35
GROUP 12	$ 43.13	23.35
GROUP 13	$ 43.23	23.35
GROUP 14	$ 43.26	23.35
GROUP 15	$ 43.34	23.35
GROUP 16	$ 43.46	23.35
GROUP 17	$ 43.63	23.35
GROUP 18	$ 43.73	23.35
GROUP 19	$ 43.84	23.35
GROUP 20	$ 43.96	23.35
GROUP 21	$ 44.13	23.35
GROUP 22	$ 44.23	23.35
GROUP 23	$ 44.34	23.35
GROUP 24	$ 44.46	23.35
GROUP 25	$ 44.63	23.35
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1	$ 43.20	22.15
GROUP 2	$ 43.98	22.15
GROUP 3	$ 44.27	22.15
GROUP 4	$ 44.41	22.15
GROUP 5	$ 44.63	22.15
GROUP 6	$ 44.74	22.15
GROUP 7	$ 44.86	22.15
GROUP 8	$ 45.03	22.15
GROUP 9	$ 45.20	22.15
GROUP 10	$ 46.20	22.15
GROUP 11	$ 47.20	22.15
GROUP 12	$ 48.20	22.15
GROUP 13	$ 49.20	22.15
OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1	$ 41.80	23.35
GROUP 2	$ 42.58	23.35
GROUP 3	$ 42.87	23.35
GROUP 4	$ 43.01	23.35
GROUP 5	$ 43.23	23.35
GROUP 6	$ 43.34	23.35
GROUP 7	$ 43.46	23.35

PREMIUM PAY:

$3.75 per hour shall be paid on all Power Equipment Operator work on the followng Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: $2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or

similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter(concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bendng machine operator;

Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: $1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any

and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds.and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system

(single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including

50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator

(Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point whch is the SW corner of Section 34.T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along

the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman	$ 49.50	23.60
(2) Dredge dozer	$ 43.53	23.60
(3) Deckmate	$ 43.42	23.60
(4) Winch operator (stern winch on dredge)	$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand	$ 42.33	23.60
(6) Barge Mate	$ 42.94	23.60

IRON0377-002 07/01/2016

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 28.33	20.64
Ornamental, Reinforcing and Structural	$ 34.75	29.20

PREMIUM PAY:

$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0089-001 07/18/2016

	Rates	Fringes

LABORER (BUILDING and all other Residential Construction)		
Group 1	$ 29.42	19.78
Group 2	$ 30.10	19.78
Group 3	$ 30.81	19.78
Group 4	$ 31.61	19.78
Group 5	$ 33.54	19.78
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer	$ 27.32	18.11
(2) Cleanup, Landscape, Fencing (Chain Link & Wood)	$ 26.03	18.11

RESIDENTIAL DEFINITION: Wood or metal frame construction of single family residences, apartments and condominums - excluding (a) projects that exceed three stories over a garage level, (b) any utility work such as telephone, gas, water, sewer and other utilities and (c) any fine grading work, utility work or paving work in the future street and public right-of-way; but including all rough grading work at the job site behind the existing right of way

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete Screeding for Rought Strike-off; Concrete, water curing; Demolition laborer; Flagman; Gas, oil and/or water pipeline laborer; General Laborer; General clean-up laborer; Landscape laborer; Jetting laborer; Temporary water and air lines laborer; Material hoseman (walls, slabs, floors and decks); Plugging, filling of Shee-bolt holes; Dry packing of concrete; Railroad maintenance, Repair Trackman and road beds, Streetcar and railroad construction trac laborers; Slip form raisers; Slurry seal crews (mixer operator, applicator operator, squeegee man, Shuttle man, top man), filling of cracks by any method on any surface; Tarman and mortar man; Tool crib or tool house laborer; Window cleaner; Wire Mesh puling-all concrete pouring operations

GROUP 2: Asphalt Shoveler; Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute man, pouring concrete, the handling of the cute from ready mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete curer-impervious membrane and form oiler; Cutting torch operator (demoliton); Guinea chaser; Headboard man-asphlt; Laborer, packing rod steel and pans; membrane vapor barrier installer; Power broom sweepers (small); Riiprap, stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Tank sealer and cleaner; Tree climber, faller, chain saw operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellower

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, mult-plate; Kettlemen, potmen and mean applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibratring machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and inclduing rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scaarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

GROUP 4: Asphalt raker, luterman, ironer, apshalt dumpman and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), Grinder or sander; Concrete saw man; cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Laser beam in connection with laborer's work; Oversize concrete vibrator operator 70 pounds and over; Pipelayer performing all services in the laying, installation and all forms of connection of pipe from the point of receiving pipe in the ditch until completion of oepration, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid, gas, air or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzleman), Porta shot-blast, water blasting

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all pwder and explosives of whatever type, regardless of method used for such loading and placing; Driller-all power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power.

LABO0089-002 11/01/2016

	Rates	Fringes
LABORER (MASON TENDER).....	$ 29.62	15.89

LABO0089-004 07/01/2017

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1	$ 31.63	18.58
Group 2	$ 32.09	18.58
Group 3	$ 32.50	18.58
Group 4	$ 33.34	18.58
Group 5	$ 37.46	18.58

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer. Asphalt Rubber Material Loader. Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete water curing. Concrete Curb & Gutter laborer, Certified Confined Space Laborer, Demolition laborer & Cleaning of Brick and lumber,Expansion Joint Caulking; Environmental Remediation, Monitoring Well, Toxic waste and Geotechnical Drill tender, Fine Grader, Fire Watcher, Limbers, Brush Loader, Pilers and Debris Handlers. flagman. Gas Oil and Water Pipeline Laborer. Material Hoseman (slabs, walls, floors, decks); Plugging, filling of shee bolt holes; Dry packing of concrete and patching; Post Holer Digger (manual); Railroad maintenance, repair trackman, road beds; Rigging & signaling; Scaler, Slip-Form Raisers, Filling cracks on any surface, tool Crib or Tool House Laborer, Traffic control (signs, barriers, barricades, delineator, cones etc.), Window Cleaner

GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/'2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer; Kettleman-Potman hot mop, includes applying asphalt, lay-klold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile

Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter,Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting,m makeing of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

GROUP 4: Any worker exposed to raw sewage. Asphalt Raker, Luteman, Asphalt Dumpman, Asphalt Spreader Boxes, Concrete Core Cutter, Concrete Saw Man, Cribber, Shorer, Head Rock Slinger. Installation of subsurface instrumentation, monitoring wells or points, remediation system installer; Laborer, asphalt-rubber distributor bootman; Oversize concrete vibrator operators, 70 pounds or over. Pipelayer, Prfefabricated Manhole Installer, Sandblast Nozzleman (Water Balsting-Porta Shot Blast), Traffic Lane Closure.

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Horizontal directional driller, Boring system, Electronic traking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

LABO0300-005 01/01/2017

	Rates	Fringes
Asbestos Removal Laborer.....	$ 31.88	16.82

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and

disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LABO1184-001 07/01/2017

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer	$ 34.65	13.20
(2) Vehicle Operator/Hauler	$ 34.82	13.20
(3) Horizontal Directional Drill Operator	$ 36.67	13.20
(4) Electronic Tracking Locator	$ 38.67	13.20
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1	$ 35.86	16.21
GROUP 2	$ 37.16	16.21
GROUP 3	$ 39.17	16.21
GROUP 4	$ 40.91	16.21

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and

markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/02/2017

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER	$ 35.50	18.29
PLASTER TENDER	$ 38.05	18.29

Work on a swing stage scaffold: $1.00 per hour additional.

Work at Military Bases - $3.00 additional per hour:
Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

PAIN0036-001 07/01/2017

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County)	$ 27.59	13.94
(2) All Other Work	$ 31.12	13.94

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

PAIN0036-010 10/01/2015

	Rates	Fringes
DRYWALL FINISHER/TAPER		
(1) Building & Heavy Construction	$ 27.84	15.20
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories)	$ 21.00	13.91

PAIN0036-012 10/01/2016

	Rates	Fringes
GLAZIER	$ 41.55	11.93

PAIN0036-019 01/01/2017

	Rates	Fringes
SOFT FLOOR LAYER	$ 28.77	13.31

PLAS0200-005 08/02/2017

	Rates	Fringes
PLASTERER	$ 41.26	14.46

NORTH ISLAND NAVAL AIR STATION, COLORADO NAVAL AMPHIBIOUS BASE, IMPERIAL BEACH NAVAL AIR STATION: $3.00 additional per hour.

PLAS0500-001 07/01/2017

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1	$ 26.34	19.77
GROUP 2	$ 27.99	19.77
GROUP 3	$ 29.57	19.77

CEMENT MASONS - work inside the building line, meeting the following criteria:

GROUP 1: Residential wood frame project of any size; work classified as Type III, IV or Type V construction; interior tenant improvement work regardless the size of the project; any wood frame project of four stories or less.

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

PLUM0016-006 07/01/2017

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton	$ 53.78	21.61
Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not		

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      to exceed 5,000 sq. ft.
      of floor space and work
      on strip malls, light
      commercial, tenant
      improvement and remodel
      work.....................$ 49.28           21.61
     Work ONLY on new additions
     and remodeling of
     commercial buildings,
     bars, restaurants, and
     stores not to exceed 5,000
     sq. ft. of floor space.....$ 47.76           20.63
     Work ONLY on strip malls,
     light commercial, tenant
     improvement and remodel
     work.....................$ 36.91           18.96
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 PLUM0016-011 07/01/2017

                                  Rates          Fringes

PLUMBER/PIPEFITTER
     Residential.............$ 39.91           17.53
----------------------------------------------------------------
 PLUM0078-001 07/01/2016

                                  Rates          Fringes

PLUMBER
     Landscape/Irrigation Fitter.$ 44.16           25.19
     Sewer & Storm Drain Work....$ 44.16           25.19
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* ROOF0045-001 07/01/2017

                                  Rates          Fringes

ROOFER.....................$ 30.73            8.43
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 SFCA0669-001 04/01/2017

                                  Rates          Fringes

SPRINKLER FITTER...........$ 39.17           15.84
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 SHEE0206-001 07/01/2015

                                  Rates          Fringes

SHEET METAL WORKER
     Camp Pendleton..........$ 37.55           23.23
     Except Camp Pendleton.....$ 35.33           23.23
     Sheet Metal Technician....$ 25.22            6.69

SHEET METAL TECHNICIAN - SCOPE:
a. Existing residential buildings, both single and
multi-family, where each unit is heated and/or cooled by a
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separate system b. New single family residential buildings including tracts. c. New multi-family residential buildings, not exceeding five stories of living space in height, provided each unit is heated or cooled by a separate system. Hotels and motels are excluded. d. LIGHT COMMERCIAL WORK: Any sheet metal, heating and air conditioning work performed on a project where the total construction cost, excluding land, is under $1,000,000 e. TENANT IMPROVEMENT WORK: Any work necessary to finish interior spaces to conform to the occupants of commercial buildings, after completion of the building shell

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TEAM0166-001 07/03/2017

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 15.90	32.69
GROUP 2	$ 23.49	32.69
GROUP 3	$ 23.69	32.69
GROUP 4	$ 23.89	32.69
GROUP 5	$ 24.09	32.69
GROUP 6	$ 24.59	32.69
GROUP 7	$ 26.09	32.69

FOOTNOTE: HAZMAT PAY: Work on a hazmat job, where hazmat certification is required, shall be paid, in addition to the classification working in, as follows: Levels A, B and C - +$1.00 per hour. Workers shall be paid hazmat pay in increments of four (4) and eight (8) hours.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

GROUP 2: 2-axle Dump Truck, 2-axle Flat Bed,Concrete Pumping Truck, Industrial Lift Truck, Motorized Traffic Control, Pickup Truck on Jobsite

GROUP 3: 2-axle Water Truck, 3-axle Dump Truck, 3-axle Flat Bed, Erosion Control Nozzleman, Dump Crete Truck under 6.5 yd, Forklift 15,000 lbs and over, Prell Truck, Pipeline Work Truck Driver, Road Oil Spreader, Cement Distributor or Slurry Driver, Bootman, Ross Carrier

GROUP 4: Off-road Dump Truck under 35 tons 4-axles but less than 7-axles, Low-Bed Truck & Trailer, Transit Mix Trucks under 8 yd, 3-axle Water Truck, Erosion Control Driver, Grout Mixer Truck, Dump Crete 6.5yd and over, Dumpster Trucks, DW 10, DW 20 and over, Fuel Truck and Dynamite, Truck Greaser, Truck Mounted Mobile Sweeper 2-axle Winch Truck

GROUP 5: Off-road Dump Truck 35 tons and over, 7-axles or more, Transit Mix Trucks 8 yd and over, A-Frame Truck, Swedish Cranes

GROUP 6: Off-Road Special Equipment (including but not limited to Water Pull Tankers, Athey Wagons, DJB, B70 Wuclids or like Equipment)

GROUP 7: Repairman

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198

indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

11. FEDERAL LABOR STANDARDS PROVISIONS:

APPLICABILITY: The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions (Office of the Secretary of Labor 29 CFR 5) are included in this Contract pursuant to the provisions applicable to such Federal assistance.

SECTION A.

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work, (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project) will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section l(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) **(a)** Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Federal Agency or its designee shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Agency or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the Federal Agency or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section l(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section l(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain

written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) **(a)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Agency or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to the Federal Agency or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired.

Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/whd/forms/wh347.pdf or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Agency or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to the Federal Agency , the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or, owner).

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b)of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Agency or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, Federal agency or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is

performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination.

Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved. **(ii) Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant ,to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal Employment Opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance With Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.59(a)(1) through (10 and such other clauses as the Federal Agency may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract Termination; Debarment.

A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1)..

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

SECTION B. The provisions of this section B are applicable where the amount of the prime contract exceeds $100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

1. Contract Work Hours and Safety Standards Act.

(i) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(ii) Violation; Liability For Unpaid Wages; Liquidated Damages. In the event of any violation of the clause set forth in subparagraph (B)(1)(i) of this section, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (B)(1)(i) of this paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (B)(1)(i) of this section.

(iii) Withholding For Unpaid Wages and Liquidated Damages. The Federal Agency or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (B)(1)(ii) of this section.

(iv) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraphs (B)(1)(i) through (B)(1)(iv) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (B)(1)(i) through (B)(1)(iv) of this section.

2. In addition to the clauses contained in Section B, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Agency Head shall cause or require the contracting officer to insert a

clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

SECTION C.

1. Compliance Verification.

(i) The Recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. Use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from the funding agency upon request.

(ii) The Recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the Recipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. The Recipient must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. The Recipient shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(iii) The Recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The Recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the Recipient shall spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. The Recipient must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the Recipient shall

verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(iv) The Recipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in subsection (ii) and (iii) above.

(v) The Recipient must immediately report potential violations of the DB prevailing wage requirements to the funding agency DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/whd/america2.htm.

12. AGENCY SPECIFIC PROVISIONS:

Note: Failure to comply with these specifications e.g., taking the specified steps prior to Bid opening, and to submit the forms with the Bid will lead to the Bid being declared **non-responsive** and, therefore, shall be rejected.

12.1. FHWA Requirements (Contracts via Caltrans)

12.1.1. The Bidders' attention is directed to the provisions in Section 2, "Bidding," of the Caltrans Standard Specifications and conditions which the bidder must observe in the preparation of and the submission of the bid.

12.1.2. Bidders shall be fully informed with respect to the requirements of the DBE Regulations and take necessary and reasonable steps to ensure that Disadvantaged Business Enterprises (DBEs) have opportunity to participate in the contract.

12.1.3. The Contractors are encouraged to take positive steps to diversify and expand their subcontractor solicitation base and to offer contracting opportunities to all eligible DBE certified Subcontractors. To support its Equal Opportunity Contracting commitment, the City has implemented a project specific goal methodology required for all Caltrans funded projects.

12.1.4. See the Notice Inviting Bids for the Subcontracting Participation requirements.

12.1.5. The Bidder's attention is directed to the provisions in Section 5, "Control of Work," of the Caltrans Standard Specifications and conditions which the bidder must observe in the preparation of and the submission of the bid.

13. GOOD FAITH EFFORT DOCUMENTATION SUBMITTALS:

13.1. The affirmative GFE steps documentation shall be submitted **within 4 Working Days of the Bid Opening by 4:00 PM**. If this documentation is not submitted when due, the City will declare the Bid **non-responsive** and reject it.

13.2. The required documentation shall be submitted and logged in at the following address:

CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14TH FLOOR, MS 614C
SAN DIEGO, CA 92101
SUBJECT: AFFIRMATIVE GOOD FAITH EFFORT DOCUMENTATION
BID NO. **K-18-1472-DBB-3**

13.3. The Contractor shall maintain the records documenting compliance with requirements including documentation of its GFE and data relied upon in formulating its fair share objectives.

14. FORMS:

14.1. The Contractor shall demonstrate that efforts were made to attract DBEs on this contract. The Contractor and Subcontractors shall take the steps listed in these specifications to assure that DBEs are used whenever possible as sources of supplies, construction, equipment, or services. In addition to the specified GFE documentation, the Bidder shall submit the following forms.

14.1.1. The following forms shall be completed and submitted within **4 Working Days of the Bid opening by 4:00 PM.** Failure to include any of the forms shall cause the Bid to be deemed **non-responsive**.

1. Form AA61 List of Work Made Available
2. Exhibit 12-B Bidder's List of Subcontractors (DBE and NON-DBE)
3. Exhibit 15-G Local Agency Bidder DBE Commitment (Construction Contracts)
4. Exhibit 15-H DBE Information-Good Faith Efforts

14.1.2. The following additional forms shall be submitted in accordance with the Caltrans Standard Specifications as indicated within Section 12 "AGENCY SPECIFIC PROVISIONS".

1. Exhibit 16-B Subcontracting Request
2. Exhibit 16-Z Monthly DBE Trucking Verification
3. Exhibit 17-F Final Report – Utilization of DBE, First Tier Subcontractors
4. Exhibit 17-O DBE Certification Status Change
5. FHWA PR-1391

FUNDING AGENCY PROVISIONS

FORMS

LIST OF WORK MADE AVAILABLE

List items of the Work the Bidder made available to DBE firms. Identify those items of the Work the Bidder might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar amount and percentage of the Base Bid. The Bidder must demonstrate that enough work to meet the goal was made available to DBE firms.

ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID
AC Paving	324121 237310	N	Y	$1,000,000	0.90%
Aggregate Supply	237310	N	Y	$520,000	0.47%
Bridge Demolition	237310	N	Y	$5,000,000	4.52%
CIDH Pile	237990	N	Y	$21,500,000	19.43%
Clear and Grub	238910	Y	Y	$105,000	0.09%
Cold Plane AC	237310 324122	N	Y	$40,000	0.04%
Concrete Barrier	237310	Y	Y	$782,100	0.71%
Concrete Sawing	238990	N	Y	$30,000	0.03%
Concrete Staining	238990	N	Y	$850,000	0.77%

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ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID
Concrete Supply	237310	N	Y	$3,500,000	3.16%
Construction Area Signs	237310	N	Y	$150,000	0.14%
Decomposed Granite	238990	N	Y	$12,000	0.01%
Electrical	238210	N	Y	$2,250,000	2.03%
Erosion Control (Temporary)	237310	Y	Y	$95,000	0.09%
Fencing	237310	N	Y	$30,000	0.03%
Formliner	423990	N	Y	$35,000	0.03%
Geotextiles Supply	423990	N	Y	$2,500	0.002%
Ground Anchor	237990	N	Y	$700,000	0.63%

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ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID
Guardrail	238990	N	Y	$300,000	0.27%
Handrail	238990	N	Y	$2,000,000	1.81%
Joint Seal Assembly	423990	Y	Y	$400,000	0.36%
Landscaping and Irrigation	561730	N	Y	$1,175,000	1.06%
Manholes	237990	N	Y	$25,000	0.02%
Minor Concrete	238990	Y	Y	$125,000	0.11%
Miscellaneous Metal	332323	N	Y	$40,000	0.04%
Overhead Sign	339950	N	Y	$650,000	0.59%
Pedestrian Barricade	237990	N	Y	$15,000	0.01%

LIST OF WORK MADE AVAILABLE

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ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID
Pipe Supply	332996	N	Y	$215,000	0.19%
Prestressing	237990	N	Y	$1,000,000	0.90%
Railing	237990	N	Y	$1,000,000	0.90%
RCP Pipe Supply	237110	N	Y	$35,000	0.03%
Rebar	237310	N	Y	$9,000,000	8.13%
Rip Rap	237310	N	Y	$125,000	0.11%
Roadside Sign	339950	N	Y	$25,000	0.02%
Rock Mulch	561730	N	Y	$325,000	0.29%
Shotcrete	238110	N	Y	$100,000	0.09%

LIST OF WORK MADE AVAILABLE

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ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID
Steel Casing Supply	238990	N	Y	$80,000	0.07%
Striping	238990	N	Y	$150,000	0.14%
Sweeping	238910	N	Y	$200,000	0.18%
Tree Removal	561730	N	Y	$100,000	0.09%
Trucking	484220	N	Y	$800,000	0.72%

Exhibit 12-B Bidder's List of subcontractor (DBE and Non-DBE)

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at: https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or $10,000 (whichever is greater).

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Ace Fence Company City, State: La Puente, CA	Fencing, Metal Railing, Guardrail and Crash Cushions and Related (Partial) See items below	$3,727,097.00	See percentages below	996577 1000004092	Y	34153	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 16 yrs.
Name: City, State:	Bid Item 39 Bid Item 68 Bid Item 69 Bid Item 70		79% 97% 96% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 71 Bid Item 78 Bid Item 79 Bid Item 80		97% 99% 98% 99%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 81 Bid Item 82 Bid Item 83 Bid Item 84		99% 99% 100% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 85 Bid Item 89 Bid Item 101 Bid Item 217		100% 100% 100% 99%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 219 Bid Item 220 Bid Item 236		63% 99% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

Photocopy this form for additional firms.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Alameda Construction Services, Inc. City, State: Compton, CA	Furnish and Place Pile Concrete (Lower tier to Condon Johnson) See items below	$1,400,000	See percentages below	740423 1000008383	Y	34242	☐ <$1 million ☐ <$5 million ☑ <$10 million ☐ <$15 million Age of Firm: 25 yrs.
Name: City, State:	Bid Item 3 Bid Item 197 Bid Item 198 Bid Item 199		0.06% 17% 6% 12%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 200		10%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: ATP General Engineering Contractors City, State: Poway, CA	Asphalt Paving, Asphalt Dike and Cold Plane and Related (Partial) See items below	$998,454.00	See percentages below	502506 1000012615	N	N/A	☑ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 7 yrs.
Name: City, State:	Bid Item 3 Bid Item 11 Bid Item 12 Bid Item 13		0.8% 100% 96% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 17 Bid Item 18		100% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: CNJ Enterprises, Inc. City, State: Scottsdale, AZ	Prepare and Stain Concrete and Related (Partial) See items below	$610,297.00	See percentages below	967058 1000004881	N	N/A	☑ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 5 yrs.
Name: City, State:	Bid Item 15 Bid Item 213		0.2% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.

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Exhibit 12-B Bidder's List of subcontractor (DBE and Non-DBE)

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Condon Johnson & Associates, Inc. City, State: San Diego, CA	CIDH Piling and Shotcrete and Ground Anchors and Related (Partial) See items below	$21,865,520.00	See percentages below	300068 1000004443	N	N/A	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 43 yrs.
Name: City, State:	Bid Item 3 Bid Item 195 Bid Item 196 Bid Item 197		18% 100% 99% 60%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 198 Bid Item 199 Bid Item 200 Bid Item 224		87% 81% 80% 75%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 229 Bid Item 233		97% 94%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Cook + Schmid, LLC City, State: San Diego, CA	Community Liaison (Consultant) See items below	$250,000	See percentages below	N/A 1000030490	Y	41736	☐ <$1 million ☑ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 11 yrs.
Name: City, State:	Bid Item 4		88%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Coral Construction Company City, State: Wilsonville, OR	Overhead Signs and Related (Partial) See items below	$522,950.00	See percentages below	332441 1000005868	N	N/A	☐ <$1 million ☑ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 21 yrs.
Name: City, State:	Bid Item 3 Bid Item 53 Bid Item 54 Bid Item 55		0.4% 72% 100% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Diversified Landscape Co. City, State: Wildomar, CA	Landscape and Irrigation and Mitigation and Related (Partial) See items below	$2,197,221.00	See percentages below	576183 1000009249	Y	8022	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 27 yrs.
Name: City, State:	Bid Item 3 Bid Item 19 Bid Item 105 Bid Item 109		0.5% 98% 0.9% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 110 Bid Item 111 Bid Item 112 Bid Item 113		58% 100% 98% 90%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 114 Bid Item 115 Bid Item 116 Bid Item 117		93% 100% 100% 68%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 118 Bid Item 119 Bid Item 120 Bid Item 121		87% 100% 100% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 122 Bid Item 123 Bid Item 124 Bid Item 125		98% 98% 98% 100%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Diversified Landscape Co. City, State: Wildomar, CA	Landscape and Irrigation and Mitigation and Related (Partial) See items below	$2,197,221.00	See percentages below	576183 1000009249	Y	8022	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 27 yrs.
Name: City, State:	Bid Item 126 Bid Item 127 Bid Item 128 Bid Item 129		99% 98% 99% 99%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 130 Bid Item 131 Bid Item 132 Bid Item 133		98% 97% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 134 Bid Item 135 Bid Item 136 Bid Item 137		98% 98% 98% 99%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 138 Bid Item 139 Bid Item 140 Bid Item 141		98% 99% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 142 Bid Item 143 Bid Item 144 Bid Item 145		98% 99% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Diversified Landscape Co. City, State: Wildomar, CA	Landscape and Irrigation and Mitigation and Related (Partial) See items below	$2,197,221.00	See percentages below	576183 1000009249	Y	8022	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 27 yrs.
Name: City, State:	Bid Item 146 Bid Item 147 Bid Item 148 Bid Item 149		98% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 150 Bid Item 151 Bid Item 153 Bid Item 154		97% 98% 99% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 155 Bid Item 156 Bid Item 157 Bid Item 158		99% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 159 Bid Item 160 Bid Item 161 Bid Item 162		98% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 163 Bid Item 164 Bid Item 165 Bid Item 166		99% 98% 95% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Diversified Landscape Co. City, State: Wildomar, CA	Landscape and Irrigation and Mitigation and Related (Partial) See items below	$2,197,221.00	See percentages below	576183 1000009249	Y	8022	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 27 yrs.
Name: City, State:	Bid Item 167 Bid Item 168 Bid Item 169 Bid Item 170		99% 98% 99% 99%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 171 Bid Item 172 Bid Item 173 Bid Item 174		99% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 175 Bid Item 176 Bid Item 177 Bid Item 178		98% 98% 99% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 179 Bid Item 180 Bid Item 181 Bid Item 182		99% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 183 Bid Item 184 Bid Item 185 Bid Item 186		97% 99% 98% 97%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Diversified Landscape Co. City, State: Wildomar, CA	Landscape and Irrigation and Mitigation and Related (Partial) See items below	$2,197,221.00	See percentages below	576183 1000009249	Y	8022	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million or greater Age of Firm: 27 yrs.
Name: City, State:	Bid Item 187 Bid Item 188 Bid Item 189 Bid Item 190		99% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 237 Bid Item 238 Bid Item 239 Bid Item 240		98% 98% 98% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Dywidag Systems International City, State: Long Beach, CA	Prestressing and Related (Partial) See items below	$914,400.00	See percentages below	273710 1000006705	N	N/A	☐ <$1 million ☐ <$5 million ☑ <$10 million ☐ <$15 million Age of Firm: 38 yrs.
Name: City, State:	Bid Item 201		97%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Integrity Rebar Placers City, State: Perris, CA	Reinforcing Steel and Related (Partial) See items below	$10,172,641.00	See percentages below	533729 1000005302	N	N/A	☐ <$1 million ☑ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 12 yrs.
Name: City, State:	Bid Item 86 Bid Item 87 Bid Item 88 Bid Item 205		14% 15% 9% 47%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 209 Bid Item 210 Bid Item 211 Bid Item 212		79% 70% 97% 97%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 218 Bid Item 219 Bid Item 224 Bid Item 232		34% 16% 6% 97%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 234		6%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: LA Steel Services, Inc. City, State: Corona, CA	Rebar (Labor Only) (Lower tier to Integrity Rebar Placers) See items below	$2,000,000	See percentages below	998917 1000012901	Y	42683	☑ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 2 yrs.
Name: City, State:	Bid Item 209 Bid Item 210		17% 25%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ___ yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Payco Specialties, Inc. City, State: Chula Vista, CA	Striping and Related (Partial) See items below	$165,550.00	See percentages below	298637 1000003515	Y	102	☐ <$1 million ☑ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 42 yrs.
Name: City, State:	Bid Item 3 Bid Item 9 Bid Item 31 Bid Item 32	0.05% 21% 96% 97%					☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 33 Bid Item 92 Bid Item 93 Bid Item 94	100% 98% 100% 100%					☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:	Bid Item 95 Bid Item 96 Bid Item 97 Bid Item 98	100% 100% 100% 100%					☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

Photocopy this form for additional firms.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Exhibit 12-B Bidder's List of subcontractor (DBE and Non-DBE)

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at: https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or $10,000 (whichever is greater).

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Rupert Construction Supply City, State: El Dorado Hills, CA	PTFE Bearing and Bridge Bearing Pad and Joint Seal Material Supply See items below	$397,648 (60% DBE Supplier Credit)	See percentages below	N/A 1000008293	Y	32785	☑ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 15 yrs.
Name: City, State:	Bid Item 203 Bid Item 206 Bid Item 207 Bid Item 208		0.2% 72% 34% 66%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Page 1 of 1
September 2016

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Select Electric, Inc. City, State: Vista, CA	Electrical and Related (Partial) See items below	$2,201,419	See percentages below	297034 1000001036	N	N/A	☐ <$1 million ☐ <$5 million ☐ <$10 million ☑ <$15 million Age of Firm: 43 yrs.
Name: City, State:	Bid Item 3 Bid item 99 Bid Item 221		0.9% 99% 98%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm:____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number / DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name: Silverado Contractors, Inc. City, State: Chino, CA	Bridge Demolition and Related (Partial) See items below	$5,865,800.00	See percentage below	782547 1000006758	N	N/A	☐ <$1 million ☑ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: 6 yrs.
Name: City, State:	Bid Item 191		54%				☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: ____yrs.
Name: City, State:							☐ <$1 million ☐ <$5 million ☐ <$10 million ☐ <$15 million Age of Firm: yrs.

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EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

1. Local Agency: City of San Diego
2. Contract DBE Goal: 6.7%
3. Project Description: West Mission Bay Drive Bridge
4. Project Location: San Diego, CA
5. Bidder's Name: Flatiron West, Inc.
6. Prime Certified DBE: < 7.
Total Bid $110,742,985 (DBE % calculated on Base Bid not including Additive or Type II Allowance Items)
8. Total Dollar Amount for **ALL** Subcontractors: $49,241,349.00
9. Total Number of **ALL** Subcontractors: 13

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
203, 206, 207, 208	PTFE Bearing and Bridge Bearing Pads and Joint Seal Material Supply (60% Supplier Credit)	32785	Rupert Construction Supply 3941 Park Drive, Suite 20-487 El Dorado Hills, CA 95762 (925) 229-5577	$238,588.80

Local Agency to Complete this Section

22. Federal-Aid Project Number:

24. Contract Award Date:

Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.

25. Local Agency Representative's Signature — 26. Date

27. Local Agency Representative's Name — 28. Phone

29. Local Agency Representative's Title

15. TOTAL CLAIMED DBE PARTICIPATION

$ See Next Page

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16. Preparer's Signature — 17. Date: November 21, 2017

18. Preparer's Name: Dale A. Nelson — 19. Phone: (760) 916-9100

20. Preparer's Title: Vice President

DISTRIBUTION: 1. Original – Local Agency

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8. Total Dollar Amount for ALL Subcontractors: $49,241,349.00
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10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
39, 68, 69,	Fencing, Metal Railing,	34153	Ace Fence Company	$3,727,097.00
70, 71, 78,	Guardrail and Crash Cushions		727 N. Glendora Avenue	
79, 80, 81,	and Related (Partial)		La Puente, CA 91744	
82, 83, 84,			(626) 333-0727	
85, 89, 101,				
217, 219,				
220, 236				

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10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
3, 19, 131,	Irrigation and Related (Partial)	8022	Diversified Landscape Co.	See Next
132, 133,			21730 Bundy Canyon Road	Page for
134, 135,			Wildomar, CA 92595	Total
136, 137,			(951) 245-1686	
138, 139,				
140, 141,				
142, 143,	Continued on Next Page			

Local Agency to Complete this Section

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144, 145,	Irrigation and Related (Partial)	8022	Diversified Landscape Co.	See Next
146, 147,			21730 Bundy Canyon Road	Page for
148, 149,			Wildomar, CA 92595	Total
150, 151,			(951) 245-1686	
153, 154,				
155, 156,				
157, 158,	Continue on Next Page			

Local Agency to Complete this Section

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Page 1 of 2
July 23, 2015

EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

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4. Project Location: San Diego, CA
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159, 160,	Irrigation and Related (Partial)	8022	Diversified Landscape Co.	See Next
161, 162,			21730 Bundy Canyon Road	Page for
163, 164,			Wildomar, CA 92595	Total
165, 166,			(951) 245-1686	
167, 168,				
169, 170,				
171, 172,	Continued on Next Page			

Local Agency to Complete this Section

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173, 174,	Irrigation and Related (Partial)	8022	Diversified Landscape Co.	See Next
175, 176,			21730 Bundy Canyon Road	Page for
177, 178,			Wildomar, CA 92595	Total
179, 180,			(951) 245-1686	
181, 182,				
183, 184,				
185, 186	Continued on Next Page			

Local Agency to Complete this Section

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EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

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10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
187, 188,	Irrigation and Related (Partial)	8022	Diversified Landscape Co.	$872,721.40
189, 190,			21730 Bundy Canyon Road	
			Wildomar, CA 92595	
			(951) 245-1686	

Local Agency to Complete this Section

22. Federal-Aid Project Number:

24. Contract Award Date:

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4	Community Liaison	41736	Cook + Schmid, LLC	$250,000.00
			740 13th Street, Suite 102	
			San Diego, CA 92101	
			(619) 814-2370	

Local Agency to Complete this Section

22. Federal-Aid Project Number:

24. Contract Award Date:

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3, 9, 31, 32,	Striping and Related (Partial)	102	Payco Specialties, Inc.	$165,550.00
33, 92, 93,			120 North Second Avenue	
94, 95, 96,			Chula Vista, CA 91910	
97, 98			(619) 422-9204	

Local Agency to Complete this Section

22. Federal-Aid Project Number:

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Page 1 of 2
July 23, 2015

EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

1. Local Agency: City of San Diego
2. Contract DBE Goal: 6.7%
3. Project Description: West Mission Bay Drive Bridge
4. Project Location: San Diego, CA
5. Bidder's Name: Flatiron West, Inc.
6. Prime Certified DBE: < 7. Total Bid $110,742,985 (DBE % calculated on Base Bid not including Additive or Type II Allowance Items)
8. Total Dollar Amount for **ALL** Subcontractors: $49,241,349.00
9. Total Number of **ALL** Subcontractors: 13

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
209, 210	Rebar (Labor Only)	42683	LA Steel Services, Inc.	$2,000,000.00
	(Lower tier to Integrity Rebar		1760 California Avenue	
	Placers)		Corona, CA 92881	
			(951) 393-2013	

Local Agency to Complete this Section

22. Federal-Aid Project Number:

24. Contract Award Date:

Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.

25. Local Agency Representative's Signature — 26. Date

27. Local Agency Representative's Name — 28. Phone

29. Local Agency Representative's Title

15. TOTAL CLAIMED DBE PARTICIPATION $ See Next Page %

IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required.

16. Preparer's Signature — 17. Date: November 21, 2017

18. Preparer's Name: Dale A. Nelson — 19. Phone: (760) 916-9100

20. Preparer's Title: Vice President

DISTRIBUTION: 1. Original – Local Agency

2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract. Include additional copy with award package.

ADA Notice: For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

1. Local Agency: City of San Diego
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8. Total Dollar Amount for **ALL** Subcontractors: $49,241,349.00
9. Total Number of **ALL** Subcontractors: 13

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
3, 197, 198,	Furnish and Place Pile Concrete	34242	Alameda Construction Services, Inc.	$1,400,000.00
199, 200	(Lower tier to Condon Johnson)		2528 East 125th Street	
			Compton, CA 90222	
			(310) 635-3277	

Local Agency to Complete this Section

15. TOTAL CLAIMED DBE PARTICIPATION $8,653,957.20

7.8 %

22. Federal-Aid Project Number:

24. Contract Award Date:

Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.

25. Local Agency Representative's Signature 26. Date

27. Local Agency Representative's Name 28. Phone

29. Local Agency Representative's Title

IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required.

November 21, 2017

16. Preparer's Signature 17. Date

Dale A. Nelson (760) 916-9100

18. Preparer's Name 19. Phone

Vice President

20. Preparer's Title

DISTRIBUTION: 1. Original – Local Agency

2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract. Include additional copy with award package.

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INSTRUCTIONS – CONSTRUCTION CONTRACT DBE COMMITMENT

CONTRACTOR SECTION

1. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
2. **Contract DBE Goal** - Enter the contract DBE goal percentage as it appears on the project advertisement.
3. **Project Location** - Enter the project location as it appears on the project advertisement.
4. **Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
5. **Bidder's Name** - Enter the contractor's firm name.
6. **Prime Certified DBE** - Check box if prime contractor is a certified DBE.
7. **Bid Amount** - Enter the total contract bid dollar amount for the prime contractor.
8. **Total Dollar Amount for ALL Subcontractors** – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
9. **Total number of ALL subcontractors** – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
10. **Bid Item Number** - Enter bid item number for work, services, or materials supplied to be provided.
11. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
12. **DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
13. **DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
14. **DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
15. **Total Claimed DBE Participation** - $: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
16. **Preparer's Signature** - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
17. **Date** - Enter the date the DBE commitment form is signed by the contractor's preparer.
18. **Preparer's Name** - Enter the name of the person preparing and signing the contractor's DBE commitment form.
19. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
20. **Preparer's Title** - Enter the position/title of the person signing the contractor's DBE commitment form.

LOCAL AGENCY SECTION

21. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
22. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
23. **Bid Opening Date -** Enter the date contract bids were opened.
24. **Contract Award Date** - Enter the date the contract was executed.
25. **Local Agency Representative's Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.
26. **Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.
27. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.
28. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
29. **Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

EXHIBIT 15-H DBE INFORMATION — GOOD FAITH EFFORTS

DBE INFORMATION - GOOD FAITH EFFORTS

Federal-aid Project No._____ Bid Opening Date:_____

The City of San Diego established a Disadvantaged Business Enterprise (DBE) goal of 6.7% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the "Local Agency Bidder DBE Commitment" form indicates that the bidder has met the DBE goal. This will protect the bidder's eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the "Local Agency Bidder DBE Commitment" form may not provide sufficient documentation to demonstrate that adequate Good Faith Effort was made.

The following items are listed in the Section entitled "Submission of DBE Commitment" of the Special Provisions:

A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Date of Advertisement

B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates

C. The items of work which the bidder made available to DBE firms including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount($)	Percentage Of Contract

D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

Names, addresses and phone numbers of firms selected for the work above:

E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs

F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

_____

_____

_____

_____

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

H. Any additional data to support a demonstration of Good Faith Effort (use additional sheets if necessary):

_____

_____

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY

Exhibit 16-B SUBCONTRACTING REQUEST

CONTRACTOR NAME						COUNTY	ROUTE	
BUSINESS ADDRESS						CONTRACT NUMBER		
CITY AND STATE			ZIP CODE			FEDERAL-AID PROJECT NUMBER		
SUBCONTRACTOR (NAME, BUSINESS ADDRESS, PHONE)	BID ITEM NUMBER (S)	PERCENTAGE OF BID ITEM SUBCONTRACTOR	CHECK IF (SEE CATEGORY BELOW) 1	2	3	DESCRIBE WORK WHEN LESS THAN 100% OF WORK IS SUBCONTRACTED	DOLLAR AMOUNT BASED ON THE BID AMOUNT	
Categories	**1. Specialty**		**2. List Under Fair Practice Act**				**3 Certified DBE**	

I certify that:

- The Standard Provisions for labor set forth in the contract apply to the subcontracted work
- If applicable, Form FHWA- 1273 of the Special Provisions have been inserted in the subcontracts and should be incorporated in any lower-tier subcontract. Written contracts have been executed for the above noted subcontracted work.

Contractor Signature[1]	Date

This section is to be completed by the resident engineer.

1.	Total of bid items			$
2.	Specialty items previously approved (if applicable, see Note in the instructions)	$		
3.	Specialty items this request (if applicable, see Note in the instructions)	$		
4.	Total (lines 2 + 3)	$		
5.	Contractor must perform with own forces (lines 1 minus 4)		X	$
6.	Bid item previously subcontracted	$		
7.	Bid item subcontractor (this request)	$		
8.	Total (lines 6 + 7)	$		
9.	Balance of work contractor to perform (lines 1 minus 8)			$

Approve	
RESIDENT ENGINEER'S	DATE

Copy Distribution : Original-Contractor Copy- Resident Engineer Copy- OBEO- smallbusinessadvocate@dopt.ca.gov or fax to (916) 324-1949

Page 1 of 2
July 2016

INSTRUCTIONS FOR COMPLETING SUBCONTRACTING REQUEST FORM

All First-tier subcontractors must be included on a subcontracting request.

Submit in accordance with Section 8-1.01 of the Standard Specifications. Type or print requested information. Information copy is to be retained by the contractor. Submit other copies to project's Resident Engineer. After approval, the original will be returned to the contractor.

When an entire item is subcontracted, the value to be shown is the contractor's bid price.

When a portion of an item is subcontracted, describe the portion, and show the % of bid item and value.

THIS FORM IS NOT TO BE USED FOR SUBSTITUTIONS

Prior to submittal of a DC-CEM-1201 involving a replacement subcontractor, submit a separate written request for approval to substitute a listed subcontractor. Section 4107 of the Government Code covers the conditions for substitution.

Submit a separate written request for approval of any DBE/MBE/WBE/DVBE substitution. Include appropriate backup information and state what efforts were made to accomplish the same dollar value of work by other certified DBE/MBE/WBE/DVBEs.

NOTE: For contractors who will be performing work on railroad property, it is necessary for the contractor to complete and submit the Certificate of Insurance (State Form DH-OS-A10A) naming the subcontractor as insured. *No work shall be allowed which involves encroachment on railroad property until the specified insurance has been approved.*

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

MONTHLY DBE TRUCKING VERIFICATION

CP-CEM-2404(F) (NEW 12/99)

CONTRACT NO.	MONTH	YEAR

Truck Owner	DBE Cert. No.	Company Name and Address	Truck No.	California Hwy. Patrol CA No.	Commission Or Amount Paid*	Date Paid	Lease Arrangement (√ if applicable)
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
				TOTAL AMOUNT PAID	$		

PRIME CONTRACTOR	BUSINESS ADDRESS	BUSINESS PHONE NO.

* *Upon request all Lease Agreements shall be made available, in accordance with the Special Provisions.*

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT

CONTRACTOR REPRESENTATIVE'S SIGNATURE	TITLE	DATE

CEM-2404F (NEW 12/99) COPY DISTRIBUTION: ORIGINAL - RESIDENT ENGINEER

August 12, 2004

EXHIBIT 16-Z

Monthly DEB Trucking Verification

Form CP-CEM 2404 (F)(NEW 12/99)
MONTHLY DBE TRUCKING VERIFFICATION

The top of Form CEM-2404(F) contains boxes to put in the Contract Number, the Month of the reporting period and the Year of the reporting period.

The Form CEM-2404(F) has a column to enter the name of the Truck Owner, the DBE Cert. No. (if DBE certified) and the Name and Address of the trucking company. The Form CEM-2404(F) also requires the Truck No. and the California Highway Patrol CA No.

Form CEM-2404(F) is to be submitted prior to the 15th of each month and must show the dollar amount paid to the DBE trucking company(s) for trucking work performed by DBE certified trucks and for any fees or commissions of nonDBE trucks utilized each month on the project. The amount paid to each trucking company is to be entered in the column called "Commission or Amount Paid," in accordance with the Special Provisions Section 5-1.X.
Payment information is derived using the following:
1.) 100% for the trucking services provided by the DBE using trucks it owns, operates and insures.
2.) 100% for the trucking services provided by the trucks leased from other DBE firms.
3.) The fee or commission paid to nonDBEs for the lease of trucks. The Prime does not receive 100% credit for these services because they are not provided by a DBE company.
The total dollar figure of this column is to be placed in the box labeled "Total Amount Paid." The column "Date Paid" requires a date that each trucking company is paid for services rendered. The next column contains information that must be completed if a lease arrangement is applicable. Located at the bottom of the form is a space to put the name of the "Prime Contractor," their "Business Address" and their "Business Phone No."

At the bottom of the form there is a space for the Contractor or designee "Contractor Representative's " Signature, Title and Date" certifying that the information provided on the form is complete and correct.

EXHIBIT 17-F FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE) AND FIRST-TIER SUBCONTRACTORS

1. Local Agency Contract Number	2. Federal-Aid Project Number	3. Local Agency	4. Contract Completion Date

5. Contractor/Consultant	6. Business Address	7. Final Contract Amount

8. Contract Item Number	9. Description of Work, Service, or Materials Supplied	10. Company Name and Business Address	11. DBE Certification Number	12. Contract Payments		13. Date Work Completed	14. Date of Final Payment
				Non-DBE	DBE		
15. ORIGINAL DBE COMMITMENT AMOUNT $ _____			16. TOTAL				

List all first-tier subcontractors/subconsultants and DBEs regardless of tier whether or not the firms were originally listed for goal credit. If actual DBE utilization (or item of work) was different than that approved at the time of award, provide comments on an additional page. List actual amount paid to each entity. If no subcontractors/subconsultants were used on the contract, indicate on the form.

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT			
17. Contractor/Consultant Representative's Signature	18. Contractor/Consultant Representative's Name	19. Phone	20. Date
I CERTIFY THAT THE CONTRACTING RECORDS AND ON-SITE PERFORMANCE OF THE DBE(S) HAS BEEN MONITORED			
21. Local Agency Representative's Signature	22. Local Agency Representative's Name	23. Phone	24. Date

DISTRIBUTION: Original – Local Agency, Copy – Caltrans District Local Assistance Engineer. Include with Final Report of Expenditures

ADA NOTICE: For individuals with sensory disabilities, this document is available in alternate formats. For information, call (916) 445-1233, Local Assistance Procedures Manual TTY 711, or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814

Page 1 of 2 July 23, 2015.

INSTRUCTIONS – FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE) AND FIRST-TIER SUBCONTRACTORS

1. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
2. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
3. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
4. **Contract Completion Date** - Enter the date the contract was completed.
5. **Contractor/Consultant -** Enter the contractor/consultant's firm name.
6. **Business Address -** Enter the contractor/consultant's business address.
7. **Final Contract Amount** - Enter the total final amount for the contract.
8. **Contract Item Number** - Enter contract item for work, services, or materials supplied provided. Not applicable for consultant contracts.
9. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials provided. Indicate all work to be performed by DBEs including work performed by the prime contractor/consultant's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
10. **Company Name and Business Address** - Enter the name, address, and phone number of all subcontracted contractors/consultants. Also, enter the prime contractor/consultant's name and phone number, if the prime is a DBE.
11. **DBE Certification Number** - Enter the DBE's Certification Identification Number. Leave blank if subcontractor is not a DBE.
12. **Contract Payments** - Enter the subcontracted dollar amount of the work performed or service provided. Include the prime contractor/consultant if the prime is a DBE. The Non-DBE column is used to enter the dollar value of work performed by firms that are not certified DBE or for work after a DBE becomes decertified.
13. **Date Work Completed** - Enter the date the subcontractor/subconsultant's item work was completed.
14. **Date of Final Payment** - Enter the date when the prime contractor/consultant made the final payment to the subcontractor/subconsultant for the portion of work listed as being completed.
15. **Original DBE Commitment Amount** - Enter the "Total Claimed DBE Participation Dollars" from Exhibits 15-G or 10-O2 for the contract.
16. **Total** - Enter the sum of the "Contract Payments" Non-DBE and DBE columns.
17. **Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
18. **Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
19. **Phone** - Enter the area code and telephone number of the person signing the form.
20. **Date** - Enter the date the form is signed by the contractor's preparer.
21. **Local Agency Representative's Signature** - A Local Agency Representative must sign their name to certify that the contracting records and on-site performance of the DBE(s) has been monitored.
22. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
23. **Phone** - Enter the area code and telephone number of the person signing the form.
24. **Date** - Enter the date the form is signed by the Local Agency Representative.

EXHIBIT 17-O DISADVANTAGED BUSINESS ENTERPRISES (DBE) CERTIFICATION STATUS CHANGE

1. Local Agency Contract Number	2. Federal-Aid Project Number	3. Local Agency	4. Contract Completion Date
5. Contractor/Consultant	6. Business Address		7. Final Contract Amount

8. Contract Item Number	9. DBE Contact Information	10. DBE Certification Number	11. Amount Paid While Certified	12. Certification/ Decertification Date (Letter Attached)	13. Comments

If there were no changes in the DBE certification of subcontractors/subconsultants, indicate on the form.

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT			
14. Contractor/Consultant Representative's Signature	15. Contractor/Consultant Representative's Name	16. Phone	17. Date
I CERTIFY THAT THE CONTRACTING RECORDS AND ON-SITE PERFORMANCE OF THE DBE(S) HAS BEEN MONITORED			
18. Local Agency Representative's Signature	19. Local Agency Representative's Name	20. Phone	21. Date

DISTRIBUTION: Original – Local Agency, Copy – Caltrans District Local Assistance Engineer. Include with Final Report of Expenditures

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INSTRUCTIONS –DISADVANTAGED BUSINESS ENTERPRISES (DBE) CERTIFICATION STATUS CHANGE

1. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
2. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
3. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
4. **Contract Completion Date** - Enter the date the contract was completed.
5. **Contractor/Consultant -** Enter the contractor/consultant's firm name.
6. **Business Address -** Enter the contractor/consultant's business address.
7. **Final Contract Amount** - Enter the total final amount for the contract.
8. **Contract Item Number** - Enter contract item for work, services, or materials supplied provided. Not applicable for consultant contracts.
9. **DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors/consultants.
10. **DBE Certification Number** - Enter the DBE's Certification Identification Number.
11. **Amount Paid While Certified** - Enter the actual dollar value of the work performed by those subcontractors/subconsultants during the time period they are certified as a DBE.
12. **Certification/Decertification Date (Letter Attached)** - Enter either the date of the Decertification Letter sent out by the Office of Business and Economic Opportunity (OBEO) or the date of the Certification Certificate mailed out by OBEO.
13. **Comments** - If needed, provide any additional information in this section regarding any of the above certification status changes.
14. **Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
15. **Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
16. **Phone** - Enter the area code and telephone number of the person signing the form.
17. **Date** - Enter the date the form is signed by the contractor's preparer.
18. **Local Agency Representative's Signature** - A Local Agency Representative must sign their name to certify that the contracting records and on-site performance of the DBE(s) has been monitored.
19. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
20. **Phone** - Enter the area code and telephone number of the person signing the form.
21. **Date** - Enter the date the form is signed by the Local Agency Representative.

FEDERAL-AID HIGHWAY CONSTRUCTION CONTRACTORS ANNUAL EEO REPORT

1. MARK APPROPRIATE BOX	2. COMPANY NAME, CITY, STATE	3. PROJECT NUMBER:	4. DOLLAR AMOUNT OF CONTRACT	5. PROJECT LOCATION (County and State)
O Contractor O Subcontractor				

This collection of information is required by law and regulation 23 U.S.C. 140a and 23 CFR Part 230. The OMB control number for this collection is 2125-0019 expiring in March, 2016

6. WORKFORCE ON FEDERAL-AID AND CONSTRUCTION SITE(S) DURING LAST FULL PAY PERIOD ENDING IN JULY 20 (INSERT YEAR)

TABLE A

JOB CATEGORIES	TOTAL EMPLOYED		TOTAL/RACIAL/ ETHNIC MINORITY		BLACK OR AFRICAN AMERICAN		HISPANIC OR LATINO		AMERICAN INDIAN OR ALASKA NATIVE		ASIAN		NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER		TWO OR MORE RACES		WHITE		**TABLE B** APPRENTICES		**TABLE B** ON THE JOB TRAINEES	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
OFFICIALS																						
SUPERVISORS																						
FOREMEN/WOMEN																						
CLERICAL																						
EQUIPMENT OPERATORS																						
MECHANICS																						
TRUCK DRIVERS																						
IRONWORKERS																						
CARPENTERS																						
CEMENT MASONS																						
ELECTRICIANS																						
PIPEFITTER/PLUMBERS																						
PAINTERS																						
LABORERS-SEMI SKILLED																						
LABORERS-UNSKILLED																						
TOTAL																						

TABLE C (Table B data by racial status)

APPRENTICES																				
OJT TRAINEES																				

8. PREPARED BY: (Signature and Title of Contractors Representative)	9. DATE	10. REVIEWED BY (Signature and Title of State Highway Official)	11. DATE

Form FHWA-1391 (Rev. 09-13) **PREVIOUS EDITIONS ARE OBSOLETE**

LOCAL AGENCY NOTIFICATION TO CONTRACTOR

INSTRUCTIONS FOR COMPLETING

FEDERAL HIGHWAY ADMINSITRATION (FHWA) PR-1391 FORM

The FHWA PR-1391 form shall be used to report the number of minority and non-minority employees by gender employed in each work classification on a Federal-aid contract. The "Job Categories" column is used to identify work classification. When identifying work classifications, use only the categories listed on the form. Miscellaneous job categories are to be incorporated in the most appropriate category listed on the form.

WHO MUST REPORT:

Each prime contractor and subcontractor regardless of tier who has a Federal-aid contract exceeding $10,000 must report.

REPORT DATA:

Each contractor is to collect data of the number of project personnel who worked all or any part of the last full week of July. Contractors who do not perform any work during the last full week of July must write "Not Applicable" across the form, sign, date and return.

DUE DATE:

Due on or before the 12th of August to the Local Agency Resident Engineer. The Local Agency Resident Engineer must submit the report to the District Local Assistance Engineer by August 26th.

DEFINITION OF TERMS:

OFFICIALS (Managers): Officers, project engineers, superintendents, etc., who have management-level responsibility and authority.

SUPERVISORS: All levels for project supervision, if any, between management and foremen levels.

FOREMEN/WOMEN: Men and women in direct charge of crafts workers and laborers performing work on the project.

MECHANICS: Equipment service and maintenance personnel.

LABORERS, SEMI-SKILLED: All laborers classified by specialized type of work.

LABORERS, UNSKILLED: All non-classified laborers.

OTHERS: Miscellaneous job classifications are to be incorporated in the most appropriate category listed on the form. All employees on the project should be accounted for.

BLOCK ENTRIES

- CHECK APPROPRIATE BLOCK – Check only one box.

- COMPANY NAME, CITY, STATE – Enter the firm's name, city or town, and state. Do not abbreviate.

(3) PROJECT NUMBER – Enter all Federal-aid project number(s) associated with the contract number. (If you are a subcontractor and do not know the Federal-aid project number, contact the prime contractor).

(4) DOLLAR AMOUNT OF CONTRACT – Enter dollar amount of contract, including amended amounts.

I. PROJECT LOCATION – Enter all county(ies) and state(s) associated with the contract number. (If you are a subcontractor and do not know the county(ies) and state(s), contact the prime contractor).

II. WORKFORCE ON FEDERAL-AID AND CONSTRUCTION SITE(S) DURING LAST FULL PAY PERIOD ENDING IN JULY 20__ (INSERT YEAR) – Enter the last two digits of the calendar year you are reporting data for.

TABLE A – Enter number of employee(s) based on race, gender and job category during the reporting period.

TABLE B – Enter number of apprentice(s) and on-the-job trainee(s) based on gender and job category during the reporting period.

TABLE C – enter number of apprentice(s) and on-the-job trainee(s) based on race and gender during the reporting period.

1. PREPARED BY – Signature and Title of Contractor's Representative certifying the reported data to be true.

2. DATE – Enter the date the Contractor's Representative signed this form.

3. REVIEWED BY – Signature and Title of Local Agency Official reviewing data.

4. DATE – Enter the date the Local Agency Official signed this form.

CERTIFICATE OF INSURANCE

Description of Contract: City of San Diego - CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

Type of Insurance: Workers' Compensation Insurance

THIS IS TO CERTIFY that the following policy has been issued by the below stated company in conformance with the requirements of Section 7-1.12B (1)(a) "Workers' Compensation", of the Caltrans Standard Specifications and is in force at this time.

The Company will give at least thirty (30) days written notice by certified mail to the City and Consulting Engineer prior to any material change or cancellation of said policy.

POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY
		Statutory Limits Under the laws of the State of California

Name Insured (Contractor)	Insured Company
Street Number	Street Number
City and State	City and State
	Company Representative

State of _____)

) (SEE NOTICE ON NEXT PAGE)

County of _____)

On this ____ day of _____, 20__ , before me personally came _____ to me known, who being duly sworn, did depose and say: That _____ is an authorized representative of the _____ acknowledged to me that _____ executed the within instrument on_____ behalf of said insurance company.

IN WITNESS WHEREOF, I have signed and affixed my official seal on the date in this certificate first above written.

_____
Notary Public

Certificate of Insurance
(Workers' Compensation) - 1 of 2

Insurance Company Agent for Service of Process in California:

Name	Agency
Street Number	Street Number
City and State	City and State
Telephone No.	Telephone No.

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirements, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies.

NOTICE:

No substitution or revision to the above certificate form will be accepted. If the insurance called for is provided by more than one insurance company, a separate certificate in the exact above form shall be provided for each insurance company.

Insurers must be authorized to do business and have an agent for service of process in California and have an "A-" policyholder's rating and financial rating of at least Class VII in accordance with the most current Best's Rating.

Certificate of Insurance

(Workers' Compensation) - 2 of 2

INSURANCE ENDORSEMENT

Description of Contract: City of San Diego - CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

Type of Insurance: Workers' Compensation Insurance

This endorsement forms a part of Policy No. _____.

ENDORSEMENT: It is agreed that with respect to such insurance as is afforded by the policy, the Company waives any right of subrogation it may acquire against the City, the Consulting Engineer, and their consultants, and each of their directors, officers, agents, and employees by reason of any payment made on account of injury, including death resulting therefrom, sustained by any employee of the insured, arising out of the performance of the above referenced contract.

This endorsement does not increase the Company's total limits of liability.

_____	_____
Name Insured (Contractor)	Insurance Company
_____	_____
Street Number	Street Number
_____	_____
City and State	City and State
	By_____
	(Company Representative)

State of _____)

County of _____)

On this ____ day of _____, 20__, before me personally came_____ to be known, who being duly sworn, did depose and say: that _____ is an authorized representative of the _____ and acknowledged to me that _____ executed the within instrument on behalf of said insurance company.

IN WITNESS WHEREOF, I have signed and affixed my official seal on the date in this certificate first above written.

_____

Notary Public

NOTICE: No substitution or revision to the above endorsement form will be accepted. If the insurance called for is provided by more than one policy, a separate endorsement in the exact above form shall be provided for each policy.

Insurance Endorsement (Workers' Compensation) - 1 of 1

CERTIFICATE OF INSURANCE

Description of Contract: City of San Diego - CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

Type of Insurance: Liability Insurance

THIS IS TO CERTIFY that the following policies have been issued to the below stated company in conformance with the requirements of Section 7-1.12 of the Standard Specifications and are in force at this time:

		Limits of Liability	
POLICY EXPIRATION		In Thousands (000)	
NUMBER	DATE	Each Occurrence	Aggregate
A. GENERAL LIABILITY			
Bodily Injury		$_____	_____
Property Damage		$_____	_____
Bodily Injury and Property Damage Combined		$_____	_____
Personal Injury		$_____	_____
B. AUTOMOBILE LIABILITY			
Bodily Injury (Each Person)		$_____	_____
Bodily Injury (Each Occurrence)		$_____	_____
Bodily Injury and Property Damage Combined		$_____	_____
C. EXCESS LIABILITY			
Bodily Injury and Property Damage Combined		$_____	_____

Certificate of Insurance

(Liability) - 1 of 3

The following types of coverage are included in said policies (indicated by "X" in space):

A GENERAL LIABILITY:

Comprehensive Form	YES _____	NO _____
Premises-Operations	YES _____	NO _____
Explosion and Collapse Hazard.....	YES _____	NO _____
Underground Hazard	YES _____	NO _____
Products/Completed Operations Hazard	YES _____	NO _____
Contractual Insurance	YES _____	NO _____
Broad Form Property Damage Including		
Completed Operations	YES _____	NO _____
Independent Contractors	YES _____	NO _____
Personal Injury.....	YES _____	NO _____

B. AUTOMOBILE LIABILITY

Comprehensive Form Including Loading		
and Unloading	YES _____	NO _____
Owned	YES _____	NO _____
Hired	YES _____	NO _____
Non-Owned	YES _____	NO _____

C. EXCESS LIABILITY

Umbrella Form.....	YES _____	NO _____
Other than Umbrella Form	YES _____	NO _____

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

Certificate of Insurance

(Liability) - 2 of 3

The company will give at least thirty (30) days' written notice by certified mail to the City and the Consulting Engineer prior to any material change or cancellation of said policies.

Name Insured (Contractor)	Insurance Company
Street Number	Street Number
City and State	City and State

By_____

(Company Representative)

State of_____)

)

County of_____)

On this _____ day of _____, 200 , before me personally came _____ to be known who being duly sworn, did depose and say: that _____ is an authorized representative of the _____ and acknowledged to me that _____ executed the within instrumental on behalf of said insurance company.

IN WITNESS WHEREOF, I have signed and affixed my official seal on the date in this certificate first above written.

_____

NOTARY PUBLIC

Insurance Company Agent for Service
Of Process in California:

Name	Agency
Street Number	Street Number
City and State	City and State
Telephone No.	Telephone No.

NOTICE: No substitution or revision to the above certificate form will be accepted. If the insurance called for is provided by more than one insurance company, a separate certificate in the above form shall be provided for each insurance company.

Insurers must be authorized to do business and have an agent for service of process in California and have an "A-" policyholders' rating and a financial rating of at least Class VII in accordance with the most current Best's Rating.

Certificate of Insurance

(Liability) - 3 of 3

INSURANCE ENDORSEMENT

Description of Contract: City of San Diego - CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

Type of Insurance: Liability Insurance

This endorsement forms a part of Policy No. _____.

ENDORSEMENT: The City, it's officers and employees are included as additional insureds under said policies but only while acting in their capacity as such and only as respects operations of the named insured, his Contractors, and Subcontractor, any supplier, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable in the performance of the above-referenced contract. This insurance shall not apply if the loss or damage is ultimately determined to be the result of the sole and exclusive negligence (including any connected with the preparation or approval of maps, drawings, opinions, reports, surveys, designs, or specifications) of one or more of the aforesaid additional insureds. The insurance afforded to these additional insureds is primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or pro-rated by the existence of such other insurance.

The Contractual Liability Insurance afforded is sufficiently broad to insure all of the matters set forth in the section entitled, "Indemnity", in the Special Provisions of the above-referenced contract except those matters set forth in the fourth paragraph thereof.

This endorsement does not increase the Company's total limits of liability.

_____	_____
Name Insured (Contractor)	Insurance Company
_____	_____
Street Number	Street Number
_____	_____
City and State	City and State
	By_____
	(Company Representative)

State of_____)

) SEE NOTICE ON PAGE 2 of 2

County of_____)

On this _____ day of _____, 200 , before me personally came _____ to be known who being duly sworn, did depose and say: That_____ is an authorized representative of the _____ and acknowledged to me that_____executed the within instrument on behalf of said insurance company.

Insurance Endorsement

(Liability) - Page 1 of 2

IN WITNESS WHEREOF, I have signed and affixed my official seal on the date in this certificate first above written.

NOTARY PUBLIC

NOTICE: No substitution or revision to the above endorsement form will be accepted. If the insurance called for is provided by more than one policy, a separate endorsement in the exact above form shall be provided for each policy.

Insurers must be authorized to do business and have an agent for service of process in California and have an "A-" policyholder's rating and a financial rating of at least Class VII in accordance with the most current Best's Rating.

COMPANY LETTERHEAD

CERTIFICATE OF COMPLIANCE

Materials and Workmanship Compliance

For Contract or Task_____

I certify that the material listed below complies with the materials and workmanship requirements of the Caltrans Contract Plans, Special Provisions, Standard Specifications, and Standard Plans for the contract listed above.

I also certify that I am an official representative for_____, the manufacturer of the material listed above. Furthermore, I certify that where California test methods, physical or chemical test requirements are part of the specifications, that the manufacturer has performed the necessary quality control to substantiate this certification.

Material Description:

Manufacturer: _____

Model:_____

Serial Number (if applicable)_____

Quantity to be supplied:_____

Remarks:_____

Signed by: _____

Printed Name:_____

Title: _____

Company: _____

Date: _____

SAMPLE

City of San Diego

Public Works Department, Field Engineering Division

NOTICE OF MATERIALS TO BE USED

To:_____ Date: _____, 2_____

Resident Engineer

You are hereby notified that the materials required for use under Contract No. _____ for construction of _____

_____,

in the City of San Diego, will be obtained from sources herein designated.

CONTRACT ITEM NO. (Bid Item)	KIND OF MATERIAL (Category)	NAME AND ADDRESS WHERE MATERIAL CAN BE INSPECTED (At Source)

It is requested that you arrange for a sampling, testing, and inspection of the materials prior to delivery, in accordance with Section 4-1.11 of the WHITEBOOK, where it is practicable, and in accordance with your policy. It is understood that source inspection does not relieve the Contractor of full responsibility for incorporating in the work, materials that comply in all respects with the contract plans and specifications, nor does it preclude subsequent rejection of materials found to be undesirable or unsuitable.

Distribution:

Supplier

_____

Signature of Supplier

Yours truly,

_____

Address

Phone Number:_____

SAMPLE

CALTRANS STANDARD SPECIFICATIONS

DIVISION I GENERAL PROVISIONS

DIVISION I GENERAL PROVISIONS

Sections 1 through 9, and Sections 10 through 95 of the 2015 Standard Specifications, State of California, Department of Transportation (Caltrans) are modified by the special provisions that follow.

Conflicts shall be addressed as follows:

a) In case of conflict between the Standard Specifications and these special provisions, these special provisions shall control.
b) If there is a conflict in the General Provisions, i.e. between these special provisions and the City's standard specifications, the former shall control.

1 GENERAL

Add to section 1-1.07B:

ATTORNEY GENERAL - Wherever used in the Standard Specifications shall refer to City Attorney.

CITY - The City of San Diego, a chartered municipal corporation of the State of California.

DEPARTMENT OF TRANSPORTATION OR DEPARTMENT – Whenever used in the Standard Specifications, refers to the City of San Diego, except when used in reference to test methods of, or to denote publications or designate the mailing address of an agency of the State of California.

DIRECTOR OF TRANSPORTATION OR DIRECTOR - Whenever used in the Standard Specifications refers to the Mayor or Designee.

DIVISION OF MEASUREMENT STANDARDS - Wherever used in the Standard Specifications, shall refer to the Department of Agriculture - Weights and Measures of the County of San Diego.

GENERAL PROVISIONS - Sections 1 through 9 (as modified herein) of the **2015** Standard Specifications, State of California, Department of Transportation, and Part1 of Standard Specifications for Public Works Construction and its City Supplement and Supplementary Special Provisions.

LABORATORY - The established laboratory authorized by Engineer to test materials used in the Work.

LIQUIDATED DAMAGES - The amount prescribed in the Specifications, pursuant to the authority of Public Cont Code §10226, to be paid to the City or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the Work beyond the time allowed in these special provisions.

NOTICE TO BIDDERS – A Contract Document that provides a general work description, Bidder and Bid specifications, and the time and location the City receives Bids. See Notice Inviting Bids and Instructions to Bidders.

REFERENCES - Where Standard Specifications refer to the Special Provisions to describe the Work,

interpret the reference as a reference to the Bid Item List, the Special Provisions, or both. Interpret a reference to a section of the Standard Specifications as a reference to the Standard Specifications as revised by any amendment, special provision, or both. A reference within parentheses to a law or regulation is included in the Contract for convenience only and is not a comprehensive listing of related laws and regulations. Lack of a reference does not indicate no related laws or regulations exist. Where the version of a referenced document is not specified, use the current version in effect on the date of the invitation to bid. A reference to a subsection includes the section's general specifications of which the subsection is a part. A code not specified as a Federal code is a California code.

STATE OF CALIFORNIA OR STATE – As used in these specifications relative to the contract administration refers to the City of San Diego

STATE CONTRACT ACT - Chapter 1, Division 2, of the Public Contract Code. The provisions of this act are not applicable to this contract.

2 BIDDING

2-1.01 GENERAL

Section 2 includes specifications related to bid eligibility and the bidding process.

The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Caltrans Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation of and the submission of the bid.

The bidder's bond shall conform to the bond form in the Contract Documents for the project and shall be properly filled out and executed. The bidder's bond form included in that Contract Documents may be used.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Contract Documents. Signing the Contract Documents shall also constitute signature of the Noncollusion Affidavit.

Failure of the bidder to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including but not limited to escrowed bid documents, where applicable, may subject the bidder to a determination of the bidder's responsibility in the event it is the apparent low bidder on a future public works contracts.

2-1.015 FEDERAL LOBBYING RESTRICTIONS. Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower-tier sub-recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Bid book. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Bid book. Signing the Bid book shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding $100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase if $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered federal action; or

(3) A change in the officer(s), employees(s), or member(s) contacted to influence or attempt to influence a covered Federal Action.

Add between the 1st and 2nd paragraphs of section 2-1.06B:

The City of San Diego makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in the *Information Handout*	Environmental Assessment, Permits, Foundation Report, Geotechnical Design Report, Bridge As-Built Plans for Bridge Number's 57-0705R,57-0705L, and 57C-0023.
Available as specified in the *Standard Specifications*	
Included with the project plans	Log of test borings

Add to the end of section 2-1.09:

The item total for plant establishment work must be at least $80,000. The item is applicable to all plant establishment work within both the Caltrans and City right-of-way (not including the mitigation work).

2-1.12 DISADVANTAGED BUSINESS ENTERPRISES

2-1.12A General

Under 49 CFR 26.13(b):

> The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

Take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the Contract (49 CFR 26).

2-1.12B Disadvantaged Business Enterprises (DBE)

2-1.12B(1) General

To ensure equal participation of DBEs groups provided in 49 CFR 26.5, the City's shows a goal for DBEs.

Make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

Meet the DBE goal shown on the Notice Inviting Bids or demonstrate that you made adequate good faith efforts to meet this goal.

It is the Bidder's responsibility to verify that the DBE firm is certified at date of bid opening by the California Unified Certification Program. For a list of DBEs certified by the California Unified Certification Program, go to:

http://www.dot.ca.gov/hq/bep/find_certified.htm.

All DBE participation will count towards the California Department of Transportation's federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase from DBEs counts toward the goal in the following manner:

1. 100 percent if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies, if they are obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

You receive credit toward the goal if you employ a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d)(1)-(4), (6).

2-1.12B(2) DBE Commitment Submittal

Submit the Exhibit 15-G Construction Contract DBE Commitment form included in the Contract Documents.

If the DBE commitment form is not submitted with the bid, all bidders must complete and submit the form to the City. The DBE commitment form must be received by the City no later than 4:00 p.m. on the 4th business day after bid opening.

Submit written confirmation from each DBE shown on the form stating that it will be participating in the Contract. Include confirmation with the DBE commitment form. A copy of a DBE's quote will serve as written confirmation that the DBE will be participating in the Contract.

If you do not submit the DBE commitment form by the specified time, your bid is **non-responsive**.

2-1.12B(3) Good Faith Efforts Submittal

If you have not met the DBE goal, complete and submit the DBE information - Good Faith Efforts Documentation form, 15-H, showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed toward obtaining participation by DBEs are considered. If good faith efforts documentation is not submitted with the bid, it must be received by the City no later than 4:00 p.m. on the 4th business day after bid opening.

If your DBE commitment form shows that you have met the DBE goal or if you are required to submit the DBE commitment form, you must submit good faith efforts documentation within the specified time to protect your eligibility for award of the contract in the event the City finds that the DBE goal has not been met. Good faith efforts documentation must include the following information and supporting documents, as necessary:

1. Items of work you have made available to DBE firms. Identify those items of work you might otherwise perform with your own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total bid. You are responsible to demonstrate that sufficient work to meet the goal was made available to DBE firms.
2. Names of certified DBEs and dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty whether the DBEs were interested and include the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. You are reminded to solicit certified DBEs through all reasonable and available means and provide enough time to allow DBEs to respond.
3. Name of selected firm and its status as a DBE for each item of work made available. Include name, address, and telephone number of each DBE that provided a quote and its price quote. If the firm selected for the item is not a DBE, provide the reasons for the selection.
4. Name and date of each publication in which you requested DBE participation for the project. Attach copies of the published advertisements.
5. Names of agencies and dates on which they were contacted to provide assistance in contacting, recruiting, and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
6. List of efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. If you have provided information, identify the name of the DBE assisted, the nature of the

information provided, and date of contact. Provide copies of supporting documents, as appropriate.

7. List of efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials excluding supplies and equipment that the DBE subcontractor purchases or leases from the prime contractor or its affiliate. If such assistance is provided by you, identify the name of the DBE assisted, nature of the assistance offered, and date assistance was offered. Provide copies of supporting documents, as appropriate.
8. Any additional data to support demonstration of good faith efforts.

The City may consider DBE commitments of the 2nd and 3rd bidders in determining whether the low bidder made good faith efforts to meet the DBE goal.

2-1.12B(4) Exhibit 15-G - Construction Contract DBE Commitment

Complete and sign ***Exhibit 15-G Construction Contract DBE Commitment*** included in the contract documents regardless of whether DBE participation is reported.

Provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, the City encourages you to submit a copy of the joint venture agreement.

2-1.12B(5) Subcontractor and Disadvantaged Business Enterprise Records

Use each DBE subcontractor as listed on ***Exhibit 12-B Bidder's List of Subcontractors (DBE and Non-DBE)*** and ***Exhibit 15-G Construction Contract DBE Commitment*** form unless you receive authorization for a substitution.

The City requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
    a) Name and business address of each 1st-tier subcontractor
    b) Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
    c) Date of payment and total amount paid to each business

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th of each month, submit a ***Monthly DBE Trucking Verification*** form.

If a DBE is decertified before completing its work, the DBE must notify the Contractor in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify the Contractor in writing of the certification date. Submit the notifications. On work completion, complete a ***Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form***. Submit the form within 30 days of contract acceptance.

Upon work completion, complete ***Exhibit 17-F Final Report – Utilization of Disadvantaged Business***

Enterprises (DBE), First-Tier Subcontractors. Submit it within 90 days of contract acceptance. The City will withhold $10,000 until the form is submitted. The City releases the withhold upon submission of the completed form.

2-1.50 BID RIGGING

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

3 CONTRACT AWARD AND EXECUTION

3-1.01 GENERAL

Section 3 includes specifications related to contract award and execution.

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Caltrans Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

Bid protests are to be delivered to the following address:

THE CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose bid complies with all the requirements prescribed.

The contract shall be executed by the successful bidder and shall be returned together with the contract bonds, to the Agency so that it is received within 10 days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to the following address:

THE CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

3-1.06 CONTRACTOR LICENSE

For a federal-aid contract, the Contractor must be properly license as a contractor from contract award through Contract acceptance (Pub Cont Code § 10164).

3-1.12 CALTRANS BIDDER - DBE INFORMATION FORM

Complete and sign the Local Agency - DBE Information form included in the contract documents regardless of whether no DBE participation is reported.

Provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, the City encourages you to submit a copy of the joint venture agreement.

3-1.13 FORM FHWA-1273

For a federal-aid contract, form FHWA-1273 is included with the Contract form in the documents sent to the successful bidder for execution. Comply with its provisions. Interpret the training and promotion section as specified in section 7-1.11A.

5 CONTROL OF WORK

5-1.01 GENERAL

Section 5 includes specifications regarding the Contract parties' relations and Contract acceptance.

5-1.04A PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

A prime contractor or subcontractor shall pay any subcontractor not later than 10 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-1.04B PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS

The agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The prime contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-1.04C SUBCONTRACTING

No subcontract releases the Contractor from the contract or relieves the Contractor of their responsibility for a subcontractor's work.

If the Contractor violates Pub Cont Code § 4100 et seq., the City of San Diego may exercise the remedies provided under Pub Cont Code § 4110.

The City of San Diego may refer the violation to the Contractors State License Board as provided under Pub Cont Code § 4111.

The Contractor shall perform work equaling at least 30 percent of the value of the original total bid with the Contractor's own employees and equipment, owned or rented, with or without operators.

Each subcontract must comply with the contract.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

Submit copies of subcontracts upon request by the Engineer.

Before subcontracted work starts, submit a Subcontracting Request form.

Do not use a debarred contractor; a current list of debarred contractors is available at the Department of Industrial Relations web site at: http://www.dir.ca.gov/dlse/debar.html

Upon request by the Engineer, immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

Each subcontract and any lower-tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction Contracts" in Section 7 of these special provisions. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due or to become due, until correction is made. Failure to comply may result in termination of the contract.

5-1.05 PAYMENTS. Attention is directed to Section 9-1.16, "PROGRESS PAYMENTS," and 9-1.17, "PAYMENT AFTER CONTRACT ACCEPTANCE," of the Caltrans Standard Specifications and these special provisions.

For the purpose of making progress payments pursuant to Section 9-1.16, "PROGRESS PAYMENTS," of the Caltrans Standard Specifications, the amount set forth for the contract items of work hereinafter listed shall be deemed to be the maximum value of the contract item of work, which will be recognized for progress payment purposes.

See Bid Item List for list of partial pay items (P).

After acceptance of the contract pursuant to the provisions in Section 5-1.46, " FINAL INSPECTION AND CONTRACT ACCEPTANCE," of the Caltrans Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes hereinabove listed for the item, will be included for payment in the first estimate made after acceptance of the contract.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

Add to the end of section 5-1.09A:

The Department encourages the project team to exhaust the use of partnering in dispute resolution before engagement of an objective third party.

For certain disputes, a facilitated partnering session or facilitated dispute resolution session may be

appropriate and effective in clarifying issues and resolving all or part of a dispute.

To afford the project team enough time to plan and hold the session, a maximum of 20 days may be added to the DRB referral time following the Engineer's response to a *Supplemental Potential Claim Record*.

To allow this additional referral time, the project team must document its agreement and intention in the dispute resolution plan of the partnering charter. The team may further document agreement of any associated criteria to be met for use of the additional referral time.

If the session is not held, the DRB referral time remains in effect as specified in section 5-1.43.

5-1.13B Disadvantaged Business Enterprises

5-1.13B(1) General

Use each DBE subcontractor as listed on the Subcontractor List form and the Local Agency - DBE Information form unless you receive authorization for a substitution.

Notify the Engineer of any changes to your anticipated DBE participation. Submit this notification before starting the affected work.

Maintain records including:

1. Name and business address of each 1st-tier subcontractor

2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier

3. Date of payment and total amount paid to each business

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th day of each month, submit a Monthly DBE Trucking Verification form.

If a DBE subcontractor is decertified before completing subcontracted work, the subcontractor must notify you in writing of the decertification date. If a subcontractor becomes a certified DBE before completing subcontracted work, the subcontractor must notify you in writing of the certification date. Submit the notifications. On work completion, complete a Disadvantaged Business Enterprises (DBE) Certification Status Change form. Submit the form within 90 days of

Contract acceptance.

Upon work completion, complete a Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors form. Submit it within 90 days of Contract acceptance. The City withholds $10,000 until the form is submitted. The City releases the withhold upon submission of the completed form.

5-1.13B(2) Performance of Disadvantaged Business Enterprises

DBEs must perform work or supply materials as listed in the Exhibit 15-G Construction Contract DBE Commitment form.

Do not terminate or substitute a listed DBE listed for convenience and perform the work with your own forces or obtain materials from other sources without written authorization from the City.

The City authorizes a request to use other forces or sources of materials if it shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on the plans and specifications for the project.
2. You stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet your bond requirements.
3. Work requires a contractors license and the listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
5. Listed DBE's work is unsatisfactory and not in compliance with the Contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. City determines other documented good cause.

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Department of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. 1 or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request

If a listed DBE is terminated or substituted, you must make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the Contract to the extent needed to meet the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the City authorizes (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, the City does not pay for work listed on the Exhibit 15-G Construction Contract DBE Commitment formunless it is performed or supplied by the listed DBE or an authorized substitute.

Add to the end of section 5-1.20A:

During the progress of the work under this Contract, work under the following contracts may be in progress at or near the job site of this Contract:

Coincident or Adjacent Contracts

Contract no.	County–Route–Post Mile	Location	Type of work
11-14-NUT-0655	11-SD-8/21.25	Sports Arena Blvd at Interstate 8	Existing Water and Sewer Replacement and Removal

Replace section 5-1.24 with:

5-1.24 CONSTRUCTION SURVEYS

5-1.24A General

The City's Surveyor places stakes and marks under Chapter 12, "Construction Surveys," of the Department's *Surveys Manual*.

Submit your request for City-furnished stakes:

1. Once the staking area is ready for stakes
2. On a Request for Construction Staking form

After your submittal, the City starts staking within 2 business days.

Preserve stakes and marks placed by the City. If the stakes or marks are destroyed, the City replaces them at the City's earliest convenience and deducts the cost.

5-1.24B City Construction Surveys for Automated Machine Guidance

The City sets control points to a minimum of 0.07 foot local horizontal accuracy and third order vertical accuracy standards.

For slope stakes and rough grade stakes, the City sets 6 survey control points or 2 control points per mile, whichever is greater.

The City sets slope stakes and rough grade stakes at:

1. Conform stations
2. Beginning and end of each alignment
3. Midpoint or every 200 feet, whichever is greater, on a curve
4. Every 500 feet on tangents

For final grade stakes, the City sets survey control points under Chapter 12, "Construction Surveys," section 12.1-6, "Automated Machine Guidance (AMG)," and figure 12-2 of the Department's *Surveys Manual*. The City sets final grade stakes at:

1. Conform stations
2. Beginning and end of each alignment

3. Midpoint or every 100 feet, whichever is greater, on a curve with a radius of 1,200 feet or less
4. Midpoint or every 200 feet, whichever is greater, on a curve with a radius of more than 1,200 feet
5. Every 200 feet on a tangent

Upon your request and under Chapter 12, "Construction Surveys," of the Department's *Surveys Manual*, the City provides (1) staking for intersections, clearing, fencing, drainage, curbs, structures, abutment fill, wall, and miscellaneous areas and (2) additional survey control or staking for earthwork in areas where global navigation satellite system (GNSS) coverage is inadequate for automated machine guidance.

Replace section 5-1.25 with:

5-1.25 AUTOMATED MACHINE GUIDANCE

5-1.25A General

You may use automated machine guidance (AMG) if the AMG meets or exceeds the staking tolerances described in section 12.5, "Typical Department-Furnished Construction Stakes," of the Department's *Surveys Manual*.

You are responsible for determining whether the work and site conditions are practical for AMG use.

Furnish a GNSS rover compatible with your GNSS base station or the GNSS correction service you subscribe to. The Department returns the GNSS rover upon work completion. This is change order work.

At the preconstruction conference, be prepared to discuss survey control points, site and equipment calibration, inspection methods, conflict resolution, and staking.

5-1.25B Definitions

automated machine guidance (AMG): Technology that uses positioning devices, singly or in combination, such as global navigation satellite systems (GNSS), total stations, or rotating laser levels, to determine and control the real-time position of construction equipment using onboard computer equipment.

California Coordinate System of 1983 (CCS83): CCS83 as defined in Pub Res Code § 8801.

digital construction model (DCM): Three-dimensional model used by the Contractor's AMG equipment.

digital design model: Three-dimensional model consisting of roadway design alignments, profiles, and cross sections representing the finished grade.

digital terrain model: Three-dimensional model representing the original ground before job site activities start.

global navigation satellite system (GNSS): Satellite system used to pinpoint the geographic location of a user's receiver anywhere in the world. Two GNSS systems are in operation: the US GPS and the Russian Federation's GLONASS. Each of the GNSS systems uses a constellation of orbiting satellites working in conjunction with a network of ground stations.

GNSS base station: Single ground-based system consisting of a GNSS receiver, antenna, and telemetry equipment that provides differential GNSS correction signals to other GNSS receivers or rovers. Multiple base stations can be combined into a GNSS network.

GNSS correction service subscription: Subscription service to receive differential GNSS correction signals for higher accuracy GNSS positioning without the need of a GNSS base station. Signals are normally received via cellular wireless data services.

GNSS rover: Portable GNSS antenna, receiver, rod, and data collector with telemetry equipment for real-time point measurements.

grid: Cartesian coordinate system of Northing (y) and Easting (x) coordinates using CCS83.

robotic total station: Survey instrument capable of tracking an optical target and providing real-time coordinates of the target to the equipment operator and AMG equipment. A robotic total station unit can provide AMG if site conditions do not allow GNSS receivers to be used and if a higher accuracy is required than the GNSS provides.

site calibration or localization: Process that establishes the relationship between the observed control point coordinates and the site coordinate system, which is usually grid. The term applies to both GNSS and robotic total station equipment.

5-1.25C Electronic Files

Electronic design files include:

1. Digital terrain model in 3-D DGN or LandXML format
2. Roadway design alignments and profiles in LandXML format

The City makes electronic design files available as supplemental project information.

You must create the digital construction models.

Convert the electronic design files to a format compatible with your AMG system. Manipulation of the electronic design files is at your own risk.

Submit copies of the digital construction model files and any updates to them in LandXML format.

Digital design model information may not exist for contour grading and some drainage areas. The Department places stakes for these areas.

The City provides you with updated electronic data whenever the Engineer determines a plan change materially affects the finished grade. For minor grade changes, the City places stakes and marks.

5-1.25D Quality Control Plan

Submit an AMG QC plan at least 15 days before starting work requiring AMG. The plan must include the following information:

1. Contract number
2. Name and contact information of the AMG QC technician
3. Limits of the area for which the AMG will be used
4. Scope of work to be completed using AMG for the following work categories:
   4.1. Clearing and grubbing

- 4.2. Earthwork
- 4.3. Trench excavation
- 4.4. Rough grading
- 4.5. Subgrade
- 4.6. Subbase
- 4.7 Base
- 4.8. Curb and gutter
- 4.9. Cold planning or milling existing pavement
- 4.10. Paving
- 4.11. Intelligent compaction
- 4.12. Concrete barrier
- 4.13. Finishing roadway

5. Project control plan sheet detailing control points covering the job site
6 List of GNSS equipment, including:
   - 6.1. Type
   - 6.2. Manufacturer
   - 6.3. Model
   - 6.4. Software version
7. Description of GNSS site calibration or localization checking, including:
   - 7.1. List of equipment requiring calibration or localization checking
   - 7.2. Site calibration or localization procedures
   - 7.3. Frequency of calibration or localization
   - 7.4. Format for recording calibrations or localizations, including:
     - 7.4.1. Date
     - 7.4.2. Locations where calibration or localization was performed
     - 7.4.3. GNSS equipment manufacturer and model
     - 7.4.4. Range of required tolerance
     - 7.4.5. Name and signature of the person performing calibration or localization
   - 7.5. Reporting time for submitting records of calibration or localization
8. Description of daily GNSS equipment or robotic total station equipment check-testing procedures, including the format for recording daily check testing
9. List of AMG onboard computer equipment, including:
   - 9.1. Type
   - 9.2. Manufacturer
   - 9.3. Software version
   - 9.4. List of AMG-controlled equipment, including:
     - 9.4.1. Type, such as loader or grader
     - 9.4.2. Manufacturer
     - 9.4.3 Model
10. Procedures for AMG-controlled equipment calibration, including:
    - 10.1. Description of equipment calibration procedures
    - 10.2. Frequency of calibration
    - 10.3. Format for recording calibration information
11. Electronic data file control, including:
    - 11.1. Name and contact information of the person responsible for the electronic files
    - 11.2. DCM file-naming convention

11.3. Description of the process that will be used to upload the DCM to the AMG equipment
11.4. Description of the process that will be used whenever updated DCM files are required to be uploaded to the AMG equipment

If QC procedures or personnel change, submit a QC plan supplement describing the change.

5-1.25E Quality Control Technician

During AMG activities, provide a QC technician to be responsible for:

1. GNSS site calibration or localization and upload to all GNSS receivers
2. Maintenance of GNSS and AMG equipment
3. Documentation of the calibration or localization and maintenance of GNSS equipment
4. Daily calibration and documentation of AMG equipment
5. Daily setup and takedown of GNSS and robotic total station components

5-1.25F Just-in-Time Training

Provide at least 8 hours of JIT training on the GNSS rover for up to 3 City employees. Provide training materials and equipment.

The JIT training must cover the following topics:

1. Background information for the GNSS to be used
2. Setup and calibration checks for:
   2.1. GNSS receiver
   2.2. GNSS base station
   2.3. GNSS rovers
   2.4. Machinery
3. Operation of the GNSS rover, including:
   3.1. Setup data collection
   3.2. Settings for alignments and profiles
   3.3. Onboard display options
4. Demonstration of grade checking using the rover

The training is change order work.

5-1.25G Construction

5-1.25G(1) General

If you find a discrepancy in any survey control point, survey stake, or in the electronic data provided, immediately, submit an RFI.

5-1.25G(2) GNSS Site Calibration or Localization

Perform GNSS site calibration or localization to the survey control points at least 5 business days before starting work requiring AMG.

Check each survey control point for accuracy. Submit the GNSS site calibration or localization results within 1 business day of the calibration or localization testing. Allow 3 business days for the review of the results

5-1.25G(3) GNSS Check Testing

Before starting daily work requiring AMG, conduct check testing for the proper setup of the GNSS or robotic total station equipment. Ensure the GNSS or robotic total station equipment achieves accuracies within:

1. 0.10 foot in both horizontal and vertical directions for rough grading
2. 0.05 foot in horizontal directions and 0.02 foot in vertical directions for final grades

Before starting daily production, conduct check testing of the AMG equipment and the GNSS rovers.

Within 1 business day after check testing, submit the check-testing results as informational submittals.

5-1.25G(4) Grade Verification

If requested, provide a GNSS rover and personnel to operate it for the Engineer's use in verifying grades. This is change order work.

Replace section 5-1.26 with:

5-1.26 GRADE QUALITY CONTROL

Use a GNSS rover, robotic total station equipment, or a level to check the grades at the frequencies shown in the following table:

Grade Checking Requirements

Type of work	Area or distance represented by the grade checking	Frequency (number of grade points)
Earthwork for cut and fill slopes ≤15 feet	200 feet	2
Earthwork for cut and fill slopes >15 feet	1,000 sq yd	1
Rough grading	1,000 sq yd	1
Trenching	100 feet	6
Subgrade	1 mi	30
Subbase layer	1 mi	50
Base layer	1 mi	100
Curb and gutter	100 feet	6
Concrete barrier	100 feet	5
Finishing roadway	1,000 sq yd	2

Increase the frequency of grade checking of a roadway:

1. Wherever its curve radius is 500 feet or less
2. In areas of a superelevation transition
3. At intersections

Notify the Engineer when an area is ready for line and grade inspection. Submit the grade checking results on a Grade Checking Report form as an informational submittal.

Add to the end of section 5-1.32:

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

Add between the 2nd and 3rd paragraphs of the RSS for section 5-1.36C(3):

Installation of the utilities shown in the following table requires coordination with your activities. Make the necessary arrangements with the utility company through the Engineer and submit a schedule:

1. Verified by a representative of the utility company
2. Allowing at least the time shown for the utility owner to complete its work

Utility Relocation and Contractor-Arranged Time for the Relocation

Utility	Utility address	Location	Utility N/W Days
UG Electric Conduits	SDG&E 9315 Century Park Ct, San Diego, CA 92123	Centerline WMBD Sta 37+04 to Sta 54+23	60/20
UG Electric Manhole M2179370070	SDG&E 9315 Century Park Ct, San Diego, CA 92123	Centerline WMBD Sta 37+12	60/10
UG Electric Manhole M2185369950	SDG&E 9315 Century Park Ct, San Diego, CA 92123	Centerline WMBD Sta 50+94	60/10
UG Telephone Conduits	AT&T 7337 Trade Street, San Diego, CA 92121	Centerline WMBD Sta 28+03 to Sta 53+80	60/20
UG Telephone Manhole	AT&T 7337 Trade Street, San Diego, CA 92121	Centerline WMBD Sta 29+59	60/10
UG Telephone Manhole	AT&T 7337 Trade Street, San Diego, CA 92121	Centerline WMBD Sta 36+86	60/10
UG Telephone Manhole	AT&T 7337 Trade Street, San Diego, CA 92121	Centerline WMBD Sta 50+20	60/10

Working Days **(W days)** is the time for the utility owner to complete their work:

Notification Days **(N days)** is the minimum number of calendar days written notice the Engineer provides the owner that the site will be ready for utility work.

6 CONTROL OF MATERIALS

6-1 GENERAL

6-1.01 GENERAL

Section 6 includes specifications related to control of materials.

Material incorporated into the work must be new.

Before the preconstruction conference, submit material source information on a Notice of Materials

to Be Used form.

6-1.01A USE OF UNITED STATES-FLAG VESSELS

The CONTRACTOR shall agree to the following:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carries, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
2. To Furnish within 20 days following the date of loading for shipments originating within the United State or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

Add to the beginning of section 6-1.02:

The Department furnishes you with:

- Disks for survey monuments
- Model 170 controller assembly, including controller unit, completely wired controller cabinet, and detector sensor units

You must furnish replacement plants. The Department does not pay you for the replacement plants.

6-1.04 BUY AMERICA

6-1.04A General

Reserved

6-1.04C Steel and Iron Materials

Furnish steel and iron materials to be incorporated into the work with certificates of compliance. Steel and iron materials must be produced in the U.S. except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];
2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or $2,500, materials produced outside the U.S. may be used.

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition;

2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured.

All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

6-2 QUALITY ASSURANCE

6-2.01 GENERAL

6-2.01A GENERAL

6-2.01A (1) QUALITY ASSURANCE

The City uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract. The Contractor may examine the records and reports of tests the City performs if they are available at the job site. Schedule work to allow time for QAP.

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.01 GENERAL

Section 7 includes specifications regarding your:

1. Compliance with laws
2. Responsibilities for public safety and convenience
3. Responsibilities for indemnification, insurance, and liability

7-1.02 LAWS

7-1.02A General

Comply with laws, regulations, orders, and decrees applicable to the project. Indemnify and defend the State against any claim or liability arising from the violation of a law, regulation, order, or decree by you or your employees. Immediately report to the Engineer a discrepancy or inconsistency between the Contract and a law, regulation, order, or decree.

If the City incurs any fines or penalties because of your failure to comply with a law, regulation, order, or decree, the City deducts the amount of the fine or penalty.

Immediately notify the Engineer if a regulatory agency requests access to the job site or to records. Submit a list of documents provided to the agency and issued enforcement actions.

7-1.02B U.S. Fair Labor Standards Act

Comply with 29 USC § 201 et seq.

7-1.02J TITLE VI ASSURANCES

During the performance of this Agreement, the contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as CONTRACTOR) agrees as follows:

1. Compliance with Regulations: CONTRACTOR shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this agreement.
2. Nondiscrimination: CONTRACTOR, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
3. Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by CONTRACTOR for work to be performed under a Sub-agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by CONTRACTOR of the CONTRACTOR'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. Information and Reports: CONTRACTOR shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the California Department of Transportation or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts CONTRACTOR has made to obtain the information.
5. Sanctions for Noncompliance: In the event of CONTRACTOR's noncompliance with the nondiscrimination provisions of this agreement, the California Department of Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

    (a) withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or

    (b) cancellation, termination or suspension of the Agreement, in whole or in part.

Incorporation of Provisions: CONTRACTOR shall include the provisions of paragraphs (1) through (5) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. CONTRACTOR shall take such action with respect to any sub-agreement or procurement as the California Department of Transportation or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, CONTRACTOR may request the California Department of Transportation enter into such litigation to protect the interests of the State, and, in addition, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

7-1.02K(4) Apprentices

Comply with the apprentice to journeyman ratio requirements (Labor Code § 1777.5(g)).

Comply with the training contribution requirements (Labor Code § 1777.5(m)(1)).

For answers to questions, contact the Division of Apprenticeship Standards before starting work.

7-1.02K(6)(e)

7-1.11 FEDERAL LAWS FOR FEDERAL-AID CONTRACTS

7-1.11A General

A copy of form FHWA-1273 is included in section 7-1.11B. The training and promotion section of section II refers to training provisions as if they were included in the special provisions. The Department specifies the provisions in section 7-1.11D of the Standard Specifications. If a number of trainees or apprentices is required, the Department shows the number on the Notice to Bidders. Interpret each FHWA-1273 clause shown in the following table as having the same meaning as the corresponding Department clause:

FHWA-1273 Nondiscrimination Clauses

FHWA-1273 section	FHWA-1273 clause	Department clause
Training and Promotion	In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.	If section 7-1.11D applies, section 7-1.11D supersedes this subparagraph.
Records and Reports	If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.	If the Contract requires on-the-job training, collect and report training data.

7-1.11B FHWA-1273 (NEXT PAGE)

FHWA 1273 CERTIFICATION

The bidder, under penalty of perjury, certifies that, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager, shall comply with the provisions of the Form FHWA 1273 included in the Special Provisions. The provisions apply to all work performed on the contract including work performed by subcontract. The unmodified Form FHWA 1273 is required to be physically incorporated into each contract, subcontract and subsequent lower-tier subcontracts. The provisions may not be incorporated by reference.

The prime contractor is responsible for compliance with the requirements by all subcontractors and lower tier subcontractors. Failure of the prime contractor to comply with this requirement is grounds for local agency termination of the contract with the contractor and debarment of the contractor by the FHWA.

Flatiron West, Inc.

Name of Contractor

1770 La Costa Meadows Drive, San Marcos, CA 92078

Address

Dale A. Nelson

Vice President

Signature: 

Date: April 4, 2018

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title

23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be

contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account

part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in

section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages**. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or

investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. **Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary

Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

7-1.11C Female and Minority Goals

To comply with section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the Department is including in section 7-1.11C female and minority utilization goals for federal-aid construction contracts and subcontracts that exceed $10,000.

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] are as shown in the following table:

Minority Utilization Goals

Economic area		Goal (Percent)
174	Redding CA: Non-SMSA Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama	6.8
175	Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity	6.6

Economic area		Goal (Percent)
176	San Francisco-Oakland-San Jose, CA:	
	SMSA Counties:	
	7120 Salinas-Seaside-Monterey, CA	28.9
	CA Monterey	
	7360 San Francisco-Oakland	25.6
	CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo	
	7400 San Jose, CA	
	CA Santa Clara, CA	19.6
	7485 Santa Cruz, CA	
	CA Santa Cruz	14.9
	7500 Santa Rosa	
	CA Sonoma	9.1
	8720 Vallejo-Fairfield-Napa, CA	
	CA Napa; CA Solano	17.1
	Non-SMSA Counties:	
	CA Lake; CA Mendocino; CA San Benito	23.2
177	Sacramento, CA:	
	SMSA Counties:	
	6920 Sacramento, CA	16.1
	CA Placer; CA Sacramento; CA Yolo	
	Non-SMSA Counties	14.3
	CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	

Economic area		Goal (Percent)
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus 8120 Stockton, CA CA San Joaquin Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	 12.3 24.3 19.8
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern 2840 Fresno, CA CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	 19.1 26.1 23.6

Economic area		Goal (Percent)
180	Los Angeles, CA:	
	SMSA Counties:	
	0360 Anaheim-Santa Ana-Garden Grove, CA	11.9
	CA Orange	
	4480 Los Angeles-Long Beach, CA	28.3
	CA Los Angeles	
	6000 Oxnard-Simi Valley-Ventura, CA	21.5
	CA Ventura	
	6780 Riverside-San Bernardino-Ontario, CA	19.0
	CA Riverside; CA San Bernardino	
	7480 Santa Barbara-Santa Maria-Lompoc, CA	19.7
	CA Santa Barbara	
	Non-SMSA Counties	24.6
	CA Inyo; CA Mono; CA San Luis Obispo	
181	San Diego, CA:	
	SMSA Counties	
	7320 San Diego, CA	16.9
	CA San Diego	
	Non-SMSA Counties	18.2
	CA Imperial	

For each July during which work is performed under the Contract, you and each non-material-supplier subcontractor with a subcontract of $10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

7-1.11D Training

For the Federal training program, the number of trainees or apprentices is **56**.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a Contract part, determine how many trainees or apprentices are to be trained by the subcontractor.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, submit:

1. Number of apprentices or trainees to be trained for each classification.

2. Training program to be used.

3. Training starting date for each classification.

Obtain the Department's approval for this submitted information before you start work. The Department credits you for each apprentice or trainee you employ on the work who is currently enrolled or becomes enrolled in an approved program.

The primary objective of section 7-1.11D is to train and upgrade minorities and women toward journeymen status. Make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

Do not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course

leading to journeyman status or in which the employee has been employed as a journeyman.

2. Who is not registered in a program approved by the U.S. Department of Labor, Bureau of Apprenticeship and Training.

Ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, establish the minimum length and training type for each classification. The Department and FHWA approves a program if one of the following is met:

1. It is calculated to:

   a) Meet your equal employment opportunity responsibilities.

   b) Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period.

2. It is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training and it is administered in a way consistent with the equal employment responsibilities of federal-aid highway construction contracts.

Obtain Department approval for your training program before you start work involving the classification covered by the program.

Provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the FHWA division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The Department reimburses you 80 cents per hour of training given an employee on this Contract under an approved training program:

1. For on-site training

2. For off-site training if the apprentice or trainee is currently employed under a federal-aid contract and you do at least one of the following:

   2.1. Contribute to the cost of the training

   2.2. Provide the instruction to the apprentice or trainee

2.3. Pay the apprentice's or trainee's wages during the off-site training period

3. If you comply with section 7-1.11D

Each apprentice or trainee must:

1. Start training on the project as soon as feasible after the start of work involving the apprentice's or trainee's craft

2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

Furnish the apprentice or trainee:

1. Copy of the program you will comply with in providing the training

2. Certification showing the type and length of training satisfactorily completed

Maintain records and submit reports documenting your performance under section 7-1.11D.

8 PROSECUTION AND PROGRESS

8-1.01 GENERAL

Section 8 includes specifications related to prosecuting the Contract and work progress.

Replace *Reserved* in section 8-1.04C with:

Section 8-1.04B does not apply.

Start job site activities within 55 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department.

You shall coordinate the start of job site activities with the City-supplied Biologist.

Do not start job site activities until the Department authorizes or accepts your submittal for:

1. Biological resource information program

2. CPM baseline schedule

3. SWPPP, whichever applies

4. Notification of DRA or DRB nominee and disclosure statement

5. Natural resource protection plan

6. Contingency plan for opening closures to traffic

7. SSPC QP certifications

If the submittal for biological resource information program is authorized, you may enter the job site only to measure controlling field dimensions and locate utilities, with the presence of a City-supplied Biologist.

You may enter the job site only to measure controlling field dimensions and locate utilities.

Do not start other job site activities until all the submittals from the above list are authorized or accepted and the following information is received by the Engineer:

1. Notice of Materials *To Be Used* form.

2. Written statement from the vendor that the order for the sign panels has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.

3. Written statement from the vendor that the order for electrical material has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.

4. Written statement from the vendor that the order for structural steel has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.

You may start job site activities before the 55th day after Contract approval if you:

1. Obtain specified authorization or acceptance for each submittal before the 55th day

2. Receive authorization to start

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

8-1.10 LIQUIDATED DAMAGES

8-1.10A General

The Department specifies liquidated damages (Pub Cont Code § 10226). Liquidated damages, if any, accrue

starting on the 1st day after the expiration of the working days through the day of Contract acceptance except as specified in sections 8-1.08B and 8-1.08C.

The Department withholds liquidated damages before the accrual date if the anticipated liquidated damages may exceed the value of the remaining work.

Liquidated damages for all work except plant establishment are as shown in the following table:

Liquidated Damages

Total bid		Liquidated damages
From over	To	per day
$0	$50,000	$1,200
$50,000	$120,000	$1,500
$120,000	$1,000,000	$1,900
$1,000,000	$5,000,000	$3,000
$5,000,000	$10,000,000	$5,400
$10,000,000	$30,000,000	$8,300
$30,000,000	$100,000,000	$10,500
$100,000,000	$250,000,000	$28,500

IF ALL WORK EXCEPT PLANT ESTABLISHMENT IS COMPLETE AND THE TOTAL NUMBER OF WORKING DAYS HAVE EXPIRED, LIQUIDATED DAMAGES ARE $950 PER DAY.

8-1.10D BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall begin work within 15 calendar days after the contract has been approved by the attorney appointed and authorized to represent the City.

This work shall be diligently prosecuted to completion before the expiration of **900 WORKING DAYS** beginning on the fifteenth calendar day after approval of the contract.

The Contractor shall pay to the City the sum of **$950** per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

Maintain records and submit reports documenting your performance under this section

ORGANIZATION

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

^^

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to the end of the RSS for section 10-1.02B:

Install loop detectors in the uppermost layer of the new pavement.

Add to the end of section 10-1.02C(2):

Protect any irrigation component to be relocated before performing any other construction activity in the area.

Replace *Reserved* in section 10-1.02C(3) with:

Transplant any plant to be transplanted before performing any other construction activity in the area.

Add to the beginning of section 10-1.02E:

Construct the new pavement structure adjacent to the existing traveled way by successively excavating, preparing subgrade, placing base materials, and paving. Perform these activities concurrently after you start paving. Excavation within 8 feet of the existing traveled way must not precede the paving operation by more than 3 working days unless:

1. Authorized
2. Material is placed and compacted against the vertical cuts within 8 feet of the existing traveled way. During excavation, you may use native material for this purpose except you must use structural material once you start placing the pavement structure. Place the material to the top of the existing pavement and taper at a slope of 4:1 (horizontal:vertical) or flatter to the bottom of the excavation. Do not use treated base for the taper.

Replace "Reserved" in section 10-8 with:

10-8 SOUTHERN CALIFORNIA AREA DESIGN CHANNEL CAPACITY WAIVER

10-8.01 GENERAL

10-8.01A General

Section 10-8 includes specifications for obtaining a waiver from the U.S. Army Corps of Engineers Southern California Area Design Channel Capacity requirements. From 15 October through 15 April 100% design channel capacity will be maintained unless a waiver is obtained from the USACE Los Angeles District Engineering Department.

10-8.01B Submittal

Within 15 days after Contract approval, submit 5 copies of the Southern California Design Channel Capacity Waiver Application. Application for a waiver must include:

1. Construction schedule,

2. Construction plan sheets which include details on
    - Water control of the channel flow (e.g. diversion plan),
    - Temporary construction trestle
    - Falsework
    - Cofferdams
    - New and existing piers in partial construction or removal states

3. Supportive engineering analysis including hydraulic computations of channel and diversion capacity as a result of your construction activities

4. Prior to construction, the Contractor must prepare and follow an Emergency Action Plan (EAP) which will address the requirements presented in this special provision and the procedures for high water conditions during construction. The construction may be performed during flood and non-flood event periods, including the work on the landside of the existing levee. The potential does exist for the river to rise to flood level during the construction and provisions must be in place to address this potential. The Contractor's EAP must be submitted at least 21 days prior to construction. The contents of the Contractor's EAP must address the following:

- The EAP must include emergency contact information, including cell phone numbers of the project manager, project superintendent and foreman. The numbers provided must be monitored 24 hours a day, 7 days a week
- The Contractor must present a detailed staging plan and all provisions in the Contract Documents so that the integrity of the levee system and its ability to provide flood protection will be maintained throughout the entire duration of construction
- The water level in the San Diego must be monitored on a daily basis by the Contractor. The extended forecast of future river levels must also be monitored. The river level shall be monitored through USGS and National Weather Service websites for River Gage – 11023000 San Diego R A Fashion Valley At San Diego CA
    - https://waterdata.usgs.gov/ca/nwis/uv/?site_no=11023000
    - http://water.weather.gov/ahps2/hydrograph.php?wfo=rev&gage=FSNC1
- Construction operations must cease in the event the river levels are within 5 feet of the published flood stage of 11.3 feet (NWS Stage) at the Fashion Valley River Gage (Gage – 11023000), with a gage datum of 20 feet. The NAVD 88 Flood Stage is 11.1 feet (based on a datum shift of -0.2 feet), therefore, the NAVD 88 Flood Stage Elevation is 31.1 feet . The 100-year flood elevation at this location is 34.0 feet (per FEMA FIS). The 500-year flood elevation is 40.6 feet (per FEMA FIS). The City of San Diego and the USACE representatives must be notified prior to resumption of construction
- The Contractor must provide a list of all construction equipment that will be present throughout the duration of construction within the levee ROW. All equipment, construction materials and stockpiled soils must be removed in the event of high water and relocated to the landside of the levee during high water events
- During excavation in the Levee, if seepage into the excavation is observed due to a flood event, emergency backfilling shall be commenced. The rate of emergency backfilling shall exceed the rate of the rising river. Soil shall be used as emergency backfill
- The contractor must notify the following representatives during an emergency:

    o **City of San Diego Deputy City Engineer.**
    Daniel Nutter, P.E.
    Public Works Department
    Right of Way Design
    525 B Street, Suite 750,
    MS 908A
    San Diego, CA 92101
    Phone: 619-533-7492
    Email: DNutter@sandiego.gov

    o **CITY OF SAN DIEGO Resident Construction Engineer**
    Frank Gaines, P.E.
    City of San Diego Public Works
    Construction Management & Field Services Division
    9573 Chesapeake Dr,
    San Diego, CA 92123

Phone: 858-627-3252
Email: fgaines@sandiego.gov

o **Designer Contact**
Jay Holombo, P.E.
T.Y. Lin International
404 Camino del Rio South, Suite 700
San Diego, CA 92108
Phone: 619.692.1920 x 3313
Email: jay.holombo@tylin.com

o **USACE – Los Angeles District**
Huma Nisar, P.E.
Engineering Division
U.S. Army Corps of Engineering
915 Wilshire Boulevard, Suite 930
Los Angeles, CA 90017-3401
Phone: 213 452-3665
Email: Huma.M.Nisar@usace.army.mil

10-8.02 MATERIALS

Not used

10-8.03 CONSTRUCTION

Not used

10-8.04 PAYMENT

All costs for complying with this special provision shall be considered incidental to the project. No separate payment will be made.

^^

12 TEMPORARY TRAFFIC CONTROL

Replace *Reserved* in section 12-3.11B(5) with:

A construction project funding sign must comply with the details shown on the Department's Traffic Operations website.

The sign must shall be a wood-post sign complying with section 82-3.

The sign panels must be framed, single-sheet aluminum panels complying with section 82-2.

The background on the sign must be Type II retroreflective sheeting. The Type II retroreflective sheeting must be on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective except for nonreflective black letters and numerals. The blue must match PR color no. 3 on FHWA's Color Tolerance Chart. The orange must match PR color no. 6 on FHWA's Color Tolerance Chart.

The legend for the type of project must read as follows:

BRIDGE CONSTRUCTION

The legend for the types of funding on a construction project funding sign must read as follows and in the following order:

FEDERAL HIGHWAY TRUST FUNDS

CITY OF SAN DIEGO FUNDS

The Engineer provides the year of completion for the legend on the sign. Install a sign overlay for the year of completion within 15 days of notification.

The legend for the year of completion on a construction project funding sign must read as follows:

YEAR OF COMPLETION 2021

Do not add information to the construction project funding sign unless authorized.

Replace *Reserved* in section 12-3.11C(3) with:

Install 3 Type 2 construction project funding sign at the location determined by the Engineer before starting major work activities visible to highway users.

Dispose of construction project funding signs upon completion of the project if authorized.

Add to the beginning of section 12-3.32C:

Place PCMSs at the locations shown and in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Off-ramp closure
3. Connector closure
4. Shoulder closure
5. Speed reduction zone

For 5 days starting on the day of signal activation, place 1 PCMS in each direction of travel and display the following message in all caps: Signal Ahead -- Prepare To Stop.

Add between the 5th and 6th paragraphs of section 12-3.32C:

Start displaying the message on the sign 30 minutes before closing the lane or shoulder or when directed by the Engineer.

Add between the 1st and 2nd paragraphs of section 12-4.02A(3)(c):

Submit a contingency plan for each of the following activities:

1. Bridge Demolition
2. Bridge Work
3. Cold-planing asphalt concrete for depths of 2-inches or greater
4. Activity requiring a complete roadway closure
5. HMA paving
6. Falsework erection or removal, including adjustments
7. Striping
8. Placement of bar reinforcing steel or structural members

EA 406801, WHABBABA, 11/30/2016

Add between the 3rd and 4th paragraphs of section 12-4.02C(1):

If complete ramp closure hours and ramp lane requirements are not included, you may close the ramp adjacent to the closed freeway lane.

Add to the end of section 12-4.02C(1):

Keep the full width of the traveled way open to traffic when no active construction activities are occurring in the traveled way or within 6 feet of the traveled way.

Keep the full width of the ramp traveled way open for use by traffic on designated holidays.

For each 10-minute interval or fraction thereof past the time specified to open the closure, the amount for liquidated damages per interval shown in the table below is deducted. Liquidated damages are limited to 5 percent of the total bid per occurrence. Liquidated damages are not assessed if the Engineer orders the closure to remain in place beyond the scheduled pickup time.

Type of facility	Route	Direction or segment	Period	Liquidated damages/interval
Mainline	8	WB	1st half hour 2nd half hour 2nd hour and beyond	$1100/10 minutes $1650/10 minutes $2200/10 minutes

Add to the list in the 1st paragraph of section 12-4.02C(3)(a):

3. Work is on the traveled way but within 6 feet of the adjacent traffic lane

Add to the end of section 12-4.02C(3)(a):

If you use an impact attenuator vehicle as a shadow vehicle, you are not required to close the adjacent traffic lane for the following activities:

1. Grinding
2. Grooving
3. Saw cutting of concrete slabs
4. Installing loop detectors

If work vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane of a freeway or expressway, close the shoulder area as shown.

If a connector closure is required within the limits of a freeway lane closure, first complete the work on the connector and the freeway traveled way necessary for the safe passage of traffic between the connector and the open freeway lanes.

Replace *Reserved* in section 12-4.02C(3)(e) with:

From 3 hours before to 2 hours after special events or events at the venues shown in the table titled "Special Events and Venues," do not perform work that encroaches onto the following freeway or connector traveled way or ramps:

1. WB I-8 Exit Ramp
2. EB I-8 Entrance Ramp

The special events and venues that could impact closures are shown in the following table:

Special Events and Venues

Special event or venue	Affected routes	Route limits
Sea World Summer Nights	8	Route 5 to Sunset Cliffs Blvd
Fourth of July (Mission Bay Park)	8	Route 5 to Sunset Cliffs Blvd
Over the Line Tournament (Mission Bay Park)	8	Route 5 to Sunset Cliffs Blvd
Valley View Casino Center Events	8	Route 5 to Sunset Cliffs Blvd

No closures are allowed at the following interchanges from the day before Thanksgiving at 1700 hours through January 2 at 0001 hours:

Replace *Reserved* in section 12-4.02C(3)(f) with:

Closure restrictions for designated holidays are shown in the following table:

Lane Closure Restrictions For Designated Holidays										
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	**H** xx	xx	xx							
x	xx	**H** xx	xx							
	x	xx	**H** xx	xx						
	x	xx	xx	**H** xx	xxx					
				x	**H** xx					
					x	**H** xx				
						x	**H** xx	xx	xx	xx

Legend:	
	Refer to lane requirement charts.
x	The full width of the traveled way must be open for use by traffic after 0500.
xx	The full width of the traveled way must be open for use by traffic.
xxx	The full width of the traveled way must be open for use by traffic until 0500.
H	Designated holiday

Replace *Reserved* in section 12-4.02C(3)(h) with:

Comply with the requirements for the complete freeway closure shown in the following chart(s):

Chart No. H1
Complete Freeway Closure Hours

County: SD	Route/Direction: 8/ WB	Post Mile: R0.36 - L1.21
Closure limits: Morena Blvd UC to Midway Dr UC		

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon-Thu	C	C	C	C	C																				
Fri	C	C	C	C	C																				
Sat																									
Sun																									

Legend:

C — Freeway may be closed completely.

(blank) — No complete closure is allowed.

NOTE:

- This chart must be used for a maximum of (2) times.
- This chart must be used in conjunction with chart I1.
- Caltrans Engineers to coordinate this closure with Caltrans Traffic signals and the local authorities impacted by this closure whereby all traffic signals affected by the above closure should be optimized for maximum throughput.
- Access for all emergency vehicles is required at all times during this closure.
- Use of Freeway service patrol is required for this closure.
- Caltrans Engineer to coordinate this closure with Caltrans PIO ahead of the planned closure, and to avoid any conflicts with any planned major events.

DETOUR
WB 8 ML FULL CLOSURE

Detour WB 8 mainlane traffic via westerly on Rte. 8 to NB 5 Connector, thence northerly on Rte. 5 to NB 5 Off-ramp to Sea World Dr./ Tecolote Rd., thence westerly on Sea World Dr./ Tecolote Rd. to W Mission Bay Dr On-ramp, thence southerly on W. Mission Bay Dr. to Sports Arena Blvd.

And,

Detour WB 8 mainlane traffic via westerly on Rte. 8 to NB 5 Connector, thence northerly on Rte. 5 to NB 5 Off-ramp to Sea World Dr./ Tecolote Rd., thence westerly on Sea World Dr./ Tecolote Rd. to Sunset Cliffs Blvd at Nimitz Blvd.

REMARKS: Place a PCMS on WB 8 at a location at the direction of the Engineer - warning traffic of the closure/detour ahead. No other closure that conflicts with or shares any elements of the following detour will be allowed.

F: EA 406801, WHABBABA, 12-02-2016

E-FIS: 1100020440

Replace *Reserved* in section 12-4.02C(3)(i) with:

Comply with the requirements for the complete connector closure shown in the following chart(s):

Chart No. I1
Complete Connector Closure Hours

County: SD	Route/Direction: 8/ WB	Post Mile: L2.234

Closure limits: WB 8 Conn from NB 5

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C																				
Fri	C	C	C	C	C																				
Sat																									
Sun																									

Legend:

C — Connector may be closed completely.

Work is allowed within the highway where a shoulder or lane closure is not required.

NOTE:

This chart may be used for a maximum of (2) times.
This chart must be used simultaneously with chart H1.

DETOUR
NB 5 Connector to WB 8
Detour NB 5 Connector to WB 8 traffic via northerly on Rte. 8 to NB 5 Off-ramp to Sea World Dr./ Tecolote Rd., thence westerly on Sea World Dr./ Tecolote Rd. to W Mission Bay Dr On-ramp, thence southerly on W. Mission Bay Dr. to W. Mission Bay Dr. at Sports Arena Blvd.

Also,

Detour NB 5 Connector to WB 8 traffic via northerly on Rte. 8 to NB 5 Off-ramp to Sea World Dr./ Tecolote Rd., thence westerly on Sea World Dr./ Tecolote Rd. to Sunset Cliffs Blvd at Nimitz Blvd.

REMARKS: Place a PCMS on NB 5 at a location at the direction of the Engineer - warning traffic of the closure/detour ahead. No other closure that conflicts with or shares any elements of the following detour will be allowed.

F: EA 406801, WHABBABA, 12-01-2016

E-FIS: 1100020440

Replace *Reserved* in section 12-4.02C(3)(j) with:

Comply with the requirements for the complete ramp closure shown in the following chart(s):

Chart No. J1
Complete Ramp Closure Hours

County: SD	Route/Direction: 8/WB	Post Mile: L1.460

Closure limits: WB Exit-ramp to Sports Arena Blvd./W. Mission Bay Dr.

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon – Thu	C	C	C	C	C	C																		C	C
Fri	C	C	C	C	C	C																			
Sat				C	C	C	C																		
Sun				C	C	C	C	C																C	C

Legend:

C	Ramp may be closed completely.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS: When an exit ramp is closed completely, place a PCMS in the direction of travel allowing traffic the option to use the preceding exit ramp and warning them of the ramp closure ahead.

F=406801-070116EC, Efis=1100020440

1

Replace *Reserved* in section 12-4.02C(3)(m) with:

Comply with the requirements for a city street lane closure shown in the following chart(s):

Chart No. M1
City Street Lane Requirements and Hours of Work

Location: SD	Direction: NB "Sports Arena Blvd."	

Closure limits: At Rte. 8

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	1	1	1	1	1	1																		1	1
Fri	1	1	1	1	1	1																			
Sat				1	1	1	1																		
Sun				1	1	1	1																	1	1

Legend:

1	Provide at least 1 city street lane open in the direction of travel.

REMARKS:

F=406801-070116EC, EFis=1100020440

Chart No. M2
City Street Lane Requirements and Hours of Work

Location: SD	Direction: SB "Sports Arena Blvd."	

Closure limits: At Rte. 8

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	1	1	1	1	1																	1	1	1	
Fri	1	1	1	1	1																				
Sat				1	1	1	1																		
Sun				1	1	1	1															1	1	1	

Legend:

1	Provide at least 1 city street lane open in the direction of travel.

REMARKS:

F=406801-070116EC, Efis=1100020440

Add to the end of the 1st paragraph of section 12-4.02C(7)(a):

except you may use a moving closure during traffic striping and pavement marker placement using a bituminous adhesive. Do not use a moving lane closure when grinding for recessed striping and recessed markers.

Add to the end of section 12-4.02C(7)(a):

Do not use an impact attenuator vehicle to place, remove, or place and remove components of a stationary traffic control system on local City Streets and on exit and entrance ramps where the useable shoulder width is less than 4 feet.

Except where prohibited, use an impact attenuator vehicle:

1. To follow behind equipment and workers who are placing and removing components of a closure. Operate the flashing arrow sign in the arrow or caution mode during this activity, whichever applies. Follow at a distance that prevents intrusion into the work space from passing traffic.
2. As a shadow vehicle in a moving lane closure.

After placing components of a stationary traffic control system, you may place the impact attenuator vehicle in advance of the work area or at another authorized location to protect traffic and workers.

For seal coat maintenance, control traffic using pilot cars as specified in section 37-2.01C(7). Pilot cars must have cellular or radio contact with other pilot cars and personnel in the work zone. The maximum speed of the pilot cars convoying or controlling traffic through the traffic control zone must be 15 mph on 2-lane, two-way highways and 25 mph on multilane divided and undivided highways. Pilot cars must only use traffic lanes open to traffic.

On the days that closures are not allowed, you may use a moving closure to maintain the seal coat surface as specified in section 37-2.01C(7). The moving closure is only allowed during daylight hours when traffic will be the least inconvenienced and delayed. The Engineer determines the hours for the moving closure.

Add to the end of section 12-4.02C(8)(a):

For a complete freeway closure, install the closure signs at least 7 days before closing the freeway. Notify the Engineer at least 5 business days before installing the signs. If the freeway is not closed on the posted day, change the closure to allow for a 3-business-day advance notice before closure.

Add to the beginning of section 12-6.03B:

Where white, 4-inch-wide, lane-line traffic stripe is not removed, apply temporary painted traffic stripe and place clear retroreflective pavement markers for temporary lane line delineation. The delineation placed on concrete pavement must consist of a white traffic stripe supplemented by a black-contrast traffic stripe and clear retroreflective pavement markers. Place the temporary painted lane line and clear retroreflective pavement markers longitudinally at maximum 48-foot intervals. The black contrast stripe and clear retroreflective pavement markers may remain in place where you will be placing permanent pavement delineation.

^^

13 WATER POLLUTION CONTROL

Add to the end of section 13-1.01A:

The specifications in section 13 for water quality monitoring apply to the following work activities whenever they occur in water:

1. Bridge Demolition
2. Bridge Construction

The receiving water for this project is the San Diego River.

Add to the end of section 13-3.01A:

This project's risk level is 2.

Add between the 4th and 5th paragraphs of section 13-3.01C(2)(a):

The following RWQCBs will review the authorized SWPPP:

1. San Diego

Replace the paragraphs in section 13-3.01D(2) with:

Discharges of stormwater from the job site must comply with the permit issued by the San Diego RWQCB for National Pollutant Discharge Elimination System 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ, Construction General Permit (CGP) No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Construction CGP). The San Diego RWQCB permit governs stormwater and non-stormwater discharges resulting from construction activities at the job site. The San Diego RWQCB permit may be viewed at http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

^^

14 ENVIRONMENTAL STEWARDSHIP

Add to the end of section 14-1.02:

An ESA exists on this project.

Before starting job site activities, install orange construction fencing or City approved equivalent to protect the ESA and mark its boundaries.

Replace “Reserved” in section 14-6.05 with:

14-6.05 FISH AND MARINE MAMMAL NOISE PROTECTION

14-6.05A General

Section 14-6.05A includes specifications for noise protection of fish and marine mammals.

14-6.05B Submittals

Within 15 days after Contract approval, submit 5 copies of the Hydroacoustic Monitoring and Mitigation Plan (HMMP). HMMP must include:

1. estimates of the sound pressure field generated by the planned pile installation,
2. areas where fish or marine mammals may be at risk of injury,
3. real-time monitoring plan to document actual sound pressure levels where water depths make this feasible.

Within 30 days of completion of the hydroacoustic monitoring, submit 5 copies of the Hydroacoustic Monitoring and Mitigation Report (HMMR). HMMR must include:

1. Data collected and summarized for all monitoring
2. Dates, times, and distance at which either the 206 dB peak or 187 dB SELcumm thresholds were exceeded, if any;
3. Average total number of strikes to drive each pile and the total number of strikes during each 24 hour period when pile driving occurred;
4. Sizes and types of piles driven;
5. Scaled graphics and accompanying tables describing the pile driving environment, including:
   (a) distance between hydrophones and piles driven;
   (b) depth of hydrophones and depth of water at the hydrophone location;
   (c) distance from the piles driven to the water's edge and
   (d) depth of water in which piles were driven;
   (e) depth into the substrate that the piles were driven. and;
   (f) physical characteristics of the bottom substrate into which the piles were driven.
6. All results of the hydroacoustic monitoring;
7. Description of any marine mammal, sea turtle, or other significant marine life encounters and all actions taken, and;
8. Description of any dead fish observed and the behavioral response to pile driving of any live fish observed.

14-6.05C MATERIALS

Not Used

14-6.05D CONSTRUCTION

To be protective of marine resources, peak sound pressure levels generated by the pile installation activities should not exceed 206 dB at 10 meters from source and accumulated sound exposure levels (SELcumm) should not exceed 187 dB without implementation of all reasonable efforts to curtail the sound levels to below these thresholds.

A number of steps must be taken to identify, avoid, and minimize acoustic exceedances.

1. Piles to be installed must consist of those identified within the project plans, the falsework plans or the temporary construction trestle plans and include mix of concrete and steel piles of various types.
2. To the extent feasible, noise dampening including use of a nylon or wooden block must be employed between the impact hammer and piles to dampen underwater noise generated by hammer strikes. This applies specifically to concrete piles that have a flattened driving surface.
3. All impact pile driving activities must incorporate a "soft start" approach whereby hammer strikes on each pile begin at low pressure and slowly increase to full hammer strength in order to drive fish away from the piles before the acoustics generated by pile driving approach levels that could result in injury. For any cessation of pile driving for greater than one hour, the soft start

procedures must be repeated to reinitiate behavioral relocation of fish from the acoustic impact area.

4. For all piles, impact hammering must be used only to 1) set piles to final grade after piles have been jetted or vibrated to within 5 feet of final depth, or 2) to set piles after jetting and vibratory driving have ceased to be effective at driving piles to required engineered depths.
5. To protect fish from the acoustic impacts of pile driving, piles must be principally driven by vibratory or hydrojetting means with these methodologies being used to the extent feasible.
6. In the event that either the 206 dB peak or the 187 dB SELcumm sound levels are exceeded at a distance of 10 m from the piling being driven. - additional attenuation measures must be implemented in the form of increased pile mass by temporarily attaching non-resonating materials (e.g., wood or nylon blocking) while piles are driven, use of unconfined bubble curtains to the extent possible on the individual piles, and application of a linear confined or unconfined bubble curtain along the faces of the combi-wall at segments being driven. Exceedances and subsequent avoidance measures taken must be reported to the Department, the Coastal Commission and the National Marine Fisheries Service within 48 hours of the event.
7. Hydroacoustic monitoring must be performed for each type of pile during the first week of pile driving that type of pile, to determine the hydroacoustic energies generated from the pile types. Sound levels must be taken using an integrating data logging sound level meter (SLM) with one hydrophone positioned at 10 meters from the driven pile and one or more hydrophones positioned or moved in varying distance increments, including at least 20m, 40m, 120m, 240m from the sound source to determine acoustic attenuation over distance at the site. Hydroacoustic monitoring must be conducted initially for at least the first five piles of each type driven by impact hammer. Monitoring results from the first five piles of each type must be reported to the Department. With the monitoring report, the permittee may submit evidence to support stopping hydroacoustic monitoring, including, at least, that the piles monitored in the report are representative of the water depths into which all piles will be driven, and that sound pressure levels at the closest hydrophone during sound testing (stationed at 10 meters from each pile being driven) are below both criteria of the dual metric exposure criteria (206 dB peak or 187 dB accumulated SEL level). Unless and until the Department makes a determination that hydroacoustic monitoring may be discontinued, hydroacoustic monitoring must continue for any additional pile- driving activities. entirety and the affected areas restored to their original conditions.

14-6.05E PAYMENT

Payment for this item is included in the payment for Temporary Construction Trestle.

Add to the list in the 2nd paragraph of section 14-11.08A:

9. RWQCB, Region 9, San Diego
10. San Diego Air Quality Management District

Add to the end of section 14-11.08A:

Hazardous waste concentrations of ADL are present within the project limits. Management of this material exposes workers to health hazards that must be addressed in a lead compliance plan. Include perimeter air monitoring under section 14-11.08F as part of your lead compliance plan.

The Department has received a variance from the DTSC regarding the use of material containing ADL. The variance applies if Type R-1 or Type R-2 material is shown. The variance is available for inspection at the Department of Transportation, District 11.

Add to section 14-11.08C:

Type R-1 material exists between 0 and 20 feet, measured horizontally from the edges of the existing pavement, along Sports Arena Blvd from station 28+00 to 38+00 and along Ramp “M-2A” from station 73+50 to 91+20, and from a depth of 0 to 0.5 feet below existing grade as shown on the plans.

Add after the 2nd paragraph of section 14-11.08D(2):

The excavation and transportation plan must include:

1. Procedures for excavating, stockpiling, transporting, placing and disposing of the material
2. Excavation schedule by location and date
3. Locations for temporary stockpiles if stockpiling is ordered
4. Sampling and analysis plans for areas after removal of a stockpile if sampling is ordered, including:
   - 4.1 Location and number of samples.
   - 4.2 Name and address of the laboratory that will perform the analysis. The laboratory must be certified under the SWRCB ELAP.
5. Survey methods for burial locations for Types R-1 or R-2 materials
6. Sampling and analysis plan for soil cover
7. Sampling and analysis plan for post excavation along Sports Arena Blvd from station 28+00 to 38+00 and along Ramp “M-2A” from station 73+50 to 91+20 as shown
8. Dust control measures
9. Air monitoring procedures, including:
   - 9.1 Location and type of equipment
   - 9.2 Sampling frequency
   - 9.3 Name and address of the laboratory that will perform the analyses
10. Transportation equipment and routes
11. Method for preventing spills and tracked material onto public roads
12. Truck waiting and staging areas
13. Name and address of the hazardous waste disposal facility if placement of all Type R-1 material onsite is not feasible

Replace *Reserved* in section 14-11.08D(3) with:

Within 5 business days of completing placement of Type R-1 or Type R-2 material, submit a report for each burial location that includes:

1. Burial Location of Soil Containing Aerially Deposited Lead form
2. Electronic geospatial vector data shapefiles of the top and bottom perimeters of the burial location

Submit the report to the Engineer and to:

ADL@dot.ca.gov.

The Engineer notifies you of acceptance or rejection of the burial location report within 5 business days of receipt. If the report is rejected, submit a corrected report within 5 business days of receiving notification.

Replace *Reserved* in section 14-11.08F with:

Average lead concentrations must not exceed 1.5 µg/ m^3 of air per day and 0.15 µg/ m^3 per day on a rolling 90-day basis. Calculate average daily concentrations based on accumulated monitoring data and projections based on monitoring trends for the next 90 days or to the end of work subject to the lead compliance plan if less than the specified averaging period. If concentrations exceed these levels, stop work and modify the work to prevent release of lead. The air monitoring data must be reviewed and signed by the CIH.

Replace *Reserved* in section 14-11.08G with:

Place Type R-1 material and cover with a minimum one foot layer of nonhazardous soil or pavement. Temporary surplus material may be generated by stage construction. Do not transport temporary surplus outside the job site. It may be necessary to:

1. Stockpile material for subsequent stages
2. Construct some embankments out of stage
3. Handle temporary surplus material more than once

Transport excavated Type Z-2 material if placement as Type R-1 material is not feasible using:

1. Hazardous waste manifest
2. Hazardous waste transporter with a current DTSC registration certificate and CA Highway Patrol (CHP) Biennial Inspection of Terminals (BIT) Program compliance documentation.

Add to section 14-11.08J:

Analyze surplus excavated material for which the lead content is unknown before removing it from the job site. The analysis must be performed by a laboratory certified by the SWRCB ELAP. Submit a sampling and analysis plan and the name of the laboratory at least 15 days before beginning sampling and analysis. Sample at a minimum rate of 1 sample for each 200 cu yd of surplus material and test for lead using US EPA Method 6010B or 7000 series. Sampling, analyses, and reporting of results for surplus material not previously sampled is change order work.

Add after the 2nd paragraph of section 14-11.12A:

This project includes removal of yellow painted traffic strip that will produce hazardous waste residue.

Add after the 1st paragraph of 14-11.12E:

After the Engineer accepts the analytical test results, dispose of yellow thermoplastic and yellow paint hazardous waste residue at a Class 1 disposal facility located in California 30 days after accumulating 220 lb of residue.

If less than 220 lb of hazardous waste residue and dust is generated in total, dispose of it within 30 days after the start of accumulation of the residue.

Add to the 1st paragraph of section 14-11.14A:

Wood removed from guardrail, roadside signs, and existing bridge footings are treated wood waste.

Guardrail and roadside signs are include under the Contract Bid Item for Treated Wood Waste and Existing Bridge Footings is included under the Contract Lump Sum Bid Item for Bridge Removal (Portion).

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15 EXISTING FACILITIES

^^

16 TEMPORARY FACILITIES

^^^

DIVISION III EARTHWORK AND LANDSCAPE

17 GENERAL

^^

18 DUST PALLIATIVES

^^

19 EARTHWORK

Add to the end of section 19-3.01A:

Structure backfill includes constructing the geocomposite drain system. The systems must comply with section 68-7.

Add to the beginning of section 19-3.03B(1):

For footings at locations with structure excavation (Type D), ground or surface water is expected to be encountered but seal course concrete is not needed.

Replace the 5th and 6th paragraphs of section 19-3.03B(4) with:

Cross struts or bracing may extend through foundation concrete if authorized. Remove struts or bracing. Fill resulting spaces with the same type of concrete as the surrounding concrete.

Remove cofferdams with all sheeting and bracing after completing substructure construction. Do not disturb or mar the finished concrete or masonry.

Add to the end of item 3 in the list in the 9th paragraph of section 19-3.03K:

3. or have attained a compressive strength of at least 3600 psi

Add to section 19-3.03:

19-3.03L(1) Levee Excavation and Grading

Provide all labor, equipment, materials, and incidentals necessary to perform the levee excavation and grading work shown on the plans and specified herein. The limits of the levee section are as shown on the plans and include all excavation and grading work related to the removal of the existing West Mission Bay Drive Bridge abutments, construction of the new West Mission Bay Drive Bridge abutment and retaining walls and reconstruction of the San Diego River bikepath. Levee excavation and backfill must conform to the requirements of structure excavation and backfill under Section 19-3 of the State Standard Specifications and these Special Provisions.

The following precautionary measures and construction monitoring is required during construction to minimize the potential impact due to construction on the existing levees:

1. The maximum allowable load on the levee from the construction equipment must be in conformance with the regulatory agency's requirements. Normally a 200 to 250 pound per square foot (psf) traffic surcharge loading condition is used in the slope stability analyses, which generally represents maintenance equipment loads. The total (dead+live) load of the construction equipment during construction must not exceed this transient loading. Avoid parking and leaving equipment for a long term. Do not store materials at the Levees.
2. No equipment is allowed within 10 ft from the edge of the levee regardless of weight. Timber planks or steel plates may be considered to reduce equipment loading on the levees.
3. The Contractor must ensure that the proposed construction will not involve any additional landward or riverward excavations that may impact the levee at any time during construction except as shown in the approved plans and specifications.
4. Contractor must set horizontal and vertical survey monuments at the levee crest where equipment will be operating near the levee within a horizontal distance equal to the levee height. The survey must include, as a minimum, XYZ points on top of the levee crest spaced no greater 200 feet. The points must be marked such that the same point may be surveyed pre- and post-construction, and during construction as necessary.
5. Contractor must periodically monitor the survey monuments for settlement, cracking, and horizontal displacement. The method and equipment used for such monitoring must be submitted for approval by the Engineer. Payment for the monitoring program is included in the payment for Bridge Removal.
6. A report including the pre- and post- survey point data, photographs, and other recorded measurements and data must be submitted to the Engineer within 2 weeks of the completion of construction activities involving heavy equipment in the vicinity of the levee. The report must summarize any impacts, or lack thereof, to the levee.
7. Contractor must restore the levee slopes, lines and grades to their preconstruction condition unless shown otherwise on plans.

Excavated Levee material that conforms to the requirements herein, must be used for backfilling the embankment within the existing levee cross sections.

Any surplus excavated material shall become the property of the Contractor and must be disposed of by the contractor outside the Highway ROW.

The Contractor must construct the Levee embankment in accordance with the U.S. Army Corps of Engineers manual, "Design and Construction of Levees" (EM 1110-3-1913) dated March 31, 1978. EM 1110-3-1913, ASTM D1557 and ASTM D698 are hereby incorporated by reference and are supplemented by the following:

1. Prior to construction of the embankment, all surface vegetation must be removed from the area to receive fill to a minimum depth of six (6) inches. Organic soil and roots one and one half (1-1/2) inches in diameter or larger, must be removed from the area to receive fill to a minimum depth of three (3) feet.
2. Impervious material, with twenty (20) percent or more passing the No 200 sieve, and having a plasticity index of eight (8) or more but not greater than twenty (20), and having a liquid limit of less than fifty (50), must be used for levee embankment that is within the levee section of the channel. The limits of the levee section are as shown on the plans and include all grading for the West Mission Bay Drive Bridge abutment and retaining walls and San Diego River bikepath.

3. Fill material must be placed in four (4) inch to six (6) inch layers prior to compaction, and compacted with a sheepsfoot roller, or equivalent mechanical type compactor, to a relative compaction of not less than ninety (90) percent per ASTM D1557, and not less than the relative compaction of the adjacent levee material. Track walking is not an approved method of compaction and will not be allowed for the compaction of the levee material. The top 24-inches of levee embankment under levee access road grading plane must be compacted to a relative compaction of not less than ninety-five (95) percent.
4. Embankment material placed within five (5) feet of a structure must be compacted by appropriate hand operated compaction equipment to the criteria stated above.
5. Levee embankment material must be free of stones or lumps exceeding three (3) inches in greatest dimension, and must be free of vegetative matter or other unsatisfactory material. All new sources of levee fill material must be tested and approved by the Engineer prior to placement.
6. All levee embankment placed on existing levee slopes must be keyed into the existing levee section by at least 12-inches, measured horizontally, unless otherwise shown on the plans or directed by the Engineer. For the construction of the levee side slopes, the slopes must be overbuilt and cut back to the grades shown on the plans.
7. Density tests by a certified soils laboratory retained by the Contractor will be required to verify compaction of levee embankment and structure backfill within the section of the levee and at a minimum of one per lift of material. The Engineer may require more density tests in critical areas at his/her discretion.
8. Where excavation, construction, or reconstruction of levee embankment to a height greater than six (6) feet occurs, an exploration trench (also termed “inspection trench”) must be excavated along the centerline of the levee and must be a minimum of six (6) feet in depth and six (6) feet in width at the bottom of the trench and have side slopes of one (1) foot vertical to one (1) foot horizontal or flatter. The exploration trench must be backfilled and restored per the requirements of items 2-7 above of this specification.
9. The base of all excavations within the levee must be scarified a minimum of six (6) inches and compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557, at or above optimum moisture content prior to placing levee embankment.
10. Following backfill placement, riprap with a similar gradation as required for the original construction must be placed. The rock must be sourced from a USACE approved borrow source. Compact all backfill over which riprap will be placed to at least 95 percent relative compaction per ASTM D1557. The rock slope protection must also conform to Section 77-2 of the State Standard Specifications.

19-3.03L(2) Payment

All costs for complying with this special provision shall be considered incidental to the project. No separate payment will be made.

Add to section 19-3.04:

Structure excavation for footings at locations not shown as structure excavation (Type D) and where ground or surface water is encountered is paid for as structure excavation (bridge).

Add to section 19-6.03D:

Settlement periods and surcharges are required for bridge approach embankments as shown in the following table:

Bridge name or number	Abutment number	Bent number	Surcharge height (feet)	Settlement period (days)
West Mission Bay Drive Bridge	1 and 8		0.0[a]	90 to 180[b]

[a]At this location, construct embankment by extending the grading plane (GP) in the elevation view of the bridge embankment surcharge detail of standard plan A62B horizontally to the centerline of the abutment.
[b]Refer to the Geotechnical Design and Report for embankment settlement monitoring and inspection

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20 LANDSCAPE

Add to section 20-1.02C:

Select herbicides from the following table:

Herbicides

Herbicide name	Herbicide type					
	Preemergent (granular)	Preemergent (non granular)	Post-emergent	Selective	Non-selective	Systemic
Aminopyralid	--	--	--	X	--	--
Chlorsulfuron	--	--	--	X	--	--
Clopyralid MEA	--	--	--	--	X	--
Diquat dibromide	--	--	--	--	X	--
Fluazifop-P-Butyl	--	--	--	X	--	--
Flumioxazin	--	--	--	X	--	--
Glyphosate	--	--	X	--	--	X
Imazapyr	--	--	--	--	X	--
Rimsulfuron	--	--	--	X	--	--
Sethoxydim	--	--	X	X	--	--
Sulfentrazone	--	--	--	--	X	--
Sulfometuron-methyl	--	--	--	--	X	--
Sulfosulfuron	--	--	--	--	X	--
Triclopyr	--	--	--	--	--	X

Delete the 5th paragraph of section 20-1.03A.

Add to section 20-1.03C(3):

In mulched areas and within the area extending beyond the outer limits of the mulched areas to the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, existing planting, and fences, control weeds with pesticides or by hand pulling. Where mulched areas are 12 feet or more from the adjacent edges of

shoulders, dikes, curbs, sidewalks, walls, and fences, control weeds within the mulched areas and 6 feet beyond the outer limits of the mulched areas.

Within 2 feet of the edges of paved shoulders, dikes, curbs, and sidewalks, control weeds with pesticides or by hand pulling.

In areas where plants are to be planted in groups or rows 15 feet or less apart, control weeds within the planting area and the area extending 6 feet beyond the outer limits of the groups or rows of plants with pesticides or by hand pulling.

Control weeds under guard rails, from within asphalt concrete surfacing, concrete surfacing, rock blankets, gravel mulch or decomposed granite areas, and unpaved gore areas between the edge of pavement and planting areas with pesticides or by hand pulling.

Where pavement, dikes, curbs, sidewalks, walls, and fences are located 12 feet or more beyond mulched areas, plant basins, and groundcover areas, limit mowing to 6 feet beyond these areas.

Replace *Reserved* in section 20-1.03E with:

Do not perform planting work in cultivated areas for a period of 21 days after:

1. Cultivation is complete
2. Irrigation systems have been installed

For cultivated areas, keep the soil sufficiently moist to germinate weeds. Weeds that germinate must be controlled by the use of pesticides.

Delete item 2 in the list in the 1st paragraph of section 20-2.02B(1).

Add to section 20-2.04B:

You may use conductors that are not armor-clad if installed in a conduit.

Add to section 20-2.05B:

Flow sensor cable must be rated 600V and 194 degree F, be UL listed as Type TC, comply with specifications of ICEA/NEMA and:

1. Consist of 2 no. 12-gauge minimum stranded copper conductors. Insulated conductor must be color coded with a PVC or nylon jacket.
2. Include a tinned cooper braid or aluminized polyester film shield. Where the film is used, a no. 18 or larger, stranded or no. 16 solid, tinned, copper drain wire must be placed between the insulated conductors and the shield and in contact with the conductive surface of the shield.
3. Include a black PVC jacket with a minimum nominal thickness of either 50 mils or 48 mils where capacitance of conductors to other conductors and the shield is 87 pF/ft or better. The cable jacket must be marked with the insulation type designation, conductor size, and voltage and temperature ratings.
4. Be UV resistant and direct burial type.

5. Have no splices between components except where shown.

Add after the 1st paragraph of section 20-2.06B(2)(a):

Before the irrigation system functional test begins, furnish 2 remote access devices; 1 per each type of controller used.

Add to section 20-2.06B(2)(a):

The irrigation controller upgrades within Department highway areas must be the same manufacturer as the existing controller and must have 2-way communication by radio. The vendor must install any necessary software and conduct any initial software or proprietary website setup configuration for communications between controller and any web-enabled device.

Replace the 1st paragraph of section 20-2.07C(2)(a) with:

Install welded steel pipe by open trench method.

Replace item 2 in the list in the 1st paragraph of section 20-2.10B(10)(a) with:

2. Be Brass.

Add to section 20-3.01A(3)(b):

Some plants required may not be readily available and must be grown specifically for this project. Submit a statement within 30 days after Contract approval from the vendor that the order to grow the plants, including inspection plants and replacement plants, has been received and accepted by the vendor. The

statement from the vendor must include the plant names, sizes, and quantities and the anticipated delivery date. Notify the Engineer when the vendor has started growing the plants.

Replace the 1st paragraph of section 20-3.01B(3) with:

Soil amendment must comply with the provisions in the Food & Agri Code. Soil amendment must be compost.

Add to section 20-3.01B(3):

Iron sulfate must be ferrous sulfate in pelleted or granular form containing not less than 18.5 percent iron expressed as metallic iron. Iron sulfate must comply with the Food & Agri Code.

Add to section 20-3.01C(5):

The Contract will not be accepted unless plants including transplanted trees have been satisfactorily maintained for at least 1,095 days after planting (which includes a 1-year (365 calendar days) initial Plant Establishment Period and a 2-year Extended Maintenance Period (730 calendar days)).

Maintain plants for a minimum of 90 calendar days within the Contract Time. The remaining duration (275 calendar days) of the 1-year (365 calendar days) initial Plant Establishment Period and 2-year Extended Maintenance Period (730 calendar days) shall be completed in Long Term Maintenance and Monitoring Agreement 1 (Project Work Site). See Appendix P.

Add between the 2nd and 3rd paragraphs of section 20-4.01A:

Minimum-bid plant establishment work is work (1) that is described as plant establishment work and (2) for which a minimum item total must be bid.

Add to section 20-4.01A:

This project has a Type 2 plant establishment period.

Add to section 20-4.03C:

Apply slow-release organic fertilizer to the container plants and hydroseeded areas during the 1st week of the plant establishment period and second application 1 week before the end of the plant establishment period.

Add to section 20-5.03B(2)(a):

Do not use soil sterilant.

Replace the table in the 1st paragraph of section 20-5.03B(2)(c) with:

Rock for Rock Blanket shall be 4"-8" rounded rock, 'Mesa' or equivalent.

Add to the beginning of section 20-5.03B(3):

Do not use soil sterilant.

Add to section 20-5.03C(1)(a):

and rock mulch in and around basins.

Add to section 20-5.03C(1)(c):

Submit a minimum of 8 pieces of each rock mulch type.

Replace item 1 the list in 1st paragraph of section 20-5.03C(2) with:

1. Uniform grey-white color for basin rock mulch Type 2 to be placed in basins south of Interstate 8. All other basins shall be filled with rock mulch Type 1 comprised of a mix of tans, reds, browns, grays and light gray colors. Rock Mulch Type 3 shall be comprised of a mix of tans, reds, browns, grays and light gray colors and placed in areas outside of basins.

Omit 3rd paragraph of section 20-5.03C(2) and gradation table:

Add the following to section 20-5.03C(2):

Rock mulch type 1 for basins shall be 4”-8” rounded rock, ‘Mesa’ or equivalent. Rock mulch type 2 shall be 4”-8” rounded rock, ‘Full Moon’ or equivalent. Rock mulch type 3 outside of basins shall be 4”-10” rounded rock, ‘Mesa’ or equivalent.

Add to section 20-5.03C(2):

Do not use:

1. soil sterilant in basins. Use with Type 3 Rock Mulch only.
2. filter fabric in basins. Use with Type 3 Rock Mulch only.

Staples for filter fabric must comply with section 21-1.02R except the staples must be a minimum of 10-gauge, 4-inch, U-shaped staples with a one-inch crown.

Add to the beginning of section 20-5.03C(3):

Excavation for rock mulch types 1 and 2 is not required as engineered slopes will be constructed with the basins. After basin construction, place rock mulch in a consistent, tightly-fitted layout beginning at bottom of basin and working toward top of basin slopes.

After clearing, grade areas to receive rock mulch Type 3 to a smooth, uniform surface, and compact to not less than 90 percent relative compaction. Place rock mulch over filter fabric on compacted ground.

Replace item 1 in the list in the 1st paragraph of section 20-5.03D(2)(a) with:

1. Uniform tan color.

Add to section 20-5.03D(2)(a):

Do not use:

1. soil sterilant.
2. filter fabric.

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DIVISION VI STRUCTURES

45 GENERAL

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46 GROUND ANCHORS AND SOIL NAILS

Add to section 46-1.01A:

For sub horizontal ground anchors for West Mission Bay Drive Ground Anchor Wall No. 1 and Ground Anchor Wall No. 2 (placed beneath Midway Drive UC (L/R), Bridge No. 57-0705L/R), the Contractor must take necessary provisions in the excavation sequence to avoid undermining of the existing bridge footing or damaging existing piles. Excavation for subsequent lifts of ground anchors must not proceed until construction of the previous lift has been completed and the ground anchors have been locked off at their design loads. The depth of excavation for a lift of ground anchors must not extend below the bottom of the panel for that lift of ground anchors.

The following additional requirements will apply:

A. To reduce the potential for damage to existing piles during ground anchor installation, permanent galvanized steel casings must be installed past the trailing abutment piles at all anchor locations for a particular lift. The steel casings may be pushed through the existing pile zone using hydraulic pressure, or driven using a small impact hammer. The ground anchors may then be installed through the casings. The casings may require jetting or relief drilling if soils collect within the annulus during installation.

B. If resistance is encountered during casing advancement that can be attributed to a possible conflict with a pile, the Contractor must immediately stop casing advancement and document the location and depth of hole. The Contractor must then cut off the casing at the face of excavation and grout the hole. A second casing must be advanced 2 ft up wall station from the first hole, at the same elevation of the first hole. The contractor must submit all conflict locations for a lift to the Engineer and allow the Engineer 1 weeks to review the results for all holes and supplement the contract plans with additional ground anchors if necessary. No further work on this wall will be allowed without approval by the Engineer. Submittal will consist of written documentation of hole locations, order of work, depth of hole when resistance was encountered, and photos of the excavation.

Add to section 46-2.01D(2)(b)(i):

Performance test a minimum of 5 ground anchors per wall. The Engineer determines which anchors are to be performance tested. A minimum of 1 anchor from each anchor load zone shall be selected per wall.

Replace the 3rd paragraph of section 46-2.01D(2)(b)(i) with:

Do not stress against the concrete until it has attained a compressive strength of at least 3,600 psi or has cured for at least 7 days.

Add to section 46-2.03A:

Expect difficult ground anchor installation at West Mission Bay Drive Ground Anchor Wall No. 1 and Ground Anchor Wall No. 2 due to the presence of the following conditions:

1. Existing bridge abutment piles in close proximity to the ground anchors
2. Presence of cobbles within the abutment fills
3. Presence of high groundwater

^^

48 TEMPORARY STRUCTURES

Add to the 4th paragraph of section 48-2.01C(2):

13. Camber strips to be used in constructing falsework.

Replace the 4th paragraph of section 48-2.03C with:

Use camber strips to compensate for falsework deflection, vertical alignment, and anticipated structure deflection. You furnish the amount of camber to be used in constructing falsework.

Replace the 14th paragraph of section 48-2.03D:

Remove falsework piling and any shoring for cofferdams.

After the removal of falsework piling and shoring for cofferdams, the site must be backfilled to approximate existing grades using clean sandy imported hydraulic fill that may be loosely placed to match the existing conditions.

Replace "Reserved" in section 48-6 with:

48-6 TEMPORARY CONSTRUCTION TRESTLE

48-6.01 GENERAL

48-6.01A General

Section 10-7 includes specifications for temporary construction trestle (TCT). Construct TCT to provide access over San Diego River for construction of the West Mission Bay Drive Bridge in Phases shown on the project plans. Temporary construction trestle includes all work and materials necessary to design, construct, maintain and remove TCT.

TCT construction, maintenance, and removal must comply with USACE requirements. Prevent any debris from falling into San Diego River and protect temporary cofferdam enclosures at piers.

The TCT must:

1. Fit within the designated temporary construction easements.
2. Have a non-slip surface for both workers and vehicles.
3. Meet CAL/OSHA standards.
4. Be designed to meet the Contractor's vehicles, equipment, and construction loads.
5. Be designed to resist stream and buoyancy forces from the Standard Project Flood (SPF) including drift.

48-6.01B Submittals

Within 15 days after Contract approval, submit 5 copies of the temporary construction trestle plan (TCTP).TCTP must include:

1. Shop drawings and supporting calculations for all work including foundations, bracings, and decking needed to support the anticipated loads needed to perform the work.
2. Temporary piling Pile Driving Plan.
3. Locations and the materials used.
4. All existing roadways, utilities, ditches, active channel, and aqueduct pipelines adjacent TCT.
5. Locations and types of protective covers over utilities, ditches, and environmentally sensitive areas.
6. Schedule for the installation and removal of TCT.
7. Photographs of existing conditions at locations where TCT will be constructed.

Shop drawings and calculations must be signed by an engineer who is registered as a civil engineer in the State.

To make a change to an authorized TCTP, submit it as specified for a new submittal.

Keep a copy of the authorized TCTP at the job site.

48-6.02 MATERIALS

Not Used

48-6.03 CONSTRUCTION

TCT must be removed and disposed of when crossing is no longer required. Temporary fills must be removed in their entirety and the affected areas restored to their original conditions.

TCT piles must be driven and the actual nominal pile resistance assessed under section 49.

48-6.04 PAYMENT

Payment for trestles is included in the payment of temporary construction trestle.

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49 PILING

Add to section 49-1.01D(5):

Perform test borings at the locations shown in the following table:

Bridge no.	Location
57C0856R	CL Pier 2, 80'-4" Right of CL WMBD
57C0856R	CL Pier 3, 80'-4" Right of CL WMBD
57C0856R	CL Pier 4, 80'-4" Right of CL WMBD
57C0856R	CL Pier 5, 80'-4" Right of CL WMBD
57C0856R	CL Pier 6, 80'-4" Right of CL WMBD
57C0856R	CL Pier 7, 80'-4" Right of CL WMBD

Add to section 49-1.03:

Expect difficult pile installation due to the conditions shown in the following table:

Pile location		Conditions
Bridge no.	Support location	
57C-0023	All locations	Zones of very dense cobble and gravels exist between elevation -92 and -130 feet MSL. Anticipate very difficult drilling during installation of the large diameter piles within these gravel and cobble zones. An oscillator may not be able to advance a casing through the cobble zones. A high torque rotator, or other specialized drilling methods may be required to extend the piles to specified tip elevation.

When constructing new pier piles, the contractor must follow the pile installation recommendations specified in the Bridge Foundation Report. The contractor must monitor the area surrounding new pile installation for any subsidence by installing, maintaining and monitoring subsidence-measuring devices at the adjacent existing piers for the entire construction period of these piles. The contractor must install and monitor four (4) displacement monitoring devices at the top 4 corners of these affected pier walls. Perform monitoring continuously during the construction of these Piers. Make monitoring records available at the job site during normal work hours.

The contractor must also maintain at least three (3) survey control points on each of the existing concrete pier walls near new pile installation. Both the horizontal locations and vertical elevations at each monitoring point must be surveyed with one-tenth of an inch (0.1") accuracy, using a secure bench mark located outside of the construction area. The monuments must be surveyed daily during pile installation process.

Collect and plot settlement and movement monitoring data as directed by the Engineer. Plot data as settlement and movement (accurate to 1/16 of an inch) versus time (in days). Submit settlement and movement measurements and plots for review at the end of each working day during construction. If the measured lateral movement is over one-half of an inch (1/2") or the measured vertical movement is over one-quarter of an inch (1/4"), construction must be stopped immediately and measures to mitigate the movement must be implemented. New drilling plan must be submitted and approved by the Engineer before drilling operations can resume. Payment for the monitoring program is included in the payment for Bridge Removal (Portion).

Add to section 49-2.02B(1)(a):

Permanent steel casing used for the West Mission Bay Drive Bridge piles must comply with the specifications for Class N steel pipe piling.

Add to section 49-3.02A(1) :

All CIDH concrete piles used for the West Mission Bay Drive Bridge are specified as end bearing.

Once the pile excavations have reached the planned depths, flush the holes with clean water and use a down-hole Shaft Inspection Device (SID) or a Mini SID to verify that the bottoms of the excavations expose dense old paralic deposits, and that the bases of the piles are clean of loose soil and drill cuttings prior to concrete placement.

LOAD TEST PILE

Notify the Engineer, in writing, not less than 10 days in advance of drilling the load test pile.

The load test pile shown on the plans must be constructed, tested, and the results verified as acceptable to the Engineer before any production piles are constructed. The Engineer must have 10 working days to review the test pile results starting on the day the results are provided to the Engineer. Section 49-1.01D(3) “Load Test Piles,” of the Standard Specification must not apply to this load test pile.

Test pile must be installed to the dimensions, details, and elevations shown on the plans , and must be installed using the same equipment and installation procedures proposed for installation of the cast-in-drilled-hole concrete piles. All requirements for the production piles, including methods of installation, must also apply to the load test pile.

Load Test System

Load testing must include furnishing and installing a single level of load cells embedded in the pile to be load tested, installing strain gage instrumentation and associated accessories, performing the load test, providing a load test report, and obtaining the Engineer’s approval of load test report, as shown on the plans.

The Contractor must install load cells and load test instrumentation in accordance with the load cell supplier recommendations, instruction, and procedure manual, and as approved by the Engineer. A qualified representative of the manufacturer of the load cell must be present at the job site during the installation of load cell assembly, during raising the carrying frame into vertical position, during placement of the frame into the drilled hole, during concrete placement and during testing of the load test pile.

The load test is intended to obtain end bearing and side friction information for the entire length of the pile.

The load cells must be capable of expanding to not less than 6 inches while maintain the applied test load.

The Contractor must be responsible for coordinating with the load cell supplier to determine and /or verify all required equipment, material, quantities, procedures, and all other applicable items necessary to complete the load testing shown on the plans.

As a minimum, instrumentation must include displacement transducers to measure the expansion of the load cells and telltales for measurement of the elastic compression of the portions of the load test pile above and below the load cells and the side shear movement of the load test pile above and below the load cells. All data acquisition, including expansion of load cells, displacement telltales, hydraulic transducers, and stain gages, must be automated by connection all data acquisition instruments through a multiplexer to a data logger, and connecting to a computer, so that an ASCII format data file with all applicable test data including time stamp will be available at the completion of the load test. A set of 4 strain gages must be located as shown on the plans.

The load cells and pile movement measuring instruments must be capable of applying the loads required and making all measurements necessary for conducting a load test of the load test pile, under the conditions shown on the plans, and in conformance with the requirements of these special provisions. Such equipment must be of a configuration that will allow the satisfactory construction of the load test pile by the specified methods, with the load cells and instruments in place in the work.

Load cells must consist of Osterberg cells, or equal. LOADTEST, Incorporated, the manufacturer and supplier of Osterberg cells, is the only supplier of load cells and technical assistance for this testing procedure that is known to the Department . Such load cells are available from:

LOADTEST, Incorporated

2631-D NW 41st Street Gainesville, FL 32606 (800) 368-1138

The required test capacity of the load cell system is kips. The load cells must be equipped with all components needed to compute deflection and capacity, including hydraulic lines, fittings, pressure source, pressure gage, displacement telltales, hydraulic transducers, strain gages, and automated data gathering, and reporting equipment.

Other equipment and services to be provided by manufacturer are as follows:

A. Furnishing, installing, and testing of all test instruments, including related conduits, and wiring, which will be embedded in the load test pile (except telltale casing and vent pipe).
B. Hydraulic pumps, fluids, and supply lines as needed to operate the load cells.
C. Instrumentation tubes and telltales.
D. Strain gages and linear variable wire differential transformers (LVWDTs).
E. Technical advice and direction by a qualified representative of the manufacturer during construction of the load test pile, including the installation of the load cells with all associated measuring instruments, concrete placement and testing of the load test pile.
F. Operation of the hydraulic pressure pump during load testing and recording of load test data.
G. Submittal of all test data and final report to the Engineer.

The Contractor must furnish all materials, equipment, and labor necessary to instrument and test the load test pile, in addition to that which is supplied by the manufacturer of the load cells. This includes, but is not limited to, the following:

A. Drinking water from unopened plastic containers to mix with a water-soluble oil provided by the manufacturer of the load cell.
B. A compressor (minimum 185 cfm at 125 psi) for pump operation during the testing.
C. A shaft monitoring system for monitoring the top of shaft displacement consisting of one of the following:
    1. A stable reference beam system monitored by an operator with a self-leveling, surveyor's level. If in the judgment of the Engineer, the reference beam system is not stable enough to make accurate vertical measurement, the Contractor must take corrective measures to provide a stable reference beam.
    2. Two survey levels located in excess of three shaft diameters from the load test pile. Two tripods and weather protection must be provided.
D. A protected work area (including provisions such as a tent or shed for protection from inclement weather for the load test equipment and personnel) of size and type required by the Engineer and the manufacturer of the load cell.
E. Electric power, as required for lights, welding, instruments, and as required to load test piles.
F. Materials for carrier frame, steel angles, steel bearing plates or equivalent, truss system, telltale casing (1/2-inch black iron or galvanized pipe), vent pipe (1/2-inch black iron or galvanized pipe) and other devices as needed to adapt the load cells to the production load test pile.
G. Steel end plates for top and bottom bearing plates for the load cells (two 2-inch thick, with diameter sufficient in size to accommodate the bar reinforcing steel cage) including cutting equipment for making holes in the plates as directed by the load cell manufacturer's representative. Steel end plates must be high strength steel plates conforming to ASTM Designation: A 709, Grade 50, unless otherwise directed by the Engineer.
H. Welding equipment, materials, certified welding personnel, and laborers, as required, to assemble the test equipment under the supervision of the manufacturer of the load cells, attach hydraulic fittings and telltales to the load cells, and prepare the work area. Welds for the carrier frame must conform to the requirements in Section 75, "Miscellaneous Metal," of the Standard Specifications.
I. Equipment and labor to construct the placement frame, including any steel plates or trusses required for the load test pile.
J. Equipment and operators for handling the load cells, instrumentation and placement frame, during the installation of the load cells and during the testing, including a crane or other lifting device, labor, and hand tools as required by the manufacturer of the load cells and the Engineer.
K. Equipment and labor sufficient to erect the protected work area and shaft monitoring displacement system.
L. Equipment capable of holding the placement frame off of the bottom of the hole during concrete placement.

Working Drawings

The Contractor must submit working drawings for the load test pile construction to the Engineer in accordance with the provisions in Section 5-1.23, "SUBMITTALS," of the Standard Specifications. For initial review, 6 sets of such drawings must be submitted. After review, between 6 and 12 sets, as requested by the Engineer, must be submitted for final approval and use during construction. Working drawings must contain details of the Contractor's proposed methods for construction of the load test pile as described in these special provisions, including the following:

A. Methods for drilling and cleanout of cast-in-drilled-hole portions of load test piles.
B. Details of strain gage protection.
C. Instrumentation device locations.

D. Access opening locations, sizes, and patterns.
E. A proposed method for placing concrete in the load test pile ensuring adequate protection of embedded testing components.
F. Calculations showing load transfer at the top and bottom bearing plates or equivalent truss at the load cell assembly.
G. Details and components of the proposed shaft monitoring displacement device.
H. Details and calculations for the load test platform.
I. Proposed method for holding the bar reinforcing cage off of the bottom of the hole during concrete placement.

Construction of the load test pile must not proceed until the working drawings submittal has been approved in writing by the Engineer.

The Contractor must allow 15 days after complete working drawings and all support data are submitted to the Engineer for the review of any working drawings for load test pile construction.

Construction

The load test pile must be constructed in conformance with the requirements in these special provisions for the production cast-in-drilled-hole concrete piling except as modified herein, including concrete mix design requirements, testing requirements and bottom of hole cleaning requirements, and inspection requirements.

The installation of the load cells and all related testing instruments and equipment must be performed as recommended by the manufacturer of the load cells, and as approved by the Engineer.

The load cells, hydraulic supply lines and other attachments will be assembled and made ready for installation in a suitable area, adjacent to the load test pile. The load cell assemblies must be welded to the placement frame. Stain gages must be located as shown on the plans and as approved by the Engineer.

The contractor must use the utmost care in handling the placement of the test equipment assembly so as not to damage the instrumentation during installation. The Contractor must limit the deflection of the placement frame between pick points while lifting the cage from the horizontal position to vertical. The Contractor must provide support bracing and strong backs as necessary in order to minimize the deflections between pick points and to prevent damage to the instrumentation.

After placement of the frame, load cells, and all instrumentation for the load test pile, the load test pile must be concreted to the cut-off elevation shown on the plans.

At least 12 concrete test cylinders must be made from the concrete used in the load test pile. Testing of cylinders must be by the Contractor's independent laboratory. Results must be reported to the Engineer within 24 hours of each test performed. At least two of these test cylinders must be tested on the day of the load test. In addition, the modulus of elasticity of the concrete must be determined by testing two cylinders each at 3 and 7 days after placement and two on the day of testing. Elastic modulus testing must be in accordance with the requirements in ASTM Designation: C469, and the cylinders must be moist cured until testing.

Testing and Reporting

Drilling or other construction operations that may interfere with testing must not continue within a 100-foot radius of the test pile. If test apparatus shows any interference due to construction activities outside of the perimeter, such activities must cease immediately.

Load testing of the load test pile must not begin until the concrete has attained the compressive strength shown on the plans or as approved by the Engineer.

The load testing must be performed in general compliance with the requirements of ASTM Designation D1143 (Quick Test Method). Initially the loads must be applied in increments equaling 10 percent of the load specified herein. The magnitude of the load increments may be increased or decreased depending on actual load test pile capacity, and as approved by the Engineer.

Direct movement indicator measurements must be made of the following: load cell expansion (4 LVWDTs per load cell assembly), top of load test pile movement (2 digital levels), and continuous compression measurements of the load test pile in each zone (4 LVWDTs per zone).

Loads must be applied, as determined by the Engineer, until the ultimate capacity of the load test pile is reached for the various stages (downward movement below the load cells expected), unless otherwise directed by the engineer.

The load test procedure must be as follows:

A. Construct the load test pile. Place sets of 4 strain gages along the reinforcing steel cage of the CIDH concrete piling as specified herein, as recommended by the load cell manufacturer and as approved by the Engineer.
B. Load the load test pile by pressurizing the load cell assembly to determine the ultimate end bearing capacity of the bottom of section of the load test pile.
C. After reaching the ultimate end bearing capacity in the lower section of the pile, continue pressuring the load cell until the top of the pile displaces upward. The step determines the side shear capacity above the load cells.

At each load increment movement, indicators must be read at the 0, 1, 2, 4, and 8 minutes intervals while the load is held constant.

Dial gages, digital gages, levels, or LVWDT's used to measure end bearing and side shear movement must have a minimum travel capacity of 6 inches and capable of being read to the nearest 0.001-inch. End movement may be alternately monitored using LVWDTs capable of measuring the expansion of the loading device (6 inches minimum travel).

The shaft monitoring system selected must be firmly supported at a minimum distance of 3 shaft diameters from the center of the test shaft to minimize disturbance of the reference system. The elevation difference between the reference beam and the top of the load test pile must be monitored and recorded at all times during testing through the use of electric surveying instruments. The top of concrete

elevation within the load test pile must be monitored using the tops of the steel tubes of the self-standing cage, or as recommended by the representative of the manufacturer.

The load test report must contain the load-movement curves and test data. The Contractor must submit 8 copies of the load test report to the Engineer within 7 days after completion of the pile load test.

Removal

After completion of the testing, all load test materials and equipment, including the reference beam and its attachments, but not including the pile concrete and reinforcement, must be removed. The load cells, telltale pipes and other pipes with the pile associated with the load test must be filled with grout. The top of the pile concrete left in place must be at least three feet below the mudline or below elevation -3.00 (NGVD 29), whichever is lower.

Replace "Reserved" in section 49-3.02B(6)(a) with:

At West Mission Bay Drive Bridge CIDH piles, use either mineral or synthetic slurry only. Use of water as a slurry is not allowed.

Add to section 49-3.02B(6)(c):

The synthetic slurry must be one of the materials shown in the following table:

Material	Manufacturer
SlurryPro CDP	KB INTERNATIONAL LLC 735 BOARD ST STE 209 CHATTANOOGA TN 37402 (423) 266-6964
Super Mud	PDS CO INC 105 W SHARP ST EL DORADO AR 71731 (870) 863-5707
Shore Pac GCV	CETCO CONSTRUCTION DRILLING PRODUCTS 2870 FORBS AVE HOFFMAN ESTATES IL 60192 (800) 527-9948
Terragel or Novagel Polymer	GEO-TECH SERVICES LLC 220 N. ZAPATA HWY STE 11A-449A LAREDO TX 78043 (210) 259-6386

Use synthetic slurries in compliance with the manufacturer's instructions. Synthetic slurries shown in the above table may not be appropriate for a given job site.

Synthetic slurries must comply with the Department's requirements for synthetic slurries to be included in the above table. The requirements are available from the Offices of Structure Design, P.O. Box 168041, MS# 9-4/11G, Sacramento, CA 95816-8041.

SlurryPro CDP synthetic slurry must comply with the requirements shown in the following table:

SlurryPro CDP

Quality characteristic	Test method	Requirement
Density During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 4	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup. API RP 13B-1, section 6.2	 50–120 ≤ 70
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 9	 ≤ 0.5

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in salt water. The allowable density of slurry in salt water may be increased by 2 pcf.

Super Mud synthetic slurry must comply with the requirements shown in the following table:

Super Mud

Quality characteristic	Test method	Requirement
Density During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 4	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup. API RP 13B-1, section 6.2	 32–60 ≤ 60
pH	Glass electrode pH meter or pH paper	8.0–10.0
Sand content, percent by volume Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 9	 ≤ 0.5

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in salt water. The allowable density of slurry in salt water may be increased by 2 pcf.

Shore Pac GCV synthetic slurry must comply with the requirements shown in the following table:

Shore Pac GCV

Quality characteristic	Test method	Requirement
Density During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 4	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup. API RP 13B-1, section 6.2	 33–74 ≤ 57
pH	Glass electrode pH meter or pH paper	8.0–11.0
Sand content, percent by volume Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 9	≤ 0.5

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in salt water. The allowable density of slurry in salt water may be increased by 2 pcf.

Terragel or Novagel Polymer synthetic slurry must comply with the requirements shown in the following table:

Terragel or Novagel Polymer

Quality characteristic	Test method	Requirement
Density During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 4	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup. API RP 13B-1, section 6.2	 45–104 ≤ 104
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 9	≤ 0.5

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in salt water. The allowable density of slurry in salt water may be increased by 2 pcf.

Add to section 49-3.02C(2):

If you use an oscillator or rotator to excavate the piles, you must:

1. Maintain a positive fluid head within the drill rod at all times. Use only mineral or synthetic slurry for the fluid (10 feet of head minimum).
2. Maintain a minimum 10-foot soil/rock plug within the drill rod. This plug must be maintained until the drill rod reaches the specified tip elevation.

3. Provide access to the Engineer to the top of the oscillator/rotator drill rod to verify that the minimum 10-foot slurry head and soil plug are being maintained.

After cleaning the bottom of the hole before placing concrete, a minimum of 50 percent of the base must have less than 1/4" of sediment. Maximum depth of sediment or any debris at the base of the shaft must not exceed 1"

The Contractor's Shaft Inspection Device (SID) will be utilized to inspect the bottom of the CIDH piles after completion of drilling and clean out. Department representatives must be present during the SID inspection. You must allow time for the SID to be used to re-inspect the bottom of pile excavations after placement of pile reinforcement.

All CIDH pile excavations must be authorized before placing concrete.

Add to section 49-3.02C(6):

Install permanent steel casings by , oscillators, and high-torque rotators only. Reference permits for additional requirements on noise level restrictions during pile installation operations.

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50 PRESTRESSING CONCRETE

Replace the 2nd paragraph of section 50-1.01C(3) with:

For initial review, submit:

1. 8 copies for all structures

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51 CONCRETE STRUCTURES

Add to section 51-1.01A:

The concrete at locations shown in the following tables must be integrally pigmented colored concrete.

Bridge Name and Number	Manufacturer	Color No.	Portion of Bridge
West Mission Bay Drive Bridge, Br. No. 57C0856L and 57C0856R		26122 of FED-STD-595	Bridge columns
West Mission Bay Drive Bridge Ground Anchor Diaphragm Walls, Br. No. 57E0162 and 57E0163	Davis	Davis Colors color no. 5447, Mesa Buff	Architectural treatment in front of walls
	Scofield	Schooner Beige	
	Solomon	Ginger	

The integrally pigmented colored concrete must match the referee sample located at Caltrans District 11 Construction Duty Senior's Office at 4050 Taylor Street, San Diego, CA 92110.

Replace the 2nd paragraph of section 51-1.01C(1) with:

Submit a deck placement plan for concrete bridge decks. Include in the placement plan your method and equipment for ensuring that the concrete bridge deck is kept damp by misting immediately after finishing the concrete surface.

Add to section 51-1.02B:

Concrete for concrete bridge decks must contain polymer fibers. Each cubic yard of concrete must contain at least 1 pound of microfibers and at least 3 pounds of macrofibers.

Concrete for concrete bridge decks must contain a shrinkage reducing chemical admixture. Each cubic yard of concrete must contain at least 3/4 gallon of a shrinkage reducing admixture. If you use the maximum dosage rate shown on the Authorized Material List for the shrinkage reducing admixture, your submitted shrinkage test data does not need to meet the shrinkage limitation specified.

Replace the 1st paragraph of section 51-1.03F(5)(b)(i) with:

Texture the bridge deck surfaces longitudinally by grinding and grooving.

Add to section 51-1.03G:

51-1.03G(3) Pedestrian Bridge Surface Texture

The West Mission Bay Drive Bridge concrete surface pattern at pedestrian sidewalk must match the pattern shown on the plans. The pattern must be created by sawcutting grooves in the sidewalk 1/4 inch wide and 1 inch deep.

A water-based top-surface retarder must be applied to the West Mission Bay Drive Bridge sidewalk during the curing process. A retarder must be chosen which does not require covering with plastic for protection and that has a range of 10+ depths of etch.

The surface retarder must be one of the following or equal:

Surface Retarder Manufacturers

Product Name	Manufacturer	Contact Information
Grace Top-Cast	Grace Products Website: https://grace.com/construction/en-us/concrete-technology/GRACE-TOP-CAST	Phone: (877) 423-6491 Email: concrete@grace.com

Optimus	Architectural Concrete Chemicals Website: http://www.acchemicals.com/surface-retarders/	223 Westhampton Ave. Capitol Heights, MD 20743 Phone: (301) 336-9300
HUB Cast	HUB Website: http://www.hubhasit.com/	804B Rancheros Dr., San Marcos, CA 92069 Phone: (760) 744-8124

Use of equivalent surface retarder must be authorized.

Provide four (4) 14”x14” samples with a varying degree of surface-retarded finish ranging from light to rough. The test panels will be based on the finishes selected from submitted samples.

Before casting architectural concrete, build test panels of at least 4-ft wide and at least 4 ft long. The test panels must be used to verify selections made under sample submittals and to demonstrate typical joints, form ties, surface finish, texture, tolerances, and standard of workmanship. Build test panels to comply with the test panel requirements below using materials indicated for the completed work.

1. Provide test panel of each surface-retarded finish paving type selected from the sample submittals
2. The test panel must also demonstrate how the sawcut groove pattern as shown will be created
3. Build test panels in location as directed
4. Coordinate test panel with the work specified in other sections that will be a part of the test panel
5. Construct at least one month before start of other concrete work to allow concrete to cure before observation
6. Test panel to incorporate actual products and installation means, methods and preparation of final concrete work including, but not limited to, final sub-grade/sub-surface preparation, formwork, reinforcement, concrete proportion and mix designs, curing compounds and methods, form release agents and methods, application of surface retarder and sawcut grooving
7. In presence of Engineer, damage part of the exposed-face surface for each finish and texture, and demonstrate materials and techniques proposed for repair of tie holes and surface blemishes to match adjacent undamaged surfaces
8. Retain samples of cements, sands, aggregates, and surface retarder used in test panel for comparison with materials used in remaining Work
9. Test panels must be authorized before casting Sidewalk Concrete
10. Remove test panels from site upon completion of Work and authorization. All test panels must become the property of the Contractor and must be disposed of by the contractor outside the Highway ROW

Apply surface retarder material uniformly to the wet concrete sidewalk after the initial bleed water rises to the surface. Follow Manufacturer’s recommended application instructions for the construction process.

Construct sawcut grooves as follows:

1. Construct machine-sawn grooves as soon as concrete has sufficient strength to support sawing equipment. The saw must be fitted with diamond blades. Joints must be true to lines and shapes shown on the Plans and not vary from true. Surface of the grooves must be smooth and uniform and must be hand finished
2. The completed groove at the finished surface must not vary more than 1/32” of the width and depth indicated
3. The alignment of the grove lines must not deviate more than 4 inches in 10 ft from the patterns shown on the Drawings. Groove lines must align with pedestrian rail posts, as shown on the Drawings
4. Joint armor at the expansion joints must not be installed until the sawcut operation has been completed

Replace the 2nd paragraph of section 51-1.03H with:

Cure the top surface of bridge decks by (1) misting and (2) the water method using a curing medium under section 90-1.03B(2). After strike off, immediately and continuously mist the deck with an atomizing nozzle that forms a mist and not a spray. Continue misting until the curing medium has been placed and the application of water for the water method has started. At the end of the curing period, remove the curing medium and apply curing compound on the top surface of the bridge deck during the same work shift under section 90-1.03B(3). The curing compound must be curing compound no. 1.

Delete the 4th paragraph of section 51-1.03H.

Replace the 7th paragraph of section 51-2.02D(2)(b) with:

Size the recess such that the primary reinforcement for structural members is outside the recess. The maximum depth at abutments and hinges is 10 inches. The maximum width on each side of the expansion joint is 12 inches.

Add to section 51-2.02E(3):

Size the recess such that the primary reinforcement for structural members is outside the recess. The maximum recess depth at abutments and hinges is 16 inches. The maximum recess width on each side of the expansion joint is 30 inches.

Add to section 51-3.03B(2):

Except for stainless steel surfaces, clean and paint metal bearing surfaces after fabrication under the specifications for new structural steel in section 59-2. SSPC-QP 1, SSPC-QP 2, and AISC-420-10/SSPC-QP 3 certifications are not required.

Except for stainless steel surfaces, clean and paint metal bearing surfaces after fabrication under the specifications for new structural steel in section 59-2. SSPC-QP 1 and SSPC-QP 2 certifications are not required.

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52 REINFORCEMENT

Add to section 52-2.01A(3):

52-2.01A(3)(c) Certificates

Submit a certificate of compliance for each shipment of dual-coated bar reinforcing steel. Include the following with the submittal:

1. Certification that the reinforcement complies with ASTM A1055
2. All certifications specified in ASTM A1055

Add to section 52-2.01B:

All column pin and related auxiliary reinforcement (at column-pile shaft connection) noted on the structure plans must consist of dual-coated bar reinforcing steel complying with ASTM A1055. The dual coated bar reinforcing steel may also be used as an alternative to epoxy-coated reinforcement or epoxy-coated prefabricated reinforcement. Bar reinforcing steel to be dual-coated must be deformed, Grade 60 bars complying with ASTM A706.

Dual-coated bar reinforcement must be the same bar size and must be placed at the same spacing as described for epoxy-coated reinforcement and epoxy-coated prefabricated reinforcement.

Add to section 52-2.01C:

Do not bend bar reinforcing steel complying with ASTM A1055 after coating application if used as an alternative to epoxy coated prefabricated reinforcement.

Job site and PC plant practices for substituted bar reinforcement must comply with appendix X1 of ASTM A1055, except replace "should" with "must."

Add to section 52-2.03A(1):

Epoxy coat reinforcement at the following locations:

1. All bridge components unless noted otherwise on the plans, including bridge superstructure, sidewalk, columns and abutment stem.
2. Type 80 Concrete barriers and pedestrian railing curb along full length of West Mission Bay Drive Bridge

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56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

Replace *Reserved* in section 56-2.03B(6) with:

Section 56-2.03B(6) includes specifications for salvaging a sign structure.

Salvage the sign structures at the following locations:

1. Sign Panels
2. Sign Structures
3. Traffic Signal Poles and Equipment

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60 EXISTING STRUCTURES

Add to section 60-2.01A:

Remove the following structures or portions of structures:

Bridge no./Structure name	Description of work
Midway Drive Bridge (Bridge No. 57C0023)	Staged removal of bridge superstructure and substructure in conformance with structure plans and foundation report. All substructure removal work must be authorized by the Engineer.

When removing existing pier piles, the contractor must follow the pile removal recommendations specified in the Bridge Foundation Report. The contractor must monitor the area surrounding pile removal for any subsidence by installing, maintaining and monitoring subsidence-measuring devices at the adjacent existing piers for the entire period of live traffic on the existing bridge. The contractor must install and monitor four (4) displacement monitoring devices at the top 4 corners of these affected pier walls. Perform monitoring continuously during pile removal near these Piers. Make monitoring records available at the job site during normal work hours.

The contractor must also maintain at least three (3) survey control points on each of the existing concrete pier walls. Both the horizontal locations and vertical elevations at each monitoring point must be surveyed with one-tenth of an inch (0.1") accuracy, using a secure bench mark located outside of the construction area. The monuments must be surveyed daily during the excavation or demolition process, and weekly thereafter until the existing bridge demolition and pile removal is completed.

Collect and plot settlement and movement monitoring data as directed by the Engineer. Plot data as settlement and movement (accurate to 1/16 of an inch) versus time (in days). Submit settlement and movement measurements and plots for review at the end of each working day during construction. If the measured lateral movement is over one-half of an inch (1/2") or the measured vertical movement is over one-quarter of an inch (1/4"), construction must be stopped immediately and measures to mitigate the movement must be implemented. New pile removal and existing bridge substructure demolition plan must be submitted and approved by the Engineer before operations can resume. Payment for the monitoring program is included in the payment for Bridge Removal (Portion).

Replace item 6 of the 1st paragraph in section 60-2.02A(3) with:

6. Methods of preventing material, equipment, and debris from falling onto the San Diego River channel and the pedestrian path.
7. Demolition/construction materials, equipment, debris or waste must not be placed or stored where it is subject to wave, wind, rain erosion and dispersion or where it may enter a storm drain.
8 Removal of bottom debris following demolition and prior to construction.
9. Any and all debris resulting from demolition/construction activities must be removed from the project site and disposed of within 24 hours of completion of construction.

Replace the 5th paragraph of section 60-2.02C(1) with:

Temporary support shoring, temporary bracing, and protective covers must not encroach within 2 feet horizontally or 15 feet vertically of any traffic lane or shoulder open to traffic.

Replace the 1st paragraph in section 60-2.02C(2) with:

Provide protective covers for removal work of the West Mission Bay Drive Bridge over pedestrian traffic and the San Diego River channel. Protective covers must:

1. Be constructed before starting removal activities.
2. Prevent any materials, equipment, or debris from falling onto pedestrian traffic and the San Diego River channel.
3. Be supported using shoring, falsework, or the existing structure.
4. Provide the openings specified in section 12-4 except that when no openings are specified for bridge removal provide a vertical opening of 8 feet and a horizontal opening of 10 feet for pedestrian traffic along the north and south trails under West Mission Bay Drive Bridge.
5. Be cleaned of debris and fines before being removed.

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DIVISION VII DRAINAGE FACILITIES

61 GENERAL

^^

71 EXISTING DRAINAGE FACILITIES

Replace *Reserved* in section 71-6.03 with:

71-6.03A General

Abandon culverts or pipelines by removing portions of the culverts or pipelines, filling the inside, and backfilling the depressions and trenches to grade. As an alternative to abandoning a culvert or pipeline, you may remove the culvert or pipeline, dispose of it, and backfill.

Notify the Engineer before abandoning a culvert or pipeline.

71-6.03B Materials

Openings into existing structures that are to remain in place must be plugged with minor concrete under section 90.

71-6.03C Construction

Wherever culverts or pipelines intersect side slopes, remove them to a depth of at least 3 feet. Measure the depth normal to the plane of the finished side slope. Abandon the remaining portion of the culvert or pipeline.

Culverts or pipelines that are 12 inches or more in diameter must be completely filled by authorized methods. Backfill with sand that is clean, free draining, and free from roots and other deleterious substances. As an alternative to sand, you may backfill with one of the following:

1. Controlled low-strength material under section 19-3.02F
2. Slurry cement backfill under section 19-3.02D

Ends of culverts and pipelines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

71-6.03D Payment

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culverts or pipelines is included in the payment for abandon culvert or abandon pipeline. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culvert or pipeline is paid for as sand backfill. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

Replace the 2nd paragraph in section 71-7.01 with:

Salvage the following:

1. Sign Panels
2. Sign Structures
3. Traffic Signal Poles and Equipment

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DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

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73 CONCRETE CURBS AND SIDEWALKS

Add to section 73-3.01C:

Within 2 business days of performing the surveys, submit preconstruction and post-construction surveys sealed and signed by one of the following:

1. Land surveyor licensed in the State
2. Civil engineer licensed in the State before January 1, 1982

Replace *Reserved* in section 73-3.01D(3) with:

For locations shown, perform a preconstruction survey to verify that forms and site constraints will allow the design dimensioning and slope requirements to be achieved. Upon completing construction of these facilities, perform a post-construction survey and verify that design dimensioning and slope requirements were achieved. The post-construction survey must include a minimum of 3 measurements for each dimension and slope requirement shown. Individual measurements must be equally distributed across the specified slope or dimensional surface.

Add to the beginning of section 73-3.03:

Before placing concrete, verify that forms and site constraints allow the required dimensioning and slopes shown. Immediately notify the Engineer if you encounter site conditions that will not accommodate the design details. Modifications ordered by the Engineer are change order work.

Add to section 73-4.01A:

Minor concrete of the types listed below is required at various locations as shown:

1. Minor concrete (exposed aggregate concrete)

Use if integral color will be used instead of dry-shake color.

Delete section 73-4.01B:

Replace section 73-4.02 with:

73-4.02 MATERIALS

For the types of minor concrete listed in 73-4.01A:

1. Aggregate must comply with the grading requirements for 1" max. combined aggregate in section 90-1.02C(4)(d).)
2. Color the concrete with an integral, fade resistant mineral oxide or synthetic type color.
3. Bar reinforcing steel must comply with section 52.

Use if integrally colored concrete is required. Consult Landscape Architecture for the colors to be specified.

Color for minor concrete (exposed aggregate concrete) must be from the following table or equal:

Manufacturer	Color
Davis	Color no. 5447, Mesa Buff
Scofield	Schooner Beige
Solomon	Ginger

The integrally pigmented colored concrete must match the referee sample located at Caltrans District 11 Construction Duty Senior's Office at 4050 Taylor Street, San Diego, CA 92110.

Replace section 73-4.03 with:

73-4.03 CONSTRUCTION

73-4.03A General

1. Protect surrounding exposed surfaces during the placement, finishing and curing operations.
2. If shown, place bar reinforcing steel.
3. If shown, place welded wire reinforcement.
4. Screed concrete to the grade and cross section shown. Strike-off and compact until a layer of mortar is brought to the surface. Wood float to a uniform surface.
5. Concrete finish, texture and color must be uniform in appearance.

73-4.03B Minor Concrete (Exposed Aggregate Concrete)

Comply with the following:

1. Coarse aggregates must be exposed to a depth of approximately 3/16 inch to 3/8 inch.
2. At the option of the Contractor, a concrete set retarder may be applied to the surface of the concrete after placing, consolidating and finishing of the concrete has been completed. The concrete set retarder must be commercial quality, manufactured specifically for use on top of the concrete surface and must be applied per the manufacturer's recommendations. The retarder must effectively retard the setting time of the cement and fine aggregate matrix deep enough and long enough to allow for aggregate exposure.
3. Care must be taken in placing and consolidating the concrete so that the coarse aggregate remains uniformly distributed throughout the concrete.
4. When the concrete mass has set sufficiently to allow for removing the matrix of cement and fine aggregate, the coarse aggregate must be exposed with water spray, coarse brooming, abrasive blasting, or a combination of these methods. Removal methods must not dislodge or loosen the coarse aggregate from the concrete surface.

5. Immediately after the cement mortar has hardened sufficiently to resist further removal, all cement film and loose material must be cleaned from the exposed aggregate surface with stiff brooms and water.
6. Except when operations for exposing the aggregate are underway, concrete shall be cured by the water method in conformance with Section 90-1.03B(2) or with curing compound no. 6 in conformance with Section 90-1.03B(3). Areas of concrete where curing compounds are removed during the cure period shall be kept continuously wet until the end of the cure period or until the curing compound is replaced.
7. After the concrete has cured for a minimum of 48 hours, sawcut contraction joint lines to the depth and pattern shown.

^^

75 MISCELLANEOUS METAL

Add to the list in the 2nd paragraph of section 75-3.01A:

6. Hinge restrainer pipe at West Mission Bay Drive Bridge Hinge

Add to the end of section 75-3.01A:

Bridge deck drainage system consists of:

1. Grate
2. Frame
3. Pipe
4. Pipe supports
5. Expansion Coupling

Replace items 3 and 4 in the list in the 1st paragraph of section 75-3.02D(2) with:

3. Comply with ASTM A276, Type 316

^^

78 INCIDENTAL CONSTRUCTION

Replace *stain* in the 1st paragraph of section 78-4.04A(1)(c) with:

stain and sealer

Add to the end of section 78-4.04A(2)(b):

The final color of the stained exterior surfaces at locations shown in the following must match color no. 36650 of FED-STD-595.

Bridge Name and Number	Portion of Bridge
West Mission Bay Drive Bridge, Br. No. 57C0856L and 57C0856R	Bridge soffit, top of sidewalk, exterior girders (including overhang and belvedere), abutments (excluding footings), wingwalls, Type 80 barriers, curb of the exterior pedestrian railing

Replace *Reserved* in section 78-4.04A(2)(c) with:

Sealer must be:

1. From the same manufacturer as that of the stain
2. Compatible with the stain and the surfaces
3. Clear and colorless and have a matte finish when dry

Add to the end of section 78-4.04A(3)(c):

Before sealing the stained surface, the surface must be exposed to sunlight for at least 7 days after staining.

After the stained surface is authorized, prepare the surface and apply the sealer under the manufacturer's instructions. Uniformly apply at least 2 coats of sealer unless otherwise instructed by the manufacturer.

Replace *preparing and staining* in the 2nd sentence of the 1st paragraph of section 78-4.04B(1)(c)(iii) with:

preparing, staining, and sealing

Add to the list in the 1st paragraph of section 78-4.04B(1)(c)(iii):

5. Manufacturer and finish of the sealer that will be applied

Replace *Not Used* in section 78-4.04B(3) with:

Apply the stain in at least 3 separate applications. The 1st and 2nd applications must be by air or airless sprayer.

Replace *Reserved* in section 78-4.07 with:

78-4.07A GENERAL

78-4.07A(1) Summary

Section 78-4.07 includes specifications for staining galvanized surfaces to achieve a rustic brown color with a matte finish.

Apply the stain to all visible galvanized surfaces of Chain Link Fence (Type CL-4) and Cable Railing.

78-4.07A(2) Definitions

Not Used

78-4.07A(3) Submittals

Submit the following items for the stain:

1. Product data, including the manufacturer's product sheet, SDS, and application instructions
2. Certificate of compliance
3. Work plan showing methods to control overspray and spillage and protect adjacent surfaces during staining

78-4.07A(4) Quality Assurance

Apply the stain to a test section at least 2 feet long.

The test section may be a section of the surface to be stained if authorized.

The test section must be:

1. Prepared and stained using the same materials, equipment, and methods to be used in the staining work
2. Cured under the manufacturer's instructions
3. Authorized before starting the staining work

Notify the Engineer at least 5 business days before staining the test section.

If ordered, prepare and stain additional test sections. Preparing and staining more than 1 additional test section is change order work.

The Engineer uses the authorized test section to determine the acceptability of the staining work.

If the test section is not incorporated into the work, dispose of the test section after the staining work is complete and authorized.

78-4.07B MATERIALS

The stain must be Natina Steel from Natina Products, LLC.

The quoted price for materials and application for the stain is $3.75 per linear foot of galvanized surfaces to be stained and an additional $775.00 for delivery of the stained materials to the job site.

Obtain the stain from:

NATINA PRODUCTS, LLC
1555 NORTH VIP
CASA GRANDE, AZ 85122
(877) 762-8462

The quoted price is good until 11/04/2017.

78-4.07C CONSTRUCTION

78-4.07C(1) General

Not Used

78-4.07C(2) Preparation

Before applying the stain:

1. Identify and obtain authorization for the surfaces to be stained
2. Remove oils, dirt, and other contaminants from surfaces to be stained
3. Dry all surfaces to be stained

78-4.07C(3) Application

Stain the galvanized surfaces under the manufacturer's instructions to achieve a color consistent with the color of the authorized test section. Apply stain only to thoroughly dry surfaces during periods of favorable weather.

Control overspray and protect adjacent surfaces during staining using an authorized method.

After application of the stain, keep stained galvanized surfaces dry as specified in the manufacturer's instructions.

Repair stained surfaces damaged during work activities with materials equal to that of the specified stain.

78-4.07D PAYMENT

Not Used

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83 RAILINGS AND BARRIERS

Replace *Reserved* in section 83-2.02C(3) with:

The offset from the face of the Type WB-31 transition railing to the hinge point must be at least 3'-6".

The offset from the face of the adjacent midwest guardrail system to the hinge point must be transitioned from the offset at the Type WB-31 transition railing to 4'-0" using a ratio of 6:1.

Replace *Reserved* in section 83-2.04C with:

83-2.04C(1) General

83-2.04C(1)(a) Summary

Section 83-2.04C includes specifications for constructing alternative flared terminal systems.

83-2.04C(1)(b) Definitions

Not Used

83-2.04C(1)(c) Submittals

Submit a certificate of compliance for alternative flared terminal systems.

83-2.04C(1)(d) Quality Assurance

Not Used

83-2.04C(2) Materials

Alternative flared terminal systems must be one of the following or a Department-authorized equal:

1. Type FLEAT terminal system. Type FLEAT terminal system must be a FLEAT-350 manufactured by Road Systems, Inc., located in Big Spring, Texas, and must include the connection components. The FLEAT-350 can be obtained from the following distributors:

Address	Telephone no.
UNIVERSAL INDUSTRIAL SALES PO BOX 699 PLEASANT GROVE UT 84062	(801) 785-0505
GREGORY INDUSTRIES INC 4100 13TH ST SW CANTON OH 44708	(330) 477-4800

2. Type SRT terminal system. Type SRT terminal system must be an SRT-350 Slotted Rail Terminal (8-post system) manufactured by Trinity Highway Products, LLC, and must include the connection components. The SRT-350 Slotted Rail Terminal (8-post system) can be obtained from the manufacturer:

Address	Telephone no.
TRINITY HIGHWAY PRODUCTS LLC PO BOX 99 CENTERVILLE UT 84012	(800) 772-7976

3. Type X-Tension or X-Lite terminal system. Type X-Tension or X-Lite terminal system must be manufactured by Lindsay Transportation Solutions, Inc. (subsidiary is Barrier Systems, Inc.), and must include the connection components. The X-Tension or X-Lite can be obtained from the manufacturer:

Address	Telephone no.
LINDSAY TRANSPORTATION SOLUTIONS, INC. 180 RIVER ROAD RIO VISTA CA 94571	(888) 800-3691

83-2.04C(3) Construction

Install alternative flared terminal systems under the manufacturer's installation instructions.

Identify each terminal system by painting the type of terminal system in 2-inch-high, neat, black letters and figures on the backside of the rail element between system posts number 4 and 5.

For Type SRT terminal systems, drive the steel foundation tubes with soil plates attached with or without pilot holes, or place them in drilled holes. Backfill the space around the foundation tubes with selected earth that is free of rock. Place the earth in 4-inch-thick layers. Moisten and thoroughly compact each layer. Coat the inside surfaces of the foundation tubes to receive wood terminal posts with grease. Insert the posts into the tubes by hand. Do not drive the posts. You may slightly round the post edges to facilitate insertion.

For Type FLEAT terminal systems, drive the steel foundation tubes with or without pilot holes, or place them in drilled holes. Backfill the space around the foundation tubes with selected earth that is free of rock. Place the earth in 4-inch-thick layers. Moisten and thoroughly compact each layer. Coat the inside surfaces of the foundation tubes to receive wood terminal posts with grease. Insert the posts into the tubes by hand. Do not drive the posts. You may slightly round the post edges to facilitate insertion.

83-2.04C(4) Payment

Not Used

Replace the 12th paragraph of section 83-2.06B with:

Chain link fabric must be 9 gauge and must comply with AASHTO M 181, Type IV, Class B. The color of the vinyl coating must be medium green.

Replace "Reserved" in section 83-2.10 with:

83-2.10 METAL RAILING

83-2.10A General

Section 83-2.10 includes specifications for fabricating and installing metal railing at West Mission Bay Drive Bridge (Bridge Number 57-C0856L and 57-C0856R).

83-2.10B Materials

Metal railing must be aluminum alloy conforming to ASTM Designation: 6063-T6.

The prefabricated bar gratings must be aluminum alloy conforming to ASTM Designation: 6063-T6 for bearing bars and banding and ASTM Designation 6063-T52 for cross bars. The grating must also conform to ASTM B221 Aluminum Extruded Bars and Shapes and ANSI/NAAMM-MBG 531-09 Metal Bar Grating Manual.

All exposed surfaces of the finished railing and grating must be powder coated with a two coat system meeting all requirements of AAMA 2605 "Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels". The color must match color no. 17178, aluminum/silver of FED-STD-595C. The finished surface must have a glossy, smooth flow texture.

The metal railing must be manufactured based on the geometry shown on the pedestrian railing drawings. The metal grating must consist of rectangular bearing bars slotted to receive slotted rectangular cross bars assembled in egg-crate fashion and hydraulically pressed to permanently lock the bars in place. The grating geometry must be as follows:

1. Bearing Bar Spacing: 1-7/8" on center
2. Bearing Bar Depth: 1" based on loading requirements and clear span
3. Bearing Bar Thickness: 1/8" to provide 1-3/4" space between bars
4. Top Surface of Bearing Bars: Plain
5. Cross Bar Spacing: 4" on center
6. Cross Bar Depth: 3/4" or less

83-2.10C Submittals

Submit complete shop drawings for each railing and grating assembly to the Engineer. The working drawings must show complete details of the metal railing, prefabricated grating, and installation hardware and anchorage components. The drawings must also include details on the fabrication and erection of the gratings and must show type and location of all fasteners. The drawings shall consist of plans, elevations, sections, details of the railing assemblies and all components.

The working drawings must be supplemented with structural calculations for the metal railing. Calculations must be signed by a person who is registered as a Civil Engineer in the State of California. Calculations must be based on elastic method and must include stress analysis for all members and connections.

Loading for the metal railing must include a uniform load of 50 pounds per linear foot transversely and vertically, acting simultaneously on each main horizontal member. In addition, each longitudinal element and anchorage components must be designed for a concentrated load of 200 pounds, which must act simultaneously with the above loads at any point and in any direction at the top of the longitudinal element. Loading on posts must be concentrated load equal to the sum of 200 pounds and 50 pounds per linear foot times the post spacing, acting transversely at the center of gravity of the top horizontal member, but at a height not greater than 54 inches.

Intermediate members and pickets must be designed to withstand a horizontally applied normal load of 50 pounds on an area not to exceed 12 inches by 12 inches including openings and space between rails and located so as to produce the maximum load effects. Reactions due to this loading are not required to be superimposed with the loads specified in either preceding paragraph. For aluminum railings, allowable stresses must be as given in the "Specifications for Aluminum Structures" Fifth Edition, December 1986.

The Grating Products must be designed and manufactured to meet the live load conditions of 100 lbs/ Sq Ft with maximum deflection of 1/4" for the clear spans shown on the drawings. Bearing bar depth must be

as shown on the contract drawings or as recommended by the manufacturer to meet the loading requirements, clear span conditions and maximum deflections specified.

Galvanic action and other forms of corrosion shall be mitigated by insulating metals and other materials from direct contact with incompatible materials. A suitable noncorrosive galvanic inhibiting compound must be applied to threads and fittings of the anchorages in direct contact with a dissimilar metal.

For initial review, submit 5 sets of drawings and one set of calculations. After review, between 6 and 12 sets of drawings, as requested by the Engineer, must be submitted for final approval and use during construction. Each drawing and calculation sheet must include the State assigned designations for the contract number, bridge number, full name of the structure as shown on the contract plans, and District-County-Route-Post mile. The design firm's name, address, and phone number must be shown on the working drawings.

Submit catalogs of the proposed powder coating along with the methods to be used for preparing, pretreating and applying the powder coating to the railing. . Submit drawings of the integrated light fixture.

Submit the following painted samples for verification:

1. Sections of handrails, including a slip joint
2. Grating panels
3. Fittings and brackets
4. Welded connections
5. Assembled Samples of railing systems, made from full-size components, including post, handrail, and grating panel. Show method of finishing members at intersections. Samples need not be full height

Procure sample fixtures with proposed design, finish and light output.

Allow 30 days for the review.

Prior to fabrication of the production railing, fabricate a mock-up of at least two rail and grating assemblies and three rail posts with powder coating. Deliver to the site to evaluate the quality, fit, finish and color of the finished railing. Each rail and grating assembly mock-up must be at least 6 feet and 5 1/2 inches long consisting of two adjacent panels, and must be fabricated and finished using the same materials and methods to be used for the production railing. The mockup shall include a typical rail post to grating panel condition, a rail post to grating panel condition at the expansion joint, and a rail post rotated 7° (to mimic the post at the center of the belvedere). The mockup shall include the integrated light fixture and all enclosure panels in all the rail posts.

If ordered, additional railing mock-ups must be furnished until the specified quality, fit, finish and color are obtained.

Once approved by the Engineer and contracting authorities, the rail mock-up authorized must be used as the standard of comparison in determining acceptability of the production railing.

Document, protect and maintain the approved mockup throughout the work to serve as criteria for acceptance of this work.

All materials used in the rail mock-ups must become the property of the Contractor and must be removed and disposed of by the contractor.

Once the mock-up is approved, the components of the railing can only be sourced from the same suppliers as used in the mock-up. Alternative suppliers shall be submitted for review and approval of the Engineer.

83-2.10D Construction

Fabrication must be performed in conformance with standard shop practices. The completed sections must be assembled in the shop and must be checked for straightness, alignment and dimensions. Take field measurements prior to preparation of final shop drawings and fabrication where required to ensure proper fitting of the work.

Metal railing and grating must conform closely to the horizontal and vertical lines shown on the plans or ordered by the Engineer. Metal railing must conform to the curvature by means of a series of short

chords, from center to center of rail posts, or must be extruded to match the curvature, at the option of the Contractor. Joints must be matchmarked. The railing must present a smooth, uniform appearance in its final position.

The cutouts in grating sections must be fabricated for the penetrations indicated. Arrange cutouts to permit grating removal without disturbing items penetrating gratings. Band ends and cuts in grating with bars of same size and material as bearing bars. Use approved attachment system and fasteners to secure grating to metal railing as shown on plans.

The railings and grating must be carefully erected true to line and grade. Posts and pickets must be vertical within a tolerance not to exceed 0.02-foot in 10 feet. Adjacent rail sections must align with each other within 1/16 inch. Prior to grating installation, contractor must inspect supports for correct alignment and conditions for proper attachment and support of the gratings. Any inconsistencies between contract drawings and supporting structure deemed detrimental to grating placement must be reported in writing to the architect or owner's agent prior to placement. The fabrication tolerances of the grating must be in accordance with applicable provisions and revisions of ANSI/NAAMM 531-09 Metal Bar Grating Manual.

The finished railing and grating assembly must be fabricated to prevent manual disassembly.

Alternate methods of fastening railing elements may be employed subject to approval by the Engineer. Connections must be made in a manner that will present a smooth exterior surface free of projecting bolts, rivets, fasteners or other protuberances. Connections made by welding must conform to the requirements of Section 10 of the AWS D1.2-03 and the following:

1. The welding processes and operators involved in fabrication of the aluminum railing must meet the qualifications test using 6063-T5 test plates following the method described in ASME Boiler and Pressure Vessel Code, Section IX, "Welding Qualification", Part B
2. The welding process must be the tungsten inert gas arc welding method or the consumable electrode inert gas method, at the option of the Contractor. Preheating, when required, must be performed with temperatures not to exceed 400 degrees Fahrenheit for more than 30 minutes prior to welding. The oxide coating on the aluminum must be removed immediately before welding by etching or by scratch brushing with a stainless steel wire brush
3. Portions of welded joints that have been rejected because of defects must be repaired only by welding. The defect area must be removed by chipping, grinding, or machining. Flame cutting defects will not be permitted. Before welding, the joint will be inspected to insure that all defective weld material has been removed and that the joint is sufficiently accessible to obtain full penetration weld through the joint
4. Dirt, grease and lubricants or other deleterious material must be removed from areas to be welded, by cleaning with a suitable solvent or by vapor degreasing
5. All welds must be ground smooth or filled as required to present a uniform surface without irregularities

Prepare, pretreat and apply powder coat finish following coating manufacturer's written instructions for cleaning, surface preparation, pretreatment and application. Adequate precautionary measures must be taken by the Contractor to protect the finish from damage through all operations to final acceptance of the work. Fabricated elements damaged from any cause, prior to final acceptance of the work, must be replaced by the Contractor at his/her expense.

Each shipment of railing and grating materials must be accompanied by a Certificate of Compliance.

83-2.10E Payment

Metal railing must be measured by the linear foot. Limits of payment must be as shown on the plans.

The contract price paid per linear foot for metal railing must include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing metal railing, complete in place, including coating surfaces and rail mock-ups, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Replace the 2nd paragraph of section 83-3.02B(1) with:

In non-freeze-thaw areas, concrete for concrete barriers other than Type 60 series must contain at least 630 pounds of cementitious material per cubic yard and must be air entrained. The air content during mixing and before placing must be 3.0 ± 1.0 percent unless a higher air content is specified.

Add to section 83-3.02C:

Bar reinforcing steel for concrete barriers must be epoxy coated under section 52-2.03.

^^

84 MARKINGS

Replace the 2nd paragraph in section 84-2.03C(2)(b) with:

Apply thermoplastic for traffic stripes by the ribbon extrusion method in a single pass at a rate of at least 0..34 lb/ft of 4-inch-wide solid stripe. The applied thermoplastic must be at least 0.10 inch thick.

Replace *Reserved* in section 84-9.03C with:

Residue from the removal of painted or thermoplastic traffic stripes and pavement markings contains lead from the paint or thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations exceeding the thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Management of this material exposes workers to health hazards that must be addressed in your lead compliance plan.

^^

DIVISION X ELECTRICAL WORK

86–88 RESERVED

Replace "Reserved" in section 86 with:

86-1 ALUMINUM LIGHTING AND SIGN STANDARDS

86-1.01 GENERAL

86-1.01A General

Lighting standards and sign posts fabricated from aluminum must be used for the West Mission Bay Drive Bridge electroliers and signs.

Aluminum lighting standards must consist of a round, hollow shaft with tapered and nontapered sections, and aluminum mast arms. Aluminum sign posts must consist of a round, hollow shaft with nontapered section.

86-1.01B Fabrication

Aluminum lighting standards and sign posts must comply with the requirements in the AASHTO Manual titled "Standard Specifications for Structural Supports for Signs, Luminaires and Traffic Signals," except as follows:

1. Design wind velocity (v) must be 80 mph.
2. Design luminaire size for lighting standards must be 1.6 square foot effective projected area, design weight must be 62 lb.
3. Maximum stress produced in the shaft and the mast arm by the dead load (DL) must be limited to 50 percent of the allowable stress for the material used.
4. The deflection of the pole shaft top as caused by the dead load (DL) must be limited to a slope deviation of 0.244 inch in 12 inches, or an angular rotation of 1°10' (1.165°).
5. The light fixture for lighting standards must illuminate the road surface with at least 0.9 Fc.

All fabricated metal parts must be powder coated with a two coat system meeting all requirements of AAMA 2605 "Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels". The color must match color no. 17178, aluminum/silver of FED-STD-595C. The finished surface must have a glossy, smooth flow texture.

Prior to fabrication of the lighting standards and sign posts, fabricate a mock-up of at least two 10 feet sections of the lighting standard with powder coating. Deliver to the site to evaluate the quality, finish and color of the finished railing. The lighting standards and sign posts must be powder coated with the same paint as approved for use for the railings.

86-1.01C Quality Control

The manufacturer must have a testing and quality control program approved by the City and must submit samples of the base plate and mast arm to the City prior to fabricating the lighting standards for use on this project. Documentation regarding the testing and quality control program and base plate and mast arm samples must be submitted to: the City. Material, shipping containers, and paperwork must be clearly identified by the County, route, post mile and the Contract number of the project.

Submit a certificate of compliance for the lighting standards and sign posts. The certificate must also include a copy of applicable test reports on the lighting standards and sign posts. The test reports must be signed by the manufacturer's management person responsible for the tests.

86-1.01D Welding

Welding must be performed in a shop, using the Gas Metal Arc Welding (GMAW) method with consumable electrode. Filler metal must comply with the requirements in AWS Specification: A5.10. Electrodes must be Alloy 4043.

Welding design and fabrication must comply with the requirements in AWS Specification: D1.2, "Structural Welding Code-Aluminum," with workmanship requirements for Class I Structures.

86-1.01E Mast Arms

Mast arms for the lighting standards must be fabricated from a 1-piece seamless round tube of Alloy 6063-T4, complying with the requirements in ASTM B 221. Mast arms must be full-length heat-treated after tapering and welding on the mounting plate and 2 NPS slipfitter tenon, to produce a T6 temper. The mast arm slipfitter tenon must project 6 inches to 8 inches for supporting the luminaire.

In addition to the requirements stated above, aluminum mast arms must comply with the requirements in the Aluminum Association's Publication 30, "Specifications for Aluminum Structures." The aluminum mast arm (connected to the pole and with a State-authorized HPS-310 luminaire attached) must withstand 2 million cycles of vertical cyclic loading (3-"G" level, peak-to-peak) with the ballast removed, and 1 million cycles of horizontal cyclic loading (1.5-"G" level, peak-to-peak) with the ballast installed, without any sign of distress.

The mast arms must be bolted to the poles with stainless steel hardware complying with the requirements in ASTM A 193/A 193M, Grade B8, Class 1 (bolts); ASTM A 194/A 194M, Grade 8 (nuts); and ASTM A 240/A 240M and AISI Grade 304 (washers).

The mast arms must have a satin finish accomplished by mechanical rotary grinding. No surface preparation or painting of any type must be required at the time of installation.

86-1.01F Poles

The pole shaft for the lighting standards and sign posts must be made from a 1-piece, seamless, round tube of Alloy 6063-T4, complying with the requirements in ASTM B 221, and must be full-length heat-treated after tapering and welding on the base and handhole reinforcing, of the type specified to produce a T6 temper. After heat treating, each shaft must meet the geometry of the poles specified in the Drawings, with a permissive variation not to exceed 1 inch measured at the midpoint and endpoints of the pole shaft.

Anchor bolt covers must be provided with each standard and must be attached with tamper resistant AISI Grade 304 or 316 stainless steel screws. The screws must fit a threaded hole and must not be self-tapping.

Each standard must have a noncorroding metal identification plate complying with section 86-2.04. The identification plate must show the Department's standard type, manufacturer's name, manufacturer's part number and the year of fabrication. If the lighting standard is a breakaway type, the identification plate must include the word "BREAKAWAY." The plate must be located just above the handhole.

Each pole must have a 4" x 6" (nominal) reinforced handhole with cover. The handhole cover must be securely attached to the pole with tamper-resistant AISI Grade 304 or 316 stainless steel hardware.

The handhole must be located on the same side as the mast arm.

The conductor/cable opening from the pole to the mast arm must be 1 1/2 inches and must have a metal or rubber grommet, or must be chased, to protect the conductors to be pulled through.

Each pole must have a removable, cast aluminum pole top cap, which is held in place with a minimum of 3 AISI Grade 304 or 316 stainless steel set screws.

86-1.01G Grounding

Each standard must be grounded under section 86-2.10. Each shaft must contain an internal lug with a 3/8-inch-diameter hole, drilled and tapped for a AISI Grade 304 or 316 stainless steel screw, for the purpose of attaching a grounding connector.

86-1.01H Dissimilar Metal Connections

A suitable noncorrosive galvanic inhibiting compound must be applied to threads and fittings of the ground connection before connections are made.

86-1.01I PAYMENT

Payment is included in "BRIDGE LIGHTING."

86-2 SOFFIT LUMINAIRE

86-2.01 GENERAL

86-2.01A General

Soffit luminaires for the West Mission Bay Drive Bridge over the San Diego River Bike Path must comply with the plans and this special provision. The luminaire schedule must satisfy the models listed below or approved equal:

DESIGN MAKE/MODEL	TYPE	DRIVER	LAMPS/WATT	VOLT
COVELINE XL WET 4-3K	LED	ELECTRONIC	11W/FT	120V
ACCLAIM LIGHTING DYNACOVE EXTERIOR DCB.DAB	LED	ELECTRONIC	20W/FT	120V
ECOSENSE TROVE L50-E-48-12-30-MULT-80	LED	ELECTRONIC	11W/FT	120V

If a luminaire other than those listed is used, it must be similar in terms of the following criteria:

1. Weatherproof and corrosion resistance
2. Lighting performance
3. Fixture dimensions and mounting
4. Durability
5. Cost

86-2.01B Submittal

Before starting luminaire installation, submit luminaire details for authorization by the Engineer. If requested, submit 1 complete prototype luminaire for authorization at least 30 days before installing the luminaire . The prototype luminaire will be returned to you, and if allowed, the luminaire may be installed in the work.

86-2.01C MATERIALS

Not used

86-2.01D CONSTRUCTION

Not used

86-2.01E PAYMENT

Payment is included in "BRIDGE LIGHTING."

^^

DIVISION XI MATERIALS

90 CONCRETE

Add to section 90-1.01C:

90-1.01C(11) Polymer Fibers

Submit fiber manufacturer's product data and instructions for use.

Submit a certificate of compliance for each shipment and type of fibers.

Replace the row for bridge deck concrete in the table in the 1st paragraph of section 90-1.02A with:

Bridge deck concrete	0.032

Add to section 90-1.02H:

The pier and pile concrete for West Mission Bay Drive Bridge is in a corrosive environment.

The cementitious material must be composed of one of the following, by weight:

1. 20 percent natural pozzolan or fly ash with a CaO content of up to 10 percent, 5 percent silica fume, and 75 percent portland cement
2. 12 percent silica fume, metakaolin, or UFFA, and 88 percent portland cement
3. 50 percent GGBFS and 50 percent portland cement

Use Type V cement for concrete in direct contact with soil or seawater.
The ratio of the quantity of free water to the quantity of cementitious material must not exceed 0.40.

Add to section 90-1.02:

90-1.02K Polymer Fibers

Fibers must comply with ASTM D 7508. Microfibers must be from 1/2 to 2 inches long. Macrofibers must be from 1 to 2-1/2 inches long.

ATTACHMENT E

SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

The following Supplementary Special Provisions (SSP) modifies the following documents:

1. The **2015 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").
2. The **2015 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:
   a) General Provisions (A) for all Contracts.

SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 **TERMS AND DEFINITIONS.** To the "WHITEBOOK", item 54, "Normal Working Hours", ADD the following:

The **Normal Working Hours** are 8:30 AM to 3:30 PM.

Construction is subject to night work and hours outside of normal work hours as indicated in the Traffic Control Plans.

SECTION 2 - SCOPE AND CONTROL OF WORK

2-3.2 **Self Performance.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall perform, with your own organization, Contract Work amounting to at least 30% of the Base Bid AND 30% of any alternates.

2-5.3.4 **Supporting Information.** To the "WHITEBOOK", ADD the following:

3. For landscaping and irrigation materials, submit samples and test results to the Engineer within 15 Days of the NTP.

2-14.3 **Coordination.** To the "WHITEBOOK", ADD the following:

2. Other adjacent City projects are scheduled for construction for the same time period in the vicinity of **West Mission Bay Drive Bridge.** See **Appendix F** for the approximate locations. Coordinate the Work with the adjacent projects as listed below:
   a) Pacific Beach Pipeline South and West, Project Manager: Roberto Vejar-Parra (619-533-5402)
   b) Alvarado 2nd Extension, Project Manager: Jericho Gallardo (619-533-7523)
   c) TL611 Direct Buried Cable Replacement, Keenon Holmes (858-654-8602)

2-15 TECHNICAL STUDIES AND DATA. To the "WHITEBOOK", ADD the following:

3. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:

   a) Biological Assessment dated June, 2012 by AECOM.

   b) Jurisdictional Delineation Report dated October, 2011 by AECOM.

   c) Natural Environment Study dated October, 2011 by AECOM.

   d) Air Quality Impact Analysis dated January, 2012 by AECOM.

   e) Noise Study Report dated October, 2011 by AECOM.

   f) Community Impact Assessment dated April, 2012 by AECOM.

   g) Relocation Impact Memorandum dated November 15, 2011 by AECOM.

   h) Historic Property Survey Report dated August, 2010 by AECOM.

   i) Historic Resources Board Evaluation dated February 10, 2011 by AECOM.

   j) Initial Site Assessment dated August 31, 2011 by Winzler and Kelly.

   k) Visual Impact Assessment dated January, 2012 by Estrada Land Planning.

   l) Geotechnical Design Report dated July 12, 2016 by Group Delta.

   m) Pavement Design Report dated July 22, 2016 by Group Delta.

   n) Geotechnical Levee Evaluation Report dated June 5, 2015 by Group Delta.

   o) Bridge Foundation Report dated July 12, 2016 by Group Delta.

   p) Retaining Wall Foundation Report dated July 7, 2016 by Group Delta.

   q) Final Hydraulic Report dated July 22, 2016 by Rick Engineering Company

   r) Water Quality Technical Report/Storm Water Data Report dated July 22, 2016 by Rick Engineering Company.

4. The reports listed above are available for review by contacting the Contract Specialist or visiting:

https://filecloud.sandiego.gov/url/wtvamujfdulr

2-16 CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM. To the "WHITEBOOK", item 1, DELETE in its entirety.

SECTION 3 – CHANGES IN WORK

3-5.1 **Claims.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

ADD:

3-5.1 Claims.

1. A Claim is a written demand by you that seeks an adjustment in the Contract Price, Contract Time, or other relief associated with a dispute arising under or relating to the Contract, including a breach of any provision thereof. A voucher, invoice, or other routine request for payment is not a Claim.

2. A Claim shall conform to these specifications and may be considered after the City has previously denied a request by you for a Change Order seeking the demanded relief.

3. You shall submit a Claim to the Engineer if a dispute occurs that arises from or relates to the Contract. The Claim shall seek all relief to which you assert you are entitled as a result of the event(s) giving rise to the dispute. Your failure to process a Claim in accordance with these specifications shall constitute a waiver of all relief associated with the dispute. Claims are subject to 6-11, "Right to Audit".

4. You shall continue to perform the Services and Work and shall maintain the Schedule during any dispute proceedings. The Engineer will continue to make payments for undisputed Services and Work.

5. The City's Claims process specified herein shall not relieve you of your statutory obligations to present claims prior to any action under the California Government Code.

3-5.1.1 Initiation of Claim.

1. You shall promptly, but no later than 30 Days after the event(s) giving rise to the Claim, deliver the Claim to the Engineer.

2. You shall not process a Claim unless the Engineer has previously denied a request by you for a Change Order that sought the relief to be pursued in the claim.

3-5.1.1.1 Claim Certification Submittal.

1. If your Claim seeks an increase in the Contract Price, the Contract Time, or both, submit with the Claim an affidavit certifying the following:

   a) The Claim is made in good faith and covers all costs and delays to which you are entitled as a result of the event(s) giving rise to the Claim.

b) The amount claimed accurately reflects the adjustments in the Contract Price, the Contract Time, or both to which you believe you are entitled.

c) All supporting costs and pricing data are current, accurate, and complete to the best of your knowledge. The cost breakdown per item of Work shall be supplied.

d) You shall ensure that the affidavit is executed by an official who has the authority to legally bind you.

3-5.1.2 Initial Determination.

1. The Engineer will respond in writing to your Claim within 30 Days of receipt of the Claim.

3-5.1.3 Settlement Meeting.

1. If you disagree with the Initial Determination, you shall request a Settlement Meeting within 30 Days. Upon receipt of this request, the Engineer will schedule the Settlement Meeting within 15 Working Days.

3-5.1.7 City's Final Determination.

1. If a settle agreement is not reached, the City shall make a written Final Determination within 10 Working Days after the Settlement Meeting.
2. If you disagree with the City's Final Determination, notify the Engineer in writing of your objection within 15 Working Days after receipt of the written determination and file a "Request for Mediation" in accordance with 3-5.2, "Dispute Resolution Process".
3. Failure to give notice of objection within the 15 Working Days period shall waive your right to pursue the Claim.

3-5.1.8 Mandatory Assistance.

1. If a third party dispute, litigation, or both arises out of or relates in any way to the Services provided under the Contract, upon the City's request, you shall agree to assist in resolving the dispute or litigation. Your assistance includes, but is not limited to the following:

   a) Providing professional consultations.

   b) Attending mediations, arbitrations, depositions, trials, or any event related to the dispute resolution and litigation.

3-5.1.8.1 Compensation for Mandatory Assistance.

1. The City will reimburse you for reasonable fees and expenses incurred by you for any required assistance rendered in accordance with 3-5.1.8, "Mandatory Assistance" as Extra Work.

2. The Engineer will determine whether these fees and expenses were necessary due to your conduct or failure to act.

3. If the Engineer determines that the basis of the dispute or litigation in which these fees and expenses were incurred were the result of your conduct or your failure to act in part or in whole, you shall reimburse the City for any payments made for these fees and expenses.

4. Reimbursement may be through any legal means necessary, including the City's withholding of your payment.

3-5.2.3 Selection of Mediator. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. A single mediator, knowledgeable in construction aspects and acceptable to both parties, shall be used to mediate the dispute.

2. To initiate mediation, the initiating party shall serve a Request for Mediation at the American Arbitration Association (AAA) on the opposing party.

3. If AAA is used, the initiating party shall concurrently file with AAA a "Request for Mediation" along with the appropriate fees, a copy of requested mediators marked in preference order, and a preference for available dates.

4. If AAA is selected to coordinate the mediation (Administrator), within 10 Working Days from the receipt of the initiating party's Request for Mediation, the opposing party shall file the following:

   a) A copy of the list of the preferred mediators listed in preference order after striking any mediators to which they have any objection.

   b) A preference for available dates.

   c) Appropriate fees.

5. If the parties cannot agree on a mediator, then each party shall select a mediator and those mediators shall select the neutral third party to mediate the matter.

ADD:

3-5.2.5 Dispute Resolution Board.

1. If mediation is unsuccessful in settling the dispute and if both parties agree, a no mandatory dispute resolution board process may be used.

2. The parties may impanel a Dispute Resolution Board (DRB) and the DRB process shall be conducted in accordance with the City's alternative dispute resolution process, utilizing board members who are individuals who have expertise in construction. The selection process shall be administered by the American Arbitration Association or any other such neutral organization selected by the City hereinafter called the "Administrator". Claims made for $60,000 or less shall be heard by 1 DRB member and claims for more than $60,000 shall be heard by 3 DRB members.

3. To initiate the DRB procedures, the parties shall jointly execute and file a "Submission to Dispute Resolution Board Procedures" request with the Administrator. Upon receipt by the Administrator of the submission form, the Administrator will furnish to the parties a list of individuals skilled in dispute resolution and that have expertise in construction from which to select for the Dispute Resolution Board.

4. Within 10 Working Days from the date the list is sent to the parties, the parties shall return the list to the Administrator and shall strike out any individuals to which the parties have any factual objections to and shall number the remaining individuals in preference order. The Administrator will appoint the highest mutually preferred individuals to the DRB that are available to serve in the time frame designated above.

3-5.3 **Forum of Litigation.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. It is the express intention that all legal actions and proceedings related to the Contract or Agreement with the City or to any rights or any relationship between the parties arising therefrom shall be solely and exclusively initiated and maintained in courts of the State of California for the County of San Diego.

SECTION 4 - CONTROL OF MATERIALS

ADD:

4-1.1.1 **Buy America Requirements.** All iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the requirements stipulated in Section 6-1.04 in Division I of the Caltrans Standard Specifications in Attachment D of this contract.

4-1.3.1 **General.** To the "WHITEBOOK", ADD the following:

1. Steel pipe in sizes larger than 18 inches shall require inspection at the source of production.

2. City lab staff or a qualified inspection agency approved by the Engineer shall witness all welding, lining, coating, and testing. You shall incur additional inspection costs outlined in 4-1.3.3, "Inspection of Items Not Locally Produced".

3. All parts of production (including but not limited to product fabrication, welding, testing, lining, and coating of straight pieces and specials) shall be performed or produced in the United States.

4. Welding and all testing shall be performed by certified welders and testing staff with credentials traceable in the United States.

4-1.3.2 **Inspection by the Agency.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The City will provide inspection and testing laboratory services within the continental United States within a 200-mile radius of the geographical limits of the City.

4-1.3.3 **Inspection of Items Not Locally Produced.** To the "WHITEBOOK", DELETE in its entirety.

ADD:

4-1.3.3 **Inspection of Items Not Locally Produced.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. When you intend to purchase materials, fabricated products, or equipment from sources located more than 200 miles (321.9 km) outside the geographical limits of the City, City Lab staff or a qualified inspection agency approved by the Engineer, shall be engaged at your expense to inspect the materials, equipment, or process.

2. This approval shall be obtained before producing any material or equipment. City Lab staff or inspector shall evaluate the materials for conformance with the requirements of the Plans and Specifications. You shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by City Lab staff or the approved agent. Approval by said agent shall not relieve you of responsibility for complying with the requirements of the Contract Documents.

3. The Engineer may elect City Lab staff to perform inspection of an out-of-town manufacturer. You shall incur additional inspection costs of the Engineer including lodging, meals, and incidental expenses based on Federal Per Diem Rates, along with travel and car rental expenses. If the manufacturing plant operates a double shift, a double shift shall be figured in the inspection costs.

    a) At the option of the Engineer, full time inspection shall continue for the length of the manufacturing period. If the manufacturing period will exceed 3 consecutive weeks, you shall incur additional inspection expenses of the Engineer's supervisor for a trip of 2 Days to the site per month.

    b) When the Engineer elects City Lab staff to perform out-of-town inspections, the wages of staff employed by the City shall not be part of the additional inspection expenses paid by you.

    c) Federal Per Diem Rates can be determined at the location below:

    https://www.gsa.gov/portal/content/104877

4-1.3.5 **Special Inspection**. To the "WHITEBOOK", ADD the following:

5. The payment for special inspection Work specified under this section shall be paid in accordance with 4-1.3.4.1, "Payment".

4-1.3.6 **Preapproved Materials.** To the "WHITEBOOK", ADD the following:

3. You shall submit in writing a list of all products to be incorporated in the Work that are on the AML.

4-1.6 **Trade Names or Equals.** To the "WHITEBOOK", ADD the following:

11. You shall submit your list of proposed substitutions (**three (3) minimum per item**) for an "equal" item **no later than 5 Working Days after the determination of the Apparent Low Bidder** and on the City's Product Submittal Form available at:

http://www.sandiego.gov/publicworks/edocref/index.shtml

SECTION 5 – UTILITIES

5-2 **PROTECTION.** To the "WHITEBOOK", item 2, ADD the following:

g) Refer to **Appendix O** for more information on the protection of AMI devices.

5-6 **COOPERATION.** To the "GREENBOOK", ADD the following:

1. Notify SDG&E at least 10 Working Days prior to excavating within 10 feet of SDG&E Underground High Voltage Transmission Power Lines (69 KV and higher).

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-1.1 **Construction Schedule.** To the "WHITEBOOK", item 20, ADD the following:

Plant Establishment Periods are included in the stipulated Contract Time.

a. Ninety (90) calendar days of the One (1) Calendar Year PEP for plantings designated on Drawings numbered **39475-83-D** through **39475-101-D**.

b. 120 days PEP for Wetland Mitigation plantings on Drawings numbered **39475-275-D** through **39475-283-D**.

To the "WHITEBOOK", item 22, subsection b, DELETE in its entirety and SUBSTITUTE with the following:

b) A curve value percentage comparison between the Contract Price and the updated cash flow forecast for each Project ID included in the Contract Documents. Curve values shall be set on a scale from 0% to 100% in intervals of 5% of the Contract Time. Refer to the Sample City

Invoice materials in the Contract Documents and use the format shown. Your invoice amounts shall be supported by this curve value percentage. For previous periods, use the actual values and percentages and update the curve value percentages accordingly.

6-2.1 Moratoriums. To the "WHITEBOOK", ADD the following:

3. Do not Work in the areas where there is currently a moratorium issued by the City unless given approval. The areas subject to moratorium are listed here:

   a) See Section 6-7.1 of these Special provisions for the shutdown of water mains 16-inch and larger from May to October.

ADD:

6-3.2.1.1 Environmental Document.

1. The City of San Diego Development Services Department has prepared a **Final Mitigated Negative Declaration (FMND) SCH No. 2012021017**, and **Final Environmental Assessment (FEA)** and **Environmental Determination (ED**) for the **West Mission Bay Drive Bridge** as referenced in the Contract **Appendices A** and **B**. You shall comply with all requirements of the **FMND SCH No. 2012021017** and **FEA** and **ED** as set forth in **Appendices A and B.**

2. Compliance with all environmental documents is included in the various Bid items, unless a bid item has been provided.

6-3.2.1.2 Environmental Mitigation Requirements.

1. You shall comply with all the requirements of the West Mission Bay Drive Bridge's **Wetland Mitigation and Monitoring Plan**, See Plans and **(WMMP) Appendix C.**

6-7.1 General. To the "WHITEBOOK", item 3, ADD the following:

d) 30 Days for full depth asphalt final mill and resurfacing work required per SDG-107.

e) Where shutdowns of 16 inch and larger pipes are required, there is a shutdown moratorium from May until October. Plan and schedule Work accordingly. No additional payment or Working Days will be granted for delays due to the moratorium.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3 INSURANCE. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

7-3 INSURANCE.

1. The insurance provisions herein shall not be construed to limit your indemnity obligations contained in the Contract.

7-3.1 Policies and Procedures.

1. You shall procure the insurance described below, at its sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.

2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.

3. You shall maintain this insurance for the duration of this Contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this Contract. Your liabilities under the Contract, e.g., your indemnity obligations, is not deemed limited to the insurance coverage required by this Contract.

4. The payment for insurance shall be included in the Contract Price as bid by you. Except as specifically agreed to by the City in writing, you are not entitled to any additional payment. Do not begin any Work under this Contract until you have provided and the City has approved all required insurance.

5. Policies of insurance shall provide that the City is entitled to 30 Days (10 Days for cancellation due to non-payment of premium) prior written notice of cancellation or non-renewal of the policy. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage or to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

7-3.2 Types of Insurance.

7-3.2.1 Commercial General Liability Insurance.

1. Commercial General Liability Insurance shall be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.

2. The policy shall cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).

3. There shall be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You shall maintain the same or equivalent insurance for at least 10 years following completion of the Work.

4. All costs of defense shall be outside the policy limits. Policy coverage shall be in liability limits of not less than the following:

General Annual Aggregate Limit	Limits of Liability
Other than Products/Completed Operations	$2,000,000
Products/Completed Operations Aggregate Limit	$2,000,000
Personal Injury Limit	$1,000,000
Each Occurrence	$1,000,000

7-3.2.2 Commercial Automobile Liability Insurance.

1. You shall provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of $1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles ("Any Auto").
2. All costs of defense shall be outside the limits of the policy.

7-3.2.3 Contractors Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain the Contractors Pollution Liability Insurance including contractual liability coverage to cover liability arising out of cleanup, removal, storage, or handling of hazardous or toxic chemicals, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than $2,000,000 limit for bodily injury and property damage.
2. All costs of defense shall be outside the limits of the policy. Any such insurance provided by your Subcontractor instead of you shall be approved separately in writing by the City.
3. For approval of a substitution of your Subcontractor's insurance, you shall certify that all activities for which the Contractors Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed $25,000 per claim.
4. Contractual liability shall include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There shall be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability.
5. Occurrence based policies shall be procured before the Work commences and shall be maintained for the Contract Time. Claims Made policies shall be procured before the Work commences, shall be maintained for the Contract Time, and shall include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.

6. Except as provided for under California law, the policy or policies shall provide that the City is entitled to 30 Days prior written notice (10 Days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

7-3.2.4 Contractors Hazardous Transporters Pollution Liability Insurance.

1. You shall provide at your expense or require your Subcontractor to provide, as described below, Contractors Hazardous Transporters Pollution Liability Insurance including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than $2,000,000 limit per occurrence/aggregate for bodily injury and property damage.

2. All costs of defense shall be outside the limits of the policy. The deductible shall not exceed $25,000 per claim. Any such insurance provided by a subcontractor instead of you shall be approved separately in writing by the City.

3. For approval of the substitution of Subcontractor's insurance the Contractor shall certify that all activities for which Contractors Hazardous Transporters Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance.

4. Contractual liability shall include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There shall be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. Occurrence based policies shall be procured before the Work commences and shall be maintained for the duration of this Contract. Claims Made policies shall be procured before the Work commences, shall be maintained for the duration of this contract, and shall include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work under this Contract without advancing the retroactive date.

5. Except as provided for under California law, the policy or policies shall provide that the City is entitled to 30 Days prior written notice (10 Days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

7-3.2.5 Contractors Builder's Risk Property Insurance.

1. You shall provide at your expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits shall be 100% of this Contract value of the Work plus 15% to cover administrative costs, design costs, and the costs of inspections and construction management.

2. Insured property shall include material or portions of the Work located away from the Site but intended for use at the Site and shall cover material or portions of the Work in transit. The policy or policies shall include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies shall cover the cost of removing debris, including demolition.

3. The policy or policies shall provide that all proceeds thereunder shall be payable to the City as Trustee for the insured, and shall name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. The City, as Trustee, will collect, adjust, and receive all monies which may become due and payable under the policy or policies, may compromise any and all claims thereunder, and will apply the proceeds of such insurance to the repair, reconstruction, or replacement of the Work.

4. Any deductible applicable to the insurance shall be identified in the policy or policies documents and responsibility for paying the part of any loss not covered because of the application of such deductibles shall be apportioned among the parties except for the City as follows: if there is more than one claimant for a single occurrence, then each claimant shall pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City shall be entitled to 100% of its loss. You shall pay the City any portion of that loss not covered because of a deductible at the same time the proceeds of the insurance are paid to the City as trustee.

5. Any insured, other than the City, making claim to which a deductible applies shall be responsible for 100% of the loss not insured because of the deductible. Except as provided for under California law, the policy or policies shall provide that the City is entitled to 30 Days prior written notice (10 Days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

7-3.3 **Rating Requirements.** Except for the State Compensation Insurance Fund, all insurance required by this Contract as described herein shall be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the State, and that have been approved by the City.

7-3.3.1 **Non-Admitted Carriers.** The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the State and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers shall be subject to all of the requirements for policies of insurance provided by admitted carriers described herein.

7-3.4 **Evidence of Insurance.** Furnish to the City documents e.g., certificates of insurance and endorsements evidencing the insurance required herein, and furnish renewal documentation prior to expiration of this insurance. Each

required document shall be signed by the insurer or a person authorized by the insurer to bind coverage on its behalf. We reserve the right to require complete, certified copies of all insurance policies required herein.

7-3.5 Policy Endorsements.

7-3.5.1 Commercial General Liability Insurance.

7-3.5.1.1 Additional Insured.

1. You shall provide at your expense policy endorsement written on the current version of the ISO Occurrence form CG 20 10 11 85 or an equivalent form providing coverage at least as broad.
2. To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy shall be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.
3. The additional insured coverage for projects for which the Engineer's Estimate is $1,000,000 or more shall include liability arising out of:
    a) Ongoing operations performed by you or on your behalf,
    b) your products,
    c) your Work, e.g., your completed operations performed by you or on your behalf, or
    d) premises owned, leased, controlled, or used by you.
4. The additional insured coverage for projects for which the Engineer's Estimate is less than $1,000,000 shall include liability arising out of:
    a) Ongoing operations performed by you or on your behalf,
    b) your products, or
    c) premises owned, leased, controlled, or used by you.

7-3.5.1.2 Primary and Non-Contributory Coverage. The policy shall be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

7-3.5.1.3 Project General Aggregate Limit. The policy or policies shall be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall be in addition to the aggregate limit provided for the products-completed operations hazard.

7-3.5.2 Commercial Automobile Liability Insurance.

7-3.5.2.1 Additional Insured. Unless the policy or policies of Commercial Auto Liability Insurance are written on an ISO form CA 00 01 12 90 or a later version of this form or equivalent form providing coverage at least as broad, the policy shall be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.

7-3.5.3 Contractors Pollution Liability Insurance Endorsements.

7-3.5.3.1 Additional Insured.

1. The policy or policies shall be endorsed to include as an Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:
   a) Ongoing operations performed by you or on your behalf,
   b) your products,
   c) your work, e.g., your completed operations performed by you or on your behalf, or
   d) premises owned, leased, controlled, or used by you.

   Except that in connection with, collateral to, or affecting any construction contract to which the provisions of subdivision (b) of § 2782 of the California Civil Code apply, this endorsement shall not provide any duty of indemnity coverage for the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives in any case where an agreement to indemnify the City and its respective elected officials, officers, employees, agents, and representatives would be invalid under subdivision (b) of §2782 of the California Civil Code.
2. In any case where a claim or loss encompasses the negligence of the Insured and the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives that are not covered because of California Insurance Code §11580.04, the insurer's obligation to the City and its respective elected officials, officers, employees, agents, and representatives shall be limited to obligations permitted by California Insurance Code §11580.04.

7-3.5.3.2 Primary and Non-Contributory Coverage. The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

7-3.5.3.3 Severability of Interest. For Contractors Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.

7-3.5.4 Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.

7-3.5.4.1 Additional Insured.

1. The policy or policies shall be endorsed to include as an Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

   a) Ongoing operations performed by you or on your behalf,

   b) your products,

   c) your work, e.g., your completed operations performed by you or on your behalf, or

   d) premises owned, leased, controlled, or used by you.

   Except that in connection with, collateral to, or affecting any construction contract to which the provisions of subdivision (b) of §2782 of the California Civil Code apply, this endorsement shall not provide any duty of indemnity coverage for the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives in any case where an agreement to indemnify the City and its respective elected officials, officers, employees, agents, and representatives would be invalid under subdivision (b) of §2782 of the California Civil Code.

2. In any case where a claim or loss encompasses the negligence of the Insured and the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives that are not covered because of California Insurance Code §11580.04, the insurer's obligation to the City and its respective elected officials, officers, employees, agents, and representatives shall be limited to obligations permitted by California Insurance Code §11580.04.

7-3.5.4.2 Primary and Non-Contributory Coverage. The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

7-3.5.4.3 Severability of Interest. For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.

7-3.5.5 Builder's Risk Endorsements.

7-3.5.5.1 Waiver of Subrogation. The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

7-3.5.5.2 Builder's Risk – Partial Utilization. If the City desires to occupy or use a portion or portions of the Work prior to Acceptance in accordance with this Contract, the City will notify you and you shall immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies shall not be cancelled or lapse on account of any such partial use or occupancy. You shall obtain the endorsement prior to the City's occupation and use.

7-3.6 Deductibles and Self-Insured Retentions. You shall pay for all deductibles and self-insured retentions. You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.

7-3.7 Reservation of Rights. The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this Contract.

7-3.8 Notice of Changes to Insurance. You shall notify the City 30 Days prior to any material change to the policies of insurance provided under this Contract.

7-3.9 Excess Insurance. Policies providing excess coverage shall follow the form of the primary policy or policies e.g., all endorsements.

7-3.10 Architects and Engineers Professional Insurance (Errors and Omissions Insurance).

1. For Contracts with required engineering services (e.g., Design-Build, preparation of engineered Traffic Control Plans (TCP), and etc.) by you, you shall keep or require all of your employees or Subcontractors, who provide professional engineering services under this contract, Professional Liability coverage with a limit of $**1,000,000** per claim and $**2,000,000** annual aggregate in full force and effect.
2. You shall ensure the following:
    a) The policy retroactive date is on or before the date of commencement of the Project.
    b) The policy will be maintained in force for a period of 3 years after completion of the Project or termination of this Contract, whichever occurs last. You agree that for the time period specified above, there will be no changes or endorsements to the policy that affect the specified coverage.

3. If professional engineering services are to be provided solely by the Subcontractor, you shall:

   a) Certify this to the City in writing and

   b) Agree in writing to require the Subcontractor to procure Professional Liability coverage in accordance with the requirements set forth above.

7-4 **NOT USED.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

7-4 **WORKERS' COMPENSATION INSURANCE AND EMPLOYERS LIABILITY INSURANCE.**

1. In accordance with the provisions of §3700 of the California Labor Code, you shall provide at your expense Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with the requirements of this section.

2. Limits for this insurance shall be not less than the following:

Workers' Compensation	Statutory Employers Liability
Bodily Injury by Accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 each employee
Bodily Injury by Disease	$1,000,000 policy limit

3. By signing and returning the Contract you certify that you are aware of the provisions of §3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code and you shall comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

7-4.1. **Waiver of Subrogation.** The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

7-5 **PERMITS, FEES, AND NOTICES.** To the "WHITEBOOK", ADD the following:

2. The City will obtain, at no cost to you, the following permits:

   a) Coastal Development Permit

   b) Clean Water Act Section 401 – Water Quality Certification

   c) Clean Water Act Section 404 and Rivers and Harbors Act Section 10

   d) Rivers and Harbors Act Section 408

   e) Fish and Game Code Section 1602 – Streambed Alteration Agreement

   f) Site Development Permit

7-5.2 **Caltrans Encroachment Permit.** To the "WHITEBOOK", ADD the following:

5. The **Caltrans Encroachment Permit** will be submitted to the contractor at the time of contract award. The Contractor is responsible for obtaining a duplicate permit **for Caltrans Encroachment Permit,** and paying the required fees. The permit can be obtained after the payment of the fees at Caltrans District 11 permit office. Permit must be obtained prior to start of Work within Caltrans Right-of-Way.

7-8.4.1 **General. SEE Appendix C and Appendix R** for additional Mitigation area requirements.

7-8.4.3 **Storage and Staging Areas.** To the "WHITEBOOK", ADD the following:

4. No construction staging or storage shall be permitted in public right-of-ways, utilized public park space, public parking spaces, or in any other location that would otherwise restrict public access to the coast at any time.

5. No public parking spaces shall be used for employee parking.

7-8.1 **General.** To the "WHITEBOOK", ADD the following:

2. Use a self-loading motorized street sweeper equipped with a functional water spray system for this project.

7-8.6 **Water Pollution Control.** To the "WHITEBOOK", ADD the following:

6. Based on a preliminary assessment by the City, this Contract is subject to CGP SWPPP Risk Level 2.

7-8.6.3 **Storm Water Pollution Prevention Plan (SWPPP). SEE Appendix R** for additional Mitigation area requirements.

7-8.6.5.1 **Payment.** To the "WHITEBOOK", DELETE in its entirety.

ADD:

7-8.6.5.1 **Chlorination Discharge Requirements.**

1. If prior approval is obtained to discharge to the sewer system, you shall discharge the chlorinated water used for testing and acceptance of new water mains to the sewer system in accordance with the Contract Documents after de–chlorination as shown on the "Chlorination Discharge Locations" Plans. You shall submit to the Engineer a "Request for Batch Discharge Authorization to Discharge Potable Pipe Flushing Water to Sewer" form. The request form is found on the City website at the following location:

2. When discharging to the sewer system has been approved, you shall use a totalizer flow meter to record the total volume discharged to sewer and shall submit to the Engineer a log of actual discharged water quantities, dates, and locations. Failure to report this information to the Engineer is a violation of the authorization for discharge to the sanitary sewer. Within five (5) Working Days of the discharge, the Engineer shall report actual total flows to the sanitary sewer to the Public Utilities Department (PUD), Industrial Wastewater Control Program (IWCP).

3. If the discharge to the sewer system is not approved, you shall discharge the chlorinated water used for the testing of new mains to surface waters, storm drain inlets, or to other approved sources and you shall comply with

7-8.6.5, "Hydrostatic Discharge Requirements". All discharge activities related to the project shall comply with the State Water Resources Control Board, ORDER WQ 2014-0194-DWQ, STATEWIDE GENERAL NPDES PERMIT FOR DRINKING WATER SYSTEMS DISCHARGES as referenced by:

http://www.waterboards.ca.gov/water_issues/programs/npdes/docs/drinkingwater/final_statewide_wqo2014_0194_dwq.pdf

All testing shall be conducted by a QSP.

ADD:

7-8.6.5.2 Payment.

1. The payment for complying with the discharge requirements shall be included in the Bid item for the new water main.

   All testing shall be conducted by a QSP.

ADD:

7-8.7 Additional California Coastal Commission (CCC) Water Quality/Construction BMPs.

1. Concrete work shall employ methods to avoid the placement of cement products, cement-laden wash water, or concrete debris where it could enter coastal waters, except the concrete is of a type suitable for in-water curing and registered for such purposes. All other concrete shall be fully cured, and concrete debris and construction materials shall be completely removed prior to re-watering the construction site. No concrete work will be done when rain is likely to occur.
2. Any pressure treated wood used in bridge construction shall use as a preservative, in the following order of preference, Copper Azole, Alkaline Copper Quaternary, or Ammoniacal Copper Zinc Arsenate.
3. Pile driving operations shall be conducted so as to minimize disturbance to benthic substrates.
4. All construction berm fill, and any associated rip-rap, trestles, and piles shall be completely removed at the end of bridge construction.
5. Any debris discharged to the water in association with demolition or construction shall be immediately retrieved and disposed of. This shall be done by ensuring that the Contractor has available staff and equipment to collect debris. Where demolition activities involve removal of significant structures from the water and debris discharge could be substantial, the Contractor shall deploy a surface boom around the work area to capture debris and make removal easier. Non-buoyant debris discharged into coastal waters shall be removed as soon as possible after loss.
6. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a Coastal Development Permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.

7. No demolition or construction materials, equipment, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to river, wind, rain or tidal erosion and dispersion.

8. All stock piles and construction materials shall be covered and enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and may not be stored in contact with soil.

9. Machinery or construction materials not essential for project improvements may not be allowed at any time within the river levees.

10. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. If thinners, petroleum products or solvents must be used on site, they shall be properly recycled or disposed after use and may not be discharged into storm drains, sewers, receiving waters or onto the unpaved ground.

11. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The designated area shall be equipped with spill control materials and located to minimize the risk of spills reaching receiving waters, storm drains, sewers or unpaved ground.

12. Reasonable and prudent measures shall be taken to prevent any discharge of fuel or oily waste from heavy machinery or construction equipment into coastal waters. The applicants shall have adequate equipment available to contain any such spill immediately.

13. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.

14. Temporary erosion control measures shall be implemented should construction or site preparation cease for a period of more than 30 days. These temporary erosion control measures shall be monitored and maintained until demolition or construction operations resume.

15. The areas to be disturbed by construction activities, including any temporary access roads, staging areas, and stockpile areas, shall be delineated on a map.

16. At the end of the demolition/construction period, the applicant shall conduct visual inspections of the project area to ensure that no debris, trash or construction material has been left on the shoreline or in the water, and that the project has not created any hazard to navigation.

17. Best Management Practices (BMP's) and Good Housekeeping Practices (GHP's) designed to prevent spillage and runoff of demolition or construction-related materials, and to contain sediment or contaminants

associated with demolition or construction activity, shall be implemented prior to the on-set of such activity and all BMP's shall be maintained in a functional condition throughout the duration of construction activity.

18. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this Coastal Development Permit unless the Executive Director determines that no amendment is legally required.

ADD:

7-16.1.3 Weekly Updates Recipients.

1. Submit a weekly correspondence with updates, traffic control issues and locations, lane closures, and any other pertinent information (with additional contact names given during award process) to the following recipients:

   Daniel Nutter, Senior Engineer, DNutter@sandiego.gov

   Jesus Garcia, Project Manager, JesusG@sandiego.gov

   Isac Vallejo, Resident Engineer, IVallego@sandiego.gov

7-16.3 Exclusive Community Liaison Services. To the "WHITEBOOK", ADD the following:

2. You shall retain an Exclusive Community Liaison for the Project, as part of the Transportation Management Plan requirements that shall implement Work in accordance with the specifications described in 7-16.2 "Community Outreach Services" and 7-16.3 "Exclusive Community Liaison Services".

7-20 ELECTRONIC COMMUNICATION. To the "WHITEBOOK", ADD the following:

2. Virtual Project Manager shall be used on this Contract.

7-21.1 General. To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. During the construction phase of projects, the minimum waste management reduction goal is 90% of the inert material (a material not subject to decomposition such as concrete, asphalt, brick, rock, block, dirt, metal, glass, and etc.) and 65% of the remaining project waste. You shall provide appropriate documentation, including a Waste Management Form for C&D Debris, and evidence of recycling and reuse of materials to meet the waste reduction goals specified. The form is found on the City website at the following location:

   https://www.sandiego.gov/environmental-services/recycling/cd

ADD:

7-23 PROTECTION OF EXISTING PLANT MATERIAL.

7-23.1 Construction Operations.

a) All plants outside the limit of work shall be protected in place. All trees to remain shall be protected in place.

b) All existing trees to remain shall be trimmed per sections 800 and 801 and trimmings disposed of per specifications.

c) Do not operate equipment, which generates fumes or excessive heat, within 20' of the trees to remain. Fumes and heat can damage trees.

d) The grade around existing trees to remain shall remain as existing to avoid disturbance of roots and avoid burying the roots under additional soil.

e) When excavation near a tree to be preserved must be carried out, damage shall be limited by root pruning as outlined in Section 801-7.3 "Root Pruning for Sidewalk Replacement".

f) Buried utilities and irrigation piping and equipment shall be located out of root zones wherever possible. In cases where utilities must cross root zones, tunnels shall be utilized in lieu of trenches. Tunneling within the rooting area of a tree to remain shall be done under the supervision of the Resident Engineer.

g) Trenching, excavation and soil disturbance within the drip line of vegetation to remain shall not be permitted except as specifically allowed by the Resident Engineer. It is the intent of the plans that the Contractor provide an alternate routing of irrigation, electrical and all trenching to avoid cutting through roots of existing trees.

h) Where it is necessary to excavate in close proximity to existing trees and shrubs, all possible caution shall be exercised to avoid injury to roots and trunks. In the event it is necessary to cut the roots of an existing tree to remain, the tree shall be pruned prior to excavation to reduce the foliage volume by the same percentage as the approximate percentage of roots removed. All work shall be performed under the direction of the Resident Engineer.

i) Excavation within the drip line of the trees shall be done by hand, tunneling under roots 1" in diameter and larger, and shall be done only on the approval of the Resident Engineer. The exposed roots of trees shall be covered and shaded by moist burlap or canvas until the trench is backfilled (See Section 800 and 801).

j) All plants to remain on-site shall be watered if necessary during the entire construction contract to provide for plant health and survival. Watering shall be done under the direction of the Resident Engineer.

7-23.2 Clean-Up Repair and Maintenance.

a) Upon completion of all work, remove tools equipment and tree preservation materials and measures from the site.

b) Repair all areas, structures and surfaces damaged and requiring repair resulting from tree preservation measures. Repair adjacent construction or surfaces soiled or damaged by tree preservation measures.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-2 FIELD OFFICE FACILITIES. To the "WHITEBOOK", ADD the following:

2. Provide two (2) Class "A" Field Offices.

8-2.1.1 Field Office Features and Equipment. To the "WHITEBOOK", item 4 DELETE in its entirety and SUBSTITUTE

4. Provide 2 exterior doors with an exterior light.

ADD the following:

7. Provide security alarm system with monitoring.

8. Trailer to have janitorial service agreement for duration of project (anticipate weekly servicing).

9. Provide 7 adjacent parking spaces for exclusive City Engineer staff use.

10. Provide 1 interior toilet with hot and cold water.

8-2.1.2 Furnishings. To the "WHITEBOOK", items 11, 12, 15 DELETE in their entirety and SUBSTITUTE the following:

11. Wireless access point with connection to the High Speed Internet Line per the City's IT standards.

12. Wireless color printer/scanner capable of 11x17 printing and scanning. Include all labor and parts including travel and consumable supplies excluding paper. Provide appropriate storage cabinet or stand with the printer/scanner.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3 PAYMENT. ADD the following:

1. Bid Items designated with "(F)" in the Item Description are subject to the Caltrans Standard Specification, "Final Pay Item" and section 9-3.2 of the City of San Diego WHITEBOOK.

2. Bid Items with two (2) Payment References refers to work in done Caltrans Right-of-Way and City of San Diego Right-of-Way

   a) All work done within the Caltrans Right-of-Way is subject to Caltrans Specifications.

b) All work done within the City of San Diego Right-of-Way is subject to Greenbook Specifications and supplements.

c) Contractor will separate the costs for the Work done within each respective agency's Right-of-Way when submitting an invoice

9-3.5 Field Orders. To the "WHITEBOOK", ADD the following:

1.1. This section is applicable only to those Bid Item Quantities which are not federally funded. Federally funded Bid Item Quantities shall follow the provisions of the Caltrans Standard Specifications. The Contractor shall coordinate with the Resident Engineer which Bid Item Quantities are federally and non-federally funded.

ADD:

9-3.7 Compensation Adjustments for Price Index Fluctuations. To the "WHITEBOOK", ADD the following:

5. This Contract **is not** subject to the provisions of The "WHITEBOOK" for Compensation Adjustments for Price Index Fluctuations for paving asphalt.

SECTION 200 – ROCK MATERIAL

200-1.1 General. To the "GREENBOOK", ADD the following:

Rock products shall be derived from a single source and of the same stock to ensure uniformity of material. Physical samples and/or representative photos, whichever is stated, shall be submitted for each rock product to the quantities as prescribed in SSP **sections 200-1.8** for approval by the City**.** Samples shall illustrate full variety of the color range and size for each item specified. When a rock product is specified for varying range sizes, a sample and/or representative photo shall be provided for each size range. Photos shall be taken of the actual product to be furnished. Provide 8 pieces of representative sizes and colors for submittal and review by the City for approval.

ADD:

200-1.8 Miscellaneous Rock Products.

200-1.8.1 Rock Mulch Type 1 (All basins). Miscellaneous Rock Products shall comply with the following:

Product:	4"-8" Rounded Rock
Description:	'Mesa', (Tans, reds, browns, grays, and light gray colors) or approved equivalent
Separator fabric:	None.
Soil sterilant:	None.
Manufacturer:	Decorative Stone Solutions, KRC Rock, Southwest Boulder & Stone or approved equal.

200-1.8.2 **Rock Mulch Type 2 (Caltrans ROW - South of Interstate 8).** Miscellaneous Rock Products shall comply with the following:

Product:	4"-8" Rounded Rock
Description:	'Full Moon', (Uniform gray-white colors) or approved equivalent
Separator fabric:	None.
Soil sterilant:	None.
Manufacturer:	Decorative Stone Solutions, KRC Rock, Southwest Boulder & Stone or approved equal.

200-1.8.3 **Rock Mulch Type 3 (Outside of storm water basins).** Miscellaneous Rock Products shall comply with the following:

Product:	4"-10" Rounded Rock
Description:	'Mesa', (Tans, reds, browns, grays, and light gray colors) or approved equivalent
Separator fabric:	Outside of basins only. Staples for filter fabric must comply with section 21-1.02R except the staples must be a minimum of 10-gauge, 4-inch, U-shaped staples with a one-inch crown.
Soil sterilant:	Outside of basins only.
Manufacturer:	Decorative Stone Solutions, KRC Rock, Southwest Boulder & Stone or approved equal.

200-2.7.1 **General**. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

Stabilized decomposed granite color shall be 'Apache Brown', thickness as indicated on the plans, as supplied by Decorative Stone Solutions, KRC Rock, Southwest Boulder & Stone or approved equal. Decomposed granite shall be placed as designated on the plans

Decomposed granite shall be stabilized and, placed in (2) 2" lifts for a total thickness of 4". Decomposed granite shall be placed over a 4" layer of compacted Class II base.

The decomposed granite path surfacing must be compacted to a minimum of 95%. The decomposed granite pathway material must contain a binder to maintain the firmness and stable surface. The Contractor shall provide product data and testing information to confirm that material contains the binder materials at rates as recommended by the manufacturer.

A maintenance program as defined by the product manufacturer shall be implemented to maintain the original specifications of the constructed path as required by CBC 1101B.3. The maintenance program shall address the weather and wear and tear related maintenance practices.

ADD:

200-2.7.1.1 **Stabilizer For Decomposed Granite.** Stabilizer for decomposed granite shall be a commercially produced, patented, non-toxic organic binder. It shall be colorless, odorless, concentrated powder that naturally binds decomposed granite. Stabilizer is available at Decorative Stone Solutions, KRC Rock, Stabilizer Solutions or approved equivalent. Stabilizer shall be thoroughly pre-blended with the decomposed granite at the manufacturing facility. Acceptable products: Stabilizer by Decorative Stone Solutions, Natricil by Gail Materials, or PHP Organic Aggregate Binder by TMT Enterprises Inc.

SECTION 209 – PRESSURE PIPE

209 **PRESSURE PIPE.** To the "WHITEBOOK", ADD the following:

2. PVC products, specifically type C900 and C905, as manufactured or distributed by J-M Manufacturing Company or JM Eagle shall not be used on the Contract for pressurized pipe.

209-2.1 **General.** To the "GREENBOOK", ADD the following:

ACCEPTABLE PIPE MATERIALS FOR THIS PROJECT. WELDED STEEL PIPE (WS) AWWA C200, SPIRAL-SEAM OR STRAIGHT-SEAM AND AWWA M-11 WITH FIELD WELDED JOINTS:

The manufacturer shall furnish a sworn statement that the inspection and all specified tests have been made and the results thereof comply with the requirements of the specified AWWA standards. Drawings and design calculations of the pipe shall be submitted to the Engineer of Work, City Resident Engineer and Inspection Lab for approval. Pipe shall be of the type described below to the minimum size shown and minimum pressure rating as shown on the drawings. The size shown shall mean the clear inside dimension measured to the lining. Pipe class shown on the plans is the pressure in psi measured by the distance between the pipe centerline and the operating hydraulic gradient.

Welded steel pipe, fittings and specials shall conform to AWWA C200, "Standard for Steel Water Pipe 6-inches and Larger," and shall be cement mortar lined in conformance with AWWA C205, "Standard for Cement Mortar Protective Lining and Coating for Steel Water Pipe, 4-inches and Larger - Shop Applied" and coated in conformance with AWWA C214, "Tape Coating Systems for the Exterior of Steel Water Pipelines" and AWWA C209, "Cold Applied Tape Coatings for Exterior of Special Sections, Connections and Fittings for Steel Water Pipelines."

The minimum steel thickness shall be as follows:

For 20-inch diameter pipe, Class 150, the minimum steel thickness shall be ¼-inch. The minimum specials and fittings steel thickness shall be 5/16-inch.

209-2.2.1 **Materials.** To the "GREENBOOK" in Table 209-2.2.1, "Pipe", "Design Standards", DELETE in its entirety and SUBSTITUTE with the following:

Pipe	Design Standards	Pipe and fitting wall thickness shall be selected that which meets the most severe requirements of inside pressure and outside loading considered separately. Design shall limit deflection under selected installation method in accordance with AWWA M-11. Deflection shall be computed by using the modified Iowa formula developed by Spangler in accordance with AWWA M-11. The cement mortar overcoat specified for the dielectric tape coated steel pipe shall not be included in the calculations for pipe deflection. If pipe deflection exceeds that allowed by AWWA M-11, the pipe manufacturer shall increase steel cylinder wall thickness in order that the pipe deflection is less than or equal to the allowable deflection. For cement mortar lined and coated steel pipe manufactured in accordance with AWWA C200 and C205, the mortar coating may be included in the calculations for pipe deflection.

To the "GREENBOOK" in Table 209-2.2.1, "Pipe", "Material", DELETE in its entirety and SUBSTITUTE with the following:

Pipe	Material	Steel plates or sheets used in the manufacture of fabricated steel pipe shall comply with Table 1 in AWWA C200, with minimum yield point strength of 33,000 psi. Steel to be fully killed and made to a fine grain practice. Design stress shall not exceed 16,500 psi.

To the "GREENBOOK" in Table 209-2.2.1, "Pipe", "Size", DELETE in its entirety and SUBSTITUTE with the following:

Pipe	Size	As shown on the Plans. Fabricated steel pipe shall be a minimum net instead diameter, after application of the interior protective lining, equal to the nominal diameter of the pipe shown on the Plans or in the Special Provisions, with a permissible tolerance of minus 3 mm (1/8 inch).

To the "GREENBOOK" in Table 209-2.2.1, "Pipe", "Lengths", DELETE in its entirety and SUBSTITUTE with the following:

Pipe	Lengths	Unless otherwise specified, fabricated steel pipe shall be manufactured in lengths to fit the pipeline alignment shown on the Plans, subject to a maximum pipe length of 40 feet (12 m). Shorter lengths may be used to facilitate curves or fit horizontal or vertical alignment.

To the "GREENBOOK" in Table 209-2.2.1, "Lining and Exterior Coating (Required on exposed steel surfaces and ring joints)", "Lengths", ADD the following:

Lining and Exterior Coating (Required on exposed steel surfaces and ring joints	Cement-Mortar Exterior Coating	Conform to AWWA C205 using Type II/V cement. Apply a 3/4 inch minimum thickness cement mortar coating over the tape wrap in accordance with AWWA C205.

209-2.2.2 **Submittals.** To the "GREENBOOK", Sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

Prior to fabricating pipe, the Contractor shall submit, in accordance with 2-5.3, Shop Drawings, and 209-2.2.2.1, Shop Drawings for the fabrication of pipe, pipe specials, and joint details.

ADD:

209-2.2.2.1 **Shop Drawings.** Manufacturer shall submit copies to the Engineer of Work for approval prior to manufacture of any pipe and fittings for the following:

1. Detailed drawings.
2. Tabulated layout schedule.
3. Design calculations for pipe wall thickness. (Use E' value of 750 in accordance with City of San Diego, Standard Drawing SDS-100)
4. Field joint details.
5. Technical data and information on the tape coating to be used.
6. Required tests for tape coating to be used.

Shop drawings shall be in accordance with the requirements of AWWA C200, C205 and C214.

Data to be furnished by the Contractor shall be in accordance with all applicable provisions of Section 2-5.3, "Shop Drawings," of the standard specifications where not inconsistent with the plans and the express provisions of these specifications.

The drawings accompanying these specifications indicate only the general features of the work, and all proportioning and detailing for the pipeline, specials, and connections shall be done by the Contractor. The Contractor shall prepare, and submit for review and approval before starting fabrication, a tabulated layout schedule and detailed fabrication drawings.

The drawings shall include the configuration, essential dimensions, and materials to be used in fabricating the pipe, pipe specials, and fittings, and shall include details of standard pipe joints, and of typical field welded joints showing the lining

and coating holdback. The minimum radius of any fabricated bend shall be at least 2.5 times the nominal pipe diameter.

The layout and marking schedule shall include the specific number of each pipe and fitting and the location of each pipe and the direction of each fitting in the completed line. In addition, the layout schedule shall include: the pipe station and top of pipe elevation at all changes in grade or horizontal alignment; the station and top of pipe elevation to which the bell end of each pipe will be laid; and all elements of curves and bends, both in horizontal and vertical alignment. Dimensional drawings of all valves, fittings and appurtenances shall be provided with the layout schedule.

Joint and pipe/fitting wall construction details which indicate the type and thickness of cylinder; the position, type, size, and area of wire or reinforcement if required; manufacturing tolerances; and all other pertinent information required for the manufacture of the product.

Fittings and specials details such as elbows, wyes, tees, outlets, connections, test bulkheads, and nozzles or other specials where shown on the drawings which indicate amount and position of all reinforcement. All fittings and specials shall be properly reinforced to withstand the internal pressure, both circumferential and longitudinal, and the external loading conditions as indicated in the contract documents. Material lists and steel reinforcement schedules which include and describe all materials to be utilized.

Joints below existing utilities shall be avoided.

The Contractor shall determine where to use cut-to-fit pieces and/or field weld on flanges. These shall be shown on the pipe shop drawings.

The pipe alignment and grade, the location of valves, fittings and appurtenances, as shown on the Contractor's layout schedule shall conform essentially with those shown on the contract plans. The Engineer, at his discretion, may approve minor changes made for economy or convenience in manufacture or construction. Unless otherwise ordered or permitted by the Engineer, construction shall conform to the approved layout schedule and fabrication drawings.

When approved by the Engineer, changes in alignment or grade may be accomplished by deflections at the joints between lengths of standard pipe, or by use of beveled pipe, or by a combination of the two.

Before preparing the schedule and fabrication drawings, the Contractor shall expose the existing main at points of connection and determine their precise locations and alignment relative to the alignment of the new pipe as shown on the drawings. The Contractor shall furnish the Agency with tracings or transparencies of the approved schedule and drawings, from which the Agency can obtain the required prints.

SHOP DRAWING D-SHEETS

Once the pipe shop drawings are approved and released for production, the pipe fabricator shall assemble all the approved and corrected shop drawings onto City of San Diego D-sheets and shall have a State of California registered engineer, who

was responsible to oversee the preparation of the shop drawings, stamp and sign each D- sheet. The final D-sheets to be stamped and signed by the pipe fabricator's Registered Engineer shall be photo mylars or mylar plots from digital files. The preparation of the shop drawing mylars shall be coordinated with the Engineer to assure proper sheet numbering and title block information. The Engineer shall be responsible for processing the shop drawing sheets through the City of San Diego as a Construction Change. The pipe fabricator shall be responsible for preparing and modifying the sheets to conform to City of San Diego requirements.

209-2.2.4 Joints. To the "GREENBOOK", ADD the following:

All nonflanged pipe joints shall be field welded. All pipe shall have lap welded slip joints and shall be field welded on the inside. See detail on the plans. Field welds shall be used and shall be of a size equal to the thickness of the bell or cylinder, whichever is greater, and shall be built up in passes of not more than one-eighth inch (1/8") per pass. Field welding shall conform to AWWA C206, "Standard for Field Welding of Steel Water Pipe."

In order that the proper shop modifications may be made to the joints to be field welded, the shop fabrications shall indicate details of the typical field welded joint and the required coating and lining holdback.

Casing pipe sections shall be butt welded.

All closure and makeup joints shall be made with butt straps for field welding in accordance with the latest version of the applicable City of San Diego Standard Drawing. Butt straps shall be field welded on the outside of the pipe joint using a fillet weld. The fillet weld shall be of a size equal to the thickness of the cylinder or butt strap, whichever is greater, and shall be built up in passes of not more than one-eighth inch (1/8") per pass.

Handholes shall be provided in accordance with the plans and the latest version of the applicable City of San Diego Standard Drawing.

209-2.2.5 Special Sections. To the "GREENBOOK", ADD the following:

Reinforcement and/or crotch plate design for wyes, tees, outlets and nozzles shall be designed in accordance with AWWA Manual M-11, "Steel Water Pipe - a Guide for Design and Installation." The Dished Heads required for this project shall be in accordance with the detail on the plans and the approved shop drawings, the lining and coating holdbacks shall be shown on the pipe shop drawings and approved by the Engineer of Work. Reinforcement shall be designed for the working pressure. Pipe materials used in fittings shall be of the same material as the pipe with minimum steel plate thickness as indicated in Section 207-10.2.1 of these specifications.

The minimum radius of elbows shall be 2.5 times the pipe diameter and the maximum miter angle on each section of the elbow shall not exceed 11 1/4 degrees. Fittings shall be equal in pressure design strength and shall have the same lining and coating as the abutting pipe. Specials and fittings, unless otherwise shown on the plans, shall be made of segmentally welded sections from hydrostatically tested pipe, with ends to mate with the type of joint or coupling specified for the pipe.

Specials and fittings that cannot be mechanically lined and coated shall be factory lined and coated by hand-application using the same materials as are used for the pipe and in accordance with the applicable AWWA standards. Coating and lining applied in this manner shall provide protection equal to that specified for the pipe. Fittings may be fabricated from pipe that has been mechanically lined and/or coated. Areas of lining and coating that have been damaged by such fabrication shall be repaired by hand- applications in accordance with applicable AWWA standards.

209-2.2.6 Welding. To the "GREENBOOK", ADD the following:

All welding procedures used to fabricate pipe shall be prequalified under the provisions of ANSI/AWS D1.1 or ASME SEC. IX. Welding procedures shall be required for, but not necessarily limited to, longitudinal and girth or spiral welds for pipe cylinders, spigot and bell ring attachments, reinforcing plates and ring flange welds, and plates for lug connections.

All welding shall be done by skilled welders, welding operators, and tackers who have had adequate experience in the methods and materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 not more than 6 months prior to commencing work on the pipeline. Machines and electrodes similar to those used in the work shall be used in qualification tests. The manufacturer shall furnish all material and bear the expense of qualifying welders. The Contractor shall furnish the Engineer with a certified laboratory report stating the results of required welding tests performed during pipe fabrication.

Field welding shall be performed by certified welders in accordance with AWWA C206.

ADD:

209-2.2.6.1 Special Inspection and Testing of Field Welds. All costs for special welding inspection and testing of field welds shall be the responsibility of the Contractor in accordance with Special Provisions, Part 1, Section 4-1.3.4.

A. Qualification of Welders, Equipment and Procedures:

Prior to the start of welding, the special inspector shall check welder qualifications and verify that procedure specifications to be used have been approved.

B. Inspection of Field Welds:

The special inspector shall visually examine 100% of all welds performed in the field.

Acceptance Standards for Visual Examination. The following indications are unacceptable:

1. Cracks - external surface;

2. Undercut on surface which is greater than 1/32-inch (1.0 mm) deep;

3. Lack of fusion on surface;

4. Incomplete penetration (applies only when opposite surface is readily accessible).

Any weld not conforming to the above acceptance standards shall be ground smooth and blended in to the satisfaction of the special inspector.

C. Nondestructive Testing of Field Welds:

Nondestructive testing of field welds shall be performed by the special inspector, as directed by the Resident Engineer, using testing and acceptance criteria as set forth in the ASME Boiler and Pressure Vessel Code, Section V, and as specified herein.

Nondestructive test methods and acceptance criteria shall be submitted to the Resident Engineer for review and approval thirty (30) working days prior to beginning any field welding operations and in accordance with Subsection 2-5.3 of Standard Specifications for Public Works Construction. Nondestructive testing shall be performed as follows:

WELDED SLIP JOINTS:

Nondestructive testing shall be performed on a random sampling of all slip joint field welds provided that not less than twenty percent (20%) of such field welds are tested. The special inspector shall ensure that the work of each welder is tested in accordance with this section.

BUTT STRAPS AND NON-SLIP JOINTS**:**

Nondestructive testing shall be performed on one-hundred percent (100%) of all butt strap welds and other non-slip joint welds performed in the field.

Portions of welds not conforming to the applicable acceptance standards shall be completely removed in a manner, which will permit proper and complete repair by welding. All repair welds shall be re-tested by the special inspector.

ADD:

209-2.2.7 Affidavit of Compliance. Affidavit of compliance is required from the manufacturer that the pipe, specials, and fittings furnished under this contract comply with these special provisions, applicable standards and as specified in AWWA C200, C205, C214 and C217 and the following supplemental requirements:

1. Physical and chemical properties of all steel

2. Hydrostatic test reports

3. Results of production weld tests

4. Coating and lining tests

5. Technical data and information on the tape coating to be used.

All expenses incurred in making samples for certification of tests shall be borne by the Contractor and/or manufacturer.

ADD:

209-2.2.10 Field Painting. Metal components which are furnished with shop-applied protective coating shall be carefully installed to avoid damage to the coatings. Any areas of such coatings which show damage after installation is complete shall be cleaned and recoated. The touch-up coating materials shall be identical to the shop-applied coating, or a suitable substitute therefore, recommended by the component manufacturer and approved by the Engineer.

Steel surfaces, other than stainless steel, which are not galvanized or shop-coated, shall be epoxy coated in accordance with AWWA C210. The minimum dry film thickness shall be 16 mils, and the epoxy shall meet NSF Standards for contact with potable water.

ADD:

209-2.2.11 Installation, Storage and Handling. Bracing shall consist of at least three (3) sets of stulls for each standard length pipe. Stull struts and stull blocks shall be of such size, shape and material that the pipe is held round and its interior surface protected from damage under all loads encountered in handling, installing and backfilling. Bracing shall remain in place until after the pipe is laid in the trench, bedding and backfill compacted and pipe is firmly held in place.

Pipe shall be stored on sand ribbons during both curing operations and during yard storage.

When storage of the pipe at the manufacturer's yard shall exceed two calendar weeks after the completion of the pipe manufacturing and standard curing process, the manufacturer shall periodically wet the interior and exterior of the pipe to maintain sufficient moisture content in the cement mortar to avoid the development of mortar cracks greater than one-sixteenth of one inch. The end caps on the pipe shall be replaced after each addition of water in order to maintain the required seal for the interior mortar.

Until the pipe installation and backfilling are completed, all concrete surfaces of the pipe shall be sprinkled periodically to prevent excessive drying and thermal stressing.

At all times after application of the mortar coating or removal of the exterior forms, standard pipe lengths shall be handled only with belt slings of sufficient width to avoid damage to the exterior surface. Specials and fittings shall be handled by approved means, which avoid inflicting any damage. Chain slings shall not be used, and wire rope slings may be used only if encased in heavy rubber hose.

During transportation, pipe shall be mounted on padded bolsters curved to fit the pipe. Heavy padding shall be used under the tie chains. The pipe ends shall be closed to prevent air circulation and drying of the pipe interior in transit and during storage until the pipe is laid.

The pipe shall be handled by use of 12" wide nylon slings, padded cradles, or other devices, acceptable to the Engineer, designed and constructed to prevent damage to the pipe coating/exterior. The use of chains, hooks, or other equipment which might injure the pipe coating/exterior will not be permitted. All other pipe handling equipment and methods shall be acceptable to the Engineer.

The Contractor shall be fully liable for the cost of replacement or repair of pipe, which is damaged.

Stockpiled pipe shall be supported on sand or earth berms. The pipe shall not be rolled and shall be secured to prevent accidental rolling.

The Contractor and/or manufacturer shall consult the Owner if any anticipated outdoor storage will be required prior to installation so that necessary precautions can be taken.

ADD:

209-2.2.12 **Side Outlets.** Outlets shall be installed as shown on the plans for connections to the new pipe. The outlets shall remain uncovered until all joint assembly, field welding, lining, and coating is accomplished and hydrostatic testing and inspection is completed. Outlets shall be backfilled with sand densified as provided in Subsection 306-1.3. The outlets shall then be covered and the finish pavement laid.

All pipe with side outlets shall be considered as a special section and requires the main steel pipeline to be a minimum wall thickness as defined in Section 207-10.2.1.

All side outlets for appurtenances shall be factory lined and coated as specified for the main steel pipeline. The minimum hold back from the flange shall be zero (0) inches for the tape and the mortar. The flange shall be factory primed and the tape wrapped in the field.

ADD:

209-4.8 **Flexible Couplings.** To the "WHITEBOOK", ADD the following:

Flexible couplings shall be carbon steel and all parts shall be fusion epoxy coated with carbon steel hardware. The manufacturer of the flexible couplings shall be from the City of San Diego's approved materials list. All flexible couplings installed in buried applications shall be wax tape wrapped in accordance with AWWA C217.PTFE Bearing and assembly shall be paid for per each Bearing System per location.

SECTION 300 – EARTHWORK

ADD:

300-1.5 **Nonnative Plant Removal. SEE Appendix C and Appendix R** for Mitigation area requirements.

ADD:

300-2.6 **Stabilized Decomposed Granite Paving Measurement & Payment.** Stabilized Decomposed Granite Paving shall be measured and paid by the total cubic yards and paid within the total lump sum project cost and shall be installed complete and in place and shall include full compensation for furnishing all material, delivery, placement, fees, labor, equipment, water, Class II base materials, tools and incidentals required to complete the work specified and no additional compensation will be made therefore.

300-11.4 **Measurement and Payment.** To the "WHITEBOOK", ADD the following:

Salvage and Relocate Existing Rip Rap will be measured and paid for at the Contract Unit Price per ton (tonne) of stone in place and shall be inclusive of the cost to stockpile the salvaged stone until placed in its final location.

SECTION 301 – TREATED SOIL, SUBGRADE PREPARATION, AND PLACEMENT OF BASE MATERIALS

ADD:

301-2.5 **Stabilized Decomposed Granite Installation.** Install stabilized decomposed granite surfacing as follows:

a) Excavate to allow installation of Class II base and decomposed granite flush with adjacent grades. Moisture compact sub-grade 90% density to a depth of 8" prior to placing Class II base.

b) Apply two applications of pre-emergent herbicide. Apply once before placing Class II base and once following placement of the decomposed granite.

c) Pre-blend stabilized decomposed granite at the rate of 10 lbs. of stabilizer per ton of decomposed granite at the manufacturing facility. Blending may be done with cement mixer, pug mill, or any similar piece of equipment to thoroughly and completely blend the stabilizer with the decomposed granite material. It is essential that the stabilizer be mixed thoroughly and uniformly through the decomposed granite. Proper mixing is a must for successful application.

d) Apply mixture in one inch lifts to a compacted depth as shown on the plans.

e) Grade and smooth stabilized decomposed granite.

f) Apply water until moisture penetrates to full depth of the stabilized decomposed granite. Water activates stabilizer, so it is essential that the full depth of the material receives water at this time. To allow water to penetrate, the stabilized decomposed granite should be applied in two lifts.

g) Upon thorough moisture penetration, compact each lift of the stabilized decomposed granite. Compaction shall be done with a vibrating roller. Finish grade shall be level with adjacent concrete grades.

h) Allow finished surface enough time to dry completely before use. Set up time varies, depending upon weather conditions. A hot, dry climate will set up sooner than cooler, moist climate.

i) Make one additional pre-emergent application one week prior to substantial completion.

ADD:

301-2.7 Rock Mulch Installation.

301-2.7.1 Rock Mulch Types 1 and 2 Installation.

Excavation for rock mulch types 1 and 2 is not required as engineered slopes will be constructed with the basins. After basin construction, place rock mulch in a consistent, tightly-fitted layout beginning at bottom of basin and working toward top of basin slopes.

301-2.7.2 Rock Mulch Type 3 Installation.

After clearing, grade areas to receive rock mulch Type 3 to a smooth, uniform surface, and compact to not less than 90 percent relative compaction. Place rock mulch over filter fabric on compacted ground.

301-2.7.3 Rock Mulch Measurement and Payment.

Rock Mulch Types 1, 2 and 3 shall be measured and paid by the total square foot and paid within the total lump sum project cost and shall be installed complete and in place and shall include full compensation for furnishing all material, delivery, placement, fees, labor, equipment, water, separator fabrics, sterilants, tools and incidentals required to complete the work specified and no additional compensation will be made therefore.

SECTION 302 – ROADWAY SURFACING

302-7.4 Payment. To the "WHITEBOOK", item 1, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Payment shall not be made for additional fabric for overlapped areas.

SECTION 304 – METAL FABRICATION AND CONSTRUCTION

304-5 PAYMENT. To the "WHITEBOOK", REVISE section "**304-5**" to "**304-6**".

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-1 GENERAL. To the "GREENBOOK", ADD the following:

When installing pipelines within the City's streets, for the following streets, the total time allowed for the completion of Work shall not exceed **10** Working Days per **500'** of pipeline installation:

1. West Mission Bay Drive
2. Sports Arena Boulevard

306-3.3 Removal and Abandonment of Existing Conduits and Structures. To the "GREENBOOK", ADD the following:

Abandonment of storm drain shall comply with the requirements of Section 71-6.03 of the Caltrans Special Provisions.

306-7.8.2.1 General. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

a) Specified test pressure for Class 235 pipe shall be 150 psi.

b) Specified test pressure for Class 305 pipe shall be 200 psi.

c) For sewer force mains, regardless of pipe material used, test pressure shall be 100 psi. Otherwise all Water Pressure Test requirements apply.

306-15.1 General. To item a), SUBSTITUTE with the following:

a) All wyes, tees, bends, monolithic catch basin connections, flexible couplings, and specials shown on the Plans;

ADD:

306-15.13 Double Ball Flex Joints. To the "WHITEBOOK", ADD the following:

The payment for double ball flex joints at bridges shall be included in the lump sum Bid item for Double Ball Flex Joints at Bridges.

306-15.14 Expansion/Contraction Couplings. To the "WHITEBOOK", ADD the following:

The payment for expansion/contraction couplings at the bridges shall be included in the lump sum Bid Item for Expansion/Contraction Couplings at Bridges.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

314-4.3.7 Payment. To the "GREENBOOK", ADD the following:

1. The payment for the replacement of existing traffic striping, pavement markings, and pavement markers shall be included in the Bid item for "Striping" and shall also include the payment for new installations of traffic striping, pavement markings, and pavement markers.

314-4.4.6 Payment. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. No separate payment shall be made for establishing alignment for stripes and layout Work.

2. The payment for the installation of proposed thermoplastic striping and thermoplastic pavement markings, in accordance to the Plans, shall be included in the Bid items for "Thermoplastic Traffic Striping" and "Thermoplastic Pavement Markers", when provided.

3. The payment for the replacement of thermoplastic striping and thermoplastic pavement markings shall be included in the Lump Sum Bid item for "Thermoplastic Traffic Striping and Thermoplastic Pavement Markings".

4. The payment for the thermoplastic traffic striping of continental crosswalks shall be included in the Bid item for "Continental Crosswalks".

5. The payment for the replacement of existing traffic striping, pavement markings, and pavement markers shall be included in the Bid item for "Striping" and shall also include the payment for new installations of traffic striping, pavement markings, and pavement markers

SECTION 700 – MATERIALS

700-9.1 Pedestrian Barricade. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

2. Pedestrian barricades shall be constructed in accordance with the City of San Diego Standard Drawing SDE-103, "Pedestrian Barricade".

3. Curb ramp barricades shall be constructed in accordance with the City of San Diego Standard Drawing SDG-140, "Curb Ramp Barricade".

4. Assembly shall be commercial quality galvanized material.

SECTION 701 – CONSTRUCTION

701-2 PAYMENT. To the "WHITEBOOK", ADD the following:

19. The payment for Pedestrian Barricades shall be included in the Bid item for each "Pedestrian Barricade".

20. The payment for Curb Ramp Barricades shall be included in the Bid item for each "Curb Ramp Barricade".

SECTION 800 - MATERIALS

800-1.1.1 General. To the "WHITEBOOK", ADD the following:

Topsoil shall be class "C". All shrub planting areas shall have a minimum of 9" of class 'C' topsoil or topsoil that meets the horticultural requirements for Class "A" topsoil per section 800-1.1.2 of the Whitebook.

ADD:

800-1.2.3.3 Organic Fertilizer. Organic fertilizer (for hydroseeding applications) shall be Biosol 6-1-1, GroPower 5-3-1, or 6-2-4 by Tri-C, or an approved equal organic fertilizer.

Post Planting fertilizer shall be Gro-Power Plus 5-3-1 controlled release (3-4 months), Forte 7-2-1 by Biosol, Sustane 8-2-4, or an approved equal.

800-1.2.4 Organic Soil Amendment. To the "WHITEBOOK", First paragraph, ADD the following:

Type 4 organic soil amendment (compost) shall be certified by the U.S. Composting Council's Seal of Testing Assurance Program or an approved equal. Compost shall comply with the following requirements:

1. Organic Material Content shall be 35% to 75% by dry weight.
2. Physical contaminants (manmade inert materials) shall not exceed 1% by dry weight
3. pH shall be between 6.0 and 8.0
4. Soluble Salt Concentration less than 10 dS/m (Method TMECC 4.10-A, USDA and U.S. Composting Council)
5. Maturity (seed emergence and seedling vigor): greater than 80% relative to positive control (Method TMECC 5.05-A, USDA and U.S. Composting Council)
6. Stability (Carbon Dioxide evolution rate): less than 8 mg CO_2-C per g OM per day (Method TMECC 5.08-B, USDA and U.S. Composting Council)
7. Moisture: 40%-50% wet weight basis.
8. Select Pathogens: Pass US EPA Class A standard, 40 CFR Section 503.32(a).

9. Trace Metals: Pass US EPA Class A standard, 40 CFR Section 503.13, Tables 1 and 3.

10. Within gradation limits in Table 212-4.1.2 (ASTM D 422 sieve analysis or approved equivalent)

Table 800-1.2.4 (A) Compost Gradation Limits

Sieve Size	Percent Passing (by weight)
1 inch	99 to 100
½ inch	90 to 100
¼ inch	40 to 90
No. 200	2 to 10

Type 5 organic soil amendment (hydromulch soil amendment) shall be 'Sarvon' liquid soil conditioner by Hydroscape, Site One, City Farmers' Market or approved equivalent.

Type 6 organic soil amendment (Mycorrhizal Inoculum) Provide an organic Arbuscular Mycorrhizal Inoculum containing one or more species of mycorrhizae fungi at a minimum rate of 120 propagules per cubic centimeter. Acceptable Mycorrhizal Inoculum Product: "AM120" by Reforestation Technologies International, S&S Seeds, Pacific Coast Seed or approved equal.

800-1.2.5.1 Mulch. To the "WHITEBOOK", item 3, subsection 'i', ADD the following:

Mulch for this project shall be Type 9 (Recycled) and shall also be free of weeds and leaves. Average dimensions shall be 2" to 4" in length and 1/2" in thickness and natural colored. Submit two (2) samples for approval by the Resident Engineer prior to installation.

Mulch for hydroseeding and slope stabilization for this project shall be Type 13 (Bonded Fiber Matrix) and shall comply with requirements as outlined in following paragraph 'm'.

800-1.2.6 Inorganic Soil Amendments. To the "WHITEBOOK", ADD the following:

3. Soil sulfur. Soil sulfur shall be 99.5% elemental. Sizing on stacked screen shall be approximately: 8 mesh 4.3%; 20 mesh 7.8%; 50 mesh 46.9%; 100 mesh 39.3%; 200 mesh 1.7%.

4. Soil conditioner shall be a granular blend of humate and gypsum or approved equal, and shall contain 25% humic acids. It shall be free flowing, suitable for application with approved equipment and shall contain the minimum available percentages of 7% calcium and 5% sulphur. Product shall be Humate plus by Tri-C, Premium Green Soil Penetrant/G by GroPower, HumicDG by The Andersons, or an approved equal.

ADD:

800-1.2.7 Herbicides and Pesticides. Herbicides and pesticides shall be used in their appropriate applications with strict adherence to manufacturers' specifications and instructions.

Pre-emergent herbicide for shrub and groundcover areas (planted from flats) shall be Treflan, Surflan, Eptan, or approved equivalent.

It is the goal of this project, that herbicides and pesticides shall not be used on this project site. The project is located within the San Diego River Basin drainage area which is a sensitive biological area. In the event that the project Biologist and Resident Engineer determine that a post emergence herbicide is necessary to treat specific weed infestations that would be detrimental to the establishment of the revegetation, a post emergent herbicide may be recommended. The Contractor shall obtain approval for any and all pesticide and herbicide use in writing from the Resident Engineer. All pesticides and herbicides shall be used in strict adherence to manufacturers' specifications and instructions, and shall be applied only by a licensed applicators.

Post-emergent herbicide for all areas shall be Round Up, Diquat, Montar, or approved equivalent, except for areas where it may contact standing or running water.

Post-emergent herbicide for all areas where herbicide may come in contact with standing or moving water shall be Aquamaster, Rodeo, Ranger Pro or approved equal specifically approved for use near water bodies. All herbicides shall be selected for suitability for the specific uses required, and shall be applied by a licensed pesticide applicator.

800-1.3 Seed. To the "WHITEBOOK", ADD the following:

All seeds shall originate from within the project vicinity (e.g. 10 mile radius) of the project site or contractor to provide evidence that the seed is not available and notify the City Representative and the Project Biologist for alternative compliance. Contractor shall retain and submit all seed tags for seed products to be used to the RE and Project Biologist prior to application.

All seeds shall meet the minimum % pure live seed (PLS) as noted in tables. If minimum % PLS count cannot be met contractor to coordinate and obtain written approval from the Project Biologist for alternative compliance.

Seed applied between November – March shall be covered by contractor with suitable biodegradable cover as approved by the Project Biologist.

800-1.4.1 General. To the "WHITEBOOK", ADD the following:

Contractor shall notify the Resident Engineer a minimum of 48 hours before each plant delivery so the Resident Engineer can schedule a review. Plants shall be reviewed and approved by the Resident Engineer prior to planting.

Availability: Within 2 weeks of the start of work, the Contractor shall place orders for all plant material in sufficient time to reserve or grow the plants for the project. No substitutions will be allowed. If plants are not available, the Contractor shall have the specified species contract grown by a reputable plant nursery such as Las Pilitas, Tree of Life, or Recon, or approved equal. Provide nursery name and resume for review and approval prior to contract growing.

Quality and Size: Plants shall be in accordance with the California State Department of Agriculture Regulations for Nursery Inspections of Rules and Grading. Nursery tags must be submitted to the Resident Engineer. Sizes shall conform to the dimensions indicated on the planting plan. Quantities: Quantities of all plant materials shall be furnished as needed to complete work as shown on the Drawings.

The Resident Engineer is the sole judge as to acceptability of each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. Plants which are even moderately "overgrown," or are showing signs of decline or lack of vigor are subject to rejection. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock, or as specified in the special conditions or drawings. Plants larger in size than specified may be used with the approval of the Resident Engineer, but the use of larger plants will make no change in contract price. If the use of larger plants is approved, the ball of earth and spread of roots for each plant shall be increased proportionately.

Rejection or Substitution: The Resident Engineer reserves the right to reject any plant material found to be defective or not in conformance with plans and specifications. Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work, for size, variety, condition, latent defects, and injuries. All plants not conforming to the requirements herein specified shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site and replaced with new plants by the Contractor at their expense. Rejected plant material shall be replaced within one week of written notice, unless otherwise approved by the Resident Engineer.

Substitutions will not be permitted except if proof is submitted that any plant specified is not obtainable, then a proposal will be considered for use of the nearest equivalent size or variety and cost. All substitutions are subject to Resident Engineer's written approval.

Right to Changes: The Resident Engineer reserves the right to change the species, variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes do not exceed the cost of plants in the original bid, and with the provision that the Contractor shall be notified, in writing, at least thirty (30) days before the planting operation has commenced.

800-1.4.2 Trees. To the "WHITEBOOK", ADD the following:

All trees (24" box, 36" box, 48" box, 60" box) shall:

a) Be of the specified type and size as indicated on the Drawings, selected from high quality, well-shaped and proportioned Southern California-grown nursery container stock. Field grown stock grown in climatic regions which are different (as determined by the Resident Engineer) to those conditions found at the project site, shall have been acclimated to a climate similar to their intended locations prior to delivery and shall be accompanied by letter and/or certificate from the nursery that the plant materials are suitable for said locations or they will not be accepted.

b) Have grown in containers for sufficient time to permit full rooting within the container to bind the soil but not so long as to create a root bound condition. No container plants that have cracked or broken balls of earth, when taken from the container, shall be planted. No plants with damaged roots, broken root balls, or root bound, when taken from the container shall be planted.

c) Have a main leader branch and not have a co-dominant branching structure, unless the tree is intended to be multi-trunk.

d) Be free of weeds, native grasses, Bermuda grass, and Kikuyu grass.

800-1.4.3 Shrubs. To the "WHITEBOOK", ADD the following:

Field grown stock grown in climatic regions which are different (as determined by the Resident Engineer) to those conditions found at the project site, shall have been acclimated to a climate similar to their intended locations prior to delivery and shall be accompanied by letter and/or certificate from the nursery that the plant materials are suitable for said locations or they will not be accepted.

Contractor shall assure that shrubs are grown in containers for sufficient time to permit full rooting within the container to bind the soil but not so long as to create a root bound condition. No container plants that have cracked or broken balls of earth, when taken from the container, shall be planted. No plants with damaged roots, broken root balls, or root bound, when taken from the container shall be planted.

Shrubs shall be free of weeds, native grasses, Bermuda grass, and Kikuyu grass.

Shrubs shall be full and bushy to ground.

800-1.4.4 Flatted Plants. To the "WHITEBOOK", ADD the following:

Groundcover plants shall be healthy, vigorous, rooted cuttings grown in flats or 1 gallon cans until transplanting. The soil and spacing of the plants in the container shall ensure the minimum disturbance of the root system at time of transplanting.

800-1.5.3 Tree Stakes. To the "WHITEBOOK", Second paragraph, ADD the following:

Tree stakes shall be two (2) inch diameter lodge pole pine, pointed on end.

800-1.6 **Erosion Control Matting.** To the "WHITEBOOK", ADD the following:

All slopes 3:1 or greater shall require biodegradable erosion control blanket or other slope protection methods provided by contractor as recommended by the Project Biologist prior to the installation of the revegetation, or in the event of slope or restoration failure. All mulch groundcover used shall be created from onsite vegetation, if feasible and shall be clean, free from weeds, seeds, and debris as certified by the supplier, as applicable.

ADD:

800-1.10 **Perforated Pipe.** Perforated pipe for tree drain: Poly vinyl chloride SDR35 perforated pipe. Perforated pipe shall meet ASTM F-758 and AASHTO M-219. Pipe shall be supplied with a spun bonded filter sleeve to protect pipe from soil intrusion.

800-2.1.5 **Copper Pipe.** To the "WHITEBOOK", ADD the following:

Type "K" copper pipe shall be used to extend the existing water main at the meter to the new reduced pressure principle backflow assembly.

800-2.2.7 **Valve Boxes.** To the "WHITEBOOK", ADD the following:

4. Valve boxes shall be sized accordingly to allow wires in pull boxes to be loose and maintain a three inch (3") clearance from the lid.

800-2.4 **Sprinkler Equipment.** ADD the following:

Prior to installation of any irrigation work, the Contractor shall submit, for approval by the City, 6 copies, minimum, of a list of all materials and equipment proposed to be used for the project. Should the Contractor propose to use materials or equipment other than those listed as approved, submit in writing to the City a request to deviate from the approved list. Samples of the materials or equipment shall accompany the request to assist the evaluation of the proposal.

800-2.2.8 **Master Control Valve.** To the "WHITEBOOK", ADD the following:

3. Master valve conductors shall be compliant with paragraph 800-3.2.2. Master valve conductor shall be installed below grade adjacent to flow sensor data cable conduit.

ADD:

800-4 **BIORETENSION BASINS.**

800-4.1 **General.** For Bioretension Basin specifications see Project Plans.

SECTION 801 - INSTALLATION

801-1 **General.** To the "WHITEBOOK", ADD the following:

Contractor shall comply with Caltrans Standards for the installation of irrigation and planting improvements within the Caltrans Right of Way and shall reference the Caltrans Standard Specifications, Standard Special Provisions, Standard Plans and other references as required for compliance.

Landscape Planting and Irrigation Systems within City of San Diego Right of Way shall be compliant with the Greenbook, City of San Diego Whitebook, and these special provisions.

801-2.1 General. To the "WHITEBOOK", ADD the following:

Contractor shall comply with topsoil salvage, storage and placement as required in Special Provision Sections 801-3.4.

If topsoil cannot be salvaged, clean and weed-free class "A" topsoil will be provided and installed by contractor.

The Contractor shall ensure that the soil will be stockpiled within the limits of the project, no more than three feet high when possible. BMPs, silt fencing, and/or cover shall be installed around the stockpile to prevent erosion and as a barrier to preclude any unauthorized access, or as recommended by the Project Biologist.

801-2.2.2 Fertilizing and Conditioning Procedures. To the "WHITEBOOK", Paragraph 1, REVISE to read as follows:

The planting areas shall be ripped to a depth of 15" and brought to finish grade before spreading the fertilizer and soil conditioning materials specified. Place additional Class A topsoil in planting areas as required to meet grades as indicated on the plans prior to final ripping/scarifying and incorporation of soil amendments.

To the "WHITEBOOK", Paragraph 2, ADD the following:

All hardscape shall be dry at time of application. The quantities of materials necessary for the planting area shall be at the site and shall be verified by delivery tickets furnished to the Engineer before spreading.

To the "WHITEBOOK", ADD the following:

Once rough grading has been accomplished, a minimum of (4) four soil samples from different representative areas of site shall be taken from areas approved by the Resident Engineer / Landscape Architect and a soil analysis performed to determine nutrient and mineral content, compositional characteristics, permeability, and existence of possible toxic elements. Soil test shall be conducted by a reputable agricultural soils laboratory approved by Landscape Architect. Analysis shall include recommendations for amending or correcting soil conditions. Results of soil analysis shall be received by Landscape Architect thirty (30) days prior to amending or soil and ordering amendments.

Based on the soils test results, the quantity or type of amendments may be modified by the Landscape Architect within 14 days of receipt of analysis.

Grub and clean all planting areas, removing all weeds, debris, and rocks from the site. All planting areas, 3:1 or less in steepness, shall be thoroughly tilled and loosened to a depth of fifteen (15) inches by approved method. Do not till near existing trees if roots are encountered. Re-compact to a maximum of 85% compaction.

All shrub planting areas where existing soils are replaced with imported topsoil shall be backfilled and settled using applications of water to moisten soil and establish a stable finish grade. Areas which subside, and all depressions or irregularities shall be repaired, settled and grade re-established.

After all shrub planting areas (excluding turf areas) meet the finish grades per grading plan, the following rates of soil conditioning and amendment materials (or as modified by the soils report), shall be evenly spread over all planting areas and worked into the soil:

1) Soil amendments for all shrub planting areas 3:1 or less in steepness:

Soil conditioner	(compost)	4 cu. yds/1,000 sq. Ft.
Gypsum		120 lbs/1,000 sq. Ft.
Iron sulfate		10 lbs/1,000 sq. Ft.
Soil sulphur		10 lbs/1,000 sq. Ft.
After leaching, apply:		
5-3-1 organic fertilizer		25 lbs/1,000 sq. Ft.

Amendments shall be thoroughly tilled and blended into the existing soil to a depth of ten (10) inches by approved methods.

Note: Soil amendments, as specified, are for bidding purposes only. Actual types and quantities may be altered based on soil analysis (provided by Contractor) after rough grading.

2) In addition, after amending soil as described above, all shrub planting areas shall be sprayed with "Sarvon" at the rate of 6 gallons/acre (or 1 qt./2,000 sq. ft.) immediately prior to leaching.

Deep Water Leaching:

1) After complete installation and testing of the irrigation system and tilling soil amendments, all on-grade areas shall be deep water leached, compacted and settled by repeated application of irrigation water until the soil has received a minimum of 12" of water, and has been thoroughly moistened to a depth of 24".

2) After leaching operation, 4 soil samples shall be taken by Contractor per Resident Engineer's / Landscape Architect's direction and given to the soil laboratory for testing. Soil test shall meet the following requirements:

EC - Maximum 3.00

pH - Maximum 7.50

Minimum 6.0

Post Planting Fertilizer:

The Contractor shall apply post-plant 5-3-1 fertilizer at the rate of twenty pounds (20 lbs.) per 1,000 sq. ft., sixty (60) days after planting and once again at the end of the post-construction maintenance period.

Maintenance Phase Fertilizer:

The Contractor shall apply 5-3-1 fertilizer at 30-day intervals from the start of the maintenance period at a rate of 6 lbs. per 1,000 sq. ft. to the planted areas.

1) Application rates:

	Fertilizer	
	Rate	Type
(a) Trees:	1/2 lbs. per each	Post planting
	1" of trunk caliper	5-3-1
(b) Shrubs	25 lbs. per	Post Planting
	1,000 sq. ft.	5-3-1
	Planting area	

2) Apply fertilizer with acceptable equipment.

3) Apply fertilizer when plants and planting areas are in dry condition, apply irrigation immediately after fertilizer application.

801-2.3 Finish Grading. To the "WHITEBOOK", ADD the following:

Finish grade shall insure positive drainage from the site. Surface drainage shall be away from all building foundations. The Resident Engineer shall approve the final grades and elevations before planting operations may begin.

ADD:

801-2.3.1 Excavation around Existing Torrey Pines for Placement of Bioretention Soils. Contractor shall use an air spade to excavate soils from 35 feet from the base of tree trunks outward away from trunk, so as not to damage existing tree root systems or cause lethal damage to trees. Soil shall be left beneath roots larger than 2" where found. Bioretention areas shall be expanded to other areas away from trees to compensate for limited excavation under tree canopy drip line edge. Soil shall be removed and replaced with bioretention soil media in areas furthest from tree trunks. See Civil Engineering plans for bioretention basin limits. It is unlawful to damage, prune, or remove Torrey Pines within the City of San Diego. All excavation work beneath the Torrey Pines shall be done with Landscape Architect, Project Biologist, and Resident Engineer present, without exception.

ADD:

801-2.4 **Payment.** Class A Topsoil shall be measured and paid by the total cubic yards installed complete and shall be included in Earthwork and shall include full compensation for furnishing all material, delivery, placement, fees, labor, equipment, water, tools and incidentals required to complete the work specified and shall be included in the project lump sum price. No additional compensation will be made therefore.

Class C Topsoil shall be measured and paid by the total cubic yards installed complete and shall be included in Earthwork and shall include full compensation for furnishing all material, delivery, amending, amendment materials, placement, fees, labor, equipment, water, tools and incidentals required to complete the work specified and shall be included in the project lump sum price. No additional compensation will be made therefore.

801-4.1 **General.** To the "WHITEBOOK", ADD the following:

The Contractor shall be responsible for managing the site and performing planting, maintenance and corrective measures to the best advantage of the plant material to promote healthy growth, establishment and success of the plantings. This shall include providing for drainage, irrigation, repair of damaged features, correction of deleterious conditions, maintaining a proper soil moisture level, weeding, fertilization, protection, temporary measures to promote establishment and other reasonable maintenance and construction efforts needed to provide for the successful establishment of the plant materials during the entire contract period.

The Contractor shall not install planting as shown in the plans when it is obvious in the field that conditions exist which are detrimental to plant survival and growth. Such conditions shall be brought to the attention of the Resident Engineer. The successful establishment of the plantings during the entire contract period is the Contractor's responsibility.

Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted horticultural practice, as approved by the Resident Engineer / Landscape Architect. No planting shall be done in any areas until it has been satisfactorily prepared in accordance with these specifications. Soil moisture level prior to planting shall be no less than 75% of field capacity. The determination of adequate soil moisture for planting shall be the sole judgment of the Resident Engineer / Landscape Architect and his decision shall be final. The Contractor shall obtain approval from the Resident Engineer of planting pits before planting operations shall begin. If the soil moisture level is found to be insufficient for planting, all planting pits shall be filled with water and allowed to drain before starting planting operations. No more plants shall be distributed in the planting area on any day than can be planted and watered on that day. All plants shall be planted and watered as herein specified immediately after the removal of the containers. Containers shall not be cut prior to placing the plants in the planting area.

Percolation Test: Prior to installing plants, Contractor shall perform a minimum of three percolation tests in representative areas of the site to verify acceptable natural drainage for planting pits. Tests shall be performed as follows:

1) Dig a pit 2'x 2' x 2' deep.

2) Fill with water to top and cover with plywood and barricade to protect pedestrians.

3) Make daily observations noting the depth of water each day.

4) Report to the Resident Engineer the length of time that the water takes to drain completely from each hole. If water drains from the hole within one day, refill with water. Based on this test, the Resident Engineer will make a determination of whether additional drainage measures will be required for boxed size tree plantings.

No plants shall be installed until percolation tests have been observed by the Resident Engineer and a determination made that no further drainage measures are required.

Planting shall not be performed if plant pits contain standing water, or if pits are over saturated to a condition which may result in an unhealthful condition for the plant. It is the Contractor's responsibility to provide a suitable growing condition for the plant material and to maintain that condition throughout the entire contract period.

Upon arrival at the construction site, the Resident Engineer will inspect the plants for any damage that may have occurred in transit. Plants that have been damaged in transit may be rejected at no cost to the City in accordance with these Special Provisions, Section 800-1.4.1.

801-4.2 Protection and Storage. To the "WHITEBOOK", ADD the following:

The Contractor's on-site plant storage area shall be approved by the Resident Engineer/Landscape Architect prior to the delivery of any plant materials. Any plants determined by the Resident Engineer /Landscape Architect to be wilted, broken, or otherwise damaged shall be rejected at any time during the project, whether in the ground or not. All plants shall be handled by their containers. Any plant that has been handled by its trunk or stem shall be rejected. All rejected plants shall be removed from the site immediately.

ADD:

801-4.2.4 Prune Existing Trees to Remain. ADD the following:

Any pruning of existing trees to remain to accommodate the project shall be done by tradesmen experienced in this type of work under the direction of a Certified Arborist. The removal of any limbs, branches and roots shall be done only after conferring with the Resident Engineer.

Payment: Payment for pruning of existing trees shall be included in the lump sum project cost for Landscape work and no additional payment will be made.

801-4.6.1 Method A Tree Staking (Double Stake). To the "WHITEBOOK", ADD the following:

All 15 gallon, 24" box and 36" box size trees shall be double staked. Refer to section 800-1.5 of these Special Provisions for approved staking materials and guying materials.

The trees shall be staked with the type and length of stake specified on the plans or in the special provisions. One stake shall be placed 18 inches from each side of the tree trunk, unless directed otherwise by the Resident Engineer. Four ties shall be used; two at 2 in from the top of each stake and two at 2 ft. above the ground. Ties shall be loops secured to the stake on one end and shall be long enough to provide for 3 in. of slack to permit the tree trunk limited movement in any direction.

Payment for tree staking shall be included in the unit price paid for trees and no separate payment will be allowed therefore.

801-4.6.2 Guying. To the "WHITEBOOK", ADD the following:

All boxed trees over 36" box, including relocated trees, shall be guyed. Guying shall be done immediately after planting. Three guys per plant shall be installed in accordance with the following:

1) Each guy shall be secured to the appropriate main branch by a twisted loop of No. 12 BWG galvanized iron wire housed in garden hose.

2) Each guy shall be anchored to a driven stake located at a horizontal distance from the tree equal to the vertical distance from ground to the connection of guy wire on the tree branch.

3) Each guy shall be covered with highly visible garden hose or plastic tubing to a height of 1.8 m (6 feet) above grade.

4) Slack in each guy shall be removed by hand so as not to bend or twist the plant.

801-4.9.3 Seeding and Mulching. DELETE in its entirety and SUBSTITUTE with the following:

Seed, fertilizer, mulch, and other specified materials shall be applied on slopes by Method B described in 801-4.8.2. Method B Hydroseed shall be composed of materials as follows:

All required revegetation and erosion control shall be complete within 90 calendar days of the completion of grading or disturbance in order to start the 120 PEP. Hydroseed shall consist of a mixture of bonded fiber matrix, seed, commercial fertilizer, binder, green color and water. Mixture will be as specified as follows:

The hydro-mulch slurry mixes shall be applied in a two (2) step process which allows seed to be in close contact with soil. The hydro-mulch shall be applied at the following rates:

Step 1: Seed Application Hydro-mulch:

Bonded Fiber Matrix (BFM):	500 lbs. per acre.
Organic Fertilizer:	800 lbs. per acre
Humate Organic Soil Conditioner:	550 lbs. per acre

Soluble Humate:	1 lb. per acre
Water:	As required per manufacturer's instructions
Mycorrhizal Inoculum:	60 lbs. per acre.
Seed Mix:	Pure live seed in weights as indicated on plans
Green dye color:	Color additive.

Step 2: Erosion Control Hydro-mulch

Bonded Fiber Matrix (BFM):	3,000 lbs. per acre (Increase amount per manufacturer recommendations for steeper slopes)
Water:	As required.

Contractor must provide the Resident Engineer with seed "bag tags" and receipt forms prior to installation of hydroseed mixture.

All bare spots shall be re-seeded and mulched by the Contractor within thirty days of the initial application.

The preferred time for performing seeding is between the dates of October 15 and November 30 or before the first substantial winter rains if this is not possible, seeding shall occur between October 15 and February 28. Since an irrigation system is specified for the slope areas, seeding of those areas can be performed between September 15 and March 15, if the site is ready for seeding.

Seeding shall be started only after weed eradication, soil preparation and finish grading has been completed and soil has been permitted to settle.

Floating: After finish grading, deep watering, the areas to be seeded shall be loosened to a depth of two inches, raked, and floated to the final finish grade by a standard method acceptable to the Resident Engineer/Project Biologist (Restoration Ecologist), with the finish surfaces left even and smooth, free from ridges and depressions and reasonably well firmed.

All seed shall be separated and containerized by species. Each species of seed shall be labeled with the species, purity, germination, percent live seed and quantity of the seed in pounds. Save all seed tags and provide to the Resident Engineer with a small sample of seed from the seed containers prior to mixing to verify the seed quality.

Seeding application is to be performed prior to application of the hydro-mulch so that seed is in direct contact with the soil.

The seed shall be evenly applied over the entire area at the rates indicated for each area. During the sowing, care shall be exercised to keep uniform seed spacing. Seeding shall not be performed during times when wind may cause uneven distribution of the seed.

ADD:

801-4.10 **Mulch.** Install mulch in a minimum 3" depth layer in all planting areas indicated on plans. Depth shall be uniform. Taper the mulch to the crown of plant trunks, and keep mulch free of the area within 2" of trunk of plant.

Bark Mulch shall be measured by the square foot. The contract unit price paid for mulch shall be included in the lump sum project cost and shall include full compensation for furnishing all labor, materials, tools, equipment, all incidentals necessary to provide a complete installation, and for doing all the work involved in supplying and installing bark mulch, complete-in-place, as shown on the plans, as specified in these Special Provisions and as directed by the Resident Engineer.

ADD:

801-4.11 **Tree Relocation.** The Contractor shall enlist the services of a professional tree moving company with experience in moving Torrey Pine trees. Professional tree moving company shall have a minimum of 15 years of successful experience performing transplanting work of trees of comparable size and nature. Contractor shall be responsible for evaluating the trees for moving to new locations as shown on the plans. Contractor shall attain the services of a Certified Arborist to review the trees and prepare a short report with present tree health conditions, expectations for salvage and survival, recommendations for the preparation of trees for relocation as required in the following paragraphs. Contractor shall also contact the City Arborist to conduct a preliminary review of the Torrey Pine trees proposed for relocation. The City Arborist shall provide review comments with recommendations for transplanting. Tree moving sub-contractor shall prepare and submit a work program schedule for all phases of work to the Resident Engineer, Project Biologist, and Landscape Architect. Tree moving Sub-Contractor shall provide all necessary materials, including but not limited to organic soil amendments, organic fertilizers, guying, etc.

801-4.11.1 **Tree Pre-relocation Treatment Program.** Contractor shall submit a pre-tree moving program that shall outline the pre-move watering, fertilizing, pruning, and pre-digging of root ball operations to the Resident Engineer, Project Biologist, and Landscape Architect for review and approval prior to beginning the tree relocation work.

801-4.11.2 **Tree Moving Program.** Contractor shall submit a tree moving program that will require outlining a detailed work program for the digging of the rootball, boxing, loading and delivery of tree from existing location to new location and traffic control. Program shall be submitted to the Resident Engineer, Project Biologist, and Landscape Architect for review and approval prior to beginning the tree relocation work.

801-4.11.3 **Post Tree Relocation Program.** Contractor shall submit a post tree relocation watering, fertilizing, maintenance and monitoring program to the Resident Engineer, Project Biologist, and Landscape Architect for review and approval prior to beginning the tree relocation work.

801-4.11.4 Tree Relocation Guarantee.

Construction Period: That period which encompasses all construction work commencing with the transplanting of the Torrey pines to the acceptance of relocated Torrey pines and the initiation of the Maintenance Period.

Torrey Pine Maintenance Period: That period beginning upon the acceptance of the transplanted Torrey Pines extending for (1) full calendar year. The Maintenance Period begins after all transplanting work on this project is complete, checked, accepted, and written approval from City Representative is given to begin the Maintenance Period, and shall continue thereafter for not less than 365 calendar days.

Continuously maintain all areas within 10' of the dripline to beneath trees during the Torrey pines maintenance period until the final acceptance of work.

Trees shall be kept in a healthy growing condition and in a visually pleasing appearance by watering, pruning, trimming, fertilizing, pest and disease controlling, spraying, weeding, cleaning-up, and other necessary operation of maintenance. Landscape areas shall be kept free of weeds, noxious grass, and other undesired vegetative growth and debris.

Contractor shall assume responsibility for maintaining adequate protection of the transplanted tree drip line areas. Damaged areas shall be repaired immediately.

Periodic Maintenance Inspections: At the discretion of the City Representative during the Maintenance Period, periodic inspections may be requested to determine that plant vigor is in conformance with the Contract.

Guarantee Period: The period which encompasses the replacement of dying, unhealthy, or unsightly trees from the time of final acceptance for one (1) full calendar year.

During the Construction, Maintenance and Guarantee Periods, should any transplanted tree die, or whose survival is in doubt as determined by the City Resident Engineer, that tree shall be removed and replaced immediately with three (3) trees, each not less than 48" box size, as intended to replace the canopy mass of the transplanted tree.

ADD:

801-4.12 Revegetation with Natives. Installation of revegetation with natives in all landscape areas shall comply with specification Section 802 'Native Habitat Protection, Installation, Maintenance, and Monitoring' of the "WHITEBOOK".

801-5.1 General. To the "WHITEBOOK", ADD the following:

Contractor shall check and verify the water pressure at P.O.C. prior to beginning of work. Notify Resident Engineer of any discrepancy between pressure indicated on plans and actual water pressure.

Contractor shall check and verify all site conditions, utilities, and services prior to trenching. Verify point of connection location prior to beginning of work.

Plans are diagrammatic and approximate. All piping, valve boxes, backflow preventers, etc., shall be located in planting areas. No irrigation equipment except pipe crossings and electrical crossings shall be located in or under sidewalks or in the street. Except where street crossings or trench rerouting is required to protect existing trees.

All irrigation equipment shall be installed, flushed, pressure tested, and the coverage test approved prior to plant installation.

801-5.3.1 General. To the "WHITEBOOK", ADD the following:

Trenches through paved areas shall be resurfaced in accordance with 306-1.5.

Concrete thrust blocks, minimum 1 cu. ft. with sufficient bearing area to resist the thrust of water, shall be constructed against undisturbed earth at all changes of direction exceeding 45 degrees for pressure mainline pipe larger than 2", thrust blocks shall be installed at gate valves, tees, elbows, crosses, and ends of pipe runs; or wherever the Resident Engineer deems one to be necessary. Thrust blocks are to be installed as per Standard Drawings SDW-151, sized as for 4" pipe.

Contractor shall install sleeves where any waterline or controller wire passes under paving. Sleeves shall extend 12" beyond each side of the improvement. The letter "E" for electrical or the letter "W" for water shall be stamped or chiseled on the improvement directly above the sleeve. The sleeves shall be a minimum 18" deep for electrical and the sleeves 21" below grade for water. Sleeves for water mainlines within vehicular paving shall be placed at 36" depth. Sleeves shall be Schedule 40 PVC, typical. The diameter of the sleeve shall be two (2) pipe sizes larger than the diameter of waterline within.

All pressure pipe shall have a continuous blue colored trench marker metallic tape placed nine inches (9") below finished grade directly above the buried pipe. (See Section 800-3.2.2.3 for material.)

Avoid installing pipe through proposed tree locations to avoid conflict with root ball.

801-5.3 Installation of Valves, Valve Boxes, and Special Equipment. To the "WHITEBOOK", sixth paragraph. ADD the following:

The Contractor shall rework the locking toggles of the concrete valve boxes by replacing the existing clevis pin and sheet metal clip with a cadmium-plated machine bolt and self-locking nut. Apply oil to lubricate and to prevent rust. The Contractor shall paint the identification number of the valve and the controller clock on the cover of the valve box. Valve boxes shall be sized accordingly to allow wires in pull boxes to be loose and maintain a three inch (3") clearance from the lid. All wires in pull boxes shall be loose and shall not come within three inches 75 mm (3 inches) from lid. Boxes shall be sized accordingly to accommodate this requirement.

801-5.3 Installation of Valves, Valve Boxes, and Special Equipment. To the "WHITEBOOK", Last paragraph, ADD the following:

Backflow preventers shall be installed as specified on the contract documents.

801-5.5.1 General. To the "WHITEBOOK", ADD the following:

Plans are diagrammatic and approximate. Precise location of heads / bubblers shall be field adjusted to meet minor variations in the plan.

801-5.7.2.1 General. To the "WHITEBOOK", ADD the following:

Flush all pipes clean prior to installing sprinkler heads. Do not allow water from irrigation flushing to enter plant pits where water would result in over-saturation of soil creating an unhealthful condition for plant materials.

Mains larger than 2 inches, asbestos cement mains and mains employing socket and spigot gasket joints shall be tested in accordance with section 306-1.4. If leaks develop, repair leaking portions and repeat test until entire system is proven watertight. Test shall be observed and approved by Resident Engineer prior to backfilling trenches.

801-5.7.3 Sprinkler Coverage Test. When system is complete, and prior to planting, the Contractor shall perform a coverage test in the presence of the Resident Engineer.

ADD:

801-5.7.5 Temporary Irrigation. Under the direction of the RE and Project Biologist, temporary irrigation will be applied as follows:

1. Project Biologist shall recommend temporary irrigation measures as needed. Contractor shall prepare and submit the plan to the RE for approval. Contractor shall provide all irrigation lines and appurtenances to function automatically and in accordance with the plan and make any adjustments necessary to meet the success criteria per Project Biologist recommendations.

2. Temporary irrigation via irrigation lines and appurtenances (or alternate method approved by the RE and Project Biologist) shall be provided by the contractor for a period sufficient to establish plant material and to provide vegetative cover that prevents soil erosion. The amount of irrigation must be adjusted when warranted by site conditions. Project Biologist and landscape contractor shall monitor to determine success and added requirement for temporary irrigation.

3. Irrigation shall be performed in a manner that avoids runoff, seepage, and overspray onto adjacent properties, non-irrigated areas, walls, roadways, or structures.

4. The water delivery rate shall be matched to the slope gradient and the percolation rate of the soil.

5. Irrigation shall deliver water sufficiently and uniformly and shall be appropriate to the needs of the plant materials. Recommended reference materials for irrigation system design are listed in appendix "A" of the City's Land Development Manual: Landscape Standards.

6. Overwatering as evidenced by soggy soils, continually wet pavement, standing water, runoff in street gutters and other similar conditions shall be managed and prevented.

7. If the Project Biologist recommends an alternative irrigation method such as truck watering, all vehicles shall stay on the permanent access routes and shall not irrigate beyond the revegetation boundary.

8. Temporary irrigation materials shall be placed so that they can be driven over or do not impede access to utilities (i.e. manholes).

801-6 **Maintenance and Plant Establishment.** To the "WHITEBOOK", paragraph 1, ADD the following:

At the end of **1 Year PEP**, plant coverage shall meet 50 percent coverage, as verified by the Project Biologist.

ADD the following paragraphs:

10. Contractor shall correct all soil erosion, and shall repair and/or replace all above ground erosion control BMPs damaged during the PEP. Any above ground erosion control measures such as but not limited to silt fencing, gravel bags, fiber rolls and/or hay bales shall be removed by the contractor following acceptance of the 25 month maintenance and monitoring period by the RE and Project Biologist. All hay/straw products shall be un-decaying, clean and free of weeds, seeds, and debris.

11. 1:1 replacement of ornamentals (in kind) shall be monitored and maintained for a period of no less than 90 days (within the PEP) to ensure successful establishment of plantings per contract specifications.

12. Orange construction fence shall be installed and maintained by contractor at the installation of all revegetation plant materials though the PEP, and until the end of the 25 months maintenance and monitoring period. Following acceptance of the 25 months maintenance and monitoring period by the City Representative and Project Biologist the contractor shall remove all orange fencing.

13. Contractor shall remove all trash and/or debris from the revegetation site prior to and following the revegetation installation, and until the end of the 25 month maintenance and monitoring period. Contractor shall remove all temporary irrigation lines and appurtenances following acceptance of revegetation by the RE and the City Representative.

ADD:

801-6.10 Operations and Maintenance Manuals. Prepare and deliver to the Resident Engineer within ten calendar days prior to completion of construction, two (2) three ring hard cover binders containing the following information:

Index sheet stating Contractor's address and telephone number, list of equipment with name and addresses of local manufacturers' representatives.

Catalog and parts sheets on all material and equipment.

Contractor Guarantee statement.

Complete operating and maintenance instructions for all equipment.

In addition to the above mentioned maintenance manuals, provide the maintenance personnel with instructions for maintaining equipment and show evidence of such instruction in writing to the Resident Engineer at the conclusion of the project.

Payment for operation and maintenance manuals shall be included in the lump sum price for irrigation, and no additional compensation shall be allowed.

ADD:

801-6.11 Extra Equipment. Contractor shall provide to the Resident Engineer:

Three (3) keys for opening and locking each automatic controller enclosure.

Two (2) globe valve keys with a minimum four (4) foot long handle.

Five (5) sprinkler heads with nozzles, screens and flexible swing joints of each type used on the project.

Five (5) quick coupler keys with swivel hose ells to match quick coupler valves used on the project.

Payment for extra equipment shall be included in the lump sum price for irrigation system, and no additional payment will be allowed.

SECTION 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE, AND MONITORING

802-1.1 **Terms and Responsibilities.** SEE **Appendix A, B, C, D and R** for additional Mitigation area requirements

802-2.1.1 **Project Biologist.** To the "WHITEBOOK", ADD the following:

The City will retain the services of a qualified Project Biologist.

802-2.2 **Environmental Constraints.** To the "WHITEBOOK", item 1, ADD the following:

a) Temporary lighting for nighttime work shall be of the lowest illumination necessary for human safety, will be diverted away from any native vegetation communities, and shall consist of low-sodium or similar lighting equipped with shields to focus light downward onto the appropriate subject area.

b) Contractor shall install exclusionary devices underneath the bridge to prevent birds and bats from nesting during construction. Installation of these devices shall be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. The Project Biologist shall inspect the area prior to installation for nests and evidence of breeding activity. If breeding activity is not detected, inactive nests shall be destroyed to prevent birds from establishing breeding. If breeding activity is confirmed, exclusionary devices shall be installed in all other areas lacking active nests. Active nests will be monitored by the Project Biologist until breeding is complete. Once breeding is complete, Contractor shall install exclusionary devices in these area.

c) In areas that do not require excavation or grading, vegetation shall be trampled instead of completely removed.

d) If project construction occurs during the breeding season for light-footed Ridgeway's rail (March 15–July 31), the Project Biologist will conduct nesting surveys to determine and document the presence/absence of breeding rails. If active nests are identified within 500 feet of the noise-generating construction activities and noise is in excess of 60 dBA hourly Leq, or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, the Contractor shall implement measures to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported daily to the Project Biologist. The Project Biologist will ensure that avoidance and minimization measures are implemented such that adverse effects to the light-footed Ridgeway's rail do not occur as a result of the adjacent construction activities (e.g., noise and lighting). If the Project Biologist suspects that avoidance and minimization measure are ineffective, and

project activities may be adversely affecting the rail, culpable activities will be suspended within 500 feet of active nesting territories until nesting activity is completed and fledglings are no longer in the area, or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If measures cannot be identified, implemented, and demonstrated to be effective to avoid adverse effects to the rail, then project construction will stop until consultation has been completed with the Project Biologist to address unanticipated impacts to the species.

e) If project construction occurs during the breeding season for California least tern (April 1 through June 30) the Project Biologist shall conduct nest surveys for this species. If no nesting terns are detected during the surveys, no further avoidance and minimization efforts will be necessary for this species. If nesting least terns are detected, all nests shall be avoided by construction equipment and personnel, and the Contractor shall either implement noise reduction measures to reduce construction noise levels to acceptable levels at the nest site (below 60 dB per hour), or discontinue work until the young have fledged. A nondisturbance buffer zone of 500 feet around the least tern nest site shall be established by the Project Biologist, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed.

f) If project construction occurs during the breeding season for Belding's savannah sparrow (April 1 through July 31), California horned lark (March 1 through June 30), or northern harrier (April 1 through September 30), the Project Biologist shall conduct nest surveys for these species. If no nesting birds are detected during the surveys, no further avoidance and minimization efforts will be necessary for this species. If nesting birds are detected, all nests shall be avoided by construction equipment and personnel, and the Contractor shall either implement noise reduction measures to reduce construction noise levels to acceptable levels at the nest site (below 60 dB per hour), or discontinue work until the young have fledged. A nondisturbance buffer zone of 500 feet around the nest site shall be established by the Project Biologist, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed.

g) If pile driving occurs during the bird breeding season (March through September), the contractor shall drape the hammer with sound blankets and place vibratory dampeners on the hammer head.

h) Clearing and grubbing of coastal marsh will occur between August 1 and March 14 to avoid the light-footed Ridgeway's rail breeding season (or sooner than August 1 if a biologist knowledgeable of rail biology and

ecology demonstrates to the satisfaction of the Project Biologist that all rail nesting is complete).

802-2.3 **Construction Fencing**. To the "WHITEBOOK", ADD the following:

Contractor shall limit their activities, vehicles, equipment, and construction materials to the fenced construction limits, staging areas, and routes between the construction limits and staging areas.

Contractor shall remove temporary construction fencing upon completion of the project.

Contractor shall refer to **Appendix A, B, C, D and R** for Mitigation area-specific requirements.

802-2.4 **Working in Unpaved Areas**. SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-2.5 **Construction Access Routes**. SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

ADD:

802-2.6 **Environmental Protection.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

ADD:

802-2.7 **Protection of Biological Resources.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.3 **Mulch**. SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.3.2 **Hydro-mulch.** Provide a wood fiber hydraulic mulch manufactured form 100% virgin wood chips, mulch shall be applied at a minimum rate recommended by the vendor.

The Hydraulic Mulch shall be any of the following products or approved equal:

1. Conwed Fibers Hydro Mulch 1000 with Triflo from Profile

2. Mat-Fiber from Mat.Inc.

3. Tru Wood from Finn

Products shall conform to comparable property values listed in the table below, when uniformly applied at the recommended rate by the vendor,

802-3.4 **Topsoil**. To the "WHITEBOOK", DELETE items 2 and 5 and SUBSTITUTE with the following:

2. The salvaged topsoil shall be stored at a location on Site that is approved by the Project Biologist via the Engineer. The topsoil shall be stored separately, no more than 3 feet high when possible, protected, and covered by means of an impermeable tarp, and appropriate BMPs shall be installed around the stockpile to prevent erosion and to act as a barrier to preclude any unauthorized access as recommended by the Project Biologist.

5. If import of topsoils is determined to be necessary, Class B topsoil in accordance with 800-1.1.2, "Class 'A' Topsoil" from a comparable Site shall be provided and tested, as specified. Topsoil quantity, source, and quality shall be approved by the Project Biologist via the Engineer prior to delivery.

802-3.4.2 **Topsoil Preparation and Conditioning Procedures.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.5 **Seed**. SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.6 **Container Stock**. SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.7 **Installation.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.8 **Hydro Seeding.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

802-3.9 **Maintenance, Monitoring and Reporting During The 120 Day PEP.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

ADD:

802-6 **MONITORING AND PERFORMANCE STANDARDS.** SEE **Appendix A, B, C, D and R** for Mitigation area requirements.

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP) SECTION A – GENERAL REQUIREMENTS

4.1 **Nondiscrimination in Contracting Ordinance.** To the "WHITEBOOK", subsection 4.1.1, paragraph (2), sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

You shall not discriminate on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers.

END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)

TECHNICALS

SECTION 13110

GALVANIC ANODE CATHODIC PROTECTION

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

A. Furnish all labor, materials, tools and incidentals to install a galvanic anode cathodic protection system for the West Mission Bay Drive Bridge Dielectrically Coated steel pipeline. Cathodic protection installation, inspection, and testing are required for a complete and workable system.

B. The CONTRACTOR shall retain a qualified CORROSION ENGINEER to direct the construction of facilities specified herein. The CORROSION ENGINEER shall test and certify that the corrosion control facilities for this project are constructed properly and as specified, and are fully functional.

1.2 DEFINITIONS

A. CONTRACTOR: The licensed prime installer selected by the OWNER to install the pipeline.

B. OWNER: The City of San Diego.

C. CORROSION ENGINEER: A qualified CORROSION ENGINEER retained by the CONTRACTOR who is either a Registered Professional CORROSION ENGINEER or NACE-International Certified CATHODIC PROTECTION SPECIALIST or CORROSION SPECIALIST.

D. ENGINEER: The City of San Diego's Resident ENGINEER or designated representative.

E. CITY'S CORROSION ENGINEER: The ENGINEER'S appointed representative from the City's Corrosion Section.

1.3 CONTRACTOR AND CORROSION ENGINEER QUALIFICATIONS

A. All work must be conducted by qualified, experienced personnel working under continuous, competent supervision. Qualified CONTRACTORS must demonstrate at least five years of experience with Cathodic Protection installations. Cathodic protection installation and testing shall be done under the direct supervision of a CORROSION ENGINEER. The CONTRACTOR doing the electrical installations shall have proper valid State of California licenses.

B. SERVICES OF CORROSION ENGINEER: The CONTRACTOR'S CORROSION ENGINEER shall inspect, activate, adjust, and evaluate the effectiveness of the cathodic protection system. The CORROSION ENGINEER is defined above and includes education and experience in cathodic protection of buried or submerged metal structures. The CORROSION ENGINEER shall have not less than five years' experience in inspection and testing of pipeline cathodic protection systems. The Corrosion Engineer shall directly oversee the CATHODIC PROTECTION TECHNICIAN (if used), review all specification sections in the cathodic protection specification, verify inspections and field measurements, and certify the accuracy and completeness of all cathodic protection submittals and reports.

C. SERVICES OF CATHODIC PROTECTION TECHNICIAN: The CONTRACTOR'S CORROSION ENGINEER may use a CATHODIC PROTECTION TECHNICIAN to inspect, activate, adjust, and evaluate the effectiveness of the cathodic protection system as long as the CATHODIC PROTECTION TECHNICAN is directly supervised by the CORROSION ENGINEER. The CATHODIC PROTECTION TECHNICIAN is defined as a person accredited or certified by NACE International as a CATHODIC PROTECTION LEVEL 2 TECHNICIAN. Such a person shall have not less than five years' experience inspecting pipeline cathodic protection systems.

1.4 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. American Society for Testing and Materials (ASTM):

C94	Ready-Mixed Concrete
D-2220	Polyvinylchloride Insulation for Wire and Cable
D-1248	Polyethylene Plastics Molding and Extrusion Materials
B3	Soft or Annealed Copper Wire
B8	Concentric-Lay Stranded Copper Conductors

B. Federal Specifications (FS):

Military Specification (Mil. Spec):

MIL-C-18480B	Coating Compound, Bituminous, Solvent, Coal Tar Base

C. Underwriter's Laboratories, Inc. (UL) Publications:

83-80	Thermoplastic-Insulated Wires
486-76	Wire Connectors and Soldering Lugs for Use with Copper Conductors

D. National Association of Corrosion ENGINEERs (NACE):

SP0169	Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems
SP0286	Electrical Isolation of Cathodically Protected Pipelines

1.5 CONTRACTOR SUBMITTALS

The CONTRACTOR shall furnish the following documents to the ENGINEER and the catalog cuts shall be accepted prior to installation:

A. CATALOG CUTS (5 COPIES):

1. Standard potential magnesium anode
2. At-grade, traffic-rated concrete test box with cast iron lid
3. Shunts
4. Micarta test board

5. Wire and cable

6. Exothermic weld kits

7. Weld caps

8. Weld coating

9. Plastic warning tape

10. Wax tape coating system

B. AS-BUILT DRAWINGS:

The CONTRACTOR shall maintain As-Built drawings showing exact locations of anodes, test stations, and wire trenching runs. Location changes from the design shall be clearly marked in red on a blue line copy of the design drawings. The As-Built drawings shall be submitted to the ENGINEER at the end of the project. The project is not considered complete until As-Built drawings are submitted.

C. CONTRACTOR'S CORROSION ENGINEER QUALIFICATIONS:

The CONTRACTOR shall submit qualifications of the CORROSION ENGINEER and CATHODIC PROTECTION TECHNICIAN (if used).

PART 2 -- PRODUCTS

2.1 GENERAL

Materials and equipment shall be new and the standard product of manufacturers regularly engaged in the manufacturing of such products. All materials and equipment shall bear evidence of safe operation approval from a nationally recognized testing laboratory.

2.2 STANDARD POTENTIAL MAGNESIUM ANODES

A. CAPACITY. Standard potential magnesium anodes shall have a theoretical energy content of 1000 ampere-hours per pound and have a minimum useful output of 500 ampere-hours per pound.

B. CHEMICAL COMPOSITION (HIGH POTENTIAL MAGNESIUM) ASTM B843.

aluminum	5.30 to 6.70 percent
manganese	0.15 to 0.70 percent
zinc	2.50 to 3.50 percent
copper	0.02 percent max
nickel	0.002 percent max
iron	0.003 percent max

silicon	0.10 percent max
others, total	0.30 percent max
magnesium	remainder

C. OPEN CIRCUIT POTENTIAL. The open circuit potential of all anodes, buried in the soil, shall be between 1.50 and 1.60 volts dc versus a copper-copper sulfate reference electrode.

E. INGOT SIZE AND WEIGHT. Anodes shall be 17-pound pre-packaged, high potential ingots with a trapezoidal cross section. Ingot length shall be 25.25 inches long. The total packaged weight shall be 45 lbs.

F. ANODE CONSTRUCTION. Anodes shall be cast magnesium with a galvanized steel core rod recessed on one end to provide access to the rod for connection of the lead wire. Silver braze the lead wire to the rod and make the connection mechanically secure. Insulate the connection to a 600 volt rating by filling the recess with epoxy and covering any exposed bare steel core or wire with heat shrinkable tubing. The insulating tubing shall extend over the lead wire insulation by not less than 1/2 inch. The anode lead wire shall be stranded copper and shall be connected directly to the anode steel core as described above. There shall be NO wire splices between the anode steel core and the tag end at the test station.

G. ANODE PRE-PACKAGED BACKFILL MATERIAL. The anodes shall be completely encased and centered within a permeable cloth bag in a special low resistivity backfill mix with the following composition:

Gypsum	75%
Powdered bentonite	20%
Anhydrous sodium sulfate	5%

H. Backfill grains shall be such that 100 percent is capable of passing through a screen of 100 mesh. Backfill shall be firmly packed around the anode such that the ingot is approximately in the center of the backfill. The resistivity of the backfill shall be no greater than 50 ohm-cm when tested wet in a soil box. Total prepackaged weight shall be approximately 45 pounds.

2.3 AT-GRADE TEST STATIONS

A. At-Grade (Flush) Mounted:

1. Test Box: Concrete box of dimensions as shown on the Drawings. Use pre-cast concrete San Diego Pre-cast Model 1BSD\K with cast iron lid. The cast iron lid shall be 9-1/2 inch diameter with the letters “City of San Diego Corrosion Test Station”.

2. Each CP Test Box shall include a 5 inch x 5 inch cross-laminated phenolic terminal board with a minimum thickness of 1/4-inch. The phenolic material shall be NEMA type CE or LE. The terminal board shall contain individual electrical lugs for each wire entering the test station or junction box.

2.4 SHUNTS

A. The shunt resistance shall be such that a 5-Amp current causes a voltage drop of 50-millivolts (i.e. 0.010-ohms). Shunts shall be the 1/2-inch wide by 2-1/2-inch long flat manganin ribbon style.

2.5 WIRES

A. General: Conform to applicable requirements of NEMA WC 5 and WC 7. All wires shall be single conductor, unless otherwise specified. All wires shall be single conductor, stranded copper wire with 600-volt HMWPE insulation, unless otherwise specified.

B. Mechanical Joint (Non-Welded Pipe Joint) Bond: Two No. 4 AWG HMWPE.

C. Pipeline Test Leads: Two No. 8 AWG HMWPE.

D. Anode Wires: No. 12 AWG THWN with white insulation.

E. Rebar Ground Cable For Concrete Structures: Minimum size #2 AWG, bare copper stranded grounding cable. The quantity of cable required should be sufficient to run two ground cables from a flush-to-grade concrete ground box down to two separate exothermic connections made to rebar inside each concrete encasement or major reinforced concrete structure. Locate the rebar ground text boxes adjacent to cathodic protection test boxes.

2.6 CONCRETE

D. Reinforcing steel: ASTM A 615, Grade 60 deformed bars and welded wire fabric.

E. Welded Wire Fabric: ASTM A 497.

F. Formwork: Plywood, earth cuts may be used.

G. Concrete Design for Minimum Compressive Strength at 28 Days.

2.7 ANCILLARY MATERIALS

A. Electrical Tape: Linerless rubber high-voltage splicing tape and vinyl electrical tape suitable for moist and wet environments.

B. Wire Connectors: One-piece, tin-plated crimp-on lug connector.

C. Insulating Resin: At CONTRACTOR'S option, bitumastic coating may be used if allowed to dry completely before covering.

2.8 MARKING TAPE

A. Inert polyethylene, impervious to known alkalis, acids, chemical reagents, and solvents likely to be encountered in soil.

B. Thickness: Minimum 4-mils.

C. Width: 6-inches.

D. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.

E. Color: Red with black lettering as follows: "CAUTION CATHODIC PROTECTION CABLES BURIED BELOW."

2.9 EXOTHERMIC WELDS

A. General: Wire sleeves, welders, and weld cartridges according to the weld manufacturer's recommendations for each wire size and pipe or fitting size and material. Welding materials and equipment shall be the product of a single manufacturer. Interchanging materials of different manufacturers will not be accepted.

B. Weld Caps: Exothermic welds shall be sealed with a pre-fabricated plastic cap filled with formable mastic compound on a base of elastomeric tape.

C. Weld Coating: Exothermic welds and weld caps shall be coated with a cold-applied, fast-drying mastic consisting of bituminous resin and solvents per MIL-C-18480B.

2.10 EXTERNAL COATING FOR BURIED SURFACES

A. All buried pipe sections, specials, and fitting surfaces that are not tape wrapped or epoxy coated shall be wrapped with a petrolatum wax tape coating per AWWA C217 with plastic outer wrap. No bare metallic surfaces shall be buried, backfilled, or in contact with the soil.

1. **Primer: All surfaces shall be prime coated with a blend of petrolatum, plasticizer, inert fillers, and corrosion inhibitors having a paste-like consistency.** It shall have a pour point of 100-degrees F to 110-degrees F and a flash point of 350-degrees.

2. **Wax Tape: Covering material shall be a synthetic felt tape, saturated with a blend of petrolatum, plasticizers, and corrosion inhibitors that is formable over irregular surfaces.** The wax-tape shall consist of a synthetic-fiber felt, saturated with a blend of high melt microcrystalline wax, solvents, and corrosion inhibitors, forming a tape coating that is easily formable over irregular surfaces and which firms up after application. The tape shall have a saturant pour point between 125-degrees F and 130-degrees F and a dielectric strength equal to a minimum of 100-volts per mil. Tape thickness shall be 70-mils to 90-mils in 6-inch wide rolls.

3. **Plastic Outer Wrap: The primed and wax taped surface shall be covered with a plastic outer wrap consisting of three layers of 50-guage (10-mil) polyvinylidene chloride or PVC, high cling membrane wound together** as a single sheet.

PART 3 -- EXECUTION

3.1 GENERAL

A. STANDARD. Work not specifically described herein shall conform to NACE SP0169, NACE SP0572, and the Standard Specifications for Public Works Construction 2015 (Greenbook).

B. CONTRACTOR QUALIFICATIONS. All work shall be performed by qualified, experienced personnel working under continuous, competent supervision.

C. TEST RESULTS. The CONTRACTOR shall submit a CORROSION ENGINEER'S report including all test data, conclusions, repairs, and cathodic protection system performance.

D. NOTIFICATION FOR TESTING. The CONTRACTOR shall notify the ENGINEER at least seven days in advance of the anodes, insulators, and test station installations. The ENGINEER or the OWNER'S representative shall, at their discretion, witness the installation of all anodes and cathodic protection facilities. Testing shall be as described in this specification section.

3.2 MAGNESIUM ANODES

A. INSPECTION. All lead wires shall be inspected to ensure that the lead wire is securely connected to the anode core and that no damage has occurred to the lead wire. Lead wire failures shall require replacement of the complete anode and lead wire.

B. PRE-PACKAGED ANODE INSPECTION. Each anode shall be inspected to ensure that the backfill material completely surrounds the anode and that the cloth bag containing the anode and backfill material is intact. If the prepackaged anodes are supplied in a waterproof container or covering, that container or covering shall be removed before installation. The CONTRACTOR shall notify the ENGINEER at least seven (7) days in advance of installing the anodes.

C. LOCATION. Anodes are to be installed in augured holes as shown in the drawings. Anode positions can be adjusted slightly to avoid interference with existing structures. Alternate anode positions must be approved by the ENGINEER.

D. HANDLING. Care shall be taken to ensure that the anode is never lifted, supported, transported, or handled by the lead wire. All anodes shall be lowered into the hole using a sling or a rope.

E. ANODE HOLE SIZE AND DEPTH. Anodes shall be placed vertically at the bottom of a 12 feet deep augured hole, 12 inches in diameter (minimum).

F. SOAKING REQUIREMENTS, PRE-PACKAGED ANODES. Once the prepackaged anodes are in the hole, water shall be poured into the hole so that the anodes are completely covered with water. Allow the anodes to soak for a minimum of 30 minutes before any soil backfill is added.

G. SOIL BACKFILL. After the pre-packaged anodes are soaked, the hole is backfilled with stone-free, native soil. No voids shall exist around the anode bags and the anode lead wire shall not be damaged. The backfill shall be tamped and compacted in 18 inch lifts above the anode taking care not to damage the anode lead wire.

3.3 AT-GRADE TEST STATIONS

A. LOCATION. At-grade corrosion monitoring test boxes shall be located behind the curb or sidewalk and NOT in traffic lanes or gutters. All test box locations shall be approved by the ENGINEER.

B. TEST BOX BOTTOM. Test boxes shall be set in native soil.

C. TEST LEAD ATTACHMENT. Test leads shall be attached to the pipe using the exothermic weld process. An 18-inch length of slack wire shall be coiled at each weld and inside each test box.

D. CONCRETE PAD. A 24-inch square by 4-inch thick reinforced concrete pad is required around each at-grade test station. Test boxes and concrete pad shall be flush with the top of the median curb.

3.4 WIRE AND CABLE

A. TEST LEAD TRENCH. Horizontal test or anode lead runs shall be placed in a 36-inch trench.

B. WIRE HANDLING. Wire leads shall not be stretched or kinked. Care shall be taken when installing wire and backfilling. If wire insulation is damaged during installation, it shall be rejected and replaced completely at the CONTRACTOR's expense. All rejected wire shall be removed from the job site at the close of each workday.

C. PLASTIC WARNING TAPE. Plastic warning tape shall be installed in all wire trenches and 12 inches below finished grade.

D. SPLICING. Wire splices are not permitted.

3.5 WIRE-TO-PIPE CONNECTIONS

A. All connections of copper wires to the pipe shall be made by the exothermic weld method.

B. WELD CHARGE SIZE. It is the CONTRACTOR'S responsibility to ensure that the manufacturer's recommended weld charge size is used.

C. PREPARATION OF WIRE. Do not deform cable. Remove only enough insulation from the cable to allow for the exothermic weld.

D. PREPARATION OF METAL. Remove all coating, dirt, grime and grease from the metal structure by wire brushing. Clean the structure to a bright, shiny surface free of all serious pits and flaws by using a file. The surface area of the structure must be absolutely dry.

E. WIRE POSITION. The wire is to be held at a 30-degree angle to the surface when welding. Only one wire shall be attached with each weld.

F. TESTING OF ALL COMPLETED WELDS. After the weld has cooled, the weld shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. All unsound welds shall be cleaned, re-welded, and re-tested. All weld slag shall be removed.

G. COATING OF WELDS. The area to be coated shall be clean and completely dry. Apply a primer specifically intended for use with an elastomeric weld cap. Apply the weld cap and a bituminous mastic coating material to all exposed areas around the cap in accordance with the manufacturer's recommendations. The coating shall overlap the structure coating by a minimum of 3 inches.

H. COATING REPAIRS. Coatings shall be repaired in the field per the coating manufacturer's recommendations. All coating repairs must be approved by the ENGINEER.

3.6 BOND WIRES

A. NON-WELDED JOINT BOND WIRES. Two No. 4 HMWPE bond wires are required across each non-insulating, in-line valve; a third No. 4 HMWPE bond wire is required from the valve to one outside flange as shown in the drawings. The bond wires shall be attached using the exothermic weld process. Bond wires shall have some slack wire at each weld to allow for creep when backfilling.

3.7 EXTERNAL COATING

A. All insulating couplings shall be covered with a 3-layer wax tape coating system per AWWA C217 with plastic outer wrap. Additionally, all in-line valves, flanges couplings, and adapters that are not coated with a bonded dielectric coating shall be wax tape coated per AWWA C217 with plastic outer wrap.

B. Primer: Surfaces must be cleaned of all dirt, grime, and dust by using a wire brush and clean cloth. The surface shall be dry. Apply the primer by hand or brush. A thin coating of primer shall be applied to all surfaces and worked into all crevices. The primer shall be applied generously around bolts, nuts, and threads, and shall fully cover all exposed areas. The primer should overlap the pipe coating by a minimum of 3-inches.

C. Petrolatum Saturated Tape: The wax tape can be applied immediately after the primer. Short lengths of tape shall be cut and carefully molded around each individual bolt, nut, and stud end. For long bolts (such as in couplings), short lengths of tape shall be cut and circumferentially wrapped around each individual bolt. After the bolts are covered, the tape shall be circumferentially wrapped around the flange with sufficient tension to provide continuous adhesion without stretching the tape. The tape shall be formed, by hand, into all voids and spaces. There shall be no voids or gaps under the tape. The tape shall be applied with a 1-inch minimum overlap.

D. Outer Covering: A plastic outer cover shall be applied over the petrolatum-saturated tape. The plastic shall be a minimum of 50-guage (10-mils) and shall have two layers applied.

PART 4 -- TESTING AND INSPECTION

A. The CONTRACTOR'S CORROSION ENGINEER shall submit his proposed test procedures to the ENGINEER at least five (5) days in advance of the time that the cathodic protection system testing is scheduled. The ENGINEER or the OWNER'S representative shall witness all testing at their discretion. All test data shall be submitted to the ENGINEER within seven (7) days of the completion of the testing. All testing shall be conducted under the supervision of a qualified CORROSION ENGINEER who is retained by the CONTRACTOR. All deficiencies found to be due to faulty materials or workmanship shall be repaired or replaced by the CONTRACTOR and at his/her expense.

4.1 TEST LEADS

A. It is the CONTRACTOR's responsibility to test all test leads.

B. TEST METHOD. All completed wire connection welds shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. Welds failing this test shall be re-welded and re-tested. Wire welds shall be spot tested by the ENGINEER. After backfilling the pipe, all test lead pairs shall be tested using a standard ohmmeter.

C. CP TEST WIRE RESISTANCE TESTS: After the pipeline is backfilled and the CP test wires are trenched to the CP Test Box or CP Monitoring Station, each pair of CP test wires shall be tested for integrity. The CONTRACTOR'S CORROSION ENGNEER shall measure the electrical resistance of one CP test wire to the pipeline and back on the second CP test wire. If more than twice the theoretical resistance of the total wire length installed is measured, the CONTRACTOR shall excavate the pipeline and replace or re-weld the CP test wires to the pipeline. Use the following copper wire unit resistance values to calculate the theoretical resistance of each pair of CP test wires.

1. No. 4 AWG wire 0.258 Ohms / 1000 feet
2. No. 6 AWG wire 0.411 Ohms / 1000 feet
3. No. 8 AWG wire 0.653 Ohms / 1000 feet
4. No. 10 AWG wire 1.038 Ohms / 1000 feet
5. No. 12 AWG wire 1.650 Ohms / 1000 feet
6. No. 14 AWG wire 2.525 Ohms / 1000 feet

D. ACCEPTANCE. The resistance between each pair of test leads shall not exceed 150% of the total wire resistance.

4.2 ANODE INSTALLATIONS

A. The CONTRACTOR shall ensure that the anode pre-packed backfill or sack is not damaged and that the anode lead wire is properly attached. The CONTRACTOR'S CORROSION ENGINEER shall inspect each anode bag and anode lead wire for integrity before the anode is installed in the anode hole. Additionally, the CORROSION ENGINEER shall verify anode hole depths. The ENGINEER or the OWNER'S Representative shall inspect and test the anode installations at their discrepancy.

B. TEST METHOD. A visual inspection of anode lead wires, anode pre-packed backfill, and anode hole depths (using tape measure). Obtain open-circuit anode potentials using a high impedance volt meter and copper/copper sulfate reference electrode.

C. ACCEPTANCE. All anode leads are properly attached (with no splices), anode hole depths verified, and open-circuit anode potentials are in compliance with this specification. Damaged test leads and damaged pre-packed anode backfill bags shall be rejected and removed from the project site.

4.3 TEST LEAD TRENCHING

A. The ENGINEER, at his or her discretion, shall inspect wire trenches and backfill material and methods.

B. TEST METHOD. The depth, trench bottom, padding, and backfill material shall be visually inspected prior to backfilling.

C. ACCEPTANCE. Conformance with specifications.

4.4 PIPELINE CONTINUITY THROUGH IN-LINE APPURTENANCES AND PIPE JOINTS

A. The CONTRACTOR'S CORROSION ENGINEER shall measure the linear resistance of sections of pipe in which in-line valves, non-welded pipe joints, or other flanged mechanical joints have been installed. All testing shall be done by the CORROSION ENGINEER in the presence of the ENGINEER.

B. TEST METHOD. Resistance shall be measured by the linear resistance method. A direct current shall be impressed from one end of the test section to the other (test station to test station). A voltage drop is measured for a given current level. The measured resistance (R) is calculated using the equation R=dV/I, where dV is the voltage drop between the test span and I is the corresponding current. The resistance shall be measured at least three (3) times for accuracy.

C. ALTERNATIVE METHODS. If other electrical continuity test methods are proposed, the CONTRACTOR shall prepare a written test procedure specifying the alternate method and equipment that will be used. A standard handheld digital multi-test meter's ohmmeter circuit (e.g. Fluke 87) is not suitable for properly making these electrical resistance measurements. Submit in writing the alternate proposed test method to the ENGINEER for approval a minimum of 30 days before the pipe laying begins.

D. ACCEPTANCE. Acceptance is a comparison between the measured resistance (from the field test data) and the theoretical resistance. The theoretical resistance must consider the pipe (length and wall thickness) and the resistance of the bond wires. The measured resistance shall not exceed the theoretical resistance by more than 130% to determine electrical continuity. The CONTRACTOR'S CORROSION ENGINEER shall submit, within seven (7) days of the completion of the testing, and in a report format, to the ENGINEER, all calculations of the theoretical resistance and measured pipe resistance for each section tested.

4.5 CATHODIC PROTECTION PERFORMANCE

A. The cathodic protection system shall be activated and tested by the CONTRACTOR'S CORROSION ENGINEER in the presence of the ENGINEER.

B. TEST METHOD. The installed cathodic protection system testing shall include: native (static) pipe-to-soil potentials, open-circuit anode potentials, activated pipe-to-soil potentials, test lead to test lead resistance measurements, and anode current output measurements.

C. ACCEPTANCE. Shall be based on achieving the –850 mV polarized potential criterion as described in NACE SP0169. Voltage drops must be considered for valid interpretation of this voltage measurement. All data shall be submitted, in a typed 8-1/2 X 11 inch report to the ENGINEER for acceptance before the project is considered complete.

4.6 COMPLIANCE WITH SPECIFICATIONS.

A. Deficiencies or omissions in materials or workmanship found by these tests shall be rectified at the CONTRACTOR'S expense. Deficiencies shall include but are not limited to: broken leads, improper or unclean trenches, lack of 18-inch or slack wire in test boxes; improperly mounted test boxes; improper anode installations (including soaking), and other deficiencies associated with the workmanship, installation, and non-functioning equipment.

****END OF SECTION****

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

FINAL MITIGATED NEGATIVE DECLARATION SCH NO. 2012021017

City of San Diego
Development Services

ENTITLEMENTS DIVISION
(619) 446-5460

FINAL
MITIGATED NEGATIVE DECLARATION
SCH NO. 2012021017

Project No. 203403

SUBJECT: West Mission Bay Drive Bridge SITE DEVELOPMENT PERMIT (SDP) to allow for the replacement of West Mission Bay Drive Bridge. The existing four lane bridge would be replaced with two new parallel bridge structures each containing three lanes. The overall construction timeline is expected to be 2 years. The new bridge structures would be supported by concrete pier pilings, and the supporting structure for the new bridge would consist of 32 concrete pier piles, each with an 8-foot diameter. The pier piles would be made up of eight "bents" (pier-pile groupings), with four pier piles per bent. The overall bridge replacement effort would include a construction area of approximately 131 feet in width on both sides of the existing bridge, as measured from the existing edge of the deck. The length of the bridge construction would be approximately 1,296 feet.

Update 9/5/2012:

Revisions have been made to the draft Mitigated Negative Declaration (MND). The revisions will appear in a ~~strikeout~~ and underlined format. The revisions include language in the project description which provides greater detail regarding the construction of the bridge. Additional hydrology analysis was conducted and the results are discussed in the response to comments. In accordance with the California Environmental Quality Act, Section 15073.5 (c)(4), the addition of new information that clarifies, amplifies, or makes insignificant modification does not require recirculation as there are no new impacts and no new mitigation identified. An environmental document need only be recirculated when there is identification of new significant environmental impact or the addition of a new mitigation measure required to avoid a significant environmental impact.

The project would include improvements at the north and south ends of the existing West Mission Bay Drive Bridge. The northbound right lane on West Mission Bay Drive would become a dedicated on-ramp for eastbound Sea World Drive. A 600-foot-long auxiliary lane in the southbound direction would also be included and is necessary to facilitate traffic transitioning onto eastbound Interstate 8 (I-8). Improvements to the westbound I-8 off-ramp onto West Mission Bay Drive would also be included. The proposed improvements include widening of the off-ramp, specifically, extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet. The widening is necessary based on projected increases in traffic volumes, the need for additional storage,

and to facilitate intersection operations at the ramp termini point with West Mission Bay Drive. The existing water and sewer utilities that are suspended underneath the bridge would be replaced with new lines. Once in construction a phasing plan would be used to replace the existing with new lines without a disruption in service.

Additionally, a Class I bike path would be constructed on each bridge and the recreational trails located under the existing West Mission Bay Drive Bridge on either side of the San Diego River would remain open during and after construction.

In order to construct the new bridge within the San Diego River, three construction methodologies have been evaluated. These methodologies include a larger berm option, small berm option, and a trestle option. The large berm and small berm options are very similar, but differ in size and placement. The actual methods of construction for the project would be determined by the contractor. The technical studies supporting the project analyzed all three methodologies. Mitigation measures for the project were prepared analyzing the worst case scenario resulting from the three methodologies. However, with the implementation of the performance criteria from page 9 of the NES, which is listed below, and the mitigation within the MMRP all temporary impacts from the potential construction methodologies would be less than significant.

- From the City of San Diego MSCP [Multiple Species Conservation Program] Sub Area Plan 1997 Section 1.4.3:
    - All drainage from the additional impervious areas will be directed away from the MHPA [Multiple Habitat Planning Area] (which includes the river)
    - Products that are potentially toxic or would result in impacts to wildlife and habitat or water quality will be prevented from entering the MHPA
    - Lighting adjacent to the MHPA will be directed away or shielded to protected sensitive species
    - Noise that could impact wildlife will be mitigated to below the City's threshold (60 db/hr [decibels in 1 hour]) during breeding seasons of sensitive species and adequately reduced during the remainder of the year
    - No invasive nonnative plant species shall be introduced
- Best management practices (BMPs) will prevent increased turbidity during construction
- BMPs will prevent the release of 303D contaminants of concern for the Lower San Diego River (toxicity, fecal coliform, TDS, phosphorous, nitrogen, low dissolved oxygen, Enterococcus [SWRCB 2010]).
- BMPs required by the City of San Diego Storm Water Standards and State Storm Water General Construction Permit will minimize/prevent soil erosion during construction
- Tidal and river flows will be allowed in both directions during construction
- Construction methods will minimize an increase in surface water elevation
- Recreational opportunities will be maintained to the maximum extent possible during construction

Staging impacts will be minimal since the sites are paved or chip-sealed and storm water BMPs will be in place following the water quality standards and Storm Water Permits.

The construction methodologies, dimensions, and timing described are based on experience and industry standards and the actual methods implemented at the time of construction may be different. However, the construction methods outlined represent the three most likely options the construction contractor will utilize to build the proposed replacement West Mission Bay Drive Bridge. Ultimately, any method selected by the contractor shall be in conformance to the performance criteria listed above.

Construction Methods Options:

- **Temporary Large Berms Option**

The temporary large berms option will require the contractor to build one large temporary berm that will cover an area approximately 50 feet east of the new edge of deck for the east West Mission Bay Drive Bridge and approximately 50 feet west of the new edge of deck for the west West Mission Bay Drive Bridge. The width of the berm will be approximately 265 feet on top and 300 feet wide on the bottom and will extend from the north side of the San Diego River southward across the flood control channel. Using the berm and the embankment, the contractor will construct the columns, place temporary falsework, and construct phase one of the bridge replacement. Upon completion of phase one, the contractor will deconstruct the falsework and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. The westerly half of the existing bridge will be demolished before construction of phase two begins. It is anticipated that the sequence of construction of phase two of the new bridge will be identical to that used for phase one. Once construction of phase two is completed, the remainder of the existing bridge will be demolished.

A second option uses large berms and involves the construction of a large temporary berm that will cover an area approximately 50 feet east of the new edge of deck for the east West Mission Bay Drive Bridge and approximately 30 feet west of the new edge of deck for the west West Mission Bay Drive Bridge, essentially extending to half of the existing West Mission Bay Drive Bridge. The width of the first berm will be approximately 150 feet on top and 180 feet wide on the bottom and will extend from the north side of the San Diego River southward into the flood control channel. Using the berm and the embankment, the contractor will construct the columns, place temporary falsework, and construct phase one. Upon completion of phase one, the contractor will deconstruct the falsework and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. The contractor will then deconstruct the first berm and mobilize the dirt to the west side of the existing bridge to construct phase two. The second berm will cover an area approximately 20 feet east of the edge of deck for the

existing West Mission Bay Drive Bridge and approximately 50 feet west of the new edge of deck for the existing West Mission Bay Drive Bridge, essentially extending the full width of the existing West Mission Bay Drive Bridge and 50 feet west of phase two. The width of the second berm will be approximately 120 feet on top and 150 feet wide on the bottom and will extend from the north side of the San Diego River southward into the flood control channel.

For both of these options, the contractor is expected to establish one or two openings in the berm to allow the river to flow into Mission Bay and to accommodate the natural tidal flow of the area. Openings may be constructed of multiple corrugated metal pipes (CMP) placed perpendicular to the alignment of the berm. Annular space between CMPs will be filled with dirt, and plates will likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s).

With the placement of a significant amount of fill material as described above and within the outer banks of the San Diego River, the contractor should not need to create cofferdams to construct the CIDH piles for the columns. Other options may be available to the contractor with the placement of the large temporary berm, such as enlarging the berm around the pile locations or placing a large-diameter casing at each column location, essentially creating a temporary cofferdam.

At the face of each abutment, the contractor will place a short falsework bent, likely constructed of wooden corbels; a 12 X 12 sill beam and 12 X 12 posts; and a 12 X 12 cap beam. The number of piles (if used) in a falsework bent and the number of falsework spans are to be determined by the contractor. However, an estimate of the number of piles is as follows:

- [(3 rows of piles per span) X (7 spans) + 1 row at each end span] X (5 piles per row) = 115 piles per phase
- 115 piles per phase X 2 phases = 230 piles (approximate)

The overall temporary impacts associated with each of these options are expected to have a negligible difference. However, option two would have a minor decrease in the temporary impact area for each phase of construction, while option one would require one mobilization of dirt and equipment to construct the berm resulting in less berm construction and deconstruction time.

- **Temporary Small Berms Option**

The expected sequence of construction for the Temporary Small Berms Option is for the contractor to build a temporary berm from the north side of the San Diego River southward into the river on the east side of the new alignment. Using the berm, the existing ridge, and the

embankment, the contractor will construct the columns, place temporary falsework, and construct phase one. Upon completion of phase one, the contractor will deconstruct the falsework and berm and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. Once construction of phase two is complete, the remainder of the existing bride will be demolished. It is anticipated that the sequence of construction of phase two of the new bridge will be identical to that used for phase one. The westerly half of the existing bridge will be demolished before construction of phase two will begin.

Prior to the operation beginning, the contractor will identify the area within the river channel that will be impacted by the berm and place an impermeable barrier along the length of this area to avoid an increase in turbidity while the berm is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent significant tidal water from passing through the impacted area.

The contractor is expected to establish one or two openings in the berm to allow the river to flow into the Pacific Ocean and Mission Bay and to accommodate the natural tidal flow of the area. Openings may be constructed of multiple CMPs placed perpendicular to the alignment of the berm. Annular space between CMPs will be filled with dirt, and plates will likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s). The width of the berm may vary to accommodate locations where outriggers for contractor's cranes or concrete pumps may be placed.

To protect the river from debris and deleterious products used in the drilling of the piles, the contractor will likely construct a cofferdam of interlocking sheet piling. To construct the cofferdam, piles, and permanent columns, it will be necessary for the contractor to mobilize sheet piling, a large pile crane equipped with a vibrating hammer, a large-diameter drill rig, and casings to construct the pile foundation, a concrete pump and concrete trucks, and forms to construct the columns. At the face of each abutment, the contractor will place a short falsework bent, likely constructed of wooden corbels; a 12 X 12 sill beam and 12 X 12 posts; and a 12 X 12 cap beam. The number of piles in a falsework bent and the number of falsework spans are to be determined by the contractor. However an estimate of the number of piles is as follows:

- [(3 rows of piles per span) X (7 spans) + 1 row at each end span] X (5 piles per row) = 115 piles per phase
- 115 piles per phase X 2 phases = 230 piles (approximate)

- **Temporary Trestle Option**

The expected sequence of construction for the Temporary Trestle Option is for the contractor to build a temporary trestle from the north side of the San Diego River southward into the river on the east side of the new alignment. Using the temporary trestle, the existing trestle, and the embankment, the contractor will construct the columns, place temporary falsework, and construct phase one. Upon completion of phase one, the contractor will deconstruct the falsework and trestle and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. The westerly half of the existing bridge will be demolished before construction of phase two will begin. It is anticipated that the sequence of construction of phase two of the new bridge will be identical to that used for phase one. Once construction of phase two is complete, the remainder of the existing bridge will be demolished.

Prior to the operation beginning, the contractor will identify the area within the San Diego River that will be impacted by the driven piles and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the trestle is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent significant tidal water from passing through the impacted area. The contractor can construct this barrier by use of a small boat. (A likely scenario is for the contractor to construct this impermeable barrier to envelope the entire area impacted by the trestle and temporary falsework for the bridge.)

The contractor will likely drive the first row of piles into the embankment area at the interface where the trestle and embankment meet. The next row of piles will be driven in the river with the pile rig on the initial platform (on the embankment). Design of the trestle, including number of piles in each row and spacing on pile rows, will be determined by the contractor. However, an estimate of the number of piles is as follows:

- (5 piles per row) X (50 rows) = 250 piles per phase
- 250 piles per phase X 2 phases = 500 piles (approximate)

Average trestle width is expected to be 30 feet wide. At each pier for the new bridge, there will likely need to be a side trestle built to allow access for pile and column construction. This will be constructed in a similar manner as the rest of the trestle. It is expected to be approximately the width of the new bridge and 25 to 30 feet long at each pier.

To protect the river from debris and deleterious products used in the drilling of the piles, the contractor will likely construct a cofferdam of interlocking sheet piling. Another option is to allow the contractor to place a large-diameter steel casing at each column location, essentially

creating a temporary cofferdam. (A cofferdam created with steel sheet piling is the more impactful option and is, therefore, studied in this exercise.)

Temporary falsework construction will use a sequence similar to the one used to construct the temporary trestle. At the face of each abutment, the contractor will place a short falsework bent, likely constructed of wooden corbels; a 12 X 12 sill beam and 12 X 12 posts; and a 12 X 12 cap beam. The number of piles in a falsework bent and the number of falsework spans are to be determined by the contractor. However an estimate of the number of piles is as follows:

- [(3 rows of piles per span) X (7 spans) + 1 row at each end span] X (5 piles per row) = 115 piles per phase
- 115 piles per phase X 2 phases = 230 piles (approximate)

I. PROJECT DESCRIPTION: See attached Initial Study.

II. ENVIRONMENTAL SETTING: See attached Initial Study.

III. DETERMINATION:

The City of San Diego conducted an Initial Study which determined that the proposed project could have a significant environmental effect in the following areas(s): Biological Resources and Land Use (MHPA). The project requires implementation of specific mitigation identified in Section V of this Mitigated Negative Declaration (MND). The project as presented now avoids or mitigates the potentially significant environmental effects identified and the preparation of an Environmental Impact Report (EIR) would not be required.

IV. DOCUMENTATION:

The attached Initial Study documents the reasons to support the above Determination.

V. MITIGATION, MONITORING AND REPORTING PROGRAM (MMRP):

A. GENERAL REQUIREMENTS – PART I
Plan Check Phase (prior to permit issuance)

1. Prior to Bid Opening/Bid Award or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD) (plans, specification, details, etc.) to ensure the MMRP requirements have been incorporated.

2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of this project are included VERBATIM, under the heading, "**ENVIRONMENTAL/MITIGATION REQUIREMENTS**."

3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

   http://www.sandiego.gov/development-services/industry/standtemp.shtml

4. The **TITLE INDEX SHEET** must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.

B. GENERAL REQUIREMENTS – PART II
Post Plan Check (After permit issuance/Prior to start of construction)

1. **PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent and the following consultants:

   Biologist

   Note: Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.

   CONTACT INFORMATION:
   a) The PRIMARY POINT OF CONTACT is the **RE** at the **Field Engineering Division 858-627-3200**
   b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call **RE and MMC at 858-627-3360**

2. **MMRP COMPLIANCE:** This Project, Project Tracking System (PTS) No. 203403, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's ED, MMC and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc

   Note:

Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.

3. **OTHER AGENCY REQUIREMENTS:** Evidence that any other agency requirements or permits have been obtained or are in process shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.
   California Department of Fish and Game (CDFG) –Streambed Alteration Permit

   Regional Water Quality Control Board (RWQCB) - 401 Water Quality Certificate,

   Army Corps of Engineers (ACOE) - preconstruction notification.

4. **MONITORING EXHIBITS:** All consultants are required to submit, to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the **LIMIT OF WORK**, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

5. **OTHER SUBMITTALS AND INSPECTIONS:** The Permit Holder/Owner's representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

Document Submittal/Inspection Checklist

Issue Area	*Document submittal*	*Associated Inspection/Approvals/Note*
General	Consultant Qualification Letters	Prior to Pre-construction meeting
General	Consultant Const. Monitoring	Prior to or at the Pre-Construction meeting
Biology	Biology Reports	Limit of Work Verification
Final MMRP		Final MMRP Inspection

SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS:

A. BIOLOGICAL RESOURCES

I. A. Entitlements Plan Check

The applicant shall submit the following items to the DSD Prior to Permit Issuance or Bid Opening/Bid Award for any permits which affect on-site wetlands and uplands. Evidence shall include either copies of permits issued, letters of resolutions issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the City Manager: Evidence of compliance with Sections 401 and 404 of the Federal Clean Water Act, and Section 1601/1603 of the State of California Fish & Game Code.

II. A. Prior to Permit Issuance or Bid Opening/Bid Award

1. The Applicant shall provide detailed revegetation/restoration plans and specifications, satisfactory to the City Manager to mitigate for impacts to 0.03 acres of coastal brackish marsh and 0.004 acres of southern coastal salt marsh. Specifications must be found to be in conformance with the conceptual restoration plan in the *Conceptual Habitat Mitigation Plan West Mission Bay Drive Bridge Project* (*AECOM* Environmental, October 2011)

   a. Mitigation Goal Compensatory mitigation is proposed through recontouring the area back to the original grade of the tidal mudflat. The temporal loss of wetlands resulting in the conversion of nonnative invasive wetland community (coastal brackish marsh) to mudflat (which previously occupied the area where the marsh established itself) would be considered a temporary impact as the conversion would remain an aquatic feature and not be converted to upland.

   b. Responsibilities The Contractor shall be responsible for all grading and contouring, clearing and grubbing, and any necessary maintenance activities or remedial actions required during the implementation of the mitigation plan. Standard Best Management Practices shall be implemented to insure that sensitive biological resources would not be impacted by water run off.

   c. Biological Monitoring Requirements All biological monitoring in or adjacent to wetlands shall be conducted by a qualified wetland biologist. The biologist shall conduct construction monitoring during all phases of the project. Orange flagging shall be used to protect sensitive habitat. Construction related activity shall be limited to the construction corridor areas as identified on the construction plans. Both a detailed Performance Criteria plan and all the maintenance requirements are found in the conceptual revegetation plans.

   d. Notification of Completion: At the end of the fifth year, a final report shall be submitted to Mitigation Monitoring Coordination (MMC) section evaluating the success of the mitigation. The report shall make a determination of whether the requirements of the mitigation plan have been achieved. If the final report indicates that the mitigation has been in

part, or whole, unsuccessful, the Applicant shall be required to submit a revised or supplemental mitigation program to compensate for those portions of the original mitigation program which were not successful. At such time, the Applicant must consult with the Development Services Department. The Applicant understands that agreed upon remedial measures may result in extensions to the long-term maintenance and monitoring.

III. Prior to the Preconstruction Meeting

A. Letters of Qualification Have Been Submitted to the Assistant Deputy Director

1. The applicant shall submit, for approval, a letter verifying the qualifications of the biological professional to MMC. This letter shall identify the Principal Qualified Biologist (PQB) and Qualified Biological Monitor (QBM) and the names of all other persons involved in the implementation of the biological monitoring program, as they are defined in the City of San Diego Biological Review References. Resumes and the biology worksheet should be updated annually.

3. MMC will provide a letter to the applicant confirming the qualifications of the PQB /QBM and all City Approved persons involved in the biological monitoring of the project.

4. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the biological monitoring of the project.

5. PBQ must also submit evidence to MMC that the PQB/QBM has completed Storm Water Pollution Prevention Prevention Program (SWPPP) training.

IV. Prior to Start of Construction

A. PQB Shall Attend Preconstruction (Precon) Meetings

1. Prior to beginning any work that requires monitoring:
   a. The owner/permittee or their authorized representative shall arrange and perform a Precon Meeting that shall include the PQB, Construction Manager (CM) and/or Grading Contractor (GC), Landscape Architect (LA), Revegetation Installation Contractor (RIC), Revegetation Maintenance Contractor (RMC), Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC.
   b. The PQB shall also attend any other grading/excavation related Precon Meetings to make comments and/or suggestions concerning the biological monitoring program.
   c. If the PQB is unable to attend the Precon Meeting, the owner shall schedule a focused Precon Meeting with MMC, PQB, CM, BI, LA, RIC, RMC, RE

and/or BI, if appropriate, prior to the start of any work associated with the revegetation/ restoration phase of the project, including site grading preparation.

2. When Biological Monitoring Will Occur
   a. Prior to the start of any work, the PQB shall also submit a monitoring procedures schedule to MMC and the RE indicating when and where biological monitoring and related activities will occur.
3. PQB Shall Contact MMC to Request Modification
   a. The PQB may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information (such as other sensitive species not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA) which may reduce or increase the potential for biological resources to be present.

4. Prior to the Start of any Work
   a. The PQB shall survey 100 percent of the precise "limits of disturbance" (including ingress, egress, and all staging areas) for narrow endemic plant species and other special status plants, and other species known to occur or with potential to occur in harm's way. If identified during the survey, the PBQ shall coordinate with the Resident Engineer who has the authority to temporarily halt or redirect construction activities to less environmentally sensitive areas along the pipeline corridor so that appropriate mitigation measures are implemented, as approved by the City, to avoid direct or indirect impacts to special status species.

V. <u>During Construction</u>

A. PQB or QBM Present During Construction/Grading/Planting

1. The PQB or QBM shall be present full-time during construction activities including but not limited to, site preparation, cleaning, grading, and excavation, in association with the construction of the project which could result in impacts to sensitive biological resources as identified in the LCD and on the RRME. **The QBM is responsible for notifying the PQB of changes to any approved construction plans, procedures, and/or activities. The PQB is responsible to notify MMC of the changes.**
2. The PQB or QBM shall document field activity via the Consultant Site Visit Record Forms (CSVR). The CSVR's shall be faxed by the CM the first day of monitoring, the last day of monitoring, monthly, and in the event that there is a deviation from conditions identified within the LCD and/or biological monitoring program. The RE shall forward copies to MMC.
3. The PQB or QBM shall be responsible for maintaining and submitting the CSVR at the time that CM responsibilities end (i.e., upon the completion of construction activity other than that of associated with biology).
4. All construction activities (including staging areas) shall be restricted to the development areas. The PQB or QBM staff shall monitor construction

activities as needed, with MMC concurrence on method and schedule. This is to ensure that construction activities do not encroach into biologically sensitive areas beyond the limits of disturbance.

5. The PQB or QBM shall supervise the placement of orange construction fencing or City approved equivalent, along the limits of potential disturbance adjacent to (or at the edge of) all sensitive habitats.
6. The PBQ shall provide a letter to MMC that limits of potential disturbance has been surveyed, staked and that the construction fencing is installed properly
7. The PQB or QBM shall oversee implementation of BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to ensure prevention of any significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary construction BMP's upon completion of construction activities. Removal of temporary construction BMP's shall be verified in writing on the final construction phase CSVR.
8. PQB shall verify in writing on the CSVR's that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking or other construction related activities shall occur adjacent to sensitive habitat. These activities shall occur only within the designated staging area located outside the area defined as biological sensitive area.
9. The project would implement protection measures such as orange construction fencing for areas of impact, as well as sensitive access with hand –carried or machine tools, etc where required for manhole abandonment. In addition, the project biologist will monitor all construction through the end of revegetation to ensure project scope compliance, and to minimize impacts to sensitive resources where feasible based on the biological assessment and in-field conditions.

B. Disturbance/Discovery Notification Process
   1. If unauthorized disturbances occurs or sensitive biological resources are discovered that were not previously identified, the PQB or QBM shall direct the contractor to temporarily divert construction in the area of disturbance or discovery and immediately notify the RE or BI, as appropriate.
   2. The PQB shall also immediately notify MMC by telephone of the disturbance and report the nature and extent of the disturbance and recommend the method of additional protection, such as fencing and appropriate Best Management Practices (BMP's). After obtaining concurrence with MMC and the RE, PQB and CM shall install the approved protection and agreement on BMP's.
   3. The PQB shall also submit written documentation of the disturbance to MMC within 24 hours by fax or email with photos of the resource in context (e.g., show adjacent vegetation).
C. Determination of Significance
   1. The PQB shall evaluate the significance of disturbance and/or discovered biological resource and provide a detailed analysis and recommendation in a letter report with the appropriate photo documentation to MMC to obtain

concurrence and formulate a plan of action which can include fines, fees, and supplemental mitigation costs.
2. MMC shall review this letter report and provide the RE with MMC's recommendations and procedures.

VI. Wildlife Mitigation

a. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **Belding's savannah sparrow** (April through July). If no nesting sparrows are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project must either implement noise-reduction measures to reduce construction noise levels to acceptable levels (discussed below), or discontinue work until the young have fledged.

b. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **light-footed clapper rail** (March through July). The survey shall be conducted in accordance with USFWS methodology (USFWS 2000). All potentially suitable habitat areas within the BSA shall be surveyed for presence of the species. If nesting rails are detected during the surveys, all nests must be avoided by construction equipment and personnel, and noise-reduction measures, described in the following paragraphs, shall be implemented to reduce construction noise levels to acceptable levels, or work shall be discontinued until the young have fledged.

c. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **California horned lark** (March through June). If no nesting horned larks are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged.

d. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **California least tern** (April through June). If they are detected, all nests shall be avoided by construction equipment and personnel, and noise-reduction measures must be implemented to reduce construction noise levels to acceptable levels at the nest site (below 60 dB/hour), or work shall be discontinued until the young have fledged. A non-disturbance buffer zone of 500 feet around the nest site shall be established, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed.

e. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **northern harrier** (April through September). If no nesting harriers are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project

shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged.

f. To avoid potential direct effects on **green sea turtles** during installation of the temporary construction berms and during subsequent construction activities, a pre-construction survey for sea turtles shall be conducted for in-channel work occurring May through September, if water is present. Regular biological monitoring of in-channel work would also occur during this time period. Contractor education regarding sea turtles shall also be conducted. If work is conducted during low tide when water is absent, or behind a cofferdam/berm, and absence is confirmed, a biological monitor would not be necessary.

g. To avoid and minimize potential direct impacts during installation of the temporary construction berms and subsequent construction, a pre-construction survey and/or construction monitoring for **harbor seals** shall be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent or behind a cofferdam and absence is confirmed, a biological monitor would not be necessary.

h. To avoid and minimize potential direct impacts during installation of the temporary construction berms and subsequent construction, a pre-construction survey and/or construction monitoring for **sea lions** shall be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent, or behind a cofferdam and absence confirmed, a biological monitor would not be necessary.

i. Exclusionary devices shall be installed underneath the bridge to prevent birds and bats from nesting during construction. Installation of these devices shall be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist shall inspect the area prior to installation for nests and evidence of breeding activity. If breeding activity is not detected, inactive nests shall be destroyed to prevent birds from establishing breeding. If breeding activity is confirmed, exclusionary devices shall be installed in all other areas lacking active nests. Active nests shall be monitored by the biologist until breeding is complete. Once breeding is complete, exclusionary devices shall be installed in these areas.

B. Land Use (MHPA)

I. Prior to Permit Issuance

A. Prior to issuance of any construction permit, the DSD Environmental Designee (ED) shall verify the Applicant has accurately represented the project's design in the Construction Documents (CDs) that are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multiple Species Conservation Program (MSCP) Land Use Adjacency Guidelines for the Multi-Habitat Planning Area (MHPA), including identifying adjacency as the potential for

direct/indirect impacts where applicable. In addition, all CDs where applicable shall show the following:

1. **Land Development / Grading / Boundaries** –MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. The ED shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA..
2. **Drainage / Toxins** –All new and proposed parking lots and developed area in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA, All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.
3. **Staging/storage, equipment maintenance, and trash** –All areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction related activities are within the development footprint. Provide a note on the plans that states: *"All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative to ensure there is no impact to the MHPA."*
4. **Barriers** –All new development within or adjacent to the MHPA shall provide fencing or other City approved barriers along the MHPA boundaries to direct public access to appropriate locations, to reduce domestic animal predation, and to direct wildlife to appropriate corridor crossing. Permanent barriers may include, but are not limited to, fencing (6-foot black vinyl coated chain link or equivalent), walls, rocks/boulders, vegetated buffers, and signage for access, litter, and educational purposes.
5. **Lighting** – All building, site, and landscape lighting adjacent to the MHPA shall be directed away from the preserve using proper placement and adequate shielding to protect sensitive habitat. Where necessary, light from traffic or other incompatible uses, shall be shielded from the MHPA through the utilization of including, but not limited to, earth berms, fences, and/or plant material.
6. **Invasive Plants** – Plant species within 100 feet of the MHPA shall comply with the Landscape Regulations (LDC Section 142.0400 and per table 142-04F, Revegetation and Irrigation Requirements) and be non invasive. Landscape plans shall include a note that states: *"The ongoing maintenance requirements of the property owner shall prohibit the use of any planting that are invasive, per City Regulations, Standards, guidelines, etc., within 100 feet of the MHPA."*

In addition, the following are general avoidance and minimization measures that shall be implemented to minimize impacts to natural communities of special concern, special-status plants, and special-status wildlife:

1. The contractor(s) shall be informed, prior to the bidding process, regarding the biological constraints of this project. The project limits shall be clearly marked on project maps provided to the contractor(s) and areas outside of the project limits shall be designated as "no

construction" zones. A construction manager shall be present during all construction activities to ensure that work is limited to designated project limits.

2. Temporary fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) to prevent habitat impacts and prevent the spread of silt from the construction zone into adjacent habitats. The fencing shall be installed in a manner that does not impact habitats to be avoided. The applicant shall submit to USFWS for approval, at least 30 days prior to initiating project impacts, the final plans for initial clearing and grubbing of habitat and project construction These final plans shall include photographs that show the fenced limits of impact and all areas to be impacted or avoided.

Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced construction limits, staging areas, and routes between the construction limits and staging areas. Temporary construction fencing will be removed upon project completion.

3. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will occur in designated areas outside of jurisdictional wetlands or waters and within the fenced project limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering jurisdictional wetlands or waters, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. "No-fueling" zones shall be designated on construction plans.

4. In areas that do not require excavation or grading, vegetation shall be trampled instead of completely removed.

5. The project site shall be kept as clean of debris as possible to avoid attracting predators of sensitive wildlife. All food-related trash items will be enclosed in sealed containers and regularly removed from the site.

6. Pets of project personnel shall not be allowed on the project site.

7. Disposal or temporary placement of excess fill, brush, or other debris shall not be allowed in waters of the U.S. or their banks.

8. The majority of construction is expected to be undertaken during daylight; however, when nighttime construction is necessary, lighting shall be of the lowest illumination necessary for human safety, will be diverted away from any native vegetation communities, and shall consist of low-sodium or similar lighting equipped with shields to focus light downward onto the appropriate subject area.

9. Exclusionary devices shall be installed underneath the bridge to prevent birds and bats from nesting during construction. Installation of these devices shall be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist shall inspect the area prior to installation for nests and evidence of breeding

activity. If breeding activity is not detected, inactive nests shall be destroyed to prevent birds from establishing breeding. If breeding activity is confirmed, exclusionary devices shall be installed in all other areas lacking active nests. Active nests will be monitored by the biologist until breeding is complete. Once breeding is complete, exclusionary devices shall be installed in these areas.

II. Post Construction

A. Preparation and Submittal of Monitoring Report

The Qualified Biologist/Owners Representative shall submit a final biological monitoring report to the RE/MMC within 30 days of the completion of construction that requires monitoring. The report shall incorporate the results of the MMRP/MSCP requirements per the construction documents and the BME to the satisfaction of RE/MMC.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

United States Government
- U.S. Fish and Wildlife Service (23)
- U.S. Army Corps of Engineers (26)
- U.S. Environmental Protection Agency (19)

State of California
- California Department of Fish and Game (32A)
- Caltrans (31)
- CALEPA (37a)
- DTSC (39)
- Department of Water Resources (45)
- State Clearinghouse (46a)
- Coastal Commission (47)
- California Transportation Commission (51A)
- Boating and Waterways (52)
- Regional Water Quality Control Board (44)
- Native American Heritage Commission (222)

City of San Diego
- Council Member Zapf, District 6 (MS 10A)
- Council Member Faulconer, District 2 (MS 10A)
- Historical Resources Board (87)
- Wetlands Advisory Board (171)
- City Attorney (MS 56A)
  - Shannon Thomas (MS 93C)
- Public Works Department-Engineering and Capital Projects
  - Carrie Purcell (MS 908A)
  - Virginia Oskoui (MS 908A)

Nitsuh Aberra (MS 908A)
Development Services Department
Myra Herrmann (MS 501)
Helene Deisher (MS 301)
Jeff Szymanski (MS 501)
Gary Geiler (MS 501)
Jack Canning (MS 501)
Patrick Thomas (MS 501)
Kristy Forburger (MS 401)
Robin Shifflet (MS 413)
Library Dept.-Gov. Documents MS 17 (81)
Central Library (81 A)
Point Loma/Hervey Branch Library (81z)

Other

Ocean Beach Community Planning Board (367)
Ocean Beach Town Council (367a)
Ocean Beach Main Street Association (367b)
North Bay Community Planning Group (307)
Sea World
Mission Bay Park Committee (318a)
Pat Gallagher (322a)
Citizens Coordinate for Century III (324A)
League of Conservation Voters (322)
Mission Bay Lessees (323)
San Diego Gas and Electric (114)
Metropolitan Transit System (115)
The Beacon (389)
Peninsula Community Planning Board (390)
Peninsula Chambers of Commerce (391)
Point Loma Village Association (395)
San Diego River Conservancy (168)
San Diego River Park Foundation (163)
Sierra Club (165)
San Diego Bay and Coast Keeper (173)
San Diego Canyonlands (165a)
San Diego Audubon Society (167)
Jim Peugh (167A)
California Native Plant Society (170)
Endangered Habitat League (182 and 182A)
South Coastal Information Center @ San Diego State University (210)
San Diego Historical Society (211)
Frank Brown
Carmen Lucas (206)
Clint Linton (215b)
San Diego Archaeological Center (212)
Save Our Heritage Organization (214)
Ron Christman (215)

Louie Guassac (215A)
San Diego County Archaeological Society (218)
Kumeyaay Cultural Heritage Preservation (223)
Kumeyaay Cultural Repatriation Committee (225)
Native American Distribution (225 A-S) **Public Notice and Location Map Only**

VII. RESULTS OF PUBLIC REVIEW:

( ) No comments were received during the public input period.

( ) Comments were received but did not address the draft Mitigated Negative Declaration finding or the accuracy/completeness of the Initial Study. No response is necessary. The letters are attached.

(x) Comments addressing the findings of the draft Mitigated Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public input period. The letters and responses follow.

Copies of the draft Mitigated Negative Declaration, the Mitigation, Monitoring and Reporting Program and any Initial Study material are available in the office of the Entitlements Division for review, or for purchase at the cost of reproduction.

Jeffrey Szymanski, Senior Planner
Development Services Department

February 8, 2012
Date of Draft Report

Analyst: J. Szymanski

September 6, 2012
Date of Final Report

Attachments:

Figure 1 - Location Map
Figure 2 - Site Plan
Response to Comments Figure
Initial Study Checklist

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

March 9, 2012

Jeffrey Szymanski
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: West Mission bay Drive Bridge
SCH#: 2012021017

Dear Jeffrey Szymanski:

1 The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on March 8, 2012, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Response to Comments

CALIFORNIA STATE CLEARINGHOUSE AND PLANNING UNIT (3/9/2012)

1. Comment noted.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

March 26, 2012

Jeffrey Szymanski
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: West Mission bay Drive Bridge
SCH#: 2012021017

Dear Jeffrey Szymanski:

(1) The enclosed comment (s) on your Mitigated Negative Declaration was (were) received by the State Clearinghouse after the end of the state review period, which closed on March 8, 2012. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2012021017) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

CALIFORNIA STATE CLEARINGHOUSE AND PLANNING UNIT (3/26/2012)

2. Comment noted. The City has replied to the letter from the Department of Toxic Substance Control, responses to follow.

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

3/8/12

RECEIVED
MAR 26 2012
STATE CLEARING HOUSE

March 5, 2012

SCH # 2012021017

Mr. Jeffrey Szymanski, Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, California 92101

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE WEST MISSION BAY DRIVE BRIDGE PROJECT, SAN DIEGO COUNTY.

Dear Mr. Szymanski:

The Department of Toxic Substances Control (DTSC) has received your submitted draft Initial Study (IS) and a draft Mitigated Negative Declaration (MND) for the above-mentioned project. The following project description is stated in your document: "The West Mission Bay Drive Bridge Project (proposed project) is located in the Mission Bay area of the City of San Diego and spans the San Diego River flood control channel between the Sports Area Boulevard/Interstate 8 (I-8) intersection and the Sunset Cliffs/Sea World Drive intersection. The project would include improvements at the north and south ends of the existing West Mission Bay Drive Bridge. The existing four lane bridge would be replaced with two new parallel bridge structures each containing three lanes. The length of the bridge construction would be approximately 1,296 feet. Additionally, a Class I bike path would be constructed on each bridge and the recreational trails located under the existing West Mission Bay Drive Bridge on either side of the San Diego River would remain open during and after construction. The overall construction timeline is expected to be 2 years. Surrounding land uses are residential, commercial and Open Space/Water. The land surrounding the proposed project is not zoned for agricultural uses".

Based on the review of the submitted document DTSC has the following comments:

(3) 1) The MND should evaluate whether conditions within the Project area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).

DEPARTMENT OF TOXIC SUBSTANCE CONTROL (3/26/2012)

3. City staff performed an environmental site assessment using the state's Geotracker as well as the EnvironStor data for comprehensive evaluation. In addition, as noted in the Initial Study, a Hazardous Materials/Hazardous Waste Initial Site Assessment (ISA) (Winzler and Kelly, August 2011) was prepared for the project and no areas of contamination were located within the project's APE or within the project vicinity.

3

- EnviroStor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

(4) 2) The MND should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents.

(5) 3) Any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the MND.

(6) 4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing

DEPARTMENT OF TOXIC SUBSTANCE CONTROL (3/26/2012) continued

4. Please refer to Response #3. Areas of contamination were not indentified during the database search or the ISA and therefore a threat to human health or the environment is not anticipated. However, during construction, measures shall be completed to ensure that accidental discoveries of possible contaminants and/or contaminated groundwater are addressed to meet local (Whitebook specifications), state, as well as federal standards, as is required for all City projects.

5. No areas of contamination were indentified and therefore, a remediation plan has not been prepared.

6. Please see response 3, no hazardous materials were identified. However, the removal of the existing bridge shall implement City procedures in accordance with Whitebook and standard specifications during construction that will ensure compliance with all California regulations and policies.

materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

(7) 8) Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination.

(8) 8) Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.

(9) 7) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project.

(10) 8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

(11) 9) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

DEPARTMENT OF TOXIC SUBSTANCE CONTROL (3/26/2012) continued

7. Please refer to Response #3. The results of the City's assessment and ISA did not identify areas of contamination. The City implements procedures for all projects, as part of its Whitebook and standard specifications during construction that will ensure compliance with all California regulations and policies.

8. No areas of contamination were indentified and therefore a threat to human health or the environment is not anticipated.

9. The project is located within the San Diego River and flood channel. The project APE does not contain substantial pesticides or agricultural residues.

10. Please Response to #3. The results of the City's assessment and ISA did not identify areas of contamination. The City implements procedures for all projects, as part of its Whitebook and standard specifications during construction that will ensure compliance with all California regulations and policies.

11. Comment acknowledged.

If you have any questions regarding this letter, please contact Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,

Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov.

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
Sacramento, California 95812
Attn: Nancy Ritter
nritter@dtsc.ca.gov

CEQA # 3470

DEPARTMENT OF TOXIC SUBSTANCE CONTROL (3/26/2012) continued

No response is required.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
PLANNING DIVISION
4050 TAYLOR STREET, MS 240
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PHONE (619) 688-6960
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Flex your power!
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March 7, 2012

11-SD-008
PM 0.54
MND SCH 2012021017

Mr. Jeffrey Szymanski
City of San Diego
122 First Ave, MS-501
San Diego, CA 92101

Dear Mr. Szymanski:

The California Department of Transportation (Caltrans) appreciates the opportunity to have reviewed the Mitigated Negative Declaration (MND) for the West Mission Bay Dive Bridge project, SCH 2012021017. Caltrans would like to make the following comments:

12 This Traffic Study only provided existing traffic volumes for Non-Summer Weekday, Non-Summer Weekend, Summer Weekday, and Summer Weekend. It also only provided Summer Weekday traffic volumes for Year 2015 and 2035. Based on the provided existing traffic volumes for Summer Weekend, the volumes show to be higher. Missing from this Traffic Study were the Traffic Volumes for Non-Summer Weekday, Non-Summer Weekend, and Summer Weekend for the following Existing+Lane Configuration 2A, Year 2015 (Opening Year), and Year 2035. It would be beneficial for this Traffic Study to include weekday and weekend Summer Traffic Volumes. Contact the Caltrans Travel Forecasting and Modeling Branch for confirmation via Maurice Eaton (619) 688-3137.

13 At the conclusion of this Traffic Study, there is no mention of planning to provide any additional lane storage on the proposed design plans for the West Mission Bay Drive/I-8 Westbound exit ramp. This should be added to the report to identify the scope of work in Caltrans right of way that will need to be cleared through the MND process.

If you have any questions, or require further information, please contact Trent Clark, at (619) 688-3140 or email at Trent_Clark@dot.ca.gov.

Sincerely,

for JACOB M. ARMSTRONG, Chief
Development Review Branch

"Caltrans improves mobility across California"

CALIFORNIA DEPARTMENT OF TRANSPORTATION (3/7/2012)

12. As noted, existing volumes were obtained for both summer and non-summer weekdays and weekends. Based on the direction provided by the Caltrans and City Project Development Team at regular monthly meetings, it was agreed that only Summer Weekday volumes would be analyzed for 2015 and 2030 scenarios since these would represent higher, and more conservative, design volumes for each Alternative evaluated. Summer weekday volumes are higher than typical conditions throughout the year, but lower than the occasional peak situations on Summer weekends, such as 4th of July and Labor Day (as stated in the traffic study).

13. The required relevant storage length increases for the I-8 WB off ramp/W. Mission Bay Drive intersection is stated in the queuing analysis section (for Lane Configuration Option 2) of the traffic study. The proposed design plans accounts for these additional lane storage increases.

7

Fostering the protection and appreciation SAN DIEGO AUDUBON SOCIETY *of birds, other wildlife and their habitats...*

March 12, 2012

Jeffrey Szymanski
Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, California 92101

Via email: DSDEAS@sandiego.gov

Dear Mr. Szymanski:

Subject: Mitigated Negative Declaration for the West Mission Bay Drive Bridge Site Development Permit, Project No. 203403

The San Diego Audubon Society is concerned with several aspects of the subject document and project. The project is located in the estuary of the San Diego River, an important element of the City's Multiple Habitats Planning Area. The project area is used as a foraging site for endangered California Least Terns and is in a movement corridor for endangered Light Footed Clapper Rails, and is a foraging area for dozens of other species of birds, fish, and benthic invertebrates.

The project description is not adequate to allow a reviewer or decision maker to assess the environmental impacts of the project. The document does not provide an adequate description of the project or its timing to allow the environmental impacts of the project to be identified. It does not identify the full likely environmental impacts of the project. It does not provide adequate mitigation for the likely impacts of the project. The document only analyzes the impacts of one of the project alternatives so reviewers and decision makers can not assess the relative desirability of other alternatives.

It seems likely that part of the problem may be that it will be a design-build project so details will not be known until the contractor is selected. If this is the case, we urge that an adequate CEQA document be prepared after the actual project conceptual design is complete. The document's current intent to just analyze the worst case impacts will not serve CEQA's goal to accurately identify and minimize environmental impacts. In general the subject document does not satisfy either the letter or the intent of CEQA in its present form. We urge that it not be certified until its deficiencies are corrected.

These points will be expanded under the following headings.

MND DOES NOT PROVIDE AN ADEQUATE DESCRIPTION OF THE PROJECT

The MND states that either berms or trestles will be constructed as a platform for the construction. However it does not provide enough information for a reviewer or decision maker to analyze the potential impacts. It shows a very large impact area, but does not map our specific impacts within that area. A few of the uncertainties the MND needs to address follow:

14.

- The document only vaguely suggests why the project is needed. What indicates that additional traffic capacity is needed between to fully developed areas of the City? No information is included to support the allegation that more capacity will be needed.
- The document assumes that more lanes are needed to satisfy alleged future transportation needs. But it does not address whether those needs could not be better satisfied by more badly needed mass transportation and bicycle facilities with less environmental and Green House Gas impact and much less cost than more traffic lanes.

858-273-7800 • 4010 Morena Blvd., Suite 100, San Diego, CA 92117 • Fax 858-273-7801 • www.sandiegoaudubon.org

SAN DIEGO AUDUBON SOCIETY (3/12/2012)

14. The existing bridge has been evaluated and classified by Caltrans as functionally obsolete, and is eligible for federal replacement or widening funding under the Highway Bridge Replacement and Rehabilitation (HBRR) program. Therefore it was determined that the existing bridge would have to be replaced. In addition, please see section XVI of the Initial Study which further explains the need for the new bridge project.

8

14a. Show the location of the final traffic lanes and access lanes and the habitat areas that they will cover. The document provides only the overall impact area, but not the areas of permanent impact.

14b. The MND states that each bridge will include pedestrian and bicycle lanes, but does not show them or indicate how they will tie into existing pedestrian and bicycle lanes

14c. Show the location of the planned berm(s) or tresle(s).

14d. How much of the width of the river will be obstructed by the berm(s) at any time?

14e. What materials will be used to construct the berm(s), include materials for its base, slopes, and working surface?

14f. Where will that material come from?

14g. How will the berms be constructed?

14h. What will be the height of the berm(s)?

14i. How long will each berm be in place?

14j. How will the berm(s) be removed and how much will be removed?

14K. Will the first berm be completely removed before the second one is constructed, or will they coexist for a while.

14l. Will the berm material be completely removed when the project is completed?

14m. After the berm material is removed, due to the compressability of benthic sediments, a very deep depression will remain. Will the deep depression be filled or will it remain as a depression?

14n. Will this depression be filled with suitable benthic sediments to restore the functions of the mudflats that existed in the area before the project? If this is the case where will suitable mudflat soil be obtained?

14o. Will the construction soil be removed and the depression left, assuming that it will eventually be filled by sediments carried by storm water? If so, how long would it take for the deposited sediments to full fill the depression and restore the functions and value of the mudflats?

14

At least this much information is needed for each of the alternatives being considered for the project to allow a reader, a regulator, or a decision maker to assess the environmental impacts of the project. We urge that this document be revised to include at least all of the information listed above.

MND DOES NOT FULLY IDENTIFY THE LIKELY ENVIRONMENTAL IMPACTS OF THE PROJECT

The MND only addresses environmental impacts within the footprint of the project, and only some of those. But the bridge and its construction will have biological and hydrological impacts outside of the project area. We will address them in terms of hydrology impacts and biological impacts.

HYDROLOGY IMPACTS:

The project's berms will obstruct a major, but unstated, portion of the width of the San Diego River. This will tend to delay and therefore diminish tide water from the ocean flowing east of the berms. Similarly it will slow the fresh runoff water from east of berms from moving westward toward the ocean. This combination is likely to reduce the salinity of the salt water habitat east of the project. That area contains both cordgrass, the favored habitat of the light footed clapper rail, and eelgrass, a very productive habitat for small fish that are prey for California Least Terns and other birds. Both plants are sensitive to protracted salinity changes. This impact is not identified or analyzed in the MND, but it must be.

15.

The project's berms will also slow floodwaters coming down the River which will elevate the river east of the project during storms increasing the risk of flooding to upstream communities and facilities, drowning to animals in the river valley, and possibly destruction to Clapper Rail nests, eggs, and chicks in the marsh areas east of the project. This impact is also not identified or analyzed in the MND.

16

The project's berms will increase the velocity of stormwater coming down the river as it flows through the opening left for river flow. That increased velocity will tend to erode the soft mudflat soil there and reduce the mudflat area in that region. This impact is not addressed in the MND. This will increase turbidity reducing the health of fish and reducing the capability of diving birds to catch them. Some of the additional sediments suspended by the higher velocity water flow will tend to be deposited on downstream eelgrass beds, reducing their access to sunlight. This impact is not addressed in the MND.

17

SAN DIEGO AUDUBON SOCIETY (3/12/2012) continued

14a A graphic has been added to Final MND which shows the location of the proposed traffic lanes and existing habitat.

14b Please see graphic provided in response to # 14a

14c Please see the expanded project description provided in the Final MND and Initial Study the location of the berms and the trestle is provided within the environmental document.

14d Temporary construction berms would extend the full width of the river during construction activities. Berms would include culverts and/or bridged openings to allow hydraulic activities to continue in their current state.

14e Construction berms would be constructed of earth. In addition,openings in the berm would consist of corrugated metal pipes (CMP), or a small bridge(s) made of steel stringers and steel plates to span the openings.

14f The source of materials for berm construction would be determined by the contractor at the time of bid award; however, the material make-up will consist of non-clay, non-silty materials.

14g Please see the expanded project description provided in the Final MND and Initial Study. Additional information has been included in response to this comment which describes methods of the berm construction.

14g Berm construction would be determined by the contractor at the time of bid award.

14h The height of the construction berms or trestle options would be determined by the contractor, but it is expected that these methods would employ a height consistent with the necessary construction activities underneath and parallel with the existing and proposed replacement bridge(s).

14i The berms are expected to be in place approximately 16-22 months.

14j The means of removing the berms would be determined by the contractor; however, additional descriptions of the likely berm construction/removal methodologies has been provided in the environmental document in response to the comment. The entire berm(s) would be removed upon completion of construction.

14k Please see the expanded project description provided in the Final MND and Initial Study, which describes how the berms would be constructed.

14l Upon project completetion, the earthen berm material would be removed.

14a. Show the location of the final traffic lanes and access lanes and the habitat areas that they will cover. The document provides only the overall impact area, but not the areas of permanent impact.

14b. The MND states that each bridge will include pedestrian and bicycle lanes, but does not show them or indicate how they will tie into existing pedestrian and bicycle lanes

14c. Show the location of the planned berm(s) or tresle(s).

14d. How much of the width of the river will be obstructed by the berm(s) at any time?

14e. What materials will be used to construct the berm(s), include materials for its base, slopes, and working surface?

14f. Where will that material come from?

14g. How will the berms be constructed?

14h. What will be the height of the berm(s)?

14i. How long will each berm be in place?

14j. How will the berm(s) be removed and how much will be removed?

14K. Will the first berm be completely removed before the second one is constructed, or will they coexist for a while.

14l. Will the berm material be completely removed when the project is completed?

14m. After the berm material is removed, due to the compressability of benthic sediments, a very deep depression will remain. Will the deep depression be filled or will it remain as a depression?

14n. Will this depression be filled with suitable benthic sediments to restore the functions of the mudflats that existed in the area before the project? If this is the case where will suitable mudflat soil be obtained?

14o. Will the construction soil be removed and the depression left, assuming that it will eventually be filled by sediments carried by storm water? If so, how long would it take for the deposited sediments to full fill the depression and restore the functions and value of the mudflats?

14.

At least this much information is needed for each of the alternatives being considered for the project to allow a reader, a regulator, or a decision maker to assess the environmental impacts of the project. We urge that this document be revised to include at least all of the information listed above.

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The project's berms will obstruct a major, but unstated, portion of the width of the San Diego River. This will tend to delay and therefore diminish tide water from the ocean flowing east of the berms. Similarly it will slow the fresh runoff water from east of berms from moving westward toward the ocean. This combination is likely to reduce the salinity of the salt water habitat east of the project. That area contains both cordgrass, the favored habitat of the light footed clapper rail, and eelgrass, a very productive habitat for small fish that are prey for California Least Terns and other birds. Both plants are sensitive to protracted salinity changes. This impact is not identified or analyzed in the MND, but it must be.

15.

The project's berms will also slow floodwaters coming down the River which will elevate the river east of the project during storms increasing the risk of flooding to upstream communities and facilities, drowning to animals in the river valley, and possibly destruction to Clapper Rail nests, eggs, and chicks in the marsh areas east of the project. This impact is also not identified or analyzed in the MND.

16

The project's berms will increase the velocity of stormwater coming down the river as it flows through the opening left for river flow. That increased velocity will tend to erode the soft mudflat soil there and reduce the mudflat area in that region. This impact is not addressed in the MND. This will increase turbidity reducing the health of fish and reducing the capability of diving birds to catch them. Some of the additional sediments suspended by the higher velocity water flow will tend to be deposited on downstream eelgrass beds, reducing their access to sunlight. This impact is not addressed in the MND.

17

SAN DIEGO AUDUBON SOCIETY (3/12/2012) continued

14m Fill material would not be added to the flood channel after removal of the berms. Tidal fluctuations would fill any depression left behind after the berms are removed. Geotechnical investigations prepared to analyze the proposed project indicate that the maximum depression anticipated would be six inches. With the immediate project area being comprised of unvegetated mudflat that is influenced by the meandering low flow river channel and the twice daily tidal cycles the potential impacts associated with a maximum 6 inch depression following removal of the berms, if selected as the construction methodology, would be negligible.

14n Please see response 14m

14o It is estimated that a maximum 6 inch depression would remain following removal of the berm. It is unknown how long it would take sediments to fill the depression. Sedimentation transport models have not and will not be completed for this project. Please also see response 14m.

15 In response to concerns raised regarding potential hydrology impacts Rick Engineering conducted additional analysis to address these concerns (Rick Engineering, April 2012). The analysis was performed by determining the approximate volume of water upstream of the berm during the highest tide(4.91 ft. per San Diego STD. DWG M-12); this volume was determined using the current HEC-RAS model for the San Diego River. An average flow-rate was determined to convey that volume over the approximate 6-hour time period from low-tide to highest tide. Results from the additional analysis demonstrate that the project would have very little affect upon tidal actions and openings in the temporary construction berms would be designed and sized to allow for natural tidal fluctuations between upstream and downstream areas.. Therefore, the salinity levels would be unaffected and plants would not be impacted.

16. Openings in the berms would be designed to convey a 10-year storm event without an increase in water elevation upstream of the berm. As documented in the SWDR the impacts of the temporary berm construction would have minor impacts to water surface elevations within the San Diego River Channel. For a 10-year return frequency storm the temporary construction impacts would result in less than 0.1 foot of increase in water surface elevations when compared to the existing condition. Larger storms such as the 25-year storm and larger will have temporary depth increases ranging from 0.5 to 1.4 feet when compared to the current condition, however, the impacts would be contained within the ACOE defined channel improvements and would only expand flooding limits within the existing 2:1 slope channel side slopes. It is anticipated that there would be minimal additional habitat area impacted by flooding during the temporary construction condition. Upon completion of construction and removal of the berms, the proposed bridge improvement project will not result in any increases in base flood elevations within the San Diego River.

14a. Show the location of the final traffic lanes and access lanes and the habitat areas that they will cover. The document provides only the overall impact area, but not the areas of permanent impact.

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17

SAN DIEGO AUDUBON SOCIETY (3/12/2012) continued

17. Additional hydrologic analysis demonstrated that with construction of temporary berms, there would be an increase in water velocities in the vicinity of the berm openings. The analysis showed that these increases would be localized and minor in relative magnitude. The HEC-RAS analysis for the temporary construction berm showed velocities through the berm openings ranging from approximately 0.1 to 1.3 fps when flow rates of 100 to 555 cfs were analyzed; velocities in this range are typically not considered erosive. It is anticipated that fluctuations would not result in the downstream erosion of mudflat areas, as upstream tidal movement would "re-deposit" sediment.

Potential increases in turbidity and measures to address this impact are presented in 1.4.5 (pg. 12), 1.4.6 (pg. 13), and 4.4.6.2 (pg 90) of the NES and included in the expanded project description. Prior to the operation beginning, the contractor would identify the area within the San Diego River that would be impacted by the driven piles and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the trestle is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent significant tidal water from passing through the impacted area.

The berms will reduce the rate at which incoming tides move to the east of the berm and will reduce the rate at which outgoing tides move toward the west of the berm. As a result, the berms will delay the tidal highs and lows which will put the tides at this point more out of phase with the tides and therefore reduce the amplitude of the tidal flushing. This will tend to reduce the salinity of the water east of the berm and will tend to allow fresh and brackish water marsh plants and organisms to replace saltmarsh plants and organisms. This shift in salinity east of the project could reduce the area's support value for many fish species. This is a very undesirable change as only a small portion of our historical salt marsh remains due to coastal development. This potential habitat type conversion is not mentioned or analyzed, nor is mitigation offered for it. This is an extremely important and potentially long lasting impact of the project and it must be fully analyzed.

18

These hydrology impacts are significant. Different construction methods would cause different levels and types of impacts. Since the document only addresses one of the possible construction methods, no tradeoff analysis that could minimize these impacts is provided. No actual numerical hydrology analysis As such, this document fails to satisfy the minimum requirement of CEQA or its intent to identify less environmentally damaged alternatives.

19

BIOLOGICAL IMPACTS:

The document does not address impacts on fish. Unvegetated soft bottom habitat is important for foraging for many species of fish. This habitat type has suffered the greatest loss of any water oriented habitat type over the last 150 years in San Diego and Mission Bays. A large area of this habitat will be buried under the construction berms for an unstated time period, probably well over a year or two. What will be the impact of this loss of habitat on foraging and reproduction of these fish. The loss of foraging for fish is likely to reduce the fish available for fish-eating birds from Least Terns to Osprey. None of these impacts are addressed.

20

A very large intertidal area that is currently used for foraging by CA Least Terns will be first buried under the construction berms, then shadowed by the expanded bridge area. This will reduce the foraging opportunities for the terns and other birds that dive for fish. The shadowing will reduce light levels within the water which will also probably reduce the foraging effectiveness for terns. Thess impact are not addressed in this document.

21

Light Footed Clapper Rails nest and forage in the marsh areas to the east of the project as the MND mentions. But some of those Clapper Rails also venture west to Dog Beach and Famosa Slough through the project area. Will this project prevent that movement? Or will it make the Clapper Rails more vulnerable to predators when moving through this area. The project will probably have some impact. We do not know what that impact will be, but it is not identified or analyzed in the document.

22

The MND provides absolutely no support for its unlikely assertion that the project's impacts are temporary so no mitigation is required.

23

BENTHIC IMPACTS:

As mentioned above, the document does not describe how the berms are to be constructed or remediated after construction. But, we feel it is safe to assume that coarse, stable soil and rock will be piled on the mud flats and then compacted with the hope that the berm will become stable enough to support the operation of heavy equipment. In our experience the vibration of construction equipment will tend to liquefy the berm so that additional fill material and additional compaction will be needed often.

24

In any case, about 2 acres of this mud will be compacted and pushed way down below its current elevation during this process of fill and compaction. This mud is ideal for supporting benthic invertebrates that evolved in this soft mud and are the base of the food chain for many fish and birds. If, when the berm is no longer needed, the construction berm is removed by just shaving it down to the previous contour that soil type will not be nearly as productive for benthic invertebrates, for fish, or for diving or wading birds. If all of the construction soil is removed completely and not replaced, the mudflat will be replaced by a deep depression running across the river, a significant loss of about 16 acres of unvegetated intertidal and shallow subtidal habitat.

18 Please see responses 15-17. The berms would not have a significant effect upon tidal flows and the various biological environments in the vicinity of the project would not be impacted.

19 Please see additional information added to the project description within the Final MND and Initial Study. The implementation of performance criteria from page 9 of the NES and required mitigation within the MMRP would ensure that impacts from any of the potential construction methodologies would be less than significant.

20 Impacts to fish were discussed in section in 4.5.8.2. of the NES. Fish in the water column and in or near the bottom could be temporarily disturbed by turbidity, pile-driving vibrations, and noise, should in-channel construction activities take place. Most fish would leave the immediate project area. After in-channel activities are complete, reduced numbers of invertebrates (until recolonization is complete) would reduce the food supply for some fish species; however, those effects would be short term and localized.

Invertebrate organisms and fish present in the water column could also be affected should contaminated river sediments be released into the water column during construction-related activities. Contaminates could become incorporated into the surrounding environment and biomagnified in the river's food web, resulting in direct or indirect impacts to organisms present in the river channel. However, upon implementation of avoidance and minimization measures listed in the MMRP, the release of contaminated sediments into the environment, and the potential for incorporation and biomagnification of contaminates in the food web, would be avoided or reduced.

In addition, the project is required to comply with the Federal Magnunson-Stevens Fishery Conservative and Management Act (MSFCMA). Under the purview of the National Oceanic and Atmospheric Association's National Marine Fisheries Service (NMFS) federal mandates were put in place so that agencies would identify and protect important marine and anadromous fish habitat. To comply with federal regulations the project conducted an assessment of Essential Fish Habitat (EFH). Due to impacts from the proposed project, the assessment found that EFH would be affected. However, impacts were determined to be relative smalland temporary. In addition, and the required MMRP contains performance criteria which shall be satisfied; Therefore, impacts to the EFH would be mitigated to below a level of significance.

The berms will reduce the rate at which incoming tides move to the east of the berm and will reduce the rate at which outgoing tides move toward the west of the berm. As a result, the berms will delay the tidal highs and lows which will put the tides at this point more out of phase with the tides and
18 therefore reduce the amplitude of the tidal flushing. This will tend to reduce the salinity of the water east of the berm and will tend to allow fresh and brackish water marsh plants and organisms to replace saltmarsh plants and organisms. This shift in salinity east of the project could reduce the area's support value for many fish species. This is a very undesirable change as only a small portion of our historical salt marsh remains due to coastal development. This potential habitat type conversion is not mentioned or analyzed, nor is mitigation offered for it. This is an extremely important and potentially long lasting impact of the project and it must be fully analyzed.

19 These hydrology impacts are significant. Different construction methods would cause different levels and types of impacts. Since the document only addresses one of the possible construction methods, no tradeoff analysis that could minimize these impacts is provided. No actual numerical hydrology analysis As such, this document fails to satisfy the minimum requirement of CEQA or its intent to identify less environmentally damaged alternatives.

BIOLOGICAL IMPACTS:

20 The document does not address impacts on fish. Unvegetated soft bottom habitat is important for foraging for many species of fish. This habitat type has suffered the greatest loss of any water oriented habitat type over the last 150 years in San Diego and Mission Bays. A large area of this habitat will be buried under the construction berms for an unstated time period, probably well over a year or two. What will be the impact of this loss of habitat on foraging and reproduction of these fish. The loss of foraging for fish is likely to reduce the fish available for fish-eating birds from Least Terns to Osprey. None of these impacts are addressed.

21 A very large intertidal area that is currently used for foraging by CA Least Terns will be first buried under the construction berms, then shadowed by the expanded bridge area. This will reduce the foraging opportunities for the terns and other birds that dive for fish. The shadowing will reduce light levels within the water which will also probably reduce the foraging effectiveness for terns. Thess impact are not addressed in this document.

22 Light Footed Clapper Rails nest and forage in the marsh areas to the east of the project as the MND mentions. But some of those Clapper Rails also venture west to Dog Beach and Famosa Slough through the project area. Will this project prevent that movement? Or will it make the Clapper Rails more vulnerable to predators when moving through this area. The project will probably have some impact. We do not know what that impact will be, but it is not identified or analyzed in the document.

23 The MND provides absolutely no support for its unlikely assertion that the project's impacts are temporary so no mitigation is required.

BENTHIC IMPACTS:

24 As mentioned above, the document does not describe how the berms are to be constructed or remediated after construction. But, we feel it is safe to assume that coarse, stable soil and rock will be piled on the mud flats and then compacted with the hope that the berm will become stable enough to support the operation of heavy equipment. In our experience the vibration of construction equipment will tend to liquefy the berm so that additional fill material and additional compaction will be needed often.

In any case, about 2 acres of this mud will be compacted and pushed way down below its current elevation during this process of fill and compaction. This mud is ideal for supporting benthic invertebrates that evolved in this soft mud and are the base of the food chain for many fish and birds. If, when the berm is no longer needed, the construction berm is removed by just shaving it down to the previous contour that soil type will not be nearly as productive for benthic invertebrates, for fish, or for diving or wading birds. If all of the construction soil is removed completely and not replaced, the mudflat will be replaced by a deep depression running across the river, a significant loss of about 16 acres of unvegetated intertidal and shallow subtidal habitat.

SAN DIEGO AUDUBON SOCIETY (3/12/2012) continued

21 Analysis for the CA Least Terns can be found in Section 4.4.6. of the NES. It should be noted that CA Least Terns were not identified in the 2010 Least Tern surveys. However, if the birds are determined present in the preconstruction surveys, mitigation measures within the MMRP would reduce impacts to below a level of significance. Impacts from the berms to intertidal areas that are potentially used by CA Least Terns for foraging would only be temporary and not identified as significant in the NES. Shadowing impacts were addressed in Appendix A, page 15 of the NES. Shading impacts were not considered significant because the areas of impact consist of mudflat/open water and riprap channel, both of which are unvegetated. The only potential impact would be due to the potential for changes in water temperature. However, as the hydrologic analysis has indicated tidal cycles would be largely unaffected by the project and therefore since the tide consistently moves through the affected areas, no substantial change in water temperature would occur.

22 Light-footed clapper rail generally do not move great distances between locations and primarily remain in the same area. It is unlikely that clapper rail detected east of the project area would move to Famosa Slough, nearly 0.50 mile away, or Dog Beach, approximately 1.1 mile away. Regardless, individual clapper rail would be able to move through openings in the construction berms or fly over the berms to move to downstream locations. Operation of the new bridge would not impede clapper rail movement more than current conditions. Clapper rail would be able to move under the proposed bridge to downstream locations.

23 Temporary impacts to biological resources and mitigation for these impacts are presented in Chapter 4 and in Appendix A to the NES, in addition to the responses provided in numbers 14 and 20 above. Furthermore, upon removal of the temporary berm natural tidal fluctuations and re-colonization process would return the river bottom to pre-existing conditions. Tidal fluctuations would fill any depression left behind after the berms are removed. It is unknown how long it would take to fill the depression. Sediment transport modeling has not and will not be completed for this project.

The berms will reduce the rate at which incoming tides move to the east of the berm and will reduce the rate at which outgoing tides move toward the west of the berm. As a result, the berms will delay the tidal highs and lows which will put the tides at this point more out of phase with the tides and 18 therefore reduce the amplitude of the tidal flushing. This will tend to reduce the salinity of the water east of the berm and will tend to allow fresh and brackish water marsh plants and organisms to replace saltmarsh plants and organisms. This shift in salinity east of the project could reduce the area's support value for many fish species. This is a very undesirable change as only a small portion of our historical salt marsh remains due to coastal development. This potential habitat type conversion is not mentioned or analyzed, nor is mitigation offered for it. This is an extremely important and potentially long lasting impact of the project and it must be fully analyzed.

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A very large intertidal area that is currently used for foraging by CA Least Terns will be first buried 21 under the construction berms, then shadowed by the expanded bridge area. This will reduce the foraging opportunities for the terns and other birds that dive for fish. The shadowing will reduce light levels within the water which will also probably reduce the foraging effectiveness for terns. Thess impact are not addressed in this document.

Light Footed Clapper Rails nest and forage in the marsh areas to the east of the project as the 22 MND mentions. But some of those Clapper Rails also venture west to Dog Beach and Famosa Slough through the project area. Will this project prevent that movement? Or will it make the Clapper Rails more vulnerable to predators when moving through this area. The project will probably have some impact. We do not know what that impact will be, but it is not identified or analyzed in the document.

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In any case, about 2 acres of this mud will be compacted and pushed way down below its current elevation during this process of fill and compaction. This mud is ideal for supporting benthic invertebrates that evolved in this soft mud and are the base of the food chain for many fish and birds. If, when the berm is no longer needed, the construction berm is removed by just shaving it down to the previous contour that soil type will not be nearly as productive for benthic invertebrates, for fish, or for diving or wading birds. If all of the construction soil is removed completely and not replaced, the mudflat will be replaced by a deep depression running across the river, a significant loss of about 16 acres of unvegetated intertidal and shallow subtidal habitat.

24 Please see response numbers 14 and 23. Natural tidal fluctuations and the re-colonization process would return the river bottom to pre-existing conditions. Upon removal of temporary features, the mudflats would be quickly recolonized by the community of invertebrates that are currently present. Invertebrates living in and on the mud flats where the temporary construction berms, and any other temporary construction-related equipment or structure would be placed would also be lost. Planktonic organisms have a naturally occurring high mortality rate, and their reproductive rates are correspondingly high, thereby allowing for rapid recovery from localized impacts. This would represent a temporary loss in bottom community productivity and diversity, an alteration of food available for fish and other marine organisms that feed on the mudflats, and a temporary disturbance of the food web in that portion of the channel. Additionally, berms would be placed across a small area of the overall intertidal habitat in the cannel and impacts to benthic resources were not identified in the NES.

24 The only way the removal of the berm material could not result in a significant loss would be if the construction soil were removed and the resulting depression were filled with suitable mudflat soil from somewhere else. That might be possible if there were a permitted dredge site nearby, but none is mentioned.

25 The MND does not address this potential loss of shallow subtidal unvegetated and mudflat habitat. The MND must address this issue and define how it will be mitigated.

MND DOES NOT PROVIDE ADEQUATE MITIGATION TO OFFSET THE IMPACTS OF THE PROJECT

26 The MND does mention that some impacts may exist from the construction berms, but alleges they are not significant because they will be "temporary" and as such, will not require any mitigation. However it does not state what it means by temporary. How long will the impacts occur? It appears that portions of the berm will be in place for a few years. What City code allows wetland impacts to occur without mitigation for temporary impacts? What mitigation will be provided to offset the temporal loss of mudflats during construction?

27 The MND does not provide any analysis of, or mitigation for, the permanent impacts to birds that dive on fish from the air resulting from the increased area covered by the bridge and access ramps. It also offers no mitigation for increased shadowed water area. The increase in shadow area will reduce the light available to help detect prey fish in the water.

MND FAILS TO IDENTIFY THE ENVIRONMENTAL IMPACTS OR NEEDED MITIGATION FOR EACH ALTERNATIVE

28 The MND mentions that three project alternatives will be available to the contractor. The MND analyzes the impacts of only the alternative that has the largest impacts, though that analysis is inadequate and does not meet the minimum requirement of CEQA, even if that were the only alternative being considered. The analysis needs to address the full impacts of each alternative and the mitigation for each. This is the only way to minimize the environmental impacts of the project, the intent of CEQA.

29 An analysis of each alternative is also very important for economic reasons. If the contractor proposes an approach that appears to be relatively inexpensive, but will have very high mitigation costs, that approach could easily be extremely expensive when mitigation cost is included. But, the decision makers and the public will not know that when that alternative is being evaluated for selection.

CONCLUSIONS

30 This letter has identified a large number of deficiencies in this MND. We strongly urge that the City reject this inadequate MND and replace it with a CEQA document that will fully identify and analyze the project's likely environmental impacts, and fully identify the mitigation that will be needed to offset the unavoided impacts for each of the project alternatives that will be considered.

It is especially troubling that this inadequate MND is being provided for a very large and potentially damaging project within the MHPA and in an area that is used by two at least two important endangered species and hundreds of other species, many of which are at risk.

In case of questions or follow-up, the undersigned can be reached at 619-224-4591 or peugh@sandiegoaudubon.org.

Respectfully,

James A. Peugh

James A. Peugh
Conservation Committee Chair

Cc:
California Coastal Commission
California Department of Fish and Game
US Fish and Wildlife Service
US Army Corps of Engineers

SAN DIEGO AUDUBON SOCIETY (3/12/2012) continued

25. Impacts of the project to unvegetated mudflats are discussed in Section 4.2.1 of the NES, and in Section 5.1.2 and 5.1.3 of Appendix A to the NES, the City of San Diego Biology Guidelines Consistency Summary.

26. Please see response to comments 23 and 24 temporary impacts were not significant.

27 The 2.69 acres of shading resulting from the West Mission Bay Drive Bridge (Bridge) is not anticipated to cause detrimental affects to the ecologic functions and services of the intertidal mudflat, including avian foraging, based on the following:

1. Sunlight is thought to be the main limiting factor of primary productivity in shallow and intertidal estuarine habitats (Heip et al. 1995, MacIntyre et al. 1996). Sunlight is also a factor that varies naturally among mudflat and marsh ponds due to water depth, turbidity, shading from submerged aquatic vegetation or overhanging marsh vegetation and, on a larger-scale, latitude and cloud cover (Stocks et al. 2001). However, the north-south orientation of the Bridge will result in limited areas being shaded and not result in substantial new areas undergoing permanent shading throughout the day as sunlight will reach most areas under the Bridge. Therefore, a negligible decrease in benthic microalgae (and a subsequent reduction in bethic macrofauna) is anticipated.

2. Water chemistry is anticipated to remain unchanged from any net increase of shading for the following reasons:
   - Anticipated shading will not reduce dissolved oxygen because shading impacts will not reduce benthic microalgae (food resources for benthic macrofauna)
   - Anticipated shading will not change water temperature because the shading will not affect daily freshwater and brackish water inputs that are provided by the existing tidal regime and westerly flow of the San Diego River.
   - Anticipated shading will not affect vegetation communities as the mudflat is unvegetated (e.g. no eelgrass beds or marsh is present)

3. Benthic Macrofauna will not be adversely affected by shading for the following reasons:
   - The shallow mixed water column will remain the same after the Bridge is replaced (and potentially improved as piers will be removed and tidal area will be increased under the new Bridge)
   - Anticipated shading will not affect sediment stability and regime (Huxham et al. 2006)
   - Tidal regime will be maintained during construction and returned to natural/pre-project conditions once construction is complete

4. Changes to avian species foraging opportunities, within the Southern Wildlife Preserve, are anticipated to remain unchanged for the following reason.
   - The 2.69 acres of increased shading resulting from the Bridge represents only 1.3 percent of the total preserve acreage (approximately 200 acres). Foraging opportunities exist and would remain unchanged throughout the preserve on both the east and west sides of the Bridge.

24 The only way the removal of the berm material could not result in a significant loss would be if the construction soil were removed and the resulting depression were filled with suitable mudflat soil from somewhere else. That might be possible if there were a permitted dredge site nearby, but none is mentioned.

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In case of questions or follow-up, the undersigned can be reached at 619-224-4591 or peugh@sandiegoaudubon.org.

Respectfully,

James A. Peugh

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Conservation Committee Chair

Cc:
California Coastal Commission
California Department of Fish and Game
US Fish and Wildlife Service
US Army Corps of Engineers

References for response 27

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Mark Huxham, M., Gilpin, L., Mocogni, M., Harper, S.

2006 Microalgae, Macrofauna And Sediment Stability: An Experimental Test of a Reciprocal Relationship. Marine Ecology Progress Series Volume 310. 5-63

MacIntyre HL, Geider RJ, Miller DC

1996 Microphytobenthos: the ecological role of the 'secret garden' of unvegetated, shallow water marine habitats. I. Distribution, abundance and primary production. Estuaries 19:186–201

Stocks, K.S. and Grassle, J.F.

2001 *Effects of microalgae and food limitation on the recolonization of benthic macrofauna into* in situ *saltmarsh-pond mesocosms*. Marine Ecology Progress Series Volume 221. 93-104.

28 Please see the information that was added to the project description within the Final MND and Initial Study. The implementation of the performance criteria from page 9 of the NES and the mitigation within the MMRP would ensure that impacts from any one of the potential construction methodologies would be less than significant.

29 The cost of the mitigation is not a CEQA related issue.

30 Please see response to comments. EAS maintains that the project would not result in permanent significant impacts.

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March 12, 2012

Jeffrey Szymanski
Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, California 92101

Via Electronic Mail
DSDEAS@sandiego.gov

Re: Mitigated Negative Declaration for the West Mission Bay Drive Bridge
Site Development Permit, Project No. 203403

Dear Mr. Szymanski:

Please accept the following comments on the City of San Diego (City)'s Mitigated Negative Declaration for the West Mission Bay Drive Bridge ("project") on behalf of the Coastal Environmental Rights Foundation (CERF). CERF is a nonprofit environmental organization founded by surfers in North San Diego County and active throughout California's coastal communities. CERF was established to aggressively advocate, including through litigation, for the protection and enhancement of coastal natural resources and the quality of life for coastal residents.

31 CERF supports and hereby joins in the comments submitted by James A. Peugh, Conservation Committee Chair of San Diego Audubon Society. Because of the significant adverse environmental impacts associated with the project as outlined in the Audubon letter, the lack of adequate CEQA review, and the City's failure to evaluate mitigation measures to avoid or lessen such impacts, CERF urges the City to prepare an Environmental Impact Report ("EIR").

32 The Mitigated Negative Declaration prepared for the project is woefully inadequate as an informational document, failing to adequately describe significant environmental impacts to water quality, hydrology, biological resources, climate change, and land use. CEQA "is to be interpreted 'to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.' [Citation.]"[1] A basic premise of CEQA is informed decision-making and public participation.[2] "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences."[3] "Besides informing the agency decision makers themselves, the EIR is intended 'to demonstrate to an apprehensive citizenry that the agency has in fact analyzed and considered the ecological implications of its action.'"[4]

33 Here, the City has prepared an Initial Study, and a Mitigated Negative Declaration ("MND")

[1] *Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 112; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 563-564; see *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 274 ("[i]t is, of course, too late to argue for a grudging, miserly reading of CEQA").

[2] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.App.3d 553; *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal.App. 3d 376; *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68.

[3] CEQA Guidelines §§ 15151; 15126, 15358(a)(2).

[4] *Save Tara v. City of West Hollywood,* (2008) 45 Cal. 4th 116, 136, quoting *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 86.

31 Measures to avoid and minimize project impacts are detailed in Chapter 4 of the NES, pages 63-112. General project avoidance and minimization measures are presented in Section 4.1, and are listed in the project description. Impacts and measures for natural communities of special concern (4.2), special status species (4.3), special-status animal species (4.4), and special-status and other marine species (4.5) are provided in subsequent sections of Chapter 4 of the NES and discussed in Section IV of the Initial Study and the mitigation measures are listed in the MMRP.

32 Potential impacts to water quality are addressed in the response to comments 15-17 and in Section IX of the Initial Study. In an effort to respond to the concerns raised in the various comment letters, regarding water quality, Rich Engineering has provided additional analysis to demonstrate that water quality impacts would be less than significant. As discussed in the CEQA document (pages 10 and 11 of the MND, and 6-8, 16-17, and pages 23-24 of the Initial Study) the project does not have the potential to have significant impacts to water quality, climate change or land use.

33 Please see the expanded project description provided in the final MND and Initial Study which provides a description of each construction methodology. With the implementation of the performance criteria and the mitigation measures within the MMRP all temporary impacts from the potential construction methodologies would be less than significant.

33 with a variety of supporting documents[5], but has ultimately failed to adequately *analyze* the project, available alternatives, and environmental consequences of the project. In failing to appropriately characterize the project's significant environmental effects, the City has imposed inadequate mitigation measures, or failed to impose mitigation measures at all.

34 Specifically, the compensatory mitigation summarily described in the MMRP assumes all "aquatic features" are similar. (MND, p. 5). The City has completely failed to account for differences in habitat types (coastal brackish marsh and mudflat), trivializing the temporal loss of wetlands. (*Id.*). This is especially troubling because the project is in the MHPA and adjacent to the City Least Tern Preserve Area. (Initial Study, p. 13).

35 Impacts to the 303(d) listed San Diego River have also not been adequately analyzed. The Initial Study's alludes to "design features" that would minimize runoff and stormwater discharge to the River without detailing what such features entail. (Initial Study, p. 20). Expanding the bridge surface will result in more impervious area directly above and adjacent to sensitive water bodies, resulting in increased stormwater runoff into an already impaired water body. (*Id.*) Such an impact cannot be trivialized (or labeled insignificant) by mere reference to amorphous "design features", especially where the receiving water is 303(d) listed. (*Id.*).

36 In addition to water quality, biological resources in the San Diego River will be greatly impacted. As noted in the Environment Study, the San Diego River is of particular importance to migrating birds:

> This portion of the river is designated by the City as the Southern Wildlife Preserve, a resting and feeding spot for birds migrating along the Pacific Flyway. It provides habitat and serves as a major local corridor for a variety of birds, intertidal and subtidal species, and other species, particularly migratory shorebirds and waterfowl. There are few restrictions to wildlife movement within the River corridor, given that existing bridges allow for relatively unimpeded movement beneath them. A local corridor connection to Famosa Slough begins roughly 1,000 feet west of the BSA. An inactive least tern preserve is also located within the BSA, directly north of the San Diego River and an active least tern nesting site is located approximately one mile west of the BSA near the mouth of the San Diego River. (Environmental Study, p. 51).

Thus, any restriction in movement along the River, whether temporary or longterm, will have significant impacts on birds, particularly migratory shorebirds and waterfowl. The temporary impacts to these species has not been appropriately characterized by the City.

37 Moreover, the Environmental Study and MND indicate temporary impacts to habitat will be mitigated through self restoration and grading post-construction. (Environmental Study, pp. 73-77). Rather than providing mitigation, however, such an approach merely assumes recovery of the natural ecosystem (without specifying how long such recovery will take or whether a full recovery is expected) and involves *additional* impacts through resurfacing. This approach ensures impacts to biological and wildlife resources will not be mitigated, and the temporal loss will remain unaddressed.

[5] These documents were not made available on the City's website, and therefore severely constrained the public's ability to provide meaningful input.

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34 Chapter 4 of the NES, section 4.2 *Natural Communities of Special Concern,* details and accounts for different habitat types. Further analysis is presented in Section 5.5 of the NES, *Wetlands and Other Waters Coordination Summary*. Proposed mitigation specific to tidal mudflats is presented in section 4.2.1.4, coastal brackish march in section 4.2.2.4, and southern coastal salt marsh in section 4.2.3.4. of the NES, which are incorporated by reference. Recontouring is only applicable as mitigation for impacts to mud flats and coastal brackish marsh. It is believed that the coastal brackish marsh that would be impacted under the project was formerly mud flat habitat. It exists near a discharge into the San Diego River where sediments accumulated and invasive giant reed took hold. Proposing to return it to mud flat habitat would serve as an appropriate mitigation option resulting in a net ecological benefit. Mitigation for temporary impacts to 0.004 acres of southern coastal salt marsh would be attained through restoration/replanting of the impacted habitat at a 1:1 ratio.

35 Please see the expanded project description which identifies performance criteria and project features which would reduce stormwater related impacts. In addition, as noted in Section IX of the Initial Study a preliminary storm water data report was prepared (Rick Engineering, November 2011) that addressed issues related to stormwater and the 303(d) receiving water (San Diego River). The analysis in the report determined that the 8 existing storm drain inlets that receive flows from the project would be retrofitted with *small footprint filtration devices* and in addition, each of the inlets on the four corners of the new bridge decks would be fitted with one or more *small footprint filtration devices*. With the implementation of the performance criteria discussed in the expanded project description and the use of the *small footprint filtration devices* the bridge project would not impact a listed 303(d) water body.

36 Please see response numbers 22 and 27, Section IV of the Initial Study and the MMRP within the Final MND. Response numbers 22 and 27 discusses the projects affects upon birds and the use of the river as a migratory corridor. The CEQA document has identified several potential impacts to wildlife, including birds, however, mitigation found with the MMRP would reduce all impacts to avian species to below a level of significance.

37 Please see response to comment numbers 23 and 24 which discusses how temporary impacts associated with the project would be reduced to below a level of significance. The *Conceptual Habitat Mitigation Plan West Mission Bay Drive Bridge Project* (*AECOM* Environmental, October 2011) requires a 5 year monitoring plan with a final report to be submitted to City evaluating the success of the mitigation. The final report shall make a determination of whether the requirements of the mitigation plan have been achieved. If the final report indicates that the mitigation has been in part, or whole, unsuccessful, the Applicant shall be required to submit a revised or supplemental mitigation program to compensate for those portions of the original mitigation program which were not successful.

38 Notwithstanding the City's failures detailed above, CEQA mandates an agency prepare an EIR whenever a project "may have a significant effect on the environment."[6] In light of the direct and cumulative impacts that will result from this project, we urge the City to prepare an EIR in order to adequately analyze the impacts, alternatives and mitigation measures associated with this project. Should you have any questions please contact our office directly.

Sincerely,

COAST LAW GROUP LLP

Marco A. Gonzalez

Livia Borak
Attorneys for CERF

[6] Public Resources Code §§ 21100, 21080(c), 21151

COAST LAW GROUP (3/12/2012) continued

38 All impacts have been mitigated to below a level of significance and an EIR would not be required.

San Diego County Archaeological Society, Inc.

Environmental Review Committee

20 February 2012

To: Mr. Jeffrey Szymanski
Development Services Department
City of San Diego
1222 First Avenue, Mail Station 501
San Diego, California 92101

Subject: Draft Mitigated Negative Declaration
West Mission Bay Drive Bridge
Project No. 203403

Dear Mr. Szymanski:

I have reviewed the subject DMND on behalf of this committee of the San Diego County Archaeological Society.

39 Based on the information contained in the DMND and the historical resources documentation provided to us, we agree that no significant impacts to historical resources will result from the project. Therefore, we also agree that no historical resources mitigation measures are necessary.

SDCAS appreciates being included in the public review of this project's environmental documents.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: AECOM
SDCAS President
File

P.O. Box 81106 San Diego, CA 92138-1106 (858) 538-0935

SAN DIEGO COUNTY ARCHAEOLOGICAL SOCIETY, INC (2/20/2012)

39 Comment acknowledged.

NORTH BAY COMMUNITY PLANNING GROUP
formerly known as
MIDWAY/PACIFIC HIGHWAY COMMUNITY PLANNING AREA COMMITTEE

February 14, 2012

Jeffrey Szymanski
Environmental Planner
City of San Diego Development Services Center
1222 First Ave., MS 501
San Diego CA 92101

RE: Project number 203403, West Mission Bay Drive Bridge

Dear Mr. Szymanski:

40 With regard to the the Public Notice of a Mitigated Negative Declaration for the above project: One of the affected Community Plans has been omitted from the General Project Information.

The Midway/Pacific Highway Corridor Community Plan is also affected by this project and should be included on all information, mailings, etc.

Mailings may be sent to Melanie Nickel, 3446-C Hancock St., San Diego CA 92110. Email may be sent to MelanieN@stanfordalumni.org .

Thank you for correcting this omission in future documents. If you have any questions, or if you feel that the Midway community planning area is NOT affected by this project, please call me on my cell phone, 619-890-9397.

Yours very truly,

Melanie Nickel

Melanie Nickel
Chair
North Bay Community Planning Group
(formerly known as the Midway Community Planning Advisory Committee)

copy to: Kevin Faulconer, City Council District 2

NORTH BAY COMMUNITY PLANNING GROUP (2/14/2012)

40 The Midway/Pacific Highway Corridor Community Plan has been added to the project location information in the Initial Study.

21

RINCON BAND OF LUISEÑO INDIANS
Culture Committee
Post Office Box 68 · Valley Center, California 92082 ·
(760) 297-2621 or·(760) 297-2622 & Fax:(760) 749-8901

March 21, 2012

The City of San Diego
Development Services Department
1222 First Avenue, MS 501
San Diego, CA 92101

Subject: Project No. 203403, Community Plans Mission Bay Park and Peninsula Council Districts: 6 and 2

Dear Mr. Jeffery Szymanski,

This letter is written on behalf of the Rincon Band of Luiseño Indians. Thank you for inviting us to submit comments on Project No. 203403. Rincon is submitting these comments concerning your Project's potential impact on Luiseño cultural resources.

41 The Rincon Band has concerns for impacts to historic and cultural resources and findings of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. This is to inform you, your identified location is not within the Luiseño Aboriginal Territory.

42 If you would like referral to Tribes within your project area, please contact the Native American Heritage commission and they will assist with a referral. We also request you update your contact information for Rincon and request you include in any future letters and correspondence the Rincon Tribal Chairman and the Tribal Historic Preservation Office in the Cultural Resource Department, Post Office Box 68, Valley Center, Ca 92082 (760) 297 2621.

Thank you for this opportunity to protect and preserve our cultural assets.

Sincerely,

Rose Duro
Rincon Culture Committee Chairman

Bo Mazzetti, Tribal Chairman · Stephanie Spencer, Vice Chairwoman · Charlie Kolb, Council Member · Steve Stallings, Council Member · Laurie E. Gonzalez, Council Member

RINCON BAND OF LUISENO INDIANS (3/21/2012)

41 Comment acknowledged.

42 Our distribution list currently includes the Rincon Band of Luiseno Indians.

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

March 28, 2012

Jeffery Syzmanski
Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

Subject: Comments on the Mitigated Negative Declaration (MND) for the West Mission bay Bridge Replacement Project (Project No. 203403)

Dear Mr. Syzmanski,

43 Commission staff appreciates the opportunity to review and provide comment on the above-referenced environmental document. Due to limited staff resources, we offer the following initial comments regarding the environmental document and its analysis of potential impacts from the proposed project alternatives. We recognize that the public comment period for review of the MND has recently closed; however, we feel the following comments are still relevant and should be incorporated into the project development. Additional and more thorough project review will be required as a part of necessary future Coastal Development Permits (CDPs) for the proposed project.

The project as proposed would result in the demolition of the existing, 4-lane West Mission Bay Drive Bridge, and the construction of two new parallel 3-lane bridge structures extending across the San Diego River Channel. The new bridges would also include a Class I bike path, and existing water and sewer lines would be replaced and incorporated into the bridge structure. The proposed project also includes widening of an off-ramp and a new auxiliary lane from I-8.

44 The proposed project is located within the Coastal Zone within the Mission Bay Park Master Plan area of deferred certification and therefore a CDP from the Commission will be required for approval of the subject development. The MND does not identify this requirement in the included list of 'Other Agency Requirements' and this list should be appropriately updated to include review by the Commission.

Commission staff participated in an agency pre-application meeting on September 13th, 2011 and visited the site on October 18th, 2011. During these discussions, concerns were voiced over potential impacts that could be associated with the proposed project that appear to not have been carried through to the analysis in the environmental document. We take this opportunity to revisit some of these concerns in the hope that they are addressed prior to submittal of any future CDP applications for the proposed project.

CALIFORNIA COASTAL COMMISSION (4/28/2012)

43 The City has addressed the letter from the California Coastal Commission.

44 The California Coastal Commission Permit has been added to the "Other Agency Requirements" list in the Initial Study.

45 Under the Coastal Act, development in wetlands is significantly restricted and permitted work does not include capacity increasing improvements to an existing roadway or other associated development (Section 30233). In light of these restrictions, more information will be needed for subsequent Coastal Commission reviews to determine if the proposed project can be found to be consistent with Coastal Act policies. It will be imperative to demonstrate how the project has been designed to avoid and minimize impacts to sensitive coastal resources to the greatest extent feasible. Documentation describing the need for the bridge expansion would be a necessary part of any CDP submittal in order to provide rationale as to how the selected alternative is designed to avoid and minimize impacts to the greatest extent feasible.

46 Proposed mitigation locations and ratios for anticipated impacts will be more specifically reviewed upon submittal of a future CDP application; however, at this time, it is relevant to describe that any proposed mitigation should be located on-site whenever possible, and, when located off-site, should be located within the Coastal Zone in close proximity to the subject site. Additionally, further analysis of what constitutes temporary impacts may be required, as any temporary disturbance associated with the proposed project resulting in significant ground or wetland disturbance or the death of vegetation or aquatic organisms would likely be considered permanent impacts for purposes of determining appropriate mitigation because habitat alterations may make recovery uncertain and there may be significant temporal losses of ecological functions.

47 Construction methods for the proposed project would include the installation of two small berms into the river channel to provide access for mechanical equipment across the channel. As presented, each berm would be in place for approximately 11.5 months and would be constructed with imported fill from an outside location. The temporary impacts from the proposed fill would extend across approximately 2.7 acres of existing mud flat and open water habitat. As mentioned previously, it is likely that these impacts would be considered permanent impacts for purposes of determining appropriate mitigation. Furthermore, the MND does not describe how imported fill would be removed to ensure that it does not mix with the unique fine, soft bottom sediments that characterize the mudflat environment. In addition, besides suffocation of the existing benthic community, the temporary construction berms would likely result in significant depression of the river channel in these locations, and returning the river channel elevation to pre-project condition by utilizing foreign sediment with different grain size constituents would alter the existing condition of these areas and not constitute restoration. Finally, the potential effects that these temporary berms may have on the both the tidal and fluvial hydrologic connectivity of the estuarine environment is not presented in the MND.

48 The proposed project would result in the shading of approximately 2.7 acres of existing mudflat and open water habitat. This habitat provides valuable foraging opportunities for both wading and diving birds as well as important refuge and foraging areas for other aquatic species. The proposed shading impacts from the proposed project would significantly reduce both the productivity and the function of this resource. The MND fails to identify or mitigate for these impacts to the surrounding biological productivity of the San Diego River.

CALIFORNIA COASTAL COMMISSION (4/28/2012) continued

45 The existing bridge has been evaluated and classified by Caltrans as functionally obsolete, and is eligible for federal replacement or widening funding under the Highway Bridge Replacement and Rehabilitation (HBRR) program. Therefore it was determined that the existing bridge would have to be replaced. Section 4.1 of the NES included a general avoidance and minimization discussion which is included in the following response and added to the Initial Study. Through the evolution of project design, construction limits and staging areas have been located or reduced to minimize direct effects to sensitive resources and maximize use of disturbed and developed land cover types. As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of sensitive habitats (e.g. jurisdictional waters). Within the required alignment, the bridge has been designed to avoid and minimize impacts to jurisdictional waters to the maximum practicable extent. Bridge piers have been designed as round columns rather than the continuous pier walls used on the existing bridge. Bridge abutments do not encroach into wetlands or sensitive habitats beyond their current position. Unavoidable construction impacts would be minimized through use of drilling methods to install bridge piers and through a staged construction process.

46 All mitigation would be located within the San Diego River. Please see responses 14m, 20, 21, 23, and 24 which discuss temporary impacts.

47 Please see the expanded project description which includes a thorough discussion of the potential construction methodologies for the bridge project and the use of the berms. The method by which berms would be removed from the river channel would be determined by the contractor, and additional description's of the construction methodologies has been incorporated. Please see response numbers 23 and 24 which discusses benthic resources. Temporary riprap protection for the openings of the berms would prevent the erosion of the sediment.

48 Please see response number 27 which specifically addresses "diving" birds. Responses 21 and 22 addresses how the project would affect the ability of avian species to forage.

49 Visual impacts from the proposed project also warrant significant investigation. Changes to both scenic resources and visual community character are protected under the Coastal Act. Future CDP review will require a complete visual analysis of the proposal, including perspectives from nearby public areas that have views of the project. Also, in order to minimize impacts to both visual and biological resources, all proposed landscaping should only consist of native vegetation.

50 The Coastal Act includes policies to protect both water quality and biological productivity. The proposed project includes the addition of a sizable amount of new impervious surfaces. Demonstration should be made that the amount of impervious surface has been reduced to the smallest area feasible. Existing, construction phase, and post-construction drainage and treatment should be described. In order to display consistency with Coastal Act policies, it will be important to detail how any proposed design features would be able to treat anticipated runoff from the entire affected roadway systems effectively. The standard typically applied would be to evaluate if the BMPs in place have the ability to capture and infiltrate or treat the amount of water produced by an 85th percentile storm event.

Thank you again for the opportunity to provide review and comment on the proposed project. If you have any questions or require further clarification, please do not hesitate to contact me at the above office.

Sincerely,

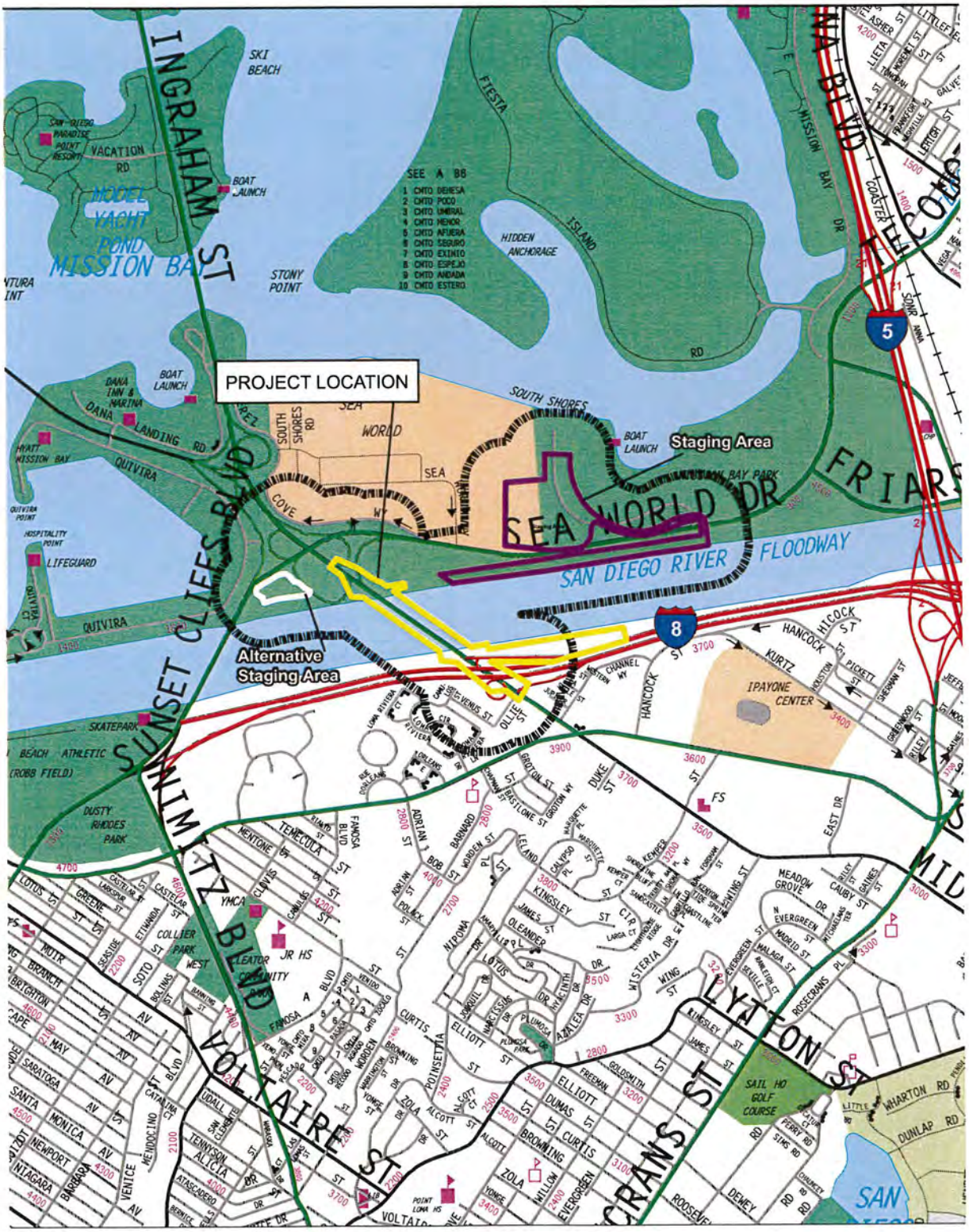
Gabriel Buhr
Coastal Program Analyst III
San Diego District

Cc (copies sent via email):
Sherilyn Sarb (CCC)
Deborah Lee (CCC)
Lee McEachern (CCC)
John Dixon (CCC)
Sally Brown (USFWS)
Tim Dillingham (CDFG)
Meris Bautilan-Smith (USACE)
Robert James (Caltrans)

CALIFORNIA COASTAL COMMISSION (4/28/2012) continued

49 Please see section I of the Initial Study, A *West Mission Bay Drive Bridge Project Visual Impact Assessment* (VIA), (Estrada Land Planning, October 2011) was prepared to address the project and visual quality impacts. Significant visual quality impacts were not identified.

50 Please see response 35. The project proposes construction of post-construction storm water treatment devices to treat the 85th percentile runoff from the proposed bridge project. The proposed treatment will consist of 8 small footprint inlet devices to provide filtration of stormwater runoff from the bridge deck and approach roadway improvements, and a swale to treat runoff adjacent to the I-8 westbound exit ramp. The design of post-constructions BMPs for pollutant removal consistent with the RWQCB Municipal Storm Water permit requirements.

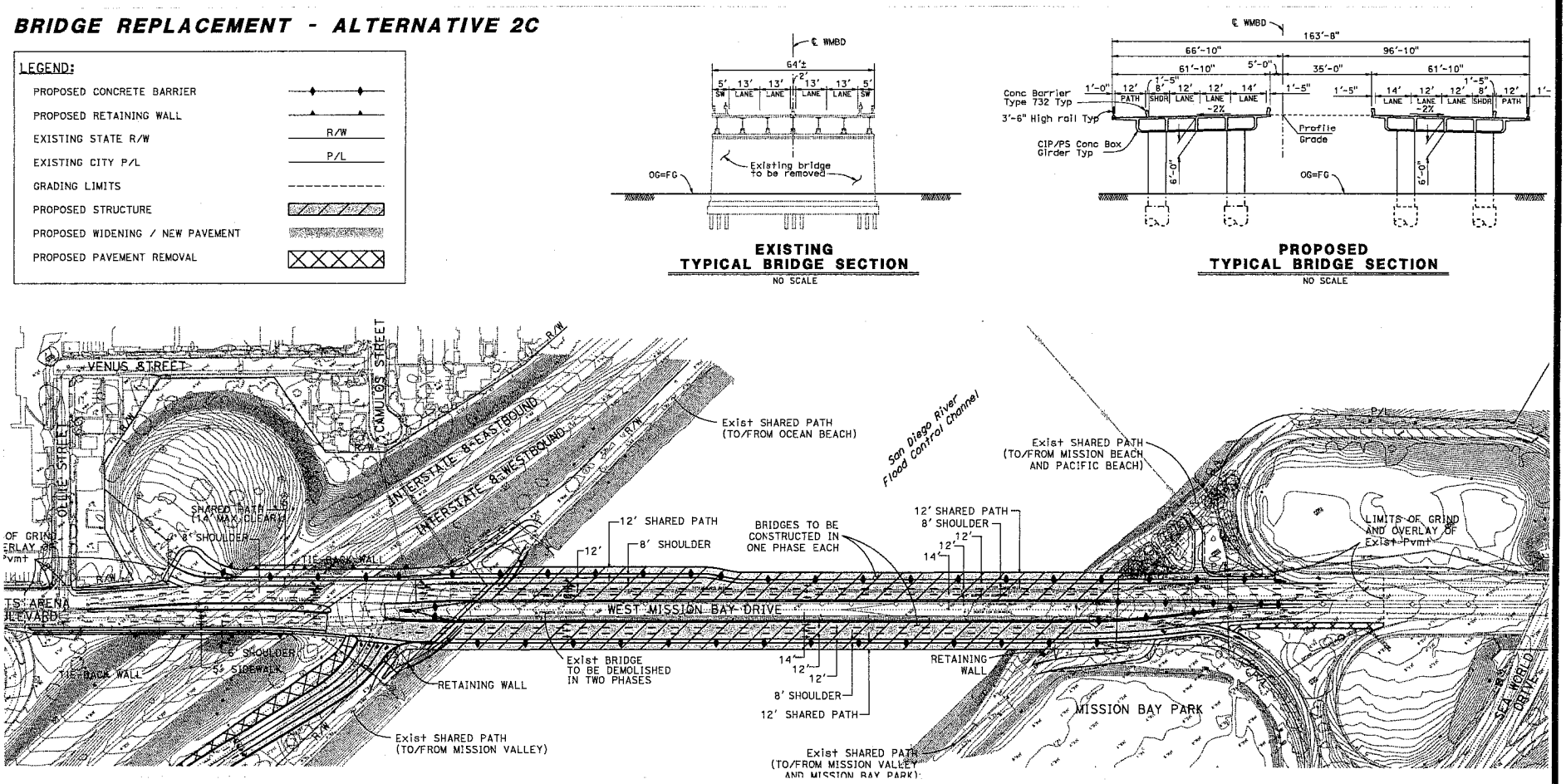


Location Map

West Mission Bay Drive Bridge/Project No. 203403

City of San Diego – Development Services Department

FIGURE No. 1



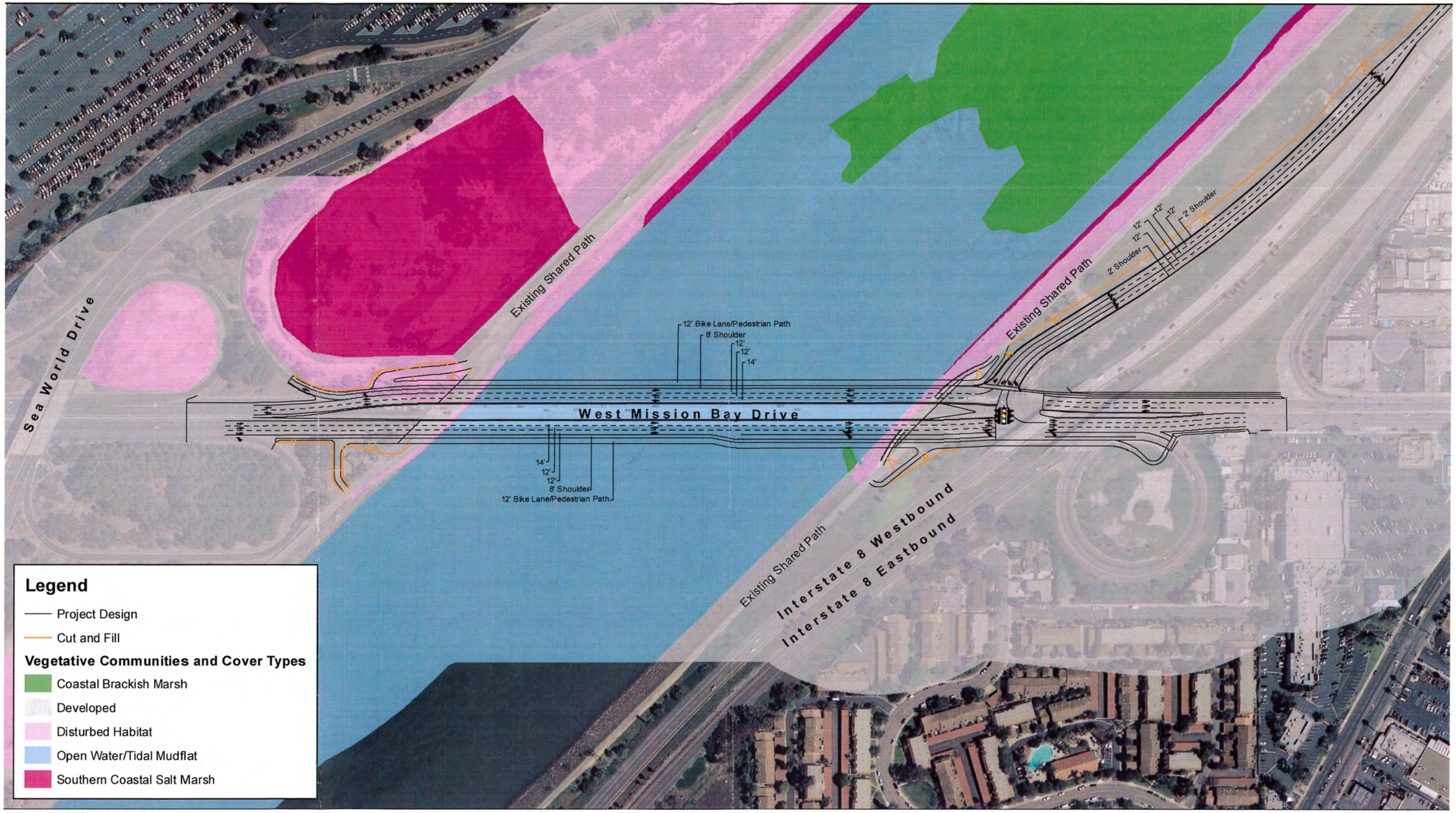
Site Plan

Alvarado Apartments / Project No. 203403

City of San Diego – Development Services Department

FIGURE

No. 2



Response to Comments Figure
Alternative 2c - Vegetation Communities

INITIAL STUDY CHECKLIST

1. Project Title/Project number: West Mission Bay Drive Bridge/203403

2. Lead agency name and address: City of San Diego, Development Services Department, 1222 First Avenue, MS 501, San Diego, CA 92101

3. Contact person and phone number: Jeff Szymanski, Associate Planner, 619-533-7523

4. Project location: The West Mission Bay Drive Bridge Project (proposed project) is located in the Mission Bay area of the City of San Diego and spans the San Diego River flood control channel between the Sports Arena Boulevard/Interstate 8 (I-8) intersection and the Sunset Cliffs/Sea World Drive intersection. The project is located within the Mission Bay Park, Penisnula and Midway/Pacific Highway Corridor Community Plan areas.

5. Project Applicant/Sponsor's name and address: City of San Diego, Publics Works Department-Engineering and Capital Projects/, 600 B Street, Suite 800 (MS 908A) San Diego, CA 92101. Contact Carrie Purcell (619) 533-5124

6. General Plan designation: Open Space, Open Water and Public Right of Way

7. Zoning: C, A-1-10, R-1750, M-1, R-1 and R-4

8. Description of project (Describe the whole action involved, including but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation.): SITE DEVELOPMENT PERMIT (SDP) to allow for the replacement of West Mission Bay Drive Bridge. The existing four lane bridge would be replaced with two new parallel bridge structures each containing three lanes. The overall construction timeline is expected to be 2 years. The new bridge structures would be supported by concrete pier pilings, and the supporting structure for the new bridge would consist of 32 concrete pier piles, each with an 8-foot diameter. The pier piles would be made up of eight "bents" (pier-pile groupings), with four pier piles per bent. The overall bridge replacement effort would include a construction area of approximately 131 feet in width on both sides of the existing bridge, as measured from the existing edge of the deck. The length of the bridge construction would be approximately 1,296 feet.

   The project would include improvements at the north and south ends of the existing West Mission Bay Drive Bridge. The northbound right lane on West Mission Bay Drive would become a dedicated on-ramp for eastbound Sea World Drive. A 600-foot-long auxiliary lane in the southbound direction would also be included and is necessary to facilitate traffic transitioning onto eastbound Interstate 8. Improvements to the westbound I-8 off-ramp onto West Mission Bay Drive would also be included. The proposed improvements include widening of the off-ramp, specifically, extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet. The widening is necessary based on projected increases in traffic volumes, the need for additional storage, and to facilitate intersection operations at the ramp termini point with West Mission Bay Drive. The existing water and sewer utilities that are suspended underneath the bridge would be replaced with new lines. Once in construction a phasing plan would be used to replace the existing with new lines without a disruption in service.

Additionally, a Class I bike path would be constructed on each bridge and the recreational trails located under the existing West Mission Bay Drive Bridge on either side of the San Diego River would remain open during and after construction.

In order to construct the new bridge within the San Diego River, three construction methodologies have been evaluated. These methodologies include a larger berm option, small berm option, and a trestle option. The large berm and small berm options are very similar, but differ in size and placement. The actual methods of construction for the project would be determined by the contractor. The technical studies supporting the project analyzed all three methodologies. Mitigation measures for the project were prepared analyzing the worst case scenario resulting from the three methodologies.

9. Surrounding land uses and setting: Briefly describe the project's surroundings: The surrounding land uses are residential, commercial, and Open Space/Water.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.): California Department of Fish and Game (CDFG) - Streambed Alteration Permit, Regional Water Quality Control Board (RWQCB) - 401 Water Quality Certificate, Army Corps of Engineers (ACOE) - preconstruction notification, and California Coastal Commission Permit.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Greenhouse Gas Emissions	☐	Population/Housing
☐	Agriculture and Forestry Resources	☐	Hazards & Hazardous Materials	☐	Public Services
☐	Air Quality	☐	Hydrology/Water Quality	☐	Recreation
☒	Biological Resources	☒	Land Use/Planning	☐	Transportation/Traffic
☐	Cultural Resources	☐	Mineral Resources	☐	Utilities/Service System
☐	Geology/Soils	☐	Noise	☒	Mandatory Findings Significance

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial evaluation:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or (MITIGATED) NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or (MITIGATED) NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

I) AESTHETICS – Would the project:

a) Have a substantial adverse effect on a scenic vista? ☐ ☐ ☐ ☒

The existing West Mission Bay Drive Bridge is the dominant feature of the project site's visual landscape, which includes a number of existing scenic resources such as the San Diego River, the coastline and estuary. A *West Mission Bay Drive Bridge Project Visual Impact Assessment* (VIA), (Estrada Land Planning, October 2011) was prepared to address the project and visual quality. To address potential impact to scenic vistas three views perspectives were used and include: a view from Interstate 8 freeway westbound off ramp at Mission Bay Drive, a view from Sea World Drive and a view from West Mission Bay Drive south of Interstate 8 viewing north. It was determined that since the new bridge would include a thinner bridge deck profile and reduced size pier footings that the project would not create a substantial view obstruction from designated public open space or public roadways.

b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ☐ ☐ ☐ ☒

Please see Ia, the proposed project would not dramatically alter the scenic quality of the San Diego River since the proposed project would replace the existing West Mission Bay Drive Bridge with a new bridge. In addition, the bridge is not designated as a scenic resource and impacts to scenic resources would not occur

c) Substantially degrade the existing visual character or quality of the site and its surroundings? ☐ ☐ ☒ ☐

The project proposes the replacement of an existing bridge with a new bridge. The visual effects of the project improvements would have a moderate degree of change to the existing character of the West Mission Bay Drive corridors. This is due to the use of larger and new built forms. However, the new form of the bridge would not strongly contrast with surrounding development and natural topography because the overall height, bulk, or architectural projections would not be substantially different from the existing conditions.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? ☐ ☐ ☒ ☐

The increased capacity of the project would potentially create a new source of light and glare. However, this increase is not substantial and furthermore the project would be constructed of

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

concrete, asphalt, and other non-reflective materials. The proposed project would include night lighting for safety and visibility purposes. This bridge lighting would include features such as down-shielding and proper lighting alignment in order to minimize spillover into the night sky. Therefore, the bridge would not result in significant light or glare impacts.

II) AGRICULTURAL AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. – Would the project:

a) Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

The project crosses the San Diego River which is not in agricultural production and is not classified as farmland by the Farmland Mapping and Monitoring Program (FMMP). Similarly, land surrounding the project is not in agricultural production and is not classified as farmland by the FMMP. Therefore, the proposed project would not convert farmland to non-agricultural uses.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒

The San Diego River and land surrounding the proposed project is not zoned for agricultural uses or subject to Williamson act contracts. Therefore, the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The San Diego River and land surrounding the proposed project are not zoned as forest land. Therefore, the proposed project would not conflict with existing zoning for forest land.

d) Result in the loss of forest land or conversion of forest land to non-forest use? ☐ ☐ ☐ ☒

The San Diego River and land surrounding the proposed project are not forest land. Therefore, the proposed project would not convert forest land to non-forest use.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? ☐ ☐ ☐ ☒

No existing agricultural uses are located in the proximity of the project that could be affected. Therefore, the bridge replacement project would not convert farmland to non-agricultural uses.

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations - Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan? ☐ ☐ ☒ ☐

An *Air Quality Impact Analysis, West Mission Bay Drive Bridge Project,* (AECOM, October 2011) was prepared to address air quality. The federal Clean Air Act (CAA) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). In San Diego County, the San Diego Air Pollution Control District (SDAPCD) is the agency responsible for administering federal and state air quality laws and policies. Included in the SDAPCD's tasks is the preparation and implementation of the San Diego County portion of the SIP via the Regional Air Quality Strategy (RAQS).

Consistency with the RAQS is typically determined by two standards: (1) whether the project would exceed assumptions contained in the RAQS; and (2) whether the project would increase the frequency or severity of violation of existing air quality violations, contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as specified in the RAQS.

1.The RAQS assumes specific emissions from the operation of certain land uses, i.e., residential, retail, office, institutional, and industrial. As the project would not change the existing use or increase the vehicular capacity of the bridge, the project would not exceed the assumptions contained in the RAQS.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

2.The SDAB is a federal nonattainment area for O_3 pollutants (volatile organic compounds [VOC] and nitrogen oxides [NO_X]), and a state nonattainment area for PM_{10} and $PM_{2.5}$ pollutants. For the CO pollutant, the SDAB is compliant with both state and federal standards. Based on these existing air quality conditions, the appropriate conformity thresholds for each pollutant were compared to the projected construction and operation emissions from the project.

Construction Emissions

Construction of the project could increase the amount of harmful pollutants entering the air basin. However, construction emissions would be temporary and implementation of BMPs including but limited to, the minimization of simultaneous operation of multiple construction equipment units, stabilize graded areas as quickly as possible to minimize fugitive dust, erosion control measures, and watering of disturbed areas to minimize air-born particulates.

Operation Emissions

The project would replace the existing West Mission Bay Drive Bridge and would not involve any new stationary air emission sources. The analysis demonstrated that the project would not directly generate additional trips to existing recreation areas or induce future growth that would result in additional trips to these facilities. The project was developed to reduce existing traffic congestion resulting from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned or projected to occur. Therefore, the proposed project would not result in air quality impacts due to operation.

Based upon the results of the air quality study impacts to air quality plans would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐

Please see III.a. The project would not substantially contribute to an existing air quality violation.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒

As described above, construction operations could temporarily increase the emissions of harmful pollutants. However, construction emissions would be temporary and it is anticipated that

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

implementation of mitigation measures presented in the air quality impact analysis would reduce potential impacts related to construction activities to a level to less than significant. Furthermore, the project would not directly generate additional trips to these existing recreation areas or induce future growth that would result in additional trips to these facilities. The project was developed to reduce existing traffic congestion that has resulted from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned, or is projected to occur. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards.

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

The U.S. Environmental Protection Agency (USEPA) and FHWA published Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas. In December 2010, USEPA released final guidance in Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas for quantitative hot-spot analyses for new or expanded highway projects with significant increase in diesel traffic in federal in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas. The project improvements to West Mission Bay Drive would maintain or improve projected future traffic operations, the design year (2035) volume with the project is 83,000 vehicles, which is less than the volume significance criteria for requiring the hot-spot analysis.

In addition, the project was developed to reduce existing traffic congestion that has resulted from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned, or is projected to occur. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards and sensitive receptors would not be exposed to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Operation of construction equipment and vehicles could generate odors associated with fuel combustion. However, these odors would dissipate into the atmosphere upon release and would only remain temporarily in proximity to the construction equipment and vehicles. Therefore, the proposed project would not create substantial amounts of objectionable odors affecting a substantial number of people.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

The bridge replacement project would be located along the shores and within the San Diego River. Therefore, a Natural Environment Study (NES) and Jurisdictional Delineation Report was prepared by AECOM *(West Mission Bay Drive Bride Project,* October 2011 and *Jurisdictional Delineation Report (JDR): West Mission Bay Bridge* October 2011) to assess the impacts of the project on sensitive biological resources and habitats. Since the City is seeking Federal funding for a large portion of the project, there is a requirement to prepare the NES, which is the equivalent to a biological technical report that the City of San Diego would require to evaluate potential impacts for CEQA analysis. Additionally, the Appendix A to the NES entitled "City of San Diego Biology Guidelines Consistency Summary" addresses local and state requirements under City Biology Guidelines, Environmentally Sensitive Lands (ESL) Regulation and CEQA Significance Thresholds. Therefore, the NES addressed biological resources at both the federal (NEPA) and state (CEQA) levels.

Through the evolution of project design, construction limits and staging areas have been located or reduced to minimize direct effects to sensitive resources and maximize use of disturbed and developed land cover types. As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of sensitive habitats (e.g. jurisdictional waters). Within the required alignment, the bridge has been designed to avoid and minimize impacts to jurisdictional waters to the maximum practicable extent. Bridge piers have been designed as round columns rather than the continuous pier walls used on the existing bridge. Bridge abutments do not encroach into wetlands or sensitive habitats beyond their current position. Unavoidable construction impacts would be minimized through use of drilling methods to install bridge piers and through a staged construction process.

In support of the NES a series of focused and general wildlife surveys were conducted by AECOM biologists. These surveys included: vegetation mapping, a sensitive plant species assessment, and focused and general wildlife surveys. Both the NES and JDR are available for review at the offices of the Entitlements Division.

General wildlife surveys for sensitive avian species, including the western snowy plover, Californian least tern, light-footed clapper rail, and Belding savannah sparrow, amongst others, were conducted in the spring of 2010. The surveys were conducted by walking along trails

adjacent to suitable habitat. The report found that although the area is historically known to have historic occurrences in the surrounding area, only five sensitive species were detected during the project surveys. These include: Belding savannah sparrow, light-footed clapper rail, black skimmer, California horned lark, and elegant tern. None of the identified species were detected within the project impact footprint, and suitable nesting habitat for these species does not exist onsite. Therefore, direct impacts to sensitive avian species are not anticipated.

However, because noise generated from the construction of the bridge is expected to temporarily exceed allowable levels, mitigation would be required. Pre-construction surveys shall be conducted if construction were to occur within the breeding season of sensitive avian species March through July, and through September for the northern harrier. If birds are detected, then the project would implement noise-reduction measures to reduce construction noise levels to acceptable levels or discontinue work until the young have fledged. The implementation of this mitigation requirement as stated in the MMRP in Section V of the MND would reduce indirect impacts to avian species to below a level of CEQA significance.

A general botanical survey was conducted in spring 2010 and rare plant surveys were conducted in April and June 2010 and in February 2011. The survey results indicated that the project would result in a total of both temporary and permanent indirect impacts to 2.73 acres of tidal mudflat/open water, 0.03 acres of coastal brackish marsh and 0.004 acres of southern coastal salt marsh. The combination of the removal of the coastal brackish marsh (composed of nonnative species) and the restoration of these areas back to tidal mudflat would result in a net ecological benefit and therefore, a mitigation ratio of 1:1 for these impacts is proposed. City staff has reviewed and approved the *Conceptual Habitat Mitigation Plan* (AECOM, October 2011) for the West Mission Bay Drive Bridge Project and incorporated it into the MMRP in Section V of the MND. Compliance with the restoration plan would reduce impacts to below a level of CEQA significance.

The southwestern spiny rush was the only special status plant species detected in the surveys on the eastern portion of the site 0.35 miles east of the bridge construction limits. Based upon the location of the plant, direct impacts to this species are not anticipated.

A focused eelgrass survey was conducted in June 2010 and found that the area was generally unvegetated with 10 percent of the area covered by wigeongrass and very small areas of surf grass. No established eelgrass was observed during the survey. The survey report concluded that the project would have little or no effect on any sensitive flora in channel.

No sea turtles or marine mammals were detected in the study area in the general wildlife surveys conducted in 2010 or in the focused surveys in March 2011. Two special-status marine wildlife species are known to occur or have potential to occur within the coastal and estuarine habitats near the project site: green sea turtle and the loggerhead turtle. Harbor seals and the California sea lions have the potential to occur and are protected under the Marine Mammal Protection Act (MMPA). To avoid impacts to the green sea turtles during construction of the berms, preconstruction surveys would be required in the channel for work occurring May through September if water is present. Because the loggerhead turtles only periodically occur in the project area and their potential to be present is very low, direct or indirect impacts to the loggerhead turtles are not anticipated. In addition, adherence to the City's MHPA Land Use

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Adjacency Guidelines (LUAGs) as further described in Section V (Land Use) section of the MND and would ensure that impacts to this species are less than significant.

As noted previously harbor seals were not observed during any of the surveys conducted. However, to avoid potential impacts to the seals a pre-construction survey would be conducted for the seas for channel work when water is present. The NES determined that the project would not result in the loss of any known sea lion habitat as the project area is not considered an important foraging area for sea lions. General adherence to the MHPA LUAGs would preclude impacts to the sea lions and no further mitigation would be required.

Fish in the water column and in or near the bottom could be temporarily disturbed by turbidity, pile-driving vibrations, and noise, should in-channel construction activities take place. Most fish would leave the immediate project area. After in-channel activities are complete, reduced numbers of invertebrates (until recolonization is complete) would reduce the food supply for some fish species; however, those effects would be short term and localized.

Invertebrate organisms and fish present in the water column could also be affected should contaminated river sediments be released into the water column during construction-related activities. Contaminates could become incorporated into the surrounding environment and biomagnified in the river's food web, resulting in direct or indirect impacts to organisms present in the river channel. However, upon implementation of avoidance and minimization measures and mitigation listed in the MMRP, the release of contaminated sediments into the environment, and the potential for incorporation and biomagnification of contaminates in the food web, would be avoided or reduced.

Therefore the project would not have substantial effects on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish (CDFG) and Wildlife Service (USFWS).

b) Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Jurisdictional wetlands and "waters of U.S." consisting of coastal saltwater marsh, aquatic bed, and mud flats are present in the project area. Bridge widening would result in the direct loss of "waters of the U.S." and a small amount of wetland within the San Diego River Floodway. Direct impacts to waters from the new pier piles would affect approximately 0.37 acres of mud flats/aquatic beds. As mentioned in Section IVa, the NES indicated that the project would result in a total of both temporary and permanent indirect impacts to 2.73 acres of tidal mudflat/open water, 0.03 acres of coastal brackish marsh and 0.004 acres of southern coastal salt marsh. However, permanent indirect impact from shading to the 2.73 acres of shading are not considered to be biologically significant and would not require mitigation because these areas are unvegetated and the only affect would be a change in water temperature. However, the tidal cycle consistently moves water through these areas and any change in temperature would be minimal.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The combination of the removal of the coastal brackish marsh (composed of nonnative species) and the restoration of these areas back to tidal mudflat would result in a net ecological benefit and therefore a mitigation ratio of 1:1 for these impacts was proposed. City staff has reviewed and approved the *Conceptual Habitat Mitigation Plan* (AECOM, October 2011) for the West Mission Bay Drive Bridge Project and has incorporated it into the MMRP in Section V of the MND. Compliance with the restoration plan would reduce impacts to below a level of CEQA significance.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ☐ ☒ ☐ ☐

Please see IV a and b. mitigation is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ☐ ☐ ☒ ☐

The project is not expected to result in adverse impacts on wildlife movement in the project study area. Construction of the bridge span and associated structures may constrain wildlife movement during construction; however this is considered temporary and would not constrain the long-term wildlife movement in the San Diego River corridor. In addition, please see Section IVa, mitigation would be required that would ensure that wildlife movement would not be significantly impeded. The impact would be less than significant with implementation of mitigation measures detailed in Section V of the MND.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ☐ ☒ ☐ ☐

Please see IVa. mitigation is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other ☐ ☐ ☐ ☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

approved local, regional, or state habitat conservation plan?

The project is mostly located in or directly adjacent to the City's Multi-Habitat Planning Area (MHPA) and adjacent to the City Least Tern Preserve area. Indirect impacts of the project would potentially include temporary construction-related noise, operational noise, temporary construction-related erosion and sedimentation, permanent human presence, temporary and permanent lighting impacts, permanent increase in storm water drainage into the MHPA, and the introduction of invasive species. These indirect effects have been evaluated to determine their potential to affect MHPA resources.

Because of the potential to impact such resources, the Mitigation, Monitoring and Reporting Program (MMRP) detailed in Section V of the Mitigated Negative Declaration (MND) is required. Implementation of this MMRP would reduce the project's indirect impacts to an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan to below a level of significance. Also, please see X c.

V. CULTURAL RESOURCES – Would the project:

a) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐	☐	☒

The purpose and intent of the *Historical Resources Regulations of the Land Development Code (Chapter14, Division 3, and Article 2)* is to protect, preserve and, where damaged, restore the historical resources of San Diego. The regulations apply to all proposed development within the City of San Diego when historical resources are present on the premises. CEQA requires that before approving discretionary projects, the Lead Agency must identify and examine the significant adverse environmental effects, which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (Sections 15064.5(b) and 21084.1). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities, which would impair historical significance (Sections 15064.5(b)(1)). Any historical resource listed in, or eligible to be listed in the California Register of Historical Resources, including archaeological resources, is considered to be historically or culturally significant.

A record search of the California Historic Resources Information System (CHRIS) digital database was reviewed to determine presence or absence of potential resources within the project site and one-mile radius. No on-site archaeological resources were identified; however, several sites were identified within a one-mile radius. As such, City Archaeological staff conducted a site visit to determine the presence of historical resources. A visual inspection by staff was conducted, outside of the river, and identified no visible resources to warrant additional or follow up investigations. Since most of the work would be conducted within the river and no resources were located outside of this area impacts to historical resources are not anticipated mitigation would not be required.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

In addition, an historical evaluation of the bridge itself was prepared, (AECOM, February, 2011). The evaluation was prepared to evaluate the structure as a potential local historical resource under the Historical Resources Board (HRB) Designation Criteria. The report was reviewed by City of San Diego Historical Resources staff who concurred with the conclusions of the report that the existing bridge proposed to be demolished is not eligible for listing under any Historical Resource Criteria and therefore a substantial change to a historical resource would not occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? ☐ ☐ ☐ ☒

Please see V a.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☐ ☐ ☐ ☒

The project is primarily underlain by artificial fill and alluvium. These areas are not considered paleontologically sensitive and impacts are not significant.

d) Disturb any human remains, including those interred outside of formal cemeteries? ☐ ☐ ☐ ☒

Please see Va., impacts to historical resources, including human remains, are not anticipated.

VI. GEOLOGY AND SOILS – Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ☐ ☐ ☒ ☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

A *Preliminary Investigation and Deep Foundation Recommendations West Mission Bay Drive Bridge,* (Geotechnics Incorporated, December 2009) was prepared and approved by City Geology staff. The Project site is not located within an Alquist-Priolo Fault Zone and no known faults cross the Project site. There are no known active faults underlying the site. The nearest fault location is the Rose Canyon fault zone, which is located about 2.2 km east of the bridge. Therefore, risks from the rupture of a known earthquake fault are less than significant.

ii) Strong seismic ground shaking? ☐ ☐ ☒ ☐

The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The nearest fault location is the Rose Canyon fault zone, which is located about 2.2 km east of the bridge. The Rose Canyon fault is considered to be active, and the project site would be subject to strong seismic ground shaking in the event of an earthquake. Seismic hazards from ground shaking are typical for many areas of Southern California and the potential for seismic activity would not be greater than for much of the Los Angeles area. The bridge structure will be designed using the American Association of State Highway Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications, 4th Edition (2008) with Interims and Revisions by the California Department of Transportation (Caltrans). Plans, Specifications and Estimates (PS&E) will be reviewed by Caltrans to ensure that the project meets these current standards and are designed to address the risks associated with seismic ground shaking. Therefore, risks from the rupture of a known earthquake fault are less than significant.

iii) Seismic-related ground failure, including liquefaction? ☐ ☐ ☒ ☐

The study demonstrated that the potential exists for earthquake induced liquefaction of the estuarine deposits, which are prevalent throughout the site. The nonplastic sandy silts (ML) and silty sands (SM) within the paralic esuarine deposits appear to be highly susceptible to liquefaction, whereas the deeper interbedded sands (SP-SM) generally appear to be too dense to liquefy. However, implementation of the recommendations from the report would ensure that ground failure would not occur. Therefore, the design of the project would include the following recommendations (Geotechnics Incorporated, December 2009):

- Reinforced concrete pile foundations should be used to support the proposed bridge. The driven piles may experience refusal on relatively shallow dense sand beds within paralic deposits and may be more susceptible to settlement in the event of soil liquefaction. It is recommended

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

that either a cast-in-steel shell (CISS) or cast-in-drilled-hole (CIDH) piles be used. Due to the presence of deep paralic estuarine deposits throughout the site, which are primarily composed of potentially liquefiable silt, it is recommended that the bottom of the piles extend at least 5-feet into undisturbed conglomerate.

- The local groundwater table is located at or near mean seal level with some tidal fluctuations. Heavy groundwater seepage and caving would likely be encountered in the excavations for the proposed bridge foundations. The contractor should be prepared to mitigate seepage condition by dewatering, casing, and/or using drilling mud, as appropriate.

Site soils present a severe sulfate exposure, which indicate that site soils are severely corrosive to buried metals. Therefore, any corrosion control measures should be incorporated into the design.

iv) Landslides?	☐	☐	☐	☒

The project would not expose people or structures to the risk of loss, injury, or death involving landslides. The project site is not within a landslide hazard zone, and no known landslides are located near the project site, nor is the project site in the path of any known potential landslides. As such, no impact from landslides would occur, and no further study of this issue is required.

b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Construction of the project would result in ground surface disruption during excavation and grading that could create the potential for erosion to occur. Since the project is greater than one acre, the construction contractor would be required to prepare and comply with a Stormwater Pollution Prevention Plan (SWPPP), which would feature erosion control measures. In addition, the construction contractor would comply with the Stormwater Construction Activities General Permit and obtain a National Pollution Discharge Elimination System (NPDES) permit. Compliance with the requirements of the NPDES permit and SWPPP and implementation of the required construction best management practices would reduce all impacts due to soil erosion to less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

As previously discussed, the potential exists for earthquake induced liquefaction of the estuarine deposits, which are prevalent throughout the site. The nonplastic sandy silts (ML) and silty sands

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

(SM) within the paralic esuarine deposits appear to be highly susceptible to liquefaction, whereas the deeper interbedded sands (SP-SM) generally appear to be too dense to liquefy. The geological recommendations from VI iii would ensure that the project would not result in sliding, subsidence, or liquefaction.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

The project site is not located on expansive soils. The proposed project would be designed and constructed pursuant to Title 24 of the California Building Standards Code. As such, no impacts from expansive soil would occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Septic tanks or alternative wastewater systems are not being proposed as a part of this project. Therefore, no impact with regard to the capability of soils to adequately support the use of septic tanks or alternative wastewater disposal systems would result.

VII. GREENHOUSE GAS EMISSIONS - Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

The City of San Diego is utilizing the California Air Pollution Control Officers Association (CAPCOA) report "CEQA and Climate Change" (CAPCOA 2009) to determine whether a GHG analysis would be required for submitted projects. The CAPCOA report references a 900 metric ton guideline as a conservative threshold for requiring further analysis and possible mitigation. This emission level is based on the amount of vehicle trips, the typical energy and water use associated with projects, and other factors.

CAPCOA identifies project types that are estimated to emit approximately 900 metric tons of GHG's annually. This 900 metric ton threshold is roughly equivalent to 36,000 square feet of office space, 11,000 square feet of retail, 50 residential units, and 6,300 square feet of supermarkets. Since the sewer project being considered in this CEQA document does not fit the categories listed above the project conducted an independent modeling analysis to determine the level of GHG emissions. The Roadway Construction Emissions Model is a spreadsheet program created by the Sacramento Metropolitan Air Quality Management District to analyze construction related GHGs (i.e. Carbon

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Dioxide) and was utilized to quantify the project's GHG emissions.

The air quality report referenced in Section III included a GHG analysis which concluded that the construction of the project would result in an estimated 1,204 metric tons (MT) of CO2 equivalent. This estimation assumes that the emissions would continue for the life of the construction which is 23 months. The annual amortized construction GHGs emissions, amortized over 20 years, would result in 60 MT of total Annual Project GHG emissions, which is less than the 900 MT threshold discussed above. In addition, the operation of the bridge is not anticipated to result in a substantial increase in traffic volumes, vehicle miles traveled (VMT), or other sources of GHG emissions. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Therefore, based upon the analysis showed above the project would result in a less than significant CEQA Greenhouse gas impact and mitigation would not be required.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Please see VII.a. It is anticipated that the project would not conflict with any applicable plans, policies, or regulations related to greenhouse gases.

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Construction of the proposed project may require the use of hazardous materials (fuels, lubricants, solvents, etc.), which would require proper storage, handling, use and disposal. The use of hazardous materials associated with the proposed project would be in accordance with BMPs outlined in the pending SWPPP and Hazardous Materials/Hazardous Waste Initial Site Assessment (ISA) (Winzler and Kelly, August 2011). The ISA was prepared in accordance with all other regulatory requirements and provides guidelines for the handling, transport, and disposal of hazardous waste. Operation of the project would consist of vehicular traffic flow along the replacement bridge and would not create the need for the routine transport, use, or disposal of hazardous materials. In addition, once complete, use of the replacement bridge and roadway continue as it was prior to the start of construction which could have included this roadway as a thoroughfare to and/or from I-8 to I-5 in order to transport materials for disposal to other areas of the County or out of State.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the	☐	☐	☒	☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

release of hazardous materials into the environment?

Construction of the project may require the use of hazardous materials (fuels, lubricants, solvents, etc.) that could be released into the environment through accidental discharges associated with storage, vehicle operation, fueling, or maintenance. However, conformance to BMPs outlined in the SWPPP and ISA prepared for the proposed project related to the use and handling of these hazardous materials, as well as regulatory requirements and standards, would prevent or effectively minimize impacts related to the release of hazardous materials into the environment during temporary construction activities. Operation of the project would consist of vehicular traffic flow along the replacement bridge and would not include storage of hazardous materials that could be released into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☐ ☒

The proposed project is not located within one-quarter mile of any existing or proposed schools.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ☐ ☐ ☐ ☒

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, known as the Cortese list. Therefore, no hazards would occur in relation to the Government Code Section.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two mile of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

The project is not located within the boundaries of an existing airport land use plan or an airport land use plan pending adoption. The proposed project is located within 2 miles of the San Diego

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

International Airport. However, the project is not located within the flight path of the San Diego International Airport and the proposed replacement bridge would not introduce any new features that would create a flight hazards beyond those associated with the existing bridge.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

The project is not located within 2 miles of a private airstrip. Furthermore, the proposed replacement bridge would not introduce any new features that would create a flight hazards beyond those associated with the existing bridge.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ☐ ☐ ☐ ☒

Construction of the proposed project could temporarily affect traffic circulation on the existing West Mission Bay Drive Bridge and its adjoining roads. However one lane in each direction and access to all adjoining roads would be maintained during construction through implementation of a traffic control plan. Operation of the proposed project would not affect emergency access because circulation would be improved over conditions projected without the proposed project. Therefore, the proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? ☐ ☐ ☐ ☒

The San Diego River and land surrounding the proposed project does not contain wildlands that could pose a threat of wildland fires. Additionally, the proposed replacement bridge would not introduce any new features that would increase the risk of fire.

IX. HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements? ☐ ☐ ☒ ☐

Potential impacts to existing water quality standards associated with the proposed project would

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

include minimal short-term construction-related erosion/sedimentation and long-term operational storm water discharge. Conformance to Best Management Practices (BMPs) outlined in the pending Storm Water Pollution Prevention Plan (SWPPP) to be prepared for the project related to erosion/sedimentation, as well as regulatory requirements and standards, would prevent or effectively minimize short-term water quality impacts. These BMPs would include gross solids, screening materials and water treatment BMPs to ensure that the proposed project would not contribute to the impairment of the San Diego River which is currently listed as an impaired 303d water body. Long-term operational impacts would be related to alterations to storm water discharge. However, the proposed project would include design features to minimize run-off and stormwater discharge into the San Diego River. Therefore, the project would not violate any existing water quality standards or discharge requirements.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐

The proposed project does not propose the use of groundwater. Furthermore, the proposed project involves replacing the existing West Mission Bay Drive Bridge, and implementation of the proposed project would not introduce a substantially large amount of new impervious surfaces over ground that could interfere with groundwater recharge. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

A *Preliminary Storm Water Data Report for West Mission Bay Drive* (Rick Engineering Company, November 2011) was prepared for the project to address issues related to hydrology. In the post project condition, the bridge has been designed to keep impacts to the San Diego River to a minimum and to limit run-off and storm water discharge. The post project drainage patterns have been designed to mimic pre-project patterns and therefore the project would not result in substantial erosion or siltation downstream.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

In order to construct the bridge, the three following construction methodologies have been identified and include: a small berm option, a larger berm option, and a trestle option. The actual method of construction for the project would be determined by the contractor. However, for the purposes of the hydrology analysis the worst case scenario was chosen. In any case, the report found that BMPs would include erosion control, sediment control, tracking control, and wind erosion control. In addition, the data report found that temporary rip rap at the openings of the berms would reduce erosion. Therefore, both the construction and operation of the bridge project would not result in a substantial siltation on or off site.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site? ☐ ☐ ☒ ☐

Please see IX.c. The proposed project has been designed to minimize changes to the hydrology of the San Diego River and minimize run-off and stormwater discharge into the San Diego River. The bridge has been designed so there will be no rises in water surface elevation during major storm events upstream of the bridge when compared to the existing bridge structure. A no rise certification has been prepared for the project which demonstrates that the water surface elevations of the San Diego River will not change. The potential berming of the river during the construction of the bridge was also analyzed and the storm water report found that the temporary use of the construction berms would not impact existing structures along the river.

e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ☐ ☐ ☒ ☐

Conformance to BMPs outlined in the SWPPP to be prepared for the project related to erosion/sedimentation, as well as regulatory requirements and standards, would prevent or effectively minimize short-term construction runoff impacts. With respect to operational impacts, the proposed project would include design features to minimize run-off and stormwater discharge into the San Diego River. Therefore, the bridge project would not contribute runoff water that would exceed the capacity of existing storm water systems.

f) Otherwise substantially degrade water quality? ☐ ☐ ☒ ☐

Conformance to BMPs outlined in the approved SWPPP to be prepared for the project and compliance with the City's Stormwater Regulations would prevent or effectively minimize short-term water quality impacts and would preclude impacts to water quality.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

The project does not propose construction of any new housing.

h) Place within a 100-year flood hazard area, structures that would impede or redirect flood flows?	☐	☐	☒	☐

The bridge project is located within the San Diego River. However, please see IX d., the bridge has been designed so there will be no rises in water surface elevation during major storm events upstream of the bridge when compared to the existing bridge structure. A no rise certification has been prepared for the project which demonstrates that the water surface elevations of the San Diego River will not change. The potential berming of the river during the construction of the bridge was also analyzed and the hydrology report found that the temporary use of the construction berms would not impact existing structures along the river. Therefore, the project would not impede or redirect flood flows within the 100-year flood hazard area resulting in a less than significant impact.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐

The project would not include any new project features that would increase the risk associated with flooding beyond those of the existing conditions. See IX.h above.

j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

The project would not include any new project features that would increase the risk associated with seiche, tsunami, or mudflow beyond those of the existing conditions.

X. LAND USE AND PLANNING – Would the project:

a) Physically divide an established community?	☐	☐	☐	☒

Implementation of the project would involve replacing the existing West Mission Bay Drive Bridge and would not introduce any features that could divide an established community. It would improve traffic circulation on the bridge, which, in turn, would improve the connectivity of the community.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Therefore, the project would not divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Although not a regulatory tool, the Draft 2010 San Diego River Park Master Plan is a planning policy document that encompasses the length of the San Diego River within the City of San Diego, starting at the City of Santee, winding its way through Mission Trails Regional Park, past the Mission San Diego de Alcala, through Mission Valley, and finally to the mouth of the river at the Pacific Ocean in Ocean Beach.

The River Park Master Plan provides tailored policies and a long-range physical development guide for property owners, elected officials, and citizens engaged in the development of the San Diego River Valley. There are six sections within the Master Plan that discuss the vision, principles, recommendations, design guidelines, implementation, and regulatory framework (City of San Diego 2010). The proposed bridge project is consistent with the River Park Master Plan.

In addition the project is consistent with all applicable land use plans, policies, or regulations of an agency with jurisdiction over the project and would not conflict with any land use plans.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☒	☐	☐

The bridge project is located within the Multi-Habitat Planning Area (MHPA) of the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. The project development is required to conform to the applicable Land Use Adjacency Guidelines (Sections 1.4.3) of the MSCP Subarea Plan.

Potential indirect effects from lighting, drainage, invasives/landscaping, noise, edge treatments/fences from project construction and operation must not adversely affect the MHPA. More specifically, lighting would be directed away from the MHPA and be consistent with the City's lighting regulations which would require exterior lighting to be low-level lights and directed away from native habitat or shielded to minimize light pollution. Drainage would be directed away from the MHPA, and/or would not drain directly into these areas. No staging/storage areas would be allowed to be located within or adjacent to sensitive biological areas and no equipment maintenance would be permitted.

Because of the potential to impact such resources, the Mitigation, Monitoring and Reporting Program (MMRP) detailed in Section V of the Mitigated Negative Declaration (MND) is required. Implementation

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

of this MMRP would reduce the project's indirect impacts to Land Use to below a level of significance.

XI. MINERAL RESOURCES – Would the project?

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

The San Diego River and land surrounding the proposed project are not being used for the recovery of mineral resources. Similarly, the San Diego River and land surrounding the proposed project site are not designated for the recovery of mineral resources on the City of San Diego General Plan Land Use Map. Therefore, the proposed project would not result in the loss of availability of a known mineral resource.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

The San Diego River and land surrounding the proposed project site are not designated for the recovery of mineral resources on the City of San Diego General Plan Land Use Map. Therefore, the proposed project would not result in the loss of availability of a locally important mineral resource recovery site.

XII. NOISE – Would the project result in:

a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

A Noise Study Report (NSR) was prepared for the project (*NSR West Mission Bay Bridge Project,* AECOM December 2010). The NSR was prepared not only to meet Caltrans noise standards but also in conformance with the City of San Diego's General Plan and the City of San Diego's CEQA Significance Criteria and Thresholds.

Forty-six noise measurement receiver locations were selected to calibrate the traffic noise. The locations of the receivers were placed in single-unit residential, multiple-family residential and non-residential (including open space) areas. Existing traffic noise was measured and analyzed against predicted noise levels with and without the project. The study showed that by 2035 the overall noise environment would experience an increase in noise. However, the noise modeling demonstrated that in 2035 there is no substantial difference in noise levels of the study area with and without the bridge project. The two exceptions were at Receiver 18, located adjacent to a commercial development; this

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

receiver showed that with the bridge noise would change from 73 dBA to 74 dBA. The other exception was located on the north bank of the San Diego River west of the bridge, and this change was also from 73 dBA to 74 dBA. The study indicates that in a noisy environment an increase of 1-2 dBs is not audible and in accordance with the City of San Diego's CEQA Significance Thresholds projects that are currently exceeding the noise threshold and would only result in less than a 3dB increase the impact would not be considered significant.

Based upon the results of the NSR the bridge project would not result in a significant increase in noise and mitigation would not be required for the purpose of CEQA analysis. However, it should be noted that the technical studies prepared for the project have incorporated a noise wall into the analysis for the bridge. Further detailed analysis for Federal requirements was completed and found that the noise wall is not feasible or reasonable and is not necessary to reduce an impact under the FHWA/Caltrans requirements. Therefore the noise wall will not be included as project feature for the bridge.

b) Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels? ☐ ☐ ☒ ☐

Construction of the proposed project could result in groundborne vibration associated with driving piles. The NSR showed that operations of the proposed project would not generate significant groundborne vibrations. These construction impacts would be temporary in nature and people would not be exposed to excessive ground borne vibrations.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? ☐ ☐ ☒ ☐

Please see XII.a.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing without the project? ☐ ☐ ☒ ☐

Construction of the project would result in a temporary increase in the ambient noise levels in the project vicinity. However, based upon the temporary nature of the construction project and surrounding noise levels in the area resulting from traffic along the streets the increase in ambient noise would be less than significant. The NSR identified several standard BMPs that would also assist in the reduction of the temporary noise including; mufflers for all combustion engines, staging areas to be located 500 feet from residential areas and pile driving and explosives blasting be restricted to the hours of 7 am to 7pm, Monday through Fridays.

e) For a project located within an airport land use plan, or, where such a plan has not been adopted, within two ☐ ☐ ☐ ☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
miles of a public airport or public use airport would the project expose people residing or working in the area to excessive noise levels?				

The proposed project is not located within the boundaries of an existing airport land use plan or an airport land use plan pending adoption. The proposed project is located within 2 miles of The San Diego International Airport. However, the proposed replacement bridge would not introduce any new features that would expose people residing or working in the project area to excessive noise levels beyond those associated with the existing bridge.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

The proposed project is not located within approximately 2 miles of a private airstrip. Furthermore, the proposed replacement bridge would not introduce any new features that would expose people residing or working in the project area to excessive noise levels beyond those associated with the existing bridge.

XIII. POPULATION AND HOUSING – Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

The project would replace the existing West Mission Bay Drive Bridge and does not propose the construction of new homes or businesses. Similarly, the project would not introduce any new infrastructure facilities that could induce growth in area that is currently underserved. The project would not extend any existing roadways into an undeveloped area or introduce any new roadways that could induce growth. The project was developed to reduce existing traffic congestion that has resulted from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned, or is projected to occur. Therefore, the project would not induce substantial population growth.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would replace the existing West Mission Bay Drive Bridge would not result in the displacement of any existing housing, or otherwise affect existing housing in any way that would necessitate the construction of replacement housing.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? ☐ ☐ ☐ ☒

The proposed project would replace the existing West Mission Bay Drive Bridge would not result in the displacement of any existing housing or other structures, or otherwise affect existing housing or other structures in any way that would result in the displacement of any people.

XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

i) Fire Protection ☐ ☐ ☐ ☒

The project would not physically alter any fire protection facilities. Replacement of the existing West Mission Bay Drive Bridge would improve traffic circulation, thus improving access for fire protection services. Additionally, the project would not require any new or altered fire protection services.

ii) Police Protection ☐ ☐ ☐ ☒

The proposed project would not physically alter any police protection facilities. Replacement of the existing West Mission Bay Drive Bridge would improve traffic circulation, thus improving access for police protection services. Additionally, the proposed project would not require any new or altered police protection services.

iii) Schools ☐ ☐ ☐ ☒

The project would not physically alter any schools. Additionally, the proposed project would not include construction of future housing or induce growth that could increase demand for schools in

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

the area.

v) Parks ☐ ☐ ☐ ☒

The project would not physically alter any parks. Implementation of the project would replace the existing West Mission Bay Drive Bridge in order to improve traffic circulation. This improved circulation may allow for improved access to Mission Bay. However, the project would not directly generate additional trips to these existing recreation areas or induce future growth that would result in additional trips to these facilities. The project was developed to reduce existing traffic congestion that has resulted from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned, or is projected to occur. Additional physical deterioration at these recreation areas would be the result of future population growth within the City of San Diego and throughout San Diego County that would occur independent of the proposed project. Therefore, the project would not create demand for new parks or other recreational facilities.

vi) Other public facilities ☐ ☐ ☐ ☒

The bridge project would not increase the demand for electricity, gas, or other public facilities. The project would improve the transportation circulation system.

XV. RECREATION –

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☐ ☐ ☐ ☒

Implementation of the project would replace the existing West Mission Bay Drive Bridge in order to improve traffic circulation. This improved circulation may allow for improved access to existing recreation areas such Mission Bay and Mission Beach. However, the proposed project would not directly generate additional trips to these existing recreation areas or induce future growth that would result in additional trips to these facilities. The project was developed to reduce existing traffic congestion that has resulted from growth that has already occurred and to reduce projected traffic congestion that would result from growth that is planned, or is projected to occur. Additional physical deterioration at these recreation areas would be the result of future population growth within the City of San Diego and throughout San Diego County that would occur independent of the proposed project. Therefore, the proposed project would not increase the use of existing recreational areas such that substantial physical deterioration of the facility would occur or be accelerated.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse ☐ ☐ ☐ ☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

physical effect on the environment?

The project would replace the existing West Mission Bay Drive Bridge and does not include the construction of recreational facilities or require the construction or expansion of recreational facilities.

XVI. TRANSPORTATION/TRAFFIC – Would the project?

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒

Currently the 4-lane West Mission Bay Drive bridge experiences an average daily traffic (ADT) of 50,000 and over 60,000 ADT during summer months, and is currently operating over capacity. The six-lane bridge is being designed to accommodate the existing and future traffic demand on the bridge. The *West Mission Bay Bridge, San Diego, CA Traffic Analysis* (Rick Engineering Company, December 2011) report was prepared to study the effects of replacing the existing 4-lane bridge with a 6-lane bridge.

The study area for the project encompasses the potential area which could be affected by the proposed improvements and would include the intersections and roadway along West Mission Bay Drive between Perez Cove Way-Ingraham Street to Sports Arena Boulevard-Midway Drive. The traffic study analyzed the following four scenarios: Existing Operations, Existing + Project, 2015 Operations and 2035 Operations.

Based upon the results of the analyses of the operation, the 6-lane bridge was calculated to provide both acceptable levels of services and acceptable queuing on the West Mission Bay Drive bridge and West Mission Bay Drive/I-8 west bound (WB) off ramp under all scenarios. It should be noted that under all scenarios the Ingrahm Street/Perez Cove Way intersection was calculated to operate an inadequate level of service. The analysis showed that the intersection should be reconfigured and the traffic signal should be re-phased. The impact at this intersection was identified in the Sea World Master Plan Update and was included as a mitigation measure for that project. The new 6-lane bridge project is not responsible for the impact at this intersection and would not be required to implement the mitigation. In summary, the traffic study did not identify any significant impacts associated with the bridge replacement project and mitigation would not be required. Therefore, the project would not conflict with plans or policies related to transportation circulation.

b) Conflict with an applicable	☐	☐	☐	☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				

Please see XVI a. No significant impacts were identified with the bridge replacement project and no conflicts would occur with regional transportation standards.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

The project does not include any tall structures or new features that could affect air traffic patterns or introduce new safety hazards related to air traffic.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

The project was designed to meet City of San Diego and Caltrans design standards and, therefore, would either meet existing levels of safety or improve safety for the existing West Mission Bay Drive Bridge.

e) Result in inadequate emergency access?	☐	☐	☐	☒

Construction of the proposed project could temporarily affect traffic circulation on the existing West Mission Bay Drive Bridge and its adjoining roads. However one lane in each direction and access to all adjoining roads would be maintained during construction through implementation of a traffic management plan. Operation of the proposed project would not affect emergency access because circulation would be improved over conditions projected without the proposed project. Therefore, the proposed project would not result in inadequate emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

According to the City of San Diego's Bicycle Master Plan, the bridge is classified to have a Class I

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

(bike path) facility, which would provide connectivity to the existing Class I facilities on the north and south side of the San Diego River. The project is proposing to construct a Class I bike lane. In order to minimize disruption to bicyclists and other recreational users, the recreational trails located below the existing West Mission Bay Drive Bridge on either side of the San Diego River would remain open during and after construction. As such, the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. Therefore, the Class I facility is viewed as reasonably consistent and would result in a less than significant impact.

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

The project would not generate wastewater and, therefore, would not result in any impacts related to wastewater treatment.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

The project would not use water or generate wastewater and, therefore, would not require the construction of any new water or wastewater treatment facilities.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

The project would include design features that would minimize potential impacts related to runoff during the operational phase of the project. The volume of new storm water run-off generated by the expanded impervious surface area would not result in substantial quantities requiring new or expanded treatment facilities. Therefore, the proposed project would not require the construction of new storm water drainage facilities or expansion of existing facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would not require the use of any permanent water source and, therefore, would not impact existing water supplies.

e) Result in a determination by the wastewater treatment provided which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

The project would not generate wastewater and, therefore, would not impact an existing wastewater treatment provider.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒

Construction of the proposed project would likely generate waste associated with construction activities. This waste would be disposed of in conformance with all applicable local and state regulations pertaining to solid waste including permitting capacity of the landfill serving the project area. Operation of the proposed project would not generate waste and, therefore, would not affect the permitted capacity of the landfill serving the project area.

g) Comply with federal, state, and local statutes and regulation related to solid waste?	☐	☐	☐	☒

Any solid waste generated during construction related activities would be recycled or disposed of in accordance with all applicable local, state and federal regulations.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would result in direct impacts to Biological Resources. However, implementation of the MMRP in section V of the MND would reduce direct and/or potential impacts to these resources to below a level of significance and would not result in degradation to the environment.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable futures projects)? ☐ ☒ ☐ ☐

When viewed in connection with the effects of other projects in the Peninsula and Mission Bay Park areas, construction activities have the potential to impact Biological Resources. No active projects or other projects are proposed for construction on the San Diego River flood control channel between the river's mouth and the Interstate 5 bridge. Thorough analysis was conducted in an attempt to identify any past, present, and future projects. No projects with potentially significant impacts were identified. Additional discussion restating this project's potentially significant impacts and the potential for cumulatively considerable contributions was diligently evaluated in concert with the attempts to identify cumulative projects. As a result, no cumulative impacts to sensitive natural communities and plant and animal species due to implementation of this project are anticipated. However, mitigation for wetland and wildlife impacts has been incorporated and the impacts associated with this project combined with other closely related past, present, and reasonably foreseeable future projects would not result in a considerable incremental contribution to any cumulative impact.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? ☐ ☒ ☐ ☐

The City of San Diego conducted an Initial Study which determined that the project could have a significant environmental effect in the following areas: Biological Resources and Land Use. However, with the implementation of mitigation identified in Section V of this MND the project would not have environmental effects which would cause substantial direct or indirect adverse effects on human beings.

INITIAL STUDY CHECKLIST

REFERENCES

I. AESTHETICS / NEIGHBORHOOD CHARACTER

_X_ City of San Diego General Plan.

_X_ Community Plan.

____ Local Coastal Plan.

_X_ *West Mission Bay Drive Bridge Project Visual Impact Assessment* (VIA), (Estrada Land Planning, October 2011)

II. AGRICULTURAL RESOURCES & FOREST RESOURCES

_X_ City of San Diego General Plan.

_X_ U.S. Department of Agriculture, Soil Survey - San Diego Area, California, Part I and II, 1973.

____ California Agricultural Land Evaluation and Site Assessment Model (1997)

____ Site Specific Report:

III. AIR QUALITY

____ California Clean Air Act Guidelines (Indirect Source Control Programs) 1990.

_X_ Regional Air Quality Strategies (RAQS) - APCD.

_X_ Site Specific Report:\ *Air Quality Impact Analysis, West Mission Bay Drive Bridge Project,* (AECOM, October 2011)

IV. BIOLOGY

_X_ City of San Diego, Multiple Species Conservation Program (MSCP), Subarea Plan, 1997

_X_ City of San Diego, MSCP, "Vegetation Communities with Sensitive Species and Vernal Pools" Maps, 1996.

_X_ City of San Diego, MSCP, "Multiple Habitat Planning Area" maps, 1997.

____ Community Plan - Resource Element.

____ California Department of Fish and Game, California Natural Diversity Database, "State and Federally-listed Endangered, Threatened, and Rare Plants of California," January 2001.

____ California Department of Fish & Game, California Natural Diversity Database, "State and Federally-listed Endangered and Threatened Animals of California," January 2001.

X City of San Diego Land Development Code Biology Guidelines.

X Site Specific Reports: *West Mission Bay Drive Bride Project, AECOM* October 2011 and *Jurisdictional Delineation Report (JDR): West Mission Bay Bridge* AECOM October 2011) and *Conceptual Habitat Mitigation Plan* (AECOM, October 2011)

V. CULTURAL RESOURCES (INCLUDES HISTORICAL RESOURCES)

X City of San Diego Historical Resources Guidelines.

X City of San Diego Archaeology Library.

____ Historical Resources Board List.

____ Community Historical Survey:

X Site Specific Report: Historical Evaluation Memo (AECOM, February, 2011).

VI. GEOLOGY/SOILS

X City of San Diego Seismic Safety Study.

X U.S. Department of Agriculture Soil Survey - San Diego Area, California, Part I and II, December 1973 and Part III, 1975.

X Site Specific Report: A *Preliminary Investigation and Deep Foundation Recommendations West Mission Bay Drive Bridge,* (Geotechnics Incorporated, December 2009)

VII. GREENHOUSE GAS EMISSIONS

X Site Specific Report: *Air Quality Impact Analysis, West Mission Bay Drive Bridge Project,* (AECOM, October 2011)

VIII. HAZARDS AND HAZARDOUS MATERIALS

X San Diego County Hazardous Materials Environmental Assessment Listing

____ San Diego County Hazardous Materials Management Division

____ State Water Resources Control Board Geotracker

____ State Assessment and Mitigation, Unauthorized Release Listing, Public Use Authorized.

____ Airport Land Use Compatibility Plan.

X Site Specific Report: Hazardous Materials/Hazardous Waste Initial Site Assessment (ISA) (Winzler and Kelly, August 2011)

IX. HYDROLOGY/WATER QUALITY

X Flood Insurance Rate Map (FIRM).

___ Federal Emergency Management Agency (FEMA), National Flood Insurance Program - Flood Boundary and Floodway Map.

___ Clean Water Act Section 303(b) list, http://www.swrcb.ca.gov/tmdl/303d_lists.html).

_X_ Site Specific Report: A *Preliminary Storm Water Data Report for West Mission Bay Drive* (Rick Engineering Company, November 2011)

X. LAND USE AND PLANNING

_X_ City of San Diego General Plan.

_X_ Community Plan.

_X_ Airport Land Use Compatibility Plan

_X_ City of San Diego Zoning Maps

___ FAA Determination

XI. MINERAL RESOURCES

___ California Department of Conservation - Division of Mines and Geology, Mineral Land Classification.

___ Division of Mines and Geology, Special Report 153 - Significant Resources Maps.

_X_ California Geological Survey - SMARA Mineral Land Classification Maps.

___ Site Specific Report:

XII. NOISE

_X_ Community Plan

_X_ San Diego International Airport Master Plan CNEL Maps.

___ MCAS Miramar ALUCP

___ Brown Field Airport Master Plan CNEL Maps.

___ Montgomery Field CNEL Maps.

___ San Diego Association of Governments - San Diego Regional Average Weekday Traffic Volumes.

___ San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG.

___ City of San Diego General Plan.

_X_ Site Specific Report: *NSR West Mission Bay Bridge Project,* AECOM December 2010

XIII. PALEONTOLOGICAL RESOURCES

_X_ City of San Diego Paleontological Guidelines.

___ Deméré, Thomas A., and Stephen L. Walsh, "Paleontological Resources City of San Diego," Department of Paleontology San Diego Natural History Museum, 1996.

_X_ Kennedy, Michael P., and Gary L. Peterson, "Geology of the San Diego Metropolitan Area, California. Del Mar, La Jolla, Point Loma, La Mesa, Poway, and SW 1/4 Escondido 7 1/2 Minute Quadrangles," California Division of Mines and Geology Bulletin 200, Sacramento, 1975.

___ Kennedy, Michael P., and Siang S. Tan, "Geology of National City, Imperial Beach and Otay Mesa Quadrangles, Southern San Diego Metropolitan Area, California," Map Sheet 29, 1977.

___ Site Specific Report:

XIV. POPULATION / HOUSING

_X_ City of San Diego General Plan.

_X_ Community Plan.

___ Series 11 Population Forecasts, SANDAG.

___ Other:

XV. PUBLIC SERVICES

_X_ City of San Diego General Plan.

_X_ Community Plan.

XVI. RECREATIONAL RESOURCES

_X_ City of San Diego General Plan.

_X_ Community Plan.

___ Department of Park and Recreation

___ City of San Diego - San Diego Regional Bicycling Map

___ Additional Resources:

XVII. TRANSPORTATION / CIRCULATION

_X_ City of San Diego General Plan.

_X_ Community Plan.

___ San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG.

___ San Diego Region Weekday Traffic Volumes, SANDAG.

_X_ Site Specific Report: *West Mission Bay Bridge, San Diego, CA Traffic Analysis* (Rick Engineering Company, December 2011)

XVIII. UTILITIES

_X_ City of San Diego General Plan.

_X_ Community Plan.

___ Site Specific Report:

XIX. WATER CONSERVATION

_X_ City of San Diego General Plan.

___ Community Plan.

___ Sunset Magazine, New Western Garden Book. Rev. ed. Menlo Park, CA: Sunset Magazine.

___ Site Specific Report:

APPENDIX B

FINAL ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL DETERMINATION

West Mission Bay Drive Bridge Replacement Project

SAN DIEGO COUNTY, CALIFORNIA
City of San Diego, West Mission Bay Drive

Federal Aid #BHLS-5004(049)

Final Environmental Assessment / Section 4(f) De Minimis Determination with Finding of No Significant Impact

Prepared by the
State of California Department of Transportation

February 2013

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, call or write to Department of Transportation, Attn: Kevin Hovey, 4050 Taylor Street, San Diego, CA 92110 (MS242); (619) 688-0240 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Regulatory Framework

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007 and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a revised and permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a memorandum of understanding with FHWA pursuant to 23 USC 327 (NEPA Assignment MOU). The NEPA Assignment MOU became effective October 1, 2012, and terminates eighteen months from the effective date of FHWA regulations developed to clarify amendments to 23 USC 327 or on January 1, 2017. The NEPA Assignment MOU incorporates by reference the terms and conditions of the Pilot Program MOU. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The project is subject to federal as well as State environmental review requirements because the City of San Diego proposes the use of federal funds from FHWA. Project documentation, therefore, has been prepared in compliance with NEPA. The City of San Diego is the project proponent and the lead agency under the California Environmental Quality Act (CEQA). FHWA’s responsibility for environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to the NEPA Assignment MOU.

West Mission Bay Drive Bridge Replacement Project
San Diego County, California

FINAL ENVIRONMENTAL ASSESSMENT and Section 4(f) De Minimis Determination with Finding of No Significant Impact

Submitted Pursuant to:
(Federal) 42 USC 4332(2)(C) and 49 USC 303

THE STATE OF CALIFORNIA
Department of Transportation as assigned

Cooperating Agencies:
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service
National Marine Fisheries Service
U.S. Environmental Protection Agency
California Coastal Commission
California Department of Fish & Wildlife
California Regional Water Quality Control Board

2/8/13
Date of Approval

Bruce April
Deputy District Director Environmental, District 11
California Department of Transportation

The following person may be contacted for additional information concerning this document:

Kevin Hovey
Senior Environmental Planner
California Department of Transportation
4050 Taylor Street, San Diego, CA 92110
(619) 688-0240

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT

(West Mission Bay Drive Bridge Replacement)

FOR

The California Department of Transportation (Caltrans) has determined that alternative 2C will have no significant impact on the human environment. This FONSI is based on the attached EA which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

2/8/13
Date

D11 Environmental Deputy District Director

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CHAPTER 1
PROPOSED PROJECT

1.1 INTRODUCTION

The California Department of Transportation (Caltrans) as assigned by the Federal Highway Administration (FHWA), in cooperation with the City of San Diego proposes to improve the West Mission Bay Drive Bridge (bridge) crossing of the San Diego River. The bridge structure would be improved to a six-lane primary arterial by removing the existing four-lane bridge and replacing it with two new three-lane parallel structures under Alternative 2c or a single new six-lane structure under Alternative 3. The total length of the bridge is approximately 1,300 feet; the widening of the Interstate (I) 8 westbound off-ramp is approximately 1,200 feet. The West Mission Bay Drive Bridge Project (proposed project) is located within the City of San Diego, in southwest San Diego County (Figure 1.1-1). It is within and adjacent to the San Diego River flood control channel in the Mission Bay community of San Diego (Figure 1.1-2). The bridge spans the San Diego River flood control channel between the West Mission Bay Drive/Sea World Drive intersection and the Sports Arena Boulevard/ I-8 intersection. The proposed project is located entirely within the California Coastal Zone.

This project is included in the 2011 Federal Statewide Transportation Improvement Program (FSTIP) and is proposed for funding from the Highway Bridge Program. It is also included in the 2050 San Diego Regional Transportation Plan (RTP) and the 2010 cost-constrained San Diego Association of Governments (SANDAG) Regional Transportation Improvement Program (RTIP).

1.2 PURPOSE AND NEED

1.2.1 Project Purpose

The purpose of the proposed project is to provide an improved transportation link across the San Diego River between the communities of Pacific Beach/Mission Bay and communities within the Peninsula community planning area, such as Loma Portal and Point Loma, in order to improve the safe and efficient local and regional movement of people and goods. The existing four-lane West Mission Bay Drive Bridge (Bridge No. 57C-0023) is the gateway to the Mission Bay community, and provides a vital transportation link from I-8 and the Midway/Pacific Highway Corridor community planning area (Midway) across the San Diego River to the Pacific Beach/Mission Bay area and the Sea World Adventure Park.

The objectives of this project are:

- Reduce delay time and improve traffic operations at West Mission Bay Drive Bridge and at West Mission Bay Drive & I-8 westbound off-ramp in the future when compared to future No Build conditions
- Provide congestion relief to improve traffic flow on the local transportation system;
- Improve multi-modal coastal access; and
- Protect and/or enhance the human and natural environment while still meeting future transportation needs.

Figure 1.1-1
Project Location Map

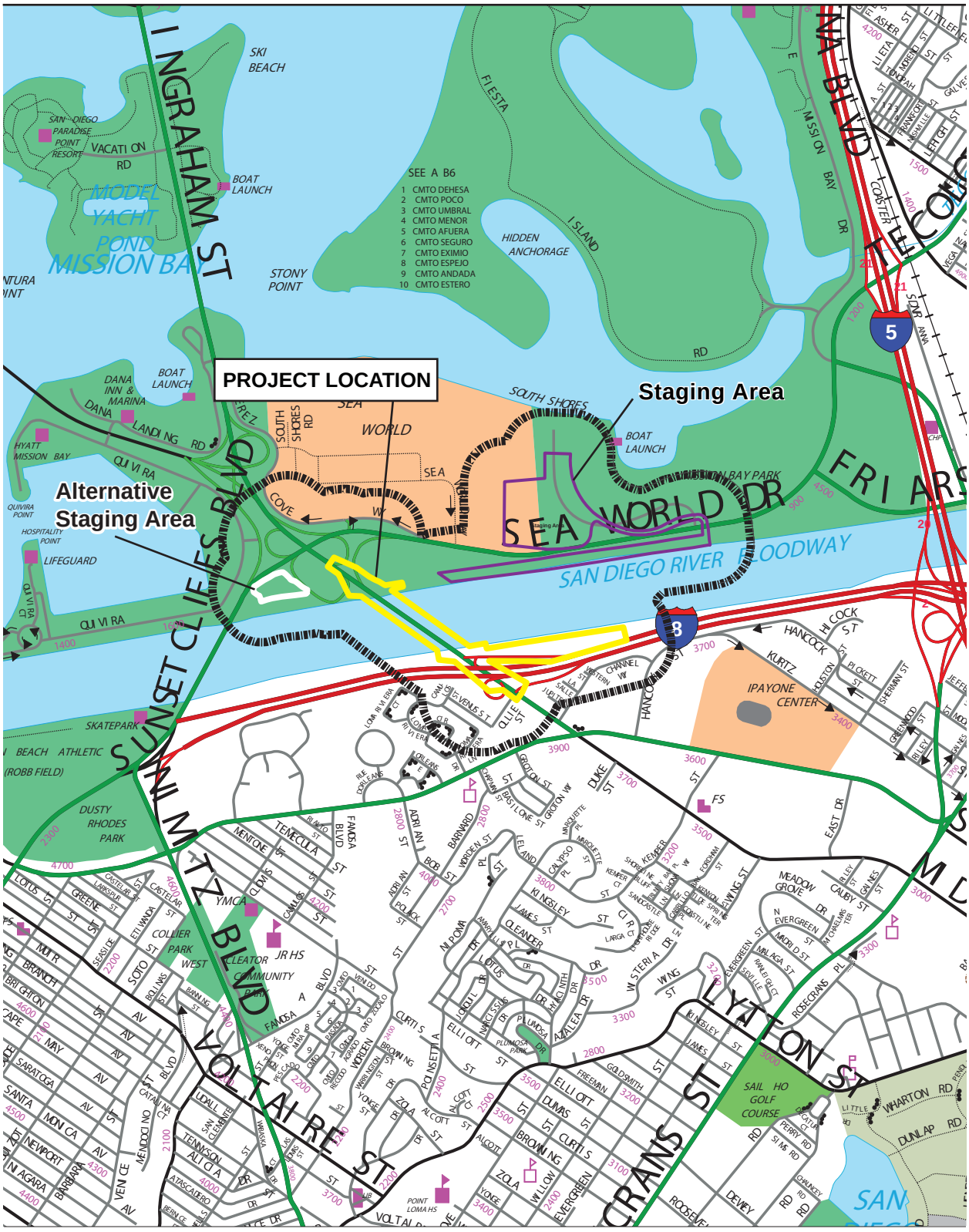

Figure 1.1-2
Project Vicinity Map

1.2.2 Project Need

Capacity and Transportation Demand

The existing West Mission Bay Bridge has been evaluated and classified by Caltrans as functionally obsolete and structurally deficient, and is, therefore, eligible for federal replacement funding under the Highway Bridge Program. The functionally obsolete classification is appropriate because the capacity of the existing bridge is currently below acceptable levels. The bridge's existing four-lane configuration is designed to handle approximately 40,000 average daily trips (ADT); however, daily traffic volumes currently exceed 64,000 vehicles during the summer months, and exceed 53,000 vehicles during the remainder of the year. These traffic volumes result in an unacceptable level of service (LOS), especially during peak periods. In addition, with projected ADT volumes of 83,000 vehicles in 2035, these unacceptable LOS conditions would degrade further without improvement. The traffic analysis prepared for the proposed project found that the West Mission Bay Drive/I-8 westbound off-ramp signalized intersection currently operates at LOS F during the AM summer weekend peak hour.

With the existing bridge's four-lane configuration and the adjacent local roadway connections at a six-lane configuration on both ends of the bridge, the transition between the two creates weaving conflicts. The interface between these lane configurations is further exacerbated by multiple on-ramps and off-ramps connecting West Mission Bay Drive with I-8 to the south and Sea World Drive to the north.

Although the bridge is classified to have a Class I (bike path) facility according to the City of San Diego's Bicycle Master Plan, bicycle and pedestrian facilities on the bridge currently consist of a shared narrow pathway. Bicyclists are currently prohibited from using the narrow pathway on the east side of the existing bridge.

Roadway Deficiencies

As identified above, the existing bridge has been classified as structurally deficient based on a Condition Rating of 3, "Serious Condition," which is shown on the current Structure Inventory and Appraisal Report by the Caltrans Division of Structure Maintenance and Investigations. A Condition Rating of 3 means that concrete spalling (break-up) has seriously affected the structural integrity of the bridge deck, shear cracks may be present, and local failures are possible. These conditions and associated risks cannot be addressed by resurfacing the existing paved surface (major deck rehabilitation); complete deck replacement is required.

The bridge is also seismically deficient since the existing pier walls are not anchored into bedrock; instead, the foundation piles were driven into soft soil that is defined as liquefiable. The liquefiable soils extend to an approximate depth of 90 feet and the existing timber piles were driven to an approximate depth of 45 feet. Based on this condition, during a major seismic event, the soft soil may experience total post-liquefaction settlements ranging from roughly 4 to 6 inches in the upper 50 feet. If the soils liquefy to depths of 100 feet, the bridge would be susceptible to post-liquefaction settlement of 10 to 13 inches. This level of settlement constitutes collapse, and it is likely that the entire bridge would be unserviceable and would need to be replaced after such an event.

1.3 ALTERNATIVES

This section describes the proposed action and the design alternatives that were developed by a multi-disciplinary team to achieve the project purpose and need while avoiding or minimizing environmental impacts. The City is proposing to improve the West Mission Bay Drive Bridge crossing of the San Diego River into a six-lane primary arterial by removing the existing four-lane bridge and replacing it with a new bridge. The alternatives include Alternative 2c (two new three-lane parallel bridge structures), Alternative 3 (a new single six-lane structure) and the No Build Alternative. Figure 1.3-1 depicts the project footprint and staging areas (collectively referred to as the project limits) of Alternative 2c, and Figure 1.3-2 depicts the project limits of Alternative 3. The overall construction timeline for the proposed project is expected to be 2 years.

Caltrans and City of San Diego staff met on December 11, 2012, to discuss the project alternatives and their respective environmental impacts, design features, and construction issues. At this meeting, Alternative 2c was selected as the Preferred Alternative.

1.3.1 Common Design Features of the Build Alternatives

Bike/Pedestrian Paths

The proposed project would include dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities. Currently, two City bike/pedestrian paths cross under the existing West Mission Bay Drive Bridge running parallel to the San Diego River flood control channel and Southern Wildlife Preserve. The path on the south side of the Southern Wildlife Preserve is a stand-alone paved path solely for the use of bicyclists and pedestrians. The path on the north side of the Southern Wildlife Preserve is a stand-alone paved path west of the existing West Mission Bay Drive Bridge that shares the roadway of Old Sea World Drive east of the existing West Mission Bay Drive Bridge. The path on the north side of the Southern Wildlife Preserve also serves as an informal wildlife observation point. Both paths are official bike paths as identified in the City of San Diego Bicycle Master Plan and are owned and operated by the City. A Class I bike path would be constructed in each direction, and the recreational trails located under the existing bridge on either side of the San Diego River would be connected to these new features.

Interstate 8 Westbound Exit Ramp

Three exit ramp lane configuration options were analyzed in the traffic analysis report for the proposed project (December 2011). The report determined that three southbound lanes and one southbound auxiliary lane (for southbound right-turns toward the I-8 eastbound loop ramp) would be needed to accommodate future southbound traffic at the West Mission Bay Drive Bridge/I-8 westbound off-ramp. Lane Configuration Option 2a was determined to be the only feasible option that provided acceptable queuing on the West Mission Bay Drive Bridge and the West Mission Bay Drive/I-8 westbound off-ramp in the future 2015 and 2035 scenarios. For a discussion of the other lane configuration options, see Section 1.3.5, Alternatives Considered but Eliminated from Further Discussion.

Option 2a consists of three southbound through lanes, one southbound auxiliary lane, and three lanes northbound (to align with the proposed three lanes northbound on the bridge). Figure 1.3-3 shows the preliminary layout of the West Mission Bay Drive/I-8 westbound off-ramp intersection for Lane Configuration Option 2. Based on coordination with City of San Diego

Traffic Operations staff, this option was assessed assuming westbound right-turns allowed on red (as it exists today, Option 2a); Option 2b, which was eliminated from consideration, would have prohibited westbound right-turns on red.

Lighting

The project includes lighting on the roadway and the pedestrian/bike path on the bridge, as well as lighting for the San Diego River Trail crossings beneath the proposed bridge. Final design of all lighting would include no more lighting than is necessary for safety purposes. Roadway lighting has been designed to comply with the City's up-to-date street design requirements. Due to updated requirements and the proposed bridge deck's larger surface area, the project must include a higher number of lighting standards than in the existing bridge. However, the lighting standards have been located and designed to avoid spillover beyond the bridge deck to the maximum extent practicable. Pedestrian lighting on the bridge deck would be low-level and directed onto the pedestrian path. Trail crossings beneath the bridge would feature lighting for safety purposes that would be directed toward the trail and designed to limit spillover into the adjacent areas.

Construction Methodologies

Three likely construction methodologies were evaluated for the proposed project: a large berm option, a small berms option, and a trestle option, each described in greater detail below. The anticipated construction timeline would be approximately 2 years in duration. The detailed construction methods described below represent the three most likely options the construction contractor would use to build the proposed West Mission Bay Drive Bridge. The methodologies, dimensions, and timing are based on experience and industry standards, and the actual methods implemented at the time of construction may differ. If the employed construction methodology proposed by the contractor differs from the description below and results in environmental impacts not analyzed in this document, additional analysis would be completed to ensure environmental compliance.

All three construction methodologies would employ a staged construction process. During stage 1, the contractor would build a temporary berm or trestle from the north side of the San Diego River southward into the river on the east side of the new alignment. Using the temporary structure (berm or trestle) and embankment, the contractor would construct the columns, place temporary falsework, and construct stage 1. Upon completion of stage 1, the contractor would deconstruct the falsework and temporary structure and remobilize the same materials to the west side of the existing bridge to construct stage 2.

The westerly half of the existing bridge would be demolished before construction of stage 2 begins. It is anticipated that the construction sequence for stage 2 of the new bridge would be identical to that used for stage 1. Once construction of stage 2 is complete, the remainder of the existing bridge would be demolished and the temporary structure would be deconstructed and, in the case of the berm options, all temporary fill would be removed. The actual methods of construction for the project would be determined by the contractor. Based on a geotechnical evaluation performed for the project area, the weight of the temporary structures may result in soil compaction and the maximum depression left in the river bed following demolition of the temporary berms/trestle would be 6 inches, but the natural redistribution of sediment is expected to correct the depressions over time. The City will monitor the channel bottom elevation for 6 to 9 months following demolition of the temporary structures; if after 9 months the channel bottom has not returned to the original elevation, supplemental soils of appropriate

Figure 1.3-1a
Alternative 2c - Project Design

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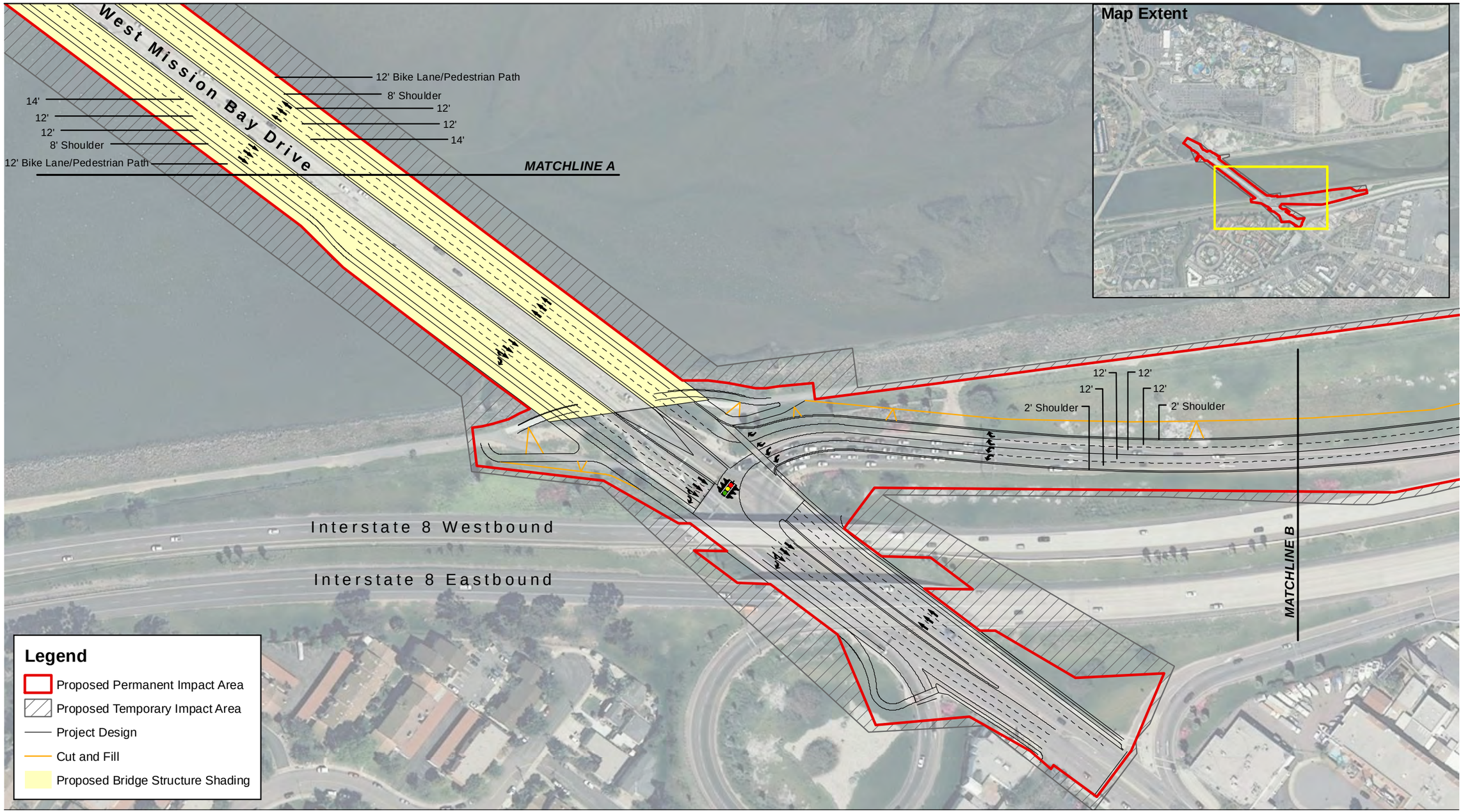

Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-1b
Alternative 2c - Project Design

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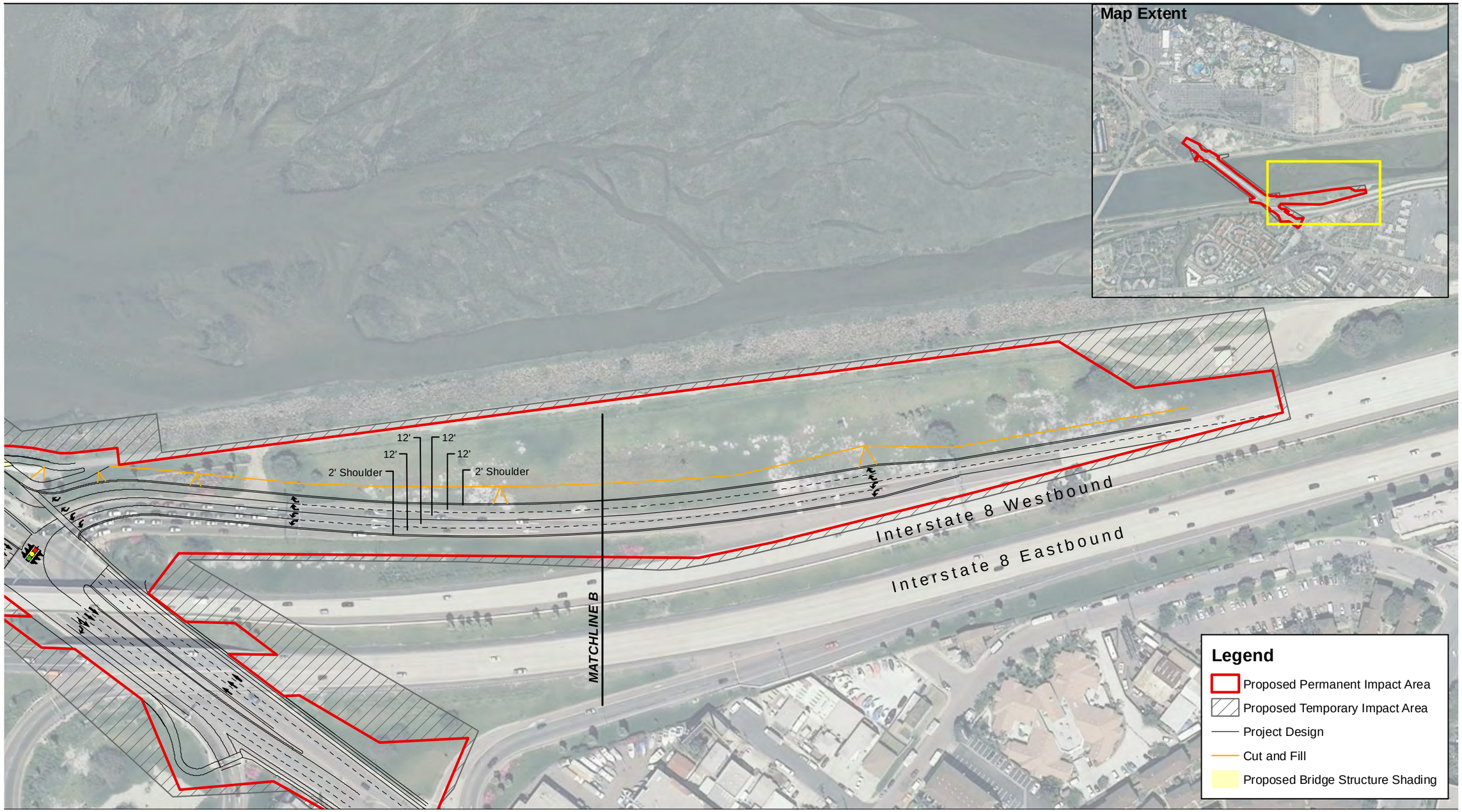

Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-1c
Alternative 2c - Project Design

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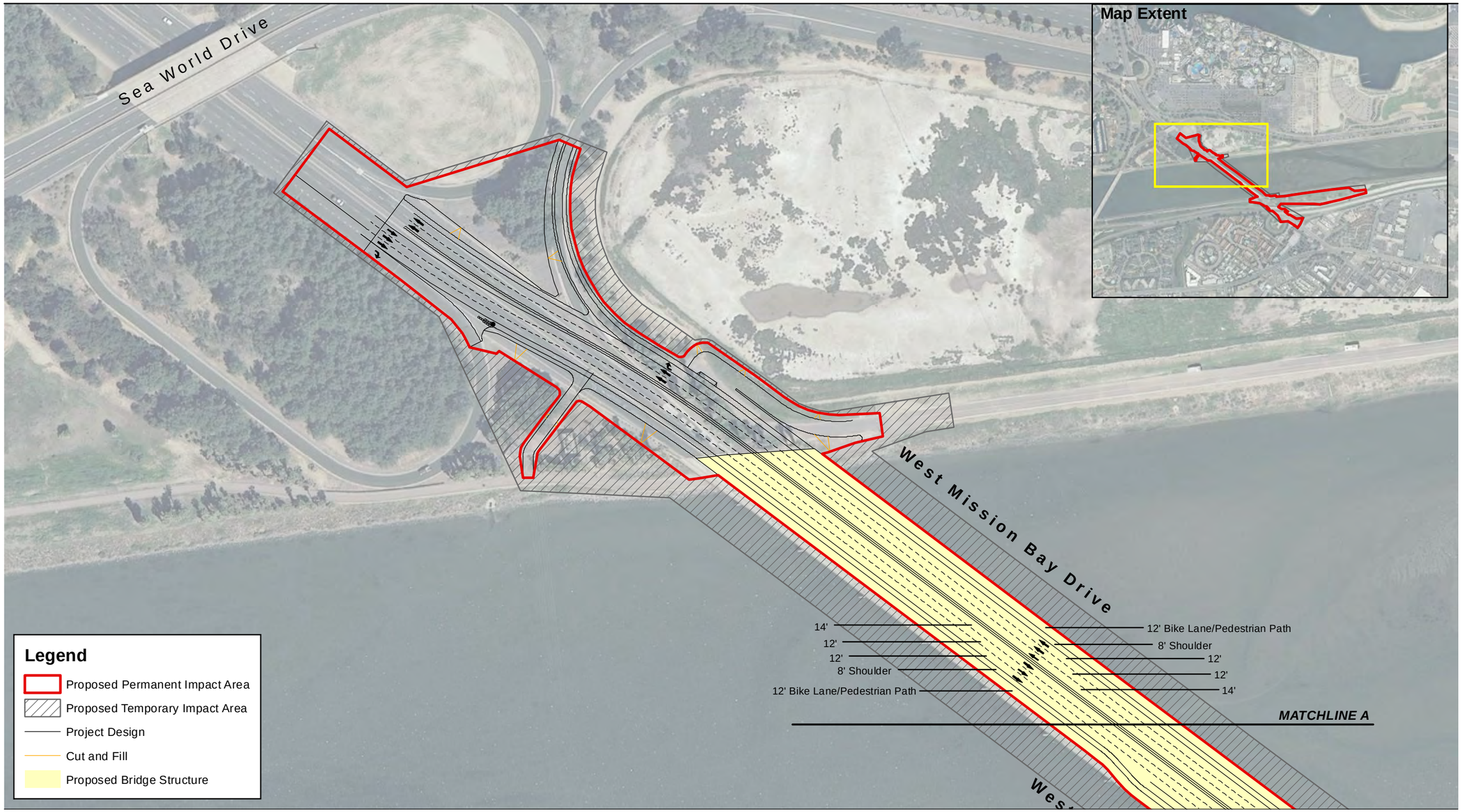

Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-2a
Alternative 3 - Project Design

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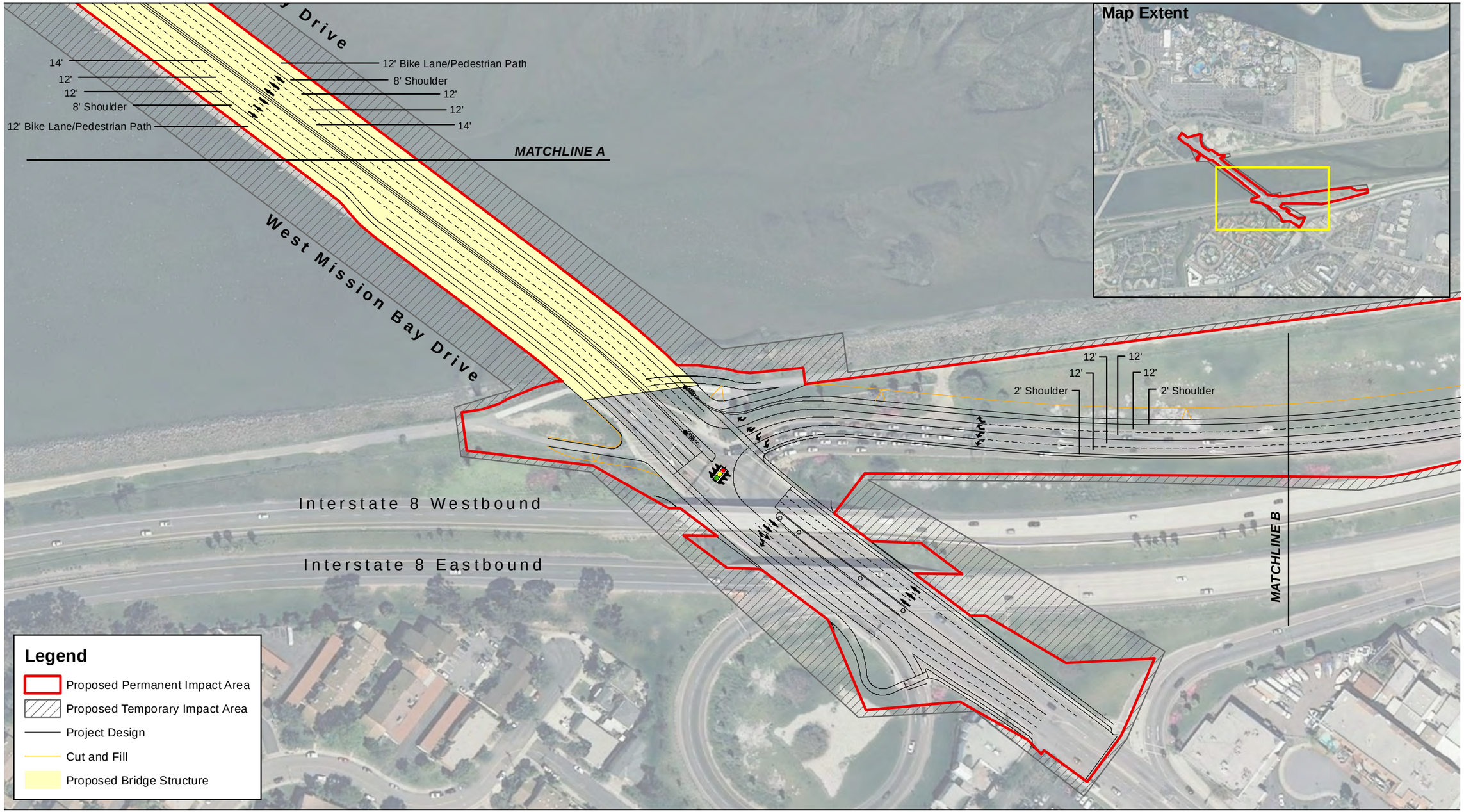

Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-2b
Alternative 3 - Project Design

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Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-2c
Alternative 3 - Project Design

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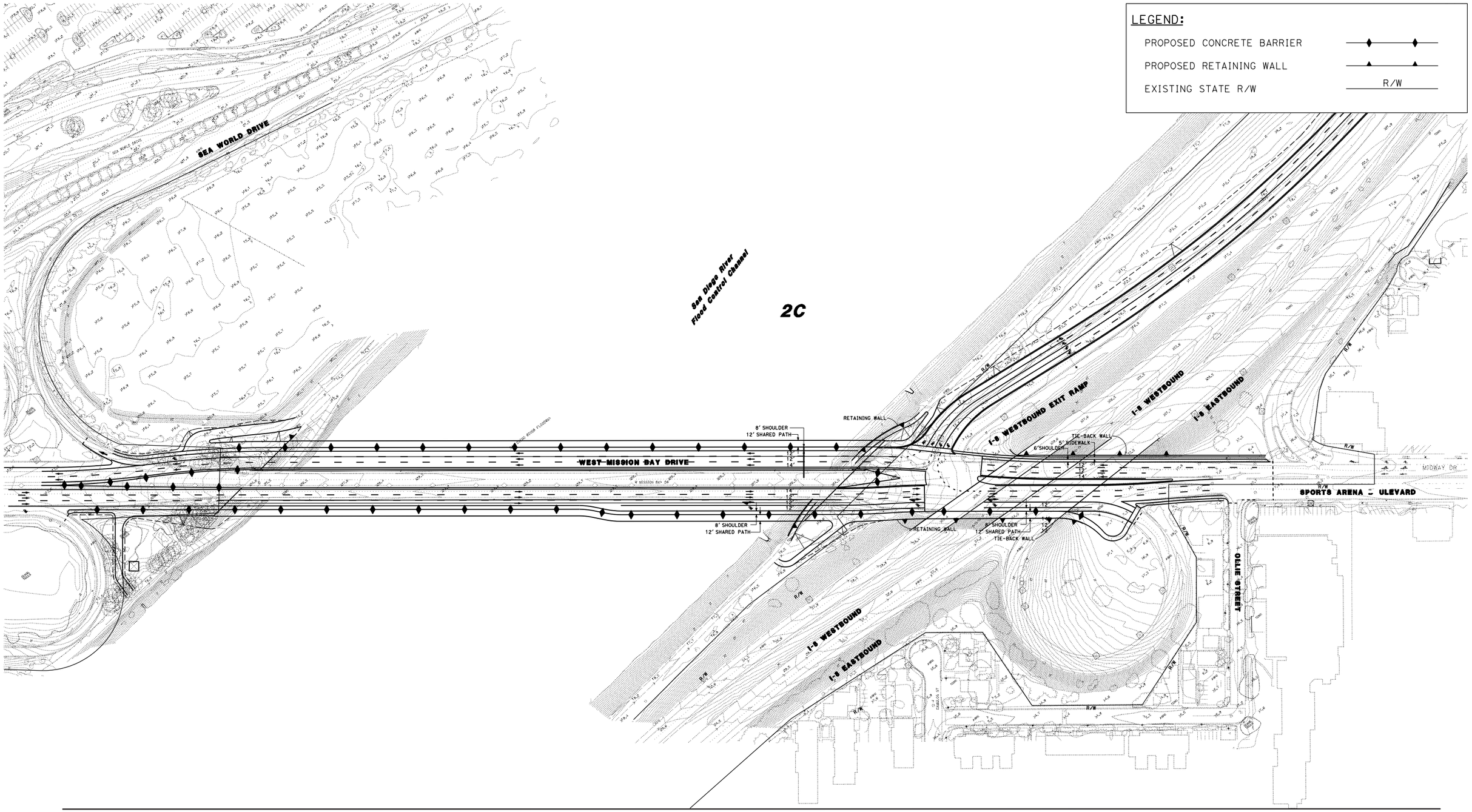

Source: ESRI 2011; Rick Engineering 2010

200 100 0 200 Feet

Scale: 1:2,400; 1 inch = 200 feet

Figure 1.3-3
I-8 Westbound Exit Ramp Lane Configuration

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grain size and constitution soils will be imported and placed in the depression to bring the elevation back to its original level.

Temporary Large Berm Option

The temporary large berm option would require the contractor to build one large temporary berm approximately 50 feet east of the new edge of the deck for the east bridge, and approximately 50 feet west of the new edge of the deck for the west bridge. This single wide berm would allow for more lateral movement under and on the bridge during demolition and construction. The width of the berm would be approximately 265 feet on top and 300 feet on the bottom, and would extend from the north side of the San Diego River southward across the flood control channel. The volume of the fill material would be approximately 93,000 cubic yards (cy) and would consist of non-silty/non-clay materials.

The berm constructed under the large berm option would allow for the most efficient movement of construction equipment to all bridge pile locations. Prior to constructing the temporary large berm, the contractor would identify the area within the San Diego River that may be impacted by the berm and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the berm is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent substantial tidal water from passing through the impacted area. To construct the temporary large berm, the contractor will be required to establish 12 or more berm openings, including culverts in the berm, at approximately 30 feet wide each that total 1,444 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism of the area. At least one of these openings would be located over the existing low-flow channel within the San Diego River. Openings may be constructed of multiple corrugated metal pipes (CMPs) placed perpendicular to the alignment of the berm. The ring-like space between CMPs would be filled with dirt, and plates would likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s). The openings would be constructed by placing a short trestle section across the span with no obstructions placed below each span. The openings must span upstream to downstream without obstruction; therefore, the piers must be avoided from both the existing bridge and the proposed bridge in order to leave enough clearance around the piers to complete the required work.

With the placement of up to 93,000 cy of fill material as described above and within the outer banks of the San Diego River, the contractor should not need to create cofferdams to construct the cast-in-drilled-hole (CIDH) piles for the columns. Other options may be available to the contractor for the placement of the large temporary berm, such as enlarging the berm around the pile locations or placing a large-diameter casing at each column location, essentially creating a temporary cofferdam.

At the face of each abutment, the contractor would place a short falsework bent, likely constructed of wooden corbels; a 12- by 12-foot sill beam and 12- by 12-foot posts; and a 12- by 12-foot cap beam. The number of piles (if used) in a falsework bent and the number of falsework spans are to be determined by the contractor but are estimated at approximately 230 temporary piles (115 per stage). Falsework piles (if used) would likely be 20-inch-diameter steel shell piles. Once falsework is complete, construction of the bridge would commence. Delivery of forms, reinforcement steel, and concrete would occur from the berm and from the abutment locations.

Upon completion of the bridge, the falsework would be deconstructed in a manner opposite to the way it was constructed. The use of one large berm would create a working platform for removing the falsework and would allow access for laborers and welders, as well as the demobilization of materials.

The approximate costs associated with the temporary large berm option would be determined by the contractor. Based on comparative projects, the temporary large berm option would cost approximately $6.9 million. The approximate timeline for this construction option would be 16-22 months.

Temporary Small Berms Option

The expected sequence of construction for the temporary small berms option would be for the contractor to build a temporary berm from the north side of the San Diego River southward into the river on the east side of the new alignment. This option would only allow for back and forth movement during demolition and construction. The width of the berm would be approximately 30 feet on top and 62 feet on the bottom with a height of 8 feet, with approximately 14,500 cy of fill material, substantially smaller than the large berm option.

Berms constructed as part of the temporary small berms option would only be large enough to allow construction vehicles to enter into the San Diego River and construct the replacement bridge. Prior to beginning work, the contractor would identify the area within the river channel that would be impacted by the berm, and place an impermeable barrier along the length of this area to avoid an increase in turbidity while the berm is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent substantial tidal water from passing through the impacted area.

Similar to the temporary large berm option, the contractor would be required to establish six or more berm openings, including culverts in the berm, at approximately 30 feet wide each that total 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism. At least one of these openings would be located over the existing low-flow channel within the San Diego River. Openings may be constructed of multiple CMPs placed perpendicular to the alignment of the berm. The ring-like space between CMPs would be filled with dirt, and plates would likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s). The width of the berm may vary to accommodate locations where outriggers for contractor's cranes or concrete pumps may be placed. The openings would be constructed by placing a short trestle section across the span with no obstructions placed below each span.

The temporary small berms option would not place substantial amounts of fill material within the San Diego River to construct the CIDH piles for the columns, as under the temporary large berm option. Therefore, the contractor would likely construct a cofferdam of interlocking sheet piling to drill the CIDH piles for the columns and to protect the river from debris and deleterious products used in the drilling process. To construct the cofferdam, piles, and permanent columns, it would be necessary for the contractor to mobilize sheet piling, a large pile crane equipped with a vibrating hammer, a large-diameter drill rig and casings (to construct the pile foundation), a concrete pump and concrete trucks, and forms (to construct the columns).

At the face of each abutment, the contractor would place a short falsework bent consisting of the same materials as described for the temporary large berm option. It is estimated that the temporary small berms option would also require approximately 230 piles (115 piles per stage).

The approximate costs associated with the temporary small berms option would be determined by the contractor. Based on comparative projects, the temporary small berms option would be approximately $8.3 million. The approximate timeline for this construction option would be 16 to 22 months.

Temporary Trestle Option

Under the temporary trestle option, the contractor would use temporary trestles and the existing trestle to construct the replacement bridge structures. The approximate width of the temporary trestle would be 30 feet. At each pier for the new bridge, a side trestle would be built to allow access for pile and column construction. This would be constructed in a similar manner as the rest of the trestle. It would be approximately the width of the new bridge and 25 to 30 feet long at each pier.

The expected sequence of construction for the temporary trestle option is for the contractor to build a temporary trestle from the north side of the San Diego River southward into the river on the east side of the new alignment. Using the temporary trestle and the embankment, the contractor would construct the columns, place temporary falsework, and construct stage 1.

As part of the demolition of the existing bridge, a temporary trestle would be constructed to provide access to the existing bridge. The temporary trestle for demolition would be as complex as the trestle used to construct the bridge but would be narrower. The temporary trestle for demolition would also require a netting system (or equivalent) supported from the trestle and existing piers to prevent debris from falling into the San Diego River during demolition.

Similar to the temporary small berms option, the contractor would identify the area within the San Diego River that would be impacted by the driven piles, and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the trestle is being constructed. This impermeable barrier would consist of the same materials as described for the temporary large berm option and small berms option. The contractor could construct this barrier using a small raft. (A likely scenario is for the contractor to construct this impermeable barrier to envelope the entire area impacted by the trestle and temporary falsework for the bridge.)

Falsework piles would be required for the temporary trestle option. Design of the trestle, including the number of piles in each row and spacing of pile rows, would be determined by the contractor; the estimated number of piles is approximately 500 to 600 (250 to 300 per stage), twice as many as the temporary large berm or small berms options. Trestle piles are grouped around each of the 38 bents required for the temporary trestle option, with each bent spaced at 35 feet on center, with trestle spans between each bent. The orientation of the trestle bents would be orthogonal to the trestle and would not be oriented parallel to the river flow, resulting in increased obstruction; however, the trestle design would provide a total of 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism. The contractor would drive the first row of piles into the existing river embankment area at the interface where the trestle and embankment meet. The next row of piles would be driven in the river with the pile rig on the initial platform that would be built out into the river from the existing embankment area. Design of the trestle, including number of piles in each row and spacing on pile rows, would be determined by the contractor.

The approximate costs associated with the temporary trestle option would be determined by the contractor. Based on comparative projects, the temporary trestle option would be approximately $15.5 million. The approximate timeline for this construction option would be 18 to 24 months.

Staging

The majority of access for implementing all three construction methodologies would come from the north side of the San Diego River. The contractor's staging areas would likely include part of Sea World Adventure Park's parking lot—the area on the northeast quadrant of the site between Sea World Drive and the San Diego River, and the area on the northwest quadrant of the site bound by the San Diego River, Sunset Cliffs Road, and the southbound West Mission Bay Drive off-ramp to eastbound Sea World Drive. It is also assumed that the contractor would use the access road that exists on the north embankment of the San Diego River to mobilize personnel, equipment, and materials. Access to the west side of the existing bridge for stage 2 would likely be limited to traveling under the new and existing bridges, using the existing frontage road (Old Sea World Drive). Part of the existing structure that is to remain may create access constraints. Staging areas for construction of the southern abutments and the first span of the new bridge would be on the south side of the San Diego River between the river and the westbound I-8 off-ramp to West Mission Bay Drive/Sports Arena Boulevard.

1.3.2 Build Alternatives

Alternative 2c

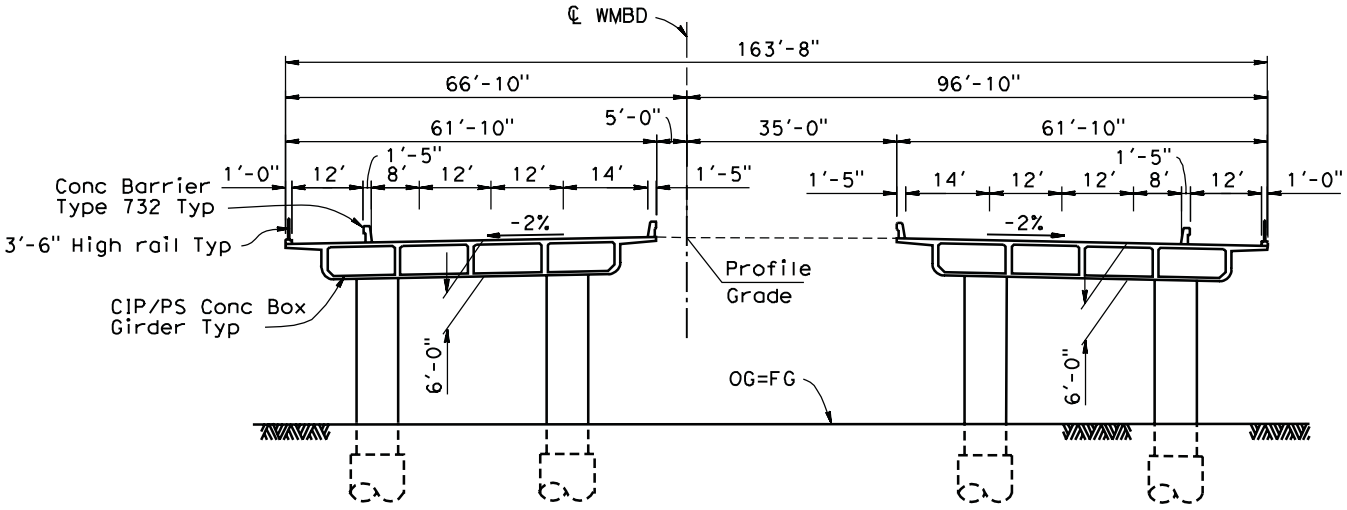
Implementation of Alternative 2c would be accomplished by removing the existing four-lane bridge and replacing it with two three-lane parallel structures, for a total of six lanes. Each parallel structure would span approximately 62 feet in width and would have one 14-foot-wide lane and two 12-foot-wide lanes, an 8-foot-wide shoulder lane, and a 12-foot-wide dedicated Class I bike path that is protected from oncoming traffic with an approximately 1.5-foot-wide concrete barrier. The parallel structures would be set approximately 35 feet apart from each other. A cross-section of Alternative 2c with lane configuration details is shown in Figure 1.3-4.

Each new bridge structure would be supported by 8-foot-diameter concrete pier pilings, and the supporting structure for each new replacement bridge would consist of 16 concrete pier piles. The pier piles would be made up of eight "bents" (pier-pile groupings), with two pier piles per bent. The overall bridge replacement effort would include a construction area that would extend approximately 131 feet in width from the edge of the deck on both sides of the existing bridge. The length of the bridge construction would be approximately 1,296 feet.

Alternative 2c would also include improvements at the north and south ends of the existing bridge. The northbound right lane on West Mission Bay Drive would become a dedicated on-ramp for eastbound Sea World Drive. A 600-foot-long auxiliary lane in the southbound direction would also be included as part of this alternative. Alternative 2c also proposes improvements to the westbound I-8 off-ramp onto West Mission Bay Drive. The proposed improvements include widening of the off-ramp, specifically, extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet.

Alternative 3

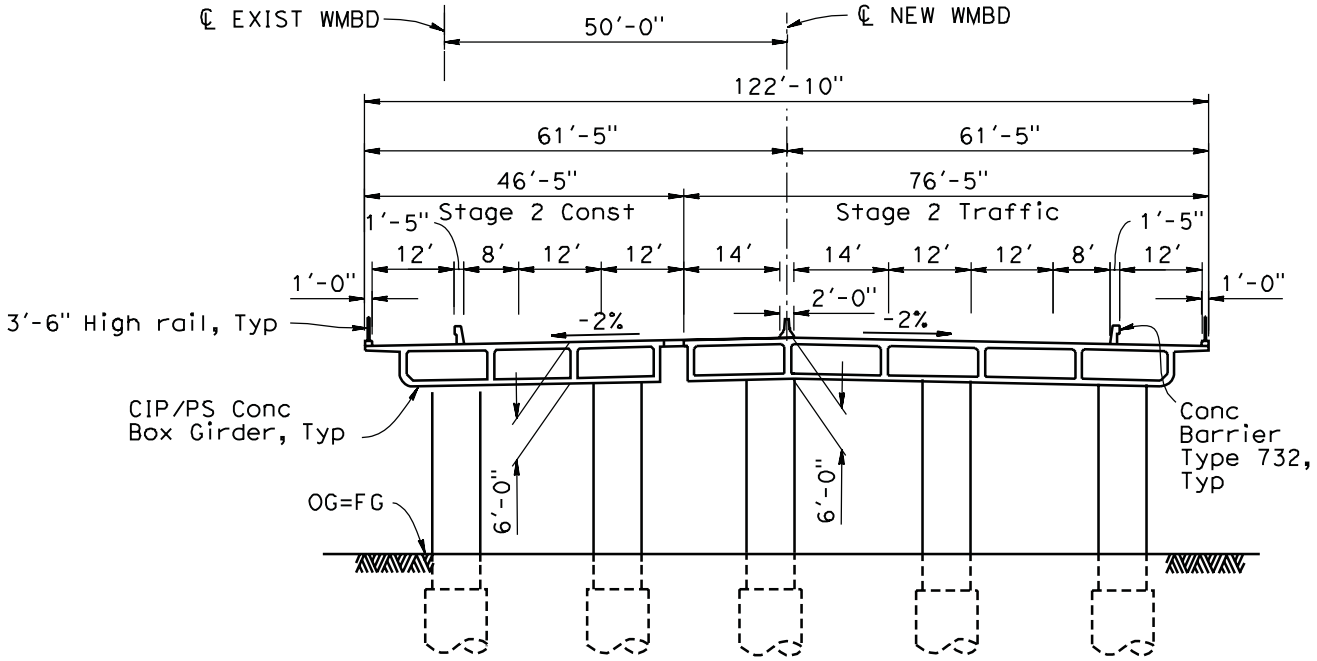
Alternative 3 would remove the existing bridge and replace it with a new single-structure bridge that shifts the centerline of the existing roadway approximately 52 feet to the east. The bridge would span approximately 123 feet in width and would have two 14-foot-wide lanes and four 12-foot-wide lanes, two 8-foot-wide shoulder lanes, and two 12-foot-wide dedicated Class I bike paths that are protected from traffic with an approximately 1.5-foot concrete barrier. A cross-section of Alternative 3 with lane configuration details is shown in Figure 1.3-5.



TYPICAL SECTION

No Scale

Figure 1.3-4
Alternative 2c Cross Section



TYPICAL SECTION

No Scale

Figure 1.3-5
Alternative 3 Cross Section

Similar to Alternative 2c, this new bridge structure would be supported by 32 concrete pier piles, each with an 8-foot-diameter, made up of eight "bents" (pier-pile groupings), with four pier piles per bent. The overall bridge replacement effort would include a construction area that would extend approximately 120 feet in width from the edge of the deck on both sides of the existing bridge. The length of the bridge construction would be approximately 1,296 feet.

Alternative 3 would also include a dedicated northbound right lane on West Mission Bay Drive, serving as an on-ramp for eastbound Sea World Drive, as well as a 600-foot-long auxiliary lane in the southbound direction that would facilitate traffic transitioning onto eastbound I-8. Alternative 3 also proposes the widening of the westbound I-8 off-ramp onto West Mission Bay Drive by extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet. The widening is necessary based on projected increases in traffic volumes, the need for additional storage, and to facilitate intersection operations at the ramp termini point with West Mission Bay Drive.

1.3.3 Transportation System Management (TSM)

In June 2000, prior to and in parallel with the preliminary engineering and environmental analysis efforts, the City was asked by the San Diego Metropolitan Transit Development Board (MTDB) and City Council District 2 to incorporate public transit into the design of the proposed project. In consultation with Caltrans, FHWA, MTDB, and City Council District 2, the City and its consultant team first investigated the potential for incorporating an automated people mover (APM) facility into the design of the build alternatives under consideration. However, preliminary evaluations of the APM alternative determined that it was not a viable option, and this alternative was abandoned by the project team.

Soon after June 2000, additional evaluation efforts were undertaken regarding the potential incorporation of bus rapid transit (BRT) facilities into the project design. The BRT facility evaluations yielded three new build alternatives that included two BRT lanes (one in each direction) as the primary public transit feature. These three BRT alternatives were further supported by MTDB and City Council District 2. They wanted the City to pursue alternatives that would enhance linkages to the anticipated expansions at nearby Sea World Adventure Park and Quivira Basin. The engineering consultant investigated the feasibility of three BRT alternatives in a new Concept Study on the Incorporation of BRT lanes into a Bridge Replacement Report. The report concluded that all three alternatives (A, B, and C) would be feasible; however, due to space constraints, each alternative would require the removal of a design feature from the original design. The eliminated design features would include removal of the third northbound general purpose traffic lane for BRT Alternative A, removal of the sidewalk or bike path on the northbound side of the bridge for BRT Alternative B, and substandard 3.45-meter-wide (11.3-foot-wide) traffic lanes on the southbound side and removal of the Class I bike path also on the southbound side of the bridge for BRT Alternative C.

As described above, conceptual-level APM and BRT alternatives were originally evaluated at the request of MTDB and City Council District 2, and in consultation with Caltrans and FHWA. Although MTDB and City Council District 2 originally expressed interest and support for the APM and BRT alternatives, both entities reached the conclusion that West Mission Bay Drive was not an appropriate location to construct an APM or BRT facility. Therefore, these project alternatives were never fully pursued, and were not carried forward in the project design process.

1.3.4 No Build Alternative

Under the No Build Alternative, no new West Mission Bay Drive Bridge would be constructed and the existing four-lane West Mission Bay Drive Bridge would continue to serve as the primary connection between I-8 to the south and Sea World Drive to the north. The No Build Alternative represents the option of no action. This alternative would not propose any changes to the existing number of lanes of the existing bridge. Under the No Build Alternative, traffic would continue to increase and exceed the bridge's capacity, which would cause longer delays and further degrade LOS. The bridge would remain structurally and seismically deficient, increasing the likelihood of local and seismic failure. The No Build Alternative would not improve north-south access for bikes and pedestrians.

1.3.5 Alternatives Considered but Eliminated from Further Discussion

Development and analysis of the proposed project began in 1999 when the City hired a consultant team to design project alternatives and begin engineering and environmental analysis for the retrofit or replacement of the existing bridge. This initiation process included early coordination with Caltrans – District 11 and FHWA. The timeline for the alternative development activities spanned a number of years from 1999 to 2006, and included concurrent and consecutive efforts, along with lengthy periods of dormancy. The initial preliminary engineering, alternatives development, and environmental analysis efforts occurred from 1999 into 2001. Initial engineering efforts for the proposed project yielded four build alternatives. The project descriptions for each build alternative eliminated from further discussion are presented below.

The structural engineering consultant prepared a Widening Versus Replacement Evaluation Report for the proposed project in March 2001, with recommendations that the existing bridge be replaced rather than widened due to the greater level of probable impacts that a widening-only option would have on existing traffic flows. This greater level of probable impacts associated with widening only would likely occur because replacement of the existing bridge deck would require lane closures that may last 4 to 6 months. Additionally, the engineering consultant recommended that the bridge be replaced because widening would incur greater construction costs and a direct effect on the lifespan of the bridge compared to full replacement.

Using the alternative evaluation process conducted, Caltrans, the City, and the consultant team determined that, based on total project costs, potential environmental impacts, needed interface with the existing roadway facilities to the north and south, and overall constructability, the viable build options that warranted further consideration were Alternative 2c and Alternative 3. A detailed discussion of the alternatives considered and rejected is provided below.

Alternative 1

Alternative 1 would have preserved the existing bridge and addressed the need for additional capacity by widening the deck on both sides while maintaining the centerline of the roadway in its present location. The existing bridge would have been widened approximately 22.6 feet on the east side and 26.9 feet on the west side. The overall width after widening would have been 113.5 feet. The existing north and south abutments and 10 reinforced concrete pier walls would have been widened under Alternative 1, and the original and new portions of each pier wall would have been post-tensioned together to ensure the integrity of the combined pier walls under seismic actions. The new pile foundations would have been designed to carry all loads from the combined structure.

Alternative 1 had several disadvantages compared to the proposed bridge replacement alternatives. Alternative 1 had the greatest impacts on existing traffic flows during construction because replacement of the existing bridge deck would have required lane closures that could last 4 to 6 months. Alternative 1 also had greater visual impacts because its single structure and pier walls had greater bulk and mass than the narrower replacement structures and pier columns that would have been constructed under the bridge replacement alternatives. Alternative 1 had the greatest cost of the proposed alternatives due to the seismic upgrades required to satisfy current seismic codes and the large piles needed to transfer lateral forces from the existing structure to the new foundation. The higher cost for Alternative 1 would have increased if unanticipated flaws in the bridge were discovered during construction. Alternative 1 also had the greatest lifecycle costs associated with maintaining the bridge once construction was completed, and had a shorter service life than the bridge replacement alternatives. Therefore, Alternative 1 was eliminated from further discussion.

Alternative 2a

Alternative 2a would have removed the existing bridge and replaced it with two new parallel bridge structures while maintaining the alignment and centerline of the existing structure essentially in its present location. The replacement parallel structures would have been built in two stages. In stage 1, the outside portions of the replacement structures would have been constructed on the east and west sides of the existing bridge, and existing traffic would have been moved to these structures upon completion. In stage 2, the existing bridge would have been demolished and the inside portions of the replacement structures would have been constructed. A closure pour would have closed the gap between the stage 1 and stage 2 portions of each parallel structure once the inside structures were completed. Each of the completed parallel structures would have been 57 feet wide and would have been separated by a 39-foot-wide opening. The overall width would have been 154 feet.

Alternative 2a had several disadvantages compared to Alternative 2c. Alternative 2a required three pier columns per pier bent instead of two, which resulted in greater impacts in the San Diego River flood control channel compared to Alternative 2c. Consequently, Alternative 2a had the second largest permanent impacts to wetlands/waters compared to all of the build alternatives considered. Construction costs would have been greater for Alternative 2a due to the increased number of pier columns and additional staging requirements needed for the closure pour to close the gap between the stage 1 and stage 2 portions of each parallel structure. Alternative 2a would have also resulted in an unacceptable width for the southbound Class I bike path as it neared I-8. Due to the greater amount of impacts to the San Diego River flood control channel, higher construction costs, and substandard Class I bike path, Alternative 2a was eliminated from further discussion.

Alternative 2b

Similar to Alternative 2a, Alternative 2b would have removed the existing bridge and replaced it with two new parallel structures while essentially maintaining the alignment and centerline of the current structure. The replacement parallel structures would have been built completely outside of the existing structure. The parallel structures would have been built on both sides of the existing bridge at the same time, and the existing bridge would have then been removed. This alternative would have consisted of two parallel structures, each 57 feet wide. The parallel bridges would have been separated by a 70-foot-wide opening. The overall width would have been 185 feet. Based on the overall bridge width and associated footprint, this alternative was identified as the “worst-case” scenario for the impacts analysis.

Alternative 2b had several disadvantages compared to Alternative 2c. Alternative 2b had the widest construction impact in the San Diego River flood control channel due to both replacement structures being constructed completely outside of the existing bridge. Additionally, Alternative 2b had the second least desirable roadway geometrics due to the roadway tie-ins north and south of the existing bridge, and resulted in an unacceptable width for the southbound Class I bike path as it neared I-8. Alternative 2b also required an additional $10,000,000 in right-of-way costs due to an encroachment into an existing San Diego Gas & Electric (SDG&E) 69-kilovolt (kV) transmission facility located northwest of the proposed project. Due to the wider area of impacts to the San Diego River flood control channel, undesirable roadway geometrics, substandard Class I bike path, and greater right-of-way costs, Alternative 2b was eliminated from further discussion.

Alternative 2d

Alternative 2d would have shifted the bridge alignment to the west to improve the connection to existing roadway ramp geometrics. This alternative was a mirror image of Alternative 2c that proposed shifting the bridge alignment a similar distance to the east, also in an attempt to improve the connection with the existing roadway/ramp geometrics to the south. However, Alternative 2d had several disadvantages compared to Alternative 2c. Alternative 2d had the largest permanent impacts to wetlands compared to all the build alternatives that were considered. Alternative 2d would have resulted in an unacceptable width for the southbound Class I bike path as it neared I-8. Alternative 2d would have also required an additional $10,000,000 in right-of-way costs due to an encroachment into an existing SDG&E 69-kV transmission facility located northwest of the proposed project. Due to the largest permanent impacts to wetlands, substandard Class I bike path, and greater right-of-way costs, Alternative 2d was eliminated from further discussion.

Interstate 8 Westbound Exit Ramp Design Options

As previously discussed, three options were analyzed for the future lane configuration of the I-8 westbound off-ramp. Option 1 assumed three southbound through lanes, one southbound auxiliary lane, and two lanes northbound. Option 2 assumed three southbound through lanes, one southbound auxiliary lane, and three lanes northbound (to align with the proposed three lanes northbound on the bridge). Based on coordination with City of San Diego Traffic Operations staff, this option was assessed assuming westbound right-turns allowed on red (as it exists today, Option 2a) and also for westbound right-turns prohibited on red (Option 2b).

Option 3 assumed three southbound through lanes, one southbound auxiliary lane, three lanes northbound, and three westbound right-turn lanes. This configuration was assessed since it is identified as a mitigation measure of the Sea World Master Plan Update, March 2001 It is important to note that the relevant traffic analysis for the Sea World Master Plan Update analyzed this intersection assuming that the free-moving southbound lane (toward the I-8 EB loop on-ramp) would remain. For this analysis, it was assumed that this free movement would be eliminated because that is part of the Caltrans safety project recently constructed in April 2011. It was also assumed that the westbound triple right turn, motorists would be prohibited from making a right-turn on a red signal indication.

Option 1 was anticipated to operate poorly in future scenarios, particularly in 2035, and was therefore withdrawn from further consideration.

Based on the results of the of the analyses of the operation of the various lane configuration options under 2015 and 2035 scenarios, both Option 2 and Option 3 were calculated to provide acceptable LOS on the West Mission Bay Drive Bridge and West Mission Bay Drive/I-8 westbound off-ramp intersection. However, it should be noted that this is only true for Option 2a, which would allow for right turns on red as exists today at this signal. Prohibition of right turns on red for Lane Configuration Option 2 (Option 2b) would result in excessive delay and queuing, (especially for the westbound approach). Therefore, Option 2b was withdrawn from further consideration.

Option 3 (with triple westbound right-turn lanes) showed only minimal improvement in intersection LOS from Option 2 (with double westbound right-turn lanes), but queue lengths for Lane Configuration Option 3 were calculated to be much less than for Option 2 (especially for the westbound approach). Intersection LOS was calculated to operate at a mid to high LOS D under both Option 2 and Option 3.

However, based on discussions with Caltrans Traffic Operations staff, the westbound triple right turns (Option 3) would not be allowed within the state right-of-way at this specific location due to the minimal intersection improvement in intersection LOS from Option 2 and the accepting lane intersection geometrics that would be required for triple right turns at off-ramps (usually four accepting lanes or width of four accepting lanes) to accommodate the vehicle turning paths for triple simultaneous right-turn maneuvers). Therefore, Option 3 was also withdrawn from further consideration.

For additional details regarding these lane configuration options, see the December 2011 Traffic Study prepared for this project.

1.4 PERMITS AND APPROVALS NEEDED

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Informal Endangered Species Act Section 7 Consultation for Threatened and Endangered Species	Letter issued January 30, 2013
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit for Dredged and Fill Waters of the United States	Pending
U.S. Army Corps of Engineers	Rivers and Harbor Act Section 10 Permit for construction over navigable waters	Pending
California Department of Fish and Wildlife	1602 Streambed Alteration Agreement	Pending
California Water Resources Control Board – Region 9	Clean Water Act Section 401 Water Quality Certification Section 13263 of the 1969 Porter-Cologne Water Quality Act	Pending
California Coastal Commission	Coastal Development Permit	Pending
Federal Highway Administration	Modified Access Agreement	Pending
National Oceanic and Atmospheric Administration – National Marine Fisheries Service	Essential Fish Habitat consultation	Letter issued January 8, 2013

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CHAPTER 2
AFFECTED ENVIRONMENT; ENVIRONMENTAL CONSEQUENCES; AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Environmental analyses were conducted for each of the two build alternatives—Alternative 2c and Alternative 3—as well as the No Build Alternative. For most effects, the two build alternatives were found to have nearly identical impacts. Therefore, unless specifically stated otherwise, the results of the analyses in this chapter are the same for each build alternative.

2.1 ENVIRONMENTAL ISSUES NOT FURTHER ANALYZED

As part of the scoping and environmental analysis conducted for the project, the environmental issues listed in this section were considered, but were found to have no adverse impacts related to project operation. Consequently, these operation issues are not discussed further in this document. Several of the issues addressed below were found to have temporary impacts related solely to the project's construction activity, and these issues are discussed in Section 2.3.

Land Use: The proposed project would be consistent with the following state, regional, and local plans and programs. For a detailed consistency analysis, please see Appendix A. Consistency with the California Coastal Act (CCA) is discussed in Section 2.2.1.

- Mission Bay Park Master Plan Update
- City of San Diego General Plan, 2008
- SANDAG's 2050 San Diego Regional Transportation Plan: Our Region, Our Future (2050 RTP)
- SANDAG's 2010 Regional Transportation Improvement Program (2010 RTIP)

Wild and Scenic Rivers: The San Diego River is not designated under the National Wild & Scenic Rivers System. The project's impacts on the San Diego River from a visual standpoint are discussed in Section 2.2.3 and 2.3.3; hydrological impacts on the river are discussed in Section 2.3.4; and water quality impacts on the river are discussed in Section 2.3.5.

Parks and Recreation: The proposed project is located almost entirely within Mission Bay Park and crosses the Southern Wildlife Preserve, but the project would not have any adverse permanent effect on these facilities or other parks and recreational uses in the vicinity of the site. Although the replacement bridge would be constructed within the existing bridge footprint, with a minor increase in width of the structure, there is a reduced number of piers as compared to the existing bridge, resulting in a modified placement within the flood control channel. However, the reduced number of piers is considered beneficial as the proposed project would reduce the bridge's overall footprint in the flood control channel. The project would result in some temporary impacts during the construction period that are discussed below in Section 2.3.1.

Growth: The proposed project was developed to reduce existing and future traffic congestion from growth that has already occurred, is planned, and is projected to occur. West Mission Bay

Drive is currently six lanes at each end of the bridge and this project would widen the West Mission Bay Drive Bridge to match the lane configuration of the rest of West Mission Bay Drive. The proposed project would replace an existing bridge in a nearly built-out urban environment, and does not include the construction of any new housing or other development. The proposed project would not extend any existing roadways or access into an undeveloped area, or introduce any new roadways that could induce growth. Additionally, future growth in the communities surrounding the proposed project is already constrained by existing development and the San Diego River flood control channel itself is undevelopable and naturally serves to restrain growth. Therefore, the proposed project would not influence unplanned growth within the study area.

Farmlands/Timberlands: The proposed project would be constructed entirely within an existing transportation corridor. No prime or unique farmlands are located within or adjacent to the project site, and the study area has not recently supported agricultural activities. Additionally, no portion of the project site is zoned for or developed as forest land or timberland. Therefore, the proposed project would not impact farmlands or timberlands.

Community Character and Cohesion: Implementation and construction of the proposed project would not result in permanent direct effects to any existing community or community-serving facilities.

Relocations and Real Property Acquisition: The proposed project would not displace any residential or nonresidential units eligible for assistance under the Uniform Relocation Assistance and Real Property Act of 1970.

Environmental Justice: A Community Impact Assessment (CIA) was prepared for the proposed project in April 2012 and is incorporated by reference. The CIA included an environmental justice analysis that evaluated whether the proposed project would disproportionately and adversely impact minority or low-income populations. An analysis of census data revealed that the percentage of minority populations within each individual Census block group and the overall project study area fell below the comparable minority populations in the City and San Diego County. Although, three of the four Census block groups adjacent to the proposed project have percentages of people below the poverty level higher than percentages for the City of San Diego and San Diego County, the proposed project would not result in any impacts that could disproportionately and adversely impact low-income populations. The proposed project includes features that would enhance the use of other modes, including bicycle, pedestrian, and transit. Based on the analysis contained in the CIA, the proposed project will not cause disproportionately high and adverse impacts to either minority or low-income populations, pursuant to EO 12898 regulations regarding environmental justice.

Utilities and Emergency Services: Replacement of the existing West Mission Bay Drive Bridge would not disrupt utility services. Construction of the replacement bridge would include replacement utility lines for the City force sewer mains, City water transmission line, AT&T telecommunications lines, and low-voltage SDG&E electricity lines present within the existing bridge. Use of a staged construction process would allow new lines to be constructed and become operational before segments of the existing bridge are demolished, thereby ensuring no disruption in service. Therefore, the proposed project would not adversely affect utility services. The reduction in existing and future traffic congestion that would result from the proposed project would improve travel through the area and either maintain or improve response times for emergency services. Therefore, the proposed project would not adversely affect emergency response services.

Cultural Resources: Field reconnaissance did not reveal any surface evidence of archaeological sites within the area of potential effects. No further archaeological survey work is necessary unless previously unknown buried cultural resources or human remains are discovered during the construction phase. Should previously unknown materials be discovered during construction, earth-moving activities in the area would cease and the find would be assessed for adverse effects. Any discovered human remains would be handled in accordance with Health and Safety Code Section 7050.5 and Public Resources Code (PRC) 5097.98.

Hydrology and Floodplain: A Preliminary Hydraulic Report was prepared for the project in 2010, with an addendum prepare in 2012 to analyze an additional build alternative. Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. To comply, the following must be analyzed: the practicability of alternatives to any longitudinal encroachments; risks of the action; impacts on natural and beneficial floodplain values; and support of incompatible floodplain development.

The analyses concluded that no permanent adverse effects would result from implementation of the proposed project with respect to water surface elevations and velocities. The project has been designed so that there would be no rises in water surface elevation during major storm events upstream of the bridge when compared to the existing bridge structure. It is anticipated that each of the proposed bridge structure type alternatives (Structure Alternative 1: Standard Girder, and Structure Alternative 2: Haunched Girder) would slightly reduce the water surface elevations associated with a 100-year storm event when compared to the pre-project condition due to the reduced number of piers as compared to the existing bridge structure. As such, the risks of the action and its impacts on natural and beneficial floodplain values would be negligible, if not beneficial. The proposed project does not represent a longitudinal encroachment into the floodplain but is rather a perpendicular crossing. Because the proposed project would replace an existing structure and the surrounding area is already developed, the proposed project would not support incompatible floodplain development. Please see Section 2.3.4 for a discussion of construction-related impacts on hydrology and floodplain.

Water Quality and Storm Water Runoff: Implementation of the proposed project would result in slightly more runoff reaching the storm drain system due to the conversion of pervious areas to impervious areas associated with the reconfiguration of the I-8 ramps, as well as the addition of two travel lanes on the bridge structure. Although an increase in runoff volume may occur, the project site is located at the downstream end of the watershed. As such, it is anticipated that the peak flow rate leaving the project site would occur well before the peak discharge occurs within the storm drain systems and the San Diego River. Therefore, increases would not impair the capacity of the existing storm drain system. Both build alternatives have been designed so that the post-project drainage patterns would follow the pre-project patterns, where feasible, to minimize any impact of the project on the downstream drainage system. Upon implementation, storm water runoff from the project site would flow through a post-construction storm water treatment device, such as the biofiltration swales/strips and media filters described below, prior to discharge into the storm drain system or the San Diego River, or any portion of the MHPA. The proposed project would implement permanent treatment best management practices (BMPs), including small footprint filtration devices, a rock-lined bioswale, and small areas of permeable pavement to treat runoff coming from the project site. These treatment BMPs are anticipated to treat 100 percent of the water flow for the project. Construction-related impacts on water quality and storm water runoff are discussed below in Section 2.3.5.

Hazardous Waste/Materials: An Initial Site Assessment (ISA) was prepared for the project in August 2011. The project site is not listed on any hazardous materials databases. Eleven listed facilities are located within a 0.5-mile radius of the project site; however, none of these facilities would be considered an environmental concern to the proposed project. The ISA identified the potential presence of several hazardous materials in the project area, including asbestos-containing materials and lead-based paint in the bridge structure, lead-based paint in the roadway striping, and aerially deposited lead in unpaved areas adjacent to the bridge. These materials are not considered "recognized environmental conditions" by the American Society of Testing Materials; they are common hazardous materials that would be properly removed and disposed of pursuant to standard management practices if discovered during demolition and construction. Additionally, the proposed build alternatives would not entail the use of hazardous materials. Therefore, no adverse effects are anticipated to result from operation or construction of either of the build alternatives.

Noise: A Noise Study Report pursuant to the requirements of 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise" was prepared for the proposed project in June 2011 and amended in October 2011. The Noise Study Report concluded that project operation would result in a slight increase in traffic noise at certain residential and recreational receptors near the site due to the bridge's increased capacity, but this increase would not cause noise levels to exceed relevant thresholds at any of the studied receptors. Therefore, the project does not require noise abatement measures, and operational noise impacts are not discussed in Section 2.2. Construction noise is addressed below in Section 2.3.8.

Plant Species: One special-status plant species, the southwestern spiny rush, was observed in the biological study area during surveys conducted for the project. Approximately 125 individuals of this species were observed 0.4 mile east of the bridge construction limits, in an area that would not be disturbed by the project. Therefore, no operation- or construction-related effects on this species would occur as a result of the project. Salt marsh bird's beak was not detected in the biological study area, but is known to occur west of the BSA near the mouth of the San Diego River. Due to this presence, Caltrans consulted with U.S. Fish and Wildlife Service (USFWS) regarding this species during the Section 7 consultation process. USFWS issued their informal Section 7 consultation letter on the project to Caltrans on January 30, 2013. The letter, which is included in Appendix G of this EA, provides additional detail regarding USWFS's mitigation requirements for the project's effects on federally listed species, including salt marsh bird's beak. Construction impacts on additional federally listed plant species are discussed below in Section 2.3.12.

Animal Species: Analysis determined that no permanent impact would occur to animal species because the project entails replacement of an existing facility in a similar alignment that would reduce the footprint of the facility within on-site habitat that could support wildlife species. Operational impacts on threatened and endangered species are discussed in Section 2.2.6; temporary impacts on animal species and threatened and endangered wildlife species due to project construction activities are discussed in Section 2.3.11 and Section 2.3.12, respectively.

Invasive Species: The project would replace an existing bridge with a new bridge travelled by the same type of traffic as under existing conditions, which would have no effect with respect to invasive species. The project entails implementing a landscape plan following completion of construction that uses a native plant palette and includes measures to minimize the potential for introduction of invasive species into the project area. Project construction would comply with EO 13112 and subsequent guidance from FHWA by implementing control measures to prevent the

spread of invasive species. Temporary construction impacts with respect to invasive species are discussed in Section 2.3.13.

2.2 OPERATIONAL IMPACTS

This section presents analysis of the project's effects associated with long-term operation, including its coastal-zone planning impacts, traffic impacts, visual impacts, air quality effects, noise impacts and impacts on wetlands and other waters. Temporary impacts associated only with the project's construction period are discussed in Section 2.3. Avoidance, minimization, and/or mitigation measures are explained in the respective subsections below and compiled in Appendix B.

2.2.1 Coastal Zone

This subsection is focused solely on the consistency with the CCA and the local coastal programs (LCPs). The proposed project would be consistent with all other plans as discussed in Section 2.1 and detailed in Appendix A.

Regulatory Setting

The proposed project is within the State Coastal Zone. The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan can then review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the CCA of 1976, to protect the coastline. The policies established by the CCA are similar to those for the CZMA; they include protection and expansion of public access and recreation, protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, protection of scenic beauty, and protection of property and life from coastal hazards. The California Coastal Commission (CCC) is responsible for implementation and oversight under the CCA.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the CCA delegates power to local governments (15 coastal counties and 58 cities) to enact their own LCPs. This project is subject to the City of San Diego's local coastal program. LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the CCA goals. The CCC will take original jurisdiction over the proposed project. The CCC San Diego regional office has confirmed that it will manage the Coastal Development Permit process and that the applicable CCA document should be consistent with the LCP contained in the Mission Bay Park Master Plan Update (CCC 2011).

Environmental Consequences

Article 5 of the CCA provides guidance on the preservation of land resources, including the protection of environmentally sensitive habitat areas (ESHAs). The CCA defines ESHAs as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments". The segment of the San Diego River flood control

channel crossed by the proposed project is designated by the City as the Southern Wildlife Preserve. Additionally, the Jurisdictional Delineation Report prepared for the proposed project determined that the segment of the San Diego River flood control channel crossed by the proposed project contains environmentally sensitive wetlands. Therefore, the segment of the San Diego River flood control channel crossed by the proposed project qualifies as an ESHA.

Table 2.2.1-1, which follows this text discussion, provides a detailed discussion of the consistency of the construction of the proposed project with the relevant goals and policies of the coastal zone plans and programs. The proposed project is consistent with all of the relevant goals and policies of the coastal zone plans and programs but may be inconsistent with Article 5 of the CCA [Section 30240(a)], which states that: “Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.” The following discussion is provided to illustrate how issuance of a coastal permit may be permissible despite the potential inconsistency with Article 5.

The first means by which the proposed project could be found to qualify for permitting is under Article 4, Section 30233(a)(4) of the CCA, which provides that: “The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.” The key word is incidental; typically a proposed project is disqualified from using this provision when the project increases capacity. The proposed project, however, would be unique in that while it increases capacity on the deck surface of the bridge, it would actually result in a net decrease in fill in the San Diego River in its permanent operating condition. The proposed project would also include a suite of mitigation measures to minimize adverse environmental effects as discussed more fully in the remainder of Section 2.2 and Section 2.3.

If the proposed project is not found to conform with Section 30233(a)(4) then it would be necessary to determine whether the proposed project is an allowable use under Section 30240(a). While the bridge is necessary because of the presence of the San Diego River and the need for a crossing over it, the finding would likely be that the bridge replacement is not a use that is dependent upon the ESHA. In that case, the “conflict resolution” provisions in Section 30007.5 would have to be used in order to permit the project.

Section 30007.5 provides: “The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.”

The proposed project would create a conflict between the public access/recreation, air quality/energy, and the allowable use test/ESHA policies. As detailed more fully in Section 2.2.2, public access to and within this coastal area is currently hampered by the limited capacity on the West Mission Bay Drive Bridge, especially as it relates to the existing lane configuration of the rest of West Mission Bay Drive. The condition is causing a substantial amount of delay and queuing in the project area and is predicted to worsen in 2015 and 2035 without the proposed

project. In addition, bicycle and pedestrian access on the West Mission Bay Drive Bridge is limited to a narrow pathway. The proposed project would decrease delay times along West Mission Bay Drive and improve access to this coastal area, which serves not only Sea World but other important recreational areas within Mission Bay. The proposed project would also provide much needed improvements to bicycle and pedestrian travel on the West Mission Bay Drive Bridge. An important correlate to these improvements is that they would provide for improvements in air quality and energy consumptions to the extent that the idling time for vehicles would be reduced at key intersections on and near the proposed new bridge. Without the proposed project, delay times will increase by as many as 3 minutes at key intersections. Vehicle emissions, such as carbon dioxide, are greatest at speeds less than 25 miles per hour. Therefore, a finding could be made that building the proposed project would be less harmful to coastal resources than not building the proposed project, especially given that the amount of fill in the San Diego River post-project would be less than the amount of fill currently used by the existing bridge.

No Build Alternative

Under the No Build Alternative, the existing bridge would not be replaced. Therefore, the No Build Alternative would not impact existing and/or planned land uses, and no physical changes to the land use patterns surrounding the project area would occur. Similarly, the No Build Alternative would not result in any physical changes to the Southern Wildlife Preserve. Therefore, the No Build Alternative would be consistent with the goals and policies of the CCA and Mission Bay Park Master Plan Update.

Avoidance, Minimization, and/or Mitigation Measures

As detailed in the remainder of Sections 2.2 and 2.3, impacts to coastal resources would be minimized and/or mitigated fully. See, for example, Section 2.2.6 for biological mitigation measures.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
Local Coastal Program (LCP)		
Public Access: Improving vehicular, emergency, bicycle, and pedestrian access to the Park.	Construction activities would temporarily affect vehicular access through modified use and access; however, these effects would be minimized with implementation of a Traffic Management Plan. Construction of the proposed project would result in temporary modifications to the existing bike/pedestrian paths in the form of a protective covering over the existing paths that would be in place for up to 16–24 months of the total construction timeline. However, full access to the	Both alternatives would be consistent with this goal with implementation of avoidance, minimization, and/or mitigation measures, as discussed in Section 2.2.2, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
	existing bike/pedestrian paths would be maintained through construction, ensuring safe access for all park users	
Preservation of Water, Marine and Biological Resources: The highest water quality; sustained bio-diversity; ongoing education and research; and the reduction of traffic, noise, and air pollution should all be priorities. The Park's natural resources should be conserved and enhanced not only to reflect environmental values but also for aesthetic and recreational benefits.	Construction limits and staging areas have been located or reduced in size to minimize direct effects to sensitive resources and maximize use of disturbed and developed land use cover types. The temporal loss of wetlands resulting in the conversion of a nonnative invasive wetland community (southern coastal brackish marsh) to mudflat would be considered a temporary impact as the conversion would remain an aquatic feature and not be converted to upland. The placement of the earthen berms within the San Diego River would also be considered temporary, as the river bottom would be restored to original grade after the com-pletion of construction and would not be permanently converted from an aquatic feature to upland.	Both alternatives would be consistent with this goal through implementation of a mitigation ratio of 1:1 for temporary impacts to vegetated and unvegetated wetlands and the biological mitigation measures described in Section 2.2.6 in this EA.
Visual Resources: Preservation of significant views into the Park from surrounding…roadways, such as I-5, and from main entrance roads such as Pacific Coast Highway and Tecolote Road. In addition, …ensure the compatible integration of any new development, private or public, with the Bay environment.	Construction activities will alter the public's visual enjoyment of the area during the construction phase; however, construction is temporary in nature and would not impair the visual quality of the views into Mission Bay Park.	Both alternatives would be consistent with the LCP.
Public Works: Recommends new infrastructure in terms of roadways, emergency services, restroom facilities, paths and parking to meet the anticipated needs of future Park visitors.	The proposed project will help meet the needs of future Mission Bay Park visitors by providing two additional lanes that would increase roadway capacity, as well as including dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities.	Both alternatives would be consistent with this goal with implementation of avoidance, minimization and/or mitigation measures, as discussed in Section 2.2.2, Traffic and Transportation/Pedestrian and Bicycle Facilities.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
	Construction activities would temporarily affect vehicular, bicycle and pedestrian access along the bridge and the surrounding area through modified use and access, which may delay emergency response times. However, implementation of a Traffic Management Plan would minimize these effects.	
California Coastal Act		
Article 2 – Public Access		
Section 30210: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.	Construction activities would temporarily affect vehicular access through modified use and access; however, these effects would be minimized with implementation of a Traffic Management Plan. Temporary impacts to the bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge would be minimized through construction of protective crossings that would enclose the paths and allow for continued passage through the project area and to the bridge. Construction of Class I bike paths that would connect to the existing bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge would improve access to Mission Bay Park.	Both alternatives would be consistent with this act with implementation of avoidance, minimization and/or mitigation measures, as discussed in Section 2.2.2, Traffic and Transportation/Pedestrian and Bicycle Facilities.
Section 30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	Construction of the proposed project will not impede coastal access. Construction activities may temporarily affect vehicular access through modified use and access; however, access will still be maintained. Full access to the existing bike/pedestrian paths would be maintained through construction, ensuring safe access for all park users.	Both alternatives would be consistent with this act.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
Article 3 – Recreation		
Section 30220: Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.	Construction of the proposed project would not impact any coastal areas suited for water-oriented access. Access to the San Diego River flood control channel for water-oriented recreation is prohibited. Temporary impacts to the bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge would be minimized through construction of protective crossings that would enclose the paths and allow for continued passage through the project area and to the bridge.	Both alternatives would be consistent with this act.
Section 30223: Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.	The proposed project would not affect any upland areas used to support coastal recreation within Mission Bay Park.	Both alternatives would be consistent with this act.
Article 4 – Marine Environment		
Section 30230: Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.	The proposed project has been designed to minimize impacts to marine resources by locating the replacement bridge within the existing right-of-way and by reducing the overall footprint of the new bridge within the San Diego River flood control channel. Construction limits and staging areas have been located or reduced in size to minimize direct effects to sensitive resources and maximize use of disturbed and developed land use cover types. The temporal loss of wetlands resulting in the conversion of a nonnative invasive wetland community (southern coastal brackish marsh) to mudflat would be considered a temporary impact as the conversion would remain an aquatic feature and would not be converted to upland. The placement of the earthen berms within the San Diego River would	Both alternatives would be consistent with these goals through implementation of a mitigation ratio of 1:1 for temporary impacts to vegetated and unvegetated wetlands and the biological mitigation measures described in Sections 2.3.11 and 2.3.12 in this EA.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
	also be considered temporary, as the river bottom would be restored to original grade after the completion of construction and would not be permanently converted from an aquatic feature to upland.	
Section 30231: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.	The proposed project has been designed, including temporary construction methodologies, to minimize impacts to biological resources and their functions and values (productivity). Implementation of construction BMPs identified in the Storm Water Pollution Prevention Plan (SWPPP) prepared for the proposed project would minimize erosion and project design has incorporated permanent treatment BMPs, including small footprint filtration devices, a rock-lined bioswale, and small areas of permeable pavement to treat runoff and discharge (see Section 2.3.5).	Both alternatives would be consistent with these goals through implementation of a mitigation ratio of 1:1 for temporary impacts to vegetated and unvegetated wetlands and the biological mitigation measures described in Sections 2.3.11 and 2.3.12 in this EA.
Section 30232: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	Implementation of construction BMPs identified in the SWPPP prepared for the proposed project would protect against hazardous spills during construction (see Section 2.3.5, Water Quality and Storm Water Runoff).	Both alternatives would be consistent with this act.
Section 30233: (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse	Biological mitigation for the proposed project would include meeting the City's goal of no net loss of wetland functions and values per the City of San Diego's Land Development Code. Impacts to wetlands during construction would be mitigated through mudflat restoration, in-kind/on-site enhancement, regrading to original baseline conditions/	Both alternatives would be consistent with this act through implementation of biological mitigation measures described in this EA and by meeting applicable regulatory permitting requirements.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
environmental effects, and shall be limited to the following: (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.	elevations using LIDAR, and natural self-recovery. Impacts to jurisdictional waters of the U.S. and state would potentially require permits by federal and state regulatory agencies, as discussed in Section 2.2.5 and 2.3.10. Development of a conceptual mitigation and landscape plan is required for the mitigation for both federal and state permit issuance.	
Article 5 – Land Resources		
Section 30240: (a) Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts [that] would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.	Construction of the proposed project would temporarily disrupt natural resources within the San Diego River; however, since construction is temporary in nature, no significant disruption of habitat values will occur.	The proposed project would be inconsistent with this article.
Article 6 – Development		
Section 30251: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in	Construction activities will alter the public's visual enjoyment of the area during the construction phase; however, construction is temporary in nature and would not impair the visual quality of the views into Mission Bay Park. The proposed project includes design features that would minimize visual impacts, including use of a structural deck with reduced thickness supported by individual columns that would	Both alternatives would be consistent with this act.

Table 2.2.1-1
Consistency with Coastal Zone Plans and Programs

Relevant Key Goals and Policies	Project Considerations	Consistency
visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.	reduce the structure massing and improve visual access, use of smaller and fewer pier columns, and implementation of a landscape concept plan.	

2.2.2 Traffic and Transportation/Pedestrian and Bicycle Facilities

A Traffic Study prepared for the proposed project in December 2011 serves as the basis for this analysis of traffic impacts; it is incorporated by reference (Rick Engineering 2011a).

Regulatory Setting

Caltrans, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and people with disabilities must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multi-modal transportation system. Accessibility for federally-assisted programs is governed by USDOT regulations (49 CFR part 27) implementing Section 504 of the Rehabilitation Act (29 USC 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including transportation enhancement activities.

Affected Environment

The traffic analysis evaluated the near-term and long-term traffic operations of the project area roadways and intersections based on implementation of the proposed project. The scope of the study area was developed in coordination with Caltrans and the City, and generally includes the intersections and roadways along West Mission Bay Drive between Perez Cove Way/Ingraham Street to Sports Arena Boulevard/Midway Drive.

West Mission Bay Drive in the vicinity of the project site is classified by the City as a six-lane prime arterial, but the bridge segment is built as a four-lane facility due to the width restrictions

of the bridge structure. On-street parking is prohibited in the project-related segment of the road, and the posted speed limit is 45 miles per hour. Traffic signals are currently located at Perez Cove Way, the I-8 westbound off-ramp, and Sports Arena Boulevard. Existing bus transit Routes 8 and 9 currently traverse the bridge to access transfer points (Crown Point, Pacific Beach, Mission Beach, and Sports Arena).

The effects of the proposed project on the following intersections and roadway segments within the traffic study area are discussed in this section:

Unsignalized

- West Mission Bay Drive & Ollie Street
- West Mission Bay Drive & Channel Way

Signalized

- Ingraham Street & Dana Landing Road-Perez Cove Way
- West Mission Bay Drive & I-8 westbound off-ramp
- West Mission Bay Drive-Midway Drive & W. Point Loma Boulevard-Sports Arena Boulevard

Roadway Segments

- West Mission Bay Drive: Perez Cove Way to Sea World Drive
- West Mission Bay Drive Bridge: I-8 westbound off-ramp to Sea World Drive
- West Mission Bay Drive: I-8 westbound off-ramp to Ollie Street
- West Mission Bay Drive: I-8 eastbound on-ramp to Sports Arena Boulevard

Intersection and roadway segment analysis is based on manual counts obtained during March 2009 and July 2009 to represent non-summer and summer periods, respectively. Manual turning movement counts at the intersections were conducted during the AM peak hour (7:00–9:00 a.m.) and PM peak hour (4:00–6:00 p.m.) periods to represent intersection operation at times when traffic is heaviest. Roadway segment volumes were obtained for a 48-hour period. It also should be noted that traffic data was collected for both a typical weekday and weekend day. The existing operations of the studied intersections and segments are discussed below.

In addition to the intersection and segment analysis, the traffic analysis considered the Intersection Lane Vehicle (ILV) value at signalized Department facilities within the traffic study area. The ILV analysis assumes the capacity of intersecting lanes of traffic is 1,500 vehicles per hour. ILV typically provides operational results at a planning level, as it does not entail detailed inputs (e.g., lane widths, cycle lengths). Queue lengths at the West Mission Bay Drive & I-8 westbound off-ramp intersection were also estimated for each of the options studied.

Unsignalized Study Intersection Operations – Non-Summer

Critical movements at the unsignalized study intersections currently operate at LOS C or better, as shown in Table 2.2.2-1.

Signalized Study Intersection Operations – Non-Summer

As shown in Table 2.2.2-1, the traffic analysis concluded that all traffic study area signalized intersections currently operate at LOS D or better during both the AM and PM peak hours, with the following exception:

- West Mission Bay Drive-Midway Drive & West Point Loma Boulevard-Sports Arena Boulevard: LOS E during the PM weekday peak hour and the AM weekend peak hour

Table 2.2.2-1
Existing Non-Summer Intersection Operations

Intersection	Non-Summer Weekday		Non-Summer Weekend	
	Control Delay	LOS	Control Delay	LOS
Ingraham Street & Dana Landing Road-Perez Cove Way (S)				
AM	15.9	B	30.0	C
PM	48.7	D	29.6	C
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	19.9	B	35.7	D
	29.7	C	37.4	D
PM	47.0	D	27.4	C
	48.0	D	54.6	D
W. Mission Bay Drive & Ollie Street (U)				
AM				
NB L	9.9	A	13.3	B
EB R	10.3	B	12.2	B
PM				
NB L	15.9	C	12.5	B
EB R	13.5	B	11.7	B
W. Mission Bay Drive & Channel Way (U)				
AM				
WB R	8.9	A	9.3	A
PM				
WB R	9.5	A	9.4	A
W. Mission Bay Drive-Midway Drive & W. Point Loma Boulevard-Sports Arena Boulevard (S)				
AM	52.5	D	75.6	**E**
PM	59.3	**E**	49.3	D

Notes:
Delays and Level of Service calculated utilizing the methodologies described in Chapters 16 & 17 of the 2000 Highway Capacity Manual (HCM).
DELAY is measured in seconds
LOS = Level of Service
NB = northbound, SB=southbound, etc.
T = thru movement, L = left-turn movement, etc.
(S) = Signalized intersection
(U) = Unsignalized intersection

Table 2.2.2-2 shows the ILV status of the West Mission Bay Drive & I-8 westbound off-ramp under existing conditions. This intersection is currently over capacity during the non-summer weekend PM peak and is near capacity during the other non-summer peak periods.

Table 2.2.2-2
Existing Non-Summer ILV Intersection Operations

Intersection	Non-Summer Weekday		Non-Summer Weekend	
	ILV	Status	ILV	Status
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	1292	Near	1274	Near
PM	1410	Near	1695	Over

Notes:
ILV = Intersecting Lane Vehicles
ILV Status:
Under Capacity = <1200 ILV/hour
Near Capacity = >1200 but <1500 ILV/hour
Over Capacity = >1500 ILV/hour
(S) = Signalized Intersection

Table 2.2.2-3 provides a comparison of the available storage length at the West Mission Bay Drive & I-8 westbound off-ramp versus the actual queue length at the intersection during non-summer weekday and weekend travel. While sufficient storage is available for the non-summer weekday queue lengths at this intersection, storage length is insufficient for the westbound left and right movements in the non-summer weekend AM peak hours and during the non-summer weekend PM peak hours for the westbound left movement.

Table 2.2.2-3
Existing Non-Summer Queue Lengths

Intersection	Existing Available Storage Length				Non-Summer Weekday Queue Length (ft)				Non-Summer Weekend Queue Length (ft)			
	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right
W. Mission Bay Dr & I-8 WB off-ramp (S)												
AM	665	1425	505	505	126	140	440	246	232	198	**887**	**831**
PM	665	1425	505	505	244	158	185	351	179	187	**591**	204

Notes:
95th percentile Queue Lengths reported from Synchro.

Roadway Segment Operations – Non-Summer

The traffic analysis, as shown in Table 2.2.2-4, concluded that all traffic study area street segments currently operate at LOS D or better on a daily basis, with the exception of the West Mission Bay Drive Bridge segment, which operates at LOS F during both the non-summer weekday and weekend time periods.

Table 2.2.2-4
Existing Non-Summer Roadway Segment Operations

Roadway Segment	Classifi-cation	LOS E Capacity	Non-Summer Weekday			Non-Summer Weekend		
			Volume	V/C	LOS	Volume	V/C	LOS
West Mission Bay Drive								
Perez Cove Way to Sea World Drive	6P*	65,000*	45,883	0.71	C	40,435	0.62	C
I-8 WB off-ramp to Sea World Drive (Bridge Segment)	4M	40,000	53,065	1.33	**F**	48,294	1.21	**F**
I-8 WB off-ramp to Ollie Street	4M	40,000	25,731	0.64	C	23,927	0.60	C
I-8 EB on-ramp to Sports Arena Boulevard	4M	40,000	33,907	0.85	D	31,379	0.78	D

Notes:
ADT's are 2-day averages of traffic counts collected on Wednesday, March 18, 2009 and Thursday, March 19, 2009 (weekdays) and Saturday, March 21, 2009 and Sunday, March 22, 2009 (weekend days).
*Currently a seven-lane cross-section.

Unsignalized Study Intersection Operations – Summer

The critical movements at the unsignalized study intersections currently operate at LOS C or better during the summer weekday and weekend peak hours, as shown in Table 2.2.2-5.

Signalized Study Intersection Operations – Summer

As shown in Table 2.2.2-5, many intersections currently operate at LOS D or worse during the summer season. During the summer weekdays, the following intersections operate at LOS E or F during the PM peak hours:

- Ingraham Street & Dana Landing Road-Perez Cove Way
- West Mission Bay Drive & I-8 westbound off-ramp
- West Mission Bay Drive-Midway Drive & West Point Loma Boulevard-Sports Arena Boulevard

During the summer weekends conditions worsen during the AM peak hours and the following intersections operate at LOS E or F:

- Ingraham Street & Dana Landing Road-Perez Cove Way (AM and PM peak)
- West Mission Bay Drive & I-8 westbound off-ramp (AM and PM peak)
- West Mission Bay Drive-Midway Drive & West Point Loma Boulevard-Sports Arena Boulevard (AM peak)

Table 2.2.2-5
Existing Summer Intersection Operations

Intersection	Summer Weekday		Summer Weekend	
	Control Delay	LOS	Control Delay	LOS
Ingraham Street & Dana Landing Road-Perez Cove Way (S)				
AM	13.5	B	190.4	**F**
PM	148.0	**F**	167.5	**F**
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	30.5	C	89.3	**F**
PM	73.9	**E**	76.4	**E**
W. Mission Bay Drive & Ollie Street (U)				
AM				
NB L	9.9	A	15.5	C
EB R	10.3	B	12.8	B
PM				
NB L	14.9	B	12.7	B
EB R	12.9	B	11.9	B
W. Mission Bay Drive & Channel Way (U)				
AM				
WB R	8.9	A	9.2	A
PM				
WB R	9.4	A	11.5	B
W. Mission Bay Drive-Midway Drive & W. Point Loma Boulevard-Sports Arena Boulevard (S)				
AM	52.5	D	71.0	**E**
PM	111.0	**F**	53.9	D

Notes:
Delays and Level of Service calculated utilizing the methodologies described in Chapters 16 & 17 of the 2000 Highway Capacity Manual (HCM).
DELAY is measured in seconds
LOS = Level of Service
NB = northbound, SB=southbound, etc.
T = thru movement, L = left-turn movement, etc.
(S) = Signalized intersection
(U) = Unsignalized intersection

Table 2.2.2-6 shows the existing ILV status of West Mission Bay Drive & I-8 westbound off-ramp during the summer. The ILV status of the West Mission Bay Drive & I-8 westbound off-ramp was calculated to be under or near capacity during the summer AM weekday and weekend peak hours and over capacity in the summer PM weekday and weekend peak hours.

Table 2.2.2-6
Existing Summer ILV Intersection Operations

Intersection	Summer Weekday		Summer Weekend	
	ILV	Status	ILV	Status
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	1138	Under	1405	Near
PM	1585	Over	1573	Over

Notes:
ILV = Intersecting Lane Vehicles
ILV Status:
Under Capacity = <1200 ILV/hour
Near Capacity = >1200 but <1500 ILV/hour
Over Capacity = >1500 ILV/hour
(S) = Signalized Intersection

As shown in Table 2.2.2-7, the queue lengths at the West Mission Bay Drive & I-8 westbound off-ramp intersection do not currently exceed available storage lengths during any of the summer weekday or weekend peak hours.

Table 2.2.2-7
Existing Summer Queue Lengths

Intersection	Existing Available Storage Length				Summer Weekday Queue Length (ft)				Summer Weekend Queue Length (ft)			
	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right
W. Mission Bay Dr & I-8 WB off-ramp (S)												
AM	665	1425	505	505	193	120	243	457	174	248	1425	1402
PM	665	1425	505	505	96	178	348	483	200	221	369	365

Notes:
95th percentile Queue Lengths reported from Synchro.

Roadway Segment Operations – Summer

All study street segments currently operate at LOS D or better on a daily basis, with the following exceptions, as shown in Table 2.2.2-8:

- Perez Cove Way to Sea World Drive: LOS E during the summer weekday and weekend peak hours
- I-8 westbound off-ramp to Sea World Drive (Bridge Segment): LOS F during the summer weekday and weekend peak hours
- I-8 eastbound on-ramp to Sports Arena Boulevard: LOS E during summer weekday peak hours

Table 2.2.2-8
Existing Summer Roadway Segment Operations

Roadway Segment	Classification	LOS E Capacity	Summer Weekday			Summer Weekend		
			Volume	V/C	LOS	Volume	V/C	LOS
West Mission Bay Drive								
Perez Cove Way to Sea World Drive	6P*	65,000*	60,373	0.93	**E**	65,373	1.01	**E**
I-8 WB off-ramp to Sea World Drive (Bridge Segment)	4M	40,000	60,627	1.52	**F**	64,156	1.60	**F**
I-8 WB off-ramp to Ollie Street	4M	40,000	27,071	0.68	C	23,103	0.58	C
I-8 EB on-ramp to Sports Arena Boulevard	4M	40,000	35,146	0.88	**E**	34,077	0.85	D

Notes:
ADT's are 2-day averages of traffic counts collected on Wednesday, July 15, 2009 and Thursday, July 16, 2009 (weekdays) and Saturday, July 18, 2009 and Sunday, July 19, 2009 (weekend days).
*Currently a seven-lane cross-section.

Existing Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities on the bridge currently consist of a shared narrow pathway in either direction of the bridge that is separated from automobile traffic lanes by a railing. Bicyclists are currently prohibited from riding on the pathway on the north side of the bridge because it is too narrow to enable safe passage, and signs are posted requesting that bicyclists dismount.

Environmental Consequences

For the traffic analysis, a project opening (operational) year of 2015 was assumed. In addition, an evaluation of the future condition (20 years after opening year) in 2035 was also conducted. For a conservative analysis, summer weekday traffic volumes were used. These traffic volumes are higher than typical non-summer conditions throughout the year, but lower than less frequent peak situations, such as summer holiday traffic, including on July 4 and Labor Day.

2015 Traffic Operations

Unsignalized Intersections

As shown in Table 2.2.2-9, all unsignalized intersections are predicted to operate at LOS C or better in 2015 under the build alternatives as well as the No Build Alternative.

Table 2.2.2-9
2015 Intersection Operations

Intersection	2015 No Build		2015 Build (Option 2a)		
	Control Delay	LOS	Control Delay	LOS	Delay Change
Ingraham Street & Dana Landing Road-Perez Cove Way (S)					
AM	74.3	**E**	74.3	**E**	0.0
PM	305.6	**F**	305.6	**F**	0.0
W. Mission Bay Drive & I-8 WB off-ramp (S)					
AM	35.1	D	21.6	C	-13.5
PM	157.3	**F**	38.1	D	-119.2
W. Mission Bay Drive & Ollie Street (U)					
AM					
NB L	10.8	B	10.8	B	0.0
EB R	10.9	B	10.9	B	0.0
PM					
NB L	18.9	C	18.9	C	0.0
EB R	14.3	B	14.3	B	0.0
W. Mission Bay Drive & Channel Way (U)					
AM					
WB R	9.2	A	9.2	A	0.0
PM					
WB R	9.7	A	9.7	A	0.0
W. Mission Bay Drive-Midway Drive & W. Point Loma Boulevard-Sports Arena Boulevard (S)					
AM	57.7	**E**	57.7	**E**	0.0
PM	166.6	**F**	166.6	**F**	0.0

Notes:
Delays and Level of Service calculated utilizing the methodologies described in Chapters 16 & 17 of the 2000 Highway Capacity Manual (HCM).
DELAY is measured in seconds
LOS = Level of Service
NB = northbound, SB=southbound, etc.
T = thru movement, L = left-turn movement, etc.
(S) = Signalized intersection
(U) = Unsignalized intersection

Signalized Intersections

As shown in Table 2.2.2-9, all signalized intersections are anticipated to have the same LOS in 2015 under both the build alternatives and the No Build Alternatives, with the exception of the West Mission Bay Drive & I-8 westbound off-ramp, which shows improving LOS with the proposed project. With the build alternatives, LOS at this location improves from D to C in the AM peak and from F to D in the PM peak. With the proposed project, a nearly 2-minute decrease in delay would occur at this intersection during the PM peak.

Table 2.2.2-10 also shows operational improvements with the build alternatives when compared to the No Build Alternative in 2015. With the proposed project, the West Mission Bay Drive & I-8

westbound off-ramp intersection would improve from near capacity to under capacity in the AM peak hours and from over capacity to near capacity in the PM peak hours.

Table 2.2.2-10
2015 ILV Intersection Operations

Intersection	2015 No Build		2015 Build (Option 2a)	
	ILV	Status	ILV	Status
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	1360	Near	984	Under
PM	1915	Over	1370	Near

Notes:
ILV = Intersecting Lane Vehicles
ILV Status:
Under Capacity = <1200 ILV/hour
Near Capacity = >1200 but <1500 ILV/hour
Over Capacity = >1500 ILV/hour
(S) = Signalized Intersection

Similar improvements with the proposed project in 2015 when compared to the No Build Alternative are predicted with respect to queue lengths. Table 2.2.2-11 shows that the queue lengths at the West Mission Bay Drive & I-8 westbound off-ramp intersection would be at least double, and in the case of the westbound right movement triple, the available storage length. With the build alternatives, only a slight exceedance of the storage length capacity would occur for the westbound right movement.

Table 2.2.2-11
2015 Queue Lengths

Intersection	Existing Available Storage Length				2015 No Build Queue Length (ft)				2015 Build (Option 2a) Queue Length (ft)			
	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right
W. Mission Bay Dr & I-8 WB off-ramp (S)												
AM	665	1425	505	505	218	297	**1233**	**1377**	98	114	409	178
PM	665	1425	505	505	266	1023	**1196**	**1511**	182	334	497	**542**

Notes:
95th percentile Queue Lengths reported from Synchro.

Roadway Segment Operations

Table 2.2.2-12 shows the predicted roadway segment operations in 2015. Under both the No Build Alternatives and the build alternatives, West Mission Bay Drive from Perez Cove Way to Sea World Drive and West Mission Bay Drive from I-8 westbound off-ramp to Sea World Drive operate at LOS F. However, with the build alternatives, the volume to capacity (v/c) ratio would improve from 1.76 to 1.08.

Table 2.2.2-12
2015 Roadway Segment Operations

Roadway Segment	Classification	LOS E Capacity	2015 No Build Volumes			2015 Build Volumes		
			Volume	V/C	LOS	Volume	V/C	LOS
West Mission Bay Drive								
Perez Cove Way to Sea World Drive	6P	65,000	66,700	1.03	**F**	66,700	1.03	**F**
I-8 WB off-ramp to Sea World Drive (Bridge Segment)	6P*	65,000	70,300	1.76	**F**	70,300	1.08	**F**
I-8 WB off-ramp to Ollie Street	6P	60,000	31,800	0.80	D	31,800	0.53	B
I-8 EB on-ramp to Sports Arena Boulevard	6P	60,000	44,800	0.75	C	44,800	0.75	C

Notes:
*Assumes four SB approach lanes on bridge at I-8 WB off-ramp.

2035 Traffic Operations

Unsignalized Intersections

Table 2.2.2-13 shows the predicted intersection operations in 2035. For both the No Build Alternative and the build alternatives, the unsignalized intersections would all operate at LOS D or better in 2035.

As shown in Table 2.2.2-13, all signalized intersections are anticipated to have the same LOS in 2035 under both the build alternatives and the No Build Alternatives, with the exception of the West Mission Bay Drive & I-8 westbound off-ramp, which shows improving LOS with the proposed project. With the build alternatives, LOS at this location improves from E to C in the AM peak and from F to D in the PM peak. With the proposed project, an over 3-minute decrease would occur in delay at this intersection during the PM peak.

Table 2.2.2-13
2035 Intersection Operations

Intersection	2035		2035 Build (Option 2a)		
	Control Delay	LOS	Control Delay	LOS	Delay Change
Ingraham Street & Dana Landing Road-Perez Cove Way (S)					
AM	79.4	**E**	79.4	**E**	0.0
PM	433.0	**F**	433.0	**F**	0.0
W. Mission Bay Drive & I-8 WB off-ramp (S)					
AM	69.7	**E**	30.0	C	-39.7
PM	239.0	**F**	54.7	D	-184.3
W. Mission Bay Drive & Ollie Street (U)					
AM					
NB L	12.0	B	12.0	B	0.0
EB R	11.7	B	11.7	B	0.0
PM					
NB L	25.4	D	25.4	D	0.0
EB R	16.3	C	16.3	C	0.0
W. Mission Bay Drive & Channel Way (U)					
AM					
WB R	9.1	A	9.1	A	0.0
PM					
WB R	9.7	A	9.7	A	0.0
W. Mission Bay Drive-Midway Drive & W. Point Loma Boulevard-Sports Arena Boulevard (S)					
AM	73.9	**E**	73.9	**E**	0.0
PM	232.0	**F**	232.0	**F**	0.0

Notes:
Delays and Level of Service calculated utilizing the methodologies described in Chapters 16 & 17 of the 2000 Highway Capacity Manual (HCM).
DELAY is measured in seconds
LOS = Level of Service
NB = northbound, SB=southbound, etc.
T = thru movement, L = left-turn movement, etc.
(S) = Signalized intersection
(U) = Unsignalized intersection

Improvements at the West Mission Bay Drive & I-8 westbound off-ramp intersection are also reflected in Table 2.2.2-14. With the proposed project, the ILV status of this intersection in 2035 would improve from over capacity (with the No Build Alternative) in both the AM and PM peak hours to under capacity in the AM peak hours and near capacity in the PM peak hours.

Table 2.2.2-14
2035 ILV Intersection Operations

Intersection	2035 No Build		2035 Build (Option 2a)	
	ILV	Status	ILV	Status
W. Mission Bay Drive & I-8 WB off-ramp (S)				
AM	1570	Over	1138	Under
PM	2210	Over	1504	Near

Notes:
ILV = Intersecting Lane Vehicles
ILV Status:
Under Capacity = <1200 ILV/hour
Near Capacity = >1200 but <1500 ILV/hour
Over Capacity = >1500 ILV/hour
(S) = Signalized Intersection

As shown in Table 2.2.2-15, by 2035 the queue lengths at all westbound movements at the West Mission Bay Drive & I-8 westbound off-ramp would exceed the available storage length. However, the magnitude of the exceedances is substantially higher under the No Build Alternative than the build alternatives. Like the traffic predictions for 2015, the No Build Alternative queue lengths are 200–300 percent greater than the available storage lengths. The build alternatives exceedances are 50–100 percent greater than the available storage lengths.

Table 2.2.2-15
2035 Queue Lengths

Intersection	Existing Available Storage Length				2035 No Build Queue Length (ft)				2035 Build (Option 2a) Queue Length (ft)			
	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right	NB Through	SB Through	WB Left	WB Right
W. Mission Bay Dr & I-8 WB off-ramp (S)												
AM	665	1425	505	505	210	930	**1472**	**1472**	119	333	**884**	**670**
PM	665	1425	505	505	296	1022	**1514**	**1549**	330	613	**1069**	**854**

Notes:
95th percentile Queue Lengths reported from Synchro.

Roadway Segment Operations

Table 2.2.2-16 shows the predicted roadway segment operations in the project area in 2035. Under both the No Build Alternatives and the build alternatives, West Mission Bay Drive from Perez Cove Way to Sea World Drive and West Mission Bay Drive from I-8 westbound off-ramp to Sea World Drive operate at LOS F. However, with the build alternatives, the v/c ratio would improve from 2.08 to 1.28.

Table 2.2.2-16
2035 Roadway Segment Operations

Roadway Segment	Classifi-cation	LOS E Capacity	2035 No Build Volumes			2035 Build Volumes		
			Volume	V/C	LOS	Volume	V/C	LOS
West Mission Bay Drive								
Perez Cove Way to Sea World Drive	6P	65,000	77,800	1.20	**F**	77,800	1.20	**F**
I-8 WB off-ramp to Sea World Drive (Bridge Segment)	6P*	65,000	83,000	2.08	**F**	83,000	1.28	**F**
I-8 WB off-ramp to Ollie Street	6P	60,000	37,100	0.93	**E**	37,100	0.62	C
I-8 EB on-ramp to Sports Arena Boulevard	6P	60,000	54,800	0.91	C	54,800	0.91	D

Notes:
*Assumes four SB approach lanes on bridge at I-8 WB off-ramp.

Bicycle and Pedestrian Facilities

A new Class I barrier-separated bike path would be constructed on the bridge in both northbound and southbound directions. These new features would provide increased mobility and connectivity for pedestrians and bicyclists, as well as improved safety. Implementation of the proposed project would improve functions at bicycle and pedestrian facilities over existing conditions.

Avoidance, Minimization, and/or Mitigation Measures

None needed. The proposed project would have a beneficial effect on traffic, including bicycle and pedestrian facilities.

2.2.3 Visual/Aesthetics

A 2012 Visual Impact Assessment was prepared for the proposed project in accordance with FHWA's 1981 *Visual Impact Assessment for Highway Projects*. The Visual Impact Assessment serves as the basis for this analysis of visual impacts; it is incorporated by reference.

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings ([42 USC 4331[b][2]). To further emphasize this point, Caltrans, as assigned by FHWA, in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Affected Environment

The visual character of the project area is an urban transportation corridor spanning and bordering natural open space. The project site is located in a unique setting with distinct topographical and natural character. Features include a distinct river channel and tidally influenced habitat within the San Diego River flood control channel amidst a complex network of transportation bridges and roadways. The project area is generally located at the intersection of I-8 and West Mission Bay Drive within the City of San Diego. The West Mission Bay Drive corridor is a transportation conduit for many commuters, travelers, bicyclists, and pedestrians that provides a connection over the San Diego River to I-5. The bridge is one of two crossings between the I-8 corridor, the Midway and Peninsula communities, and the Mission Bay Park recreational area. The West Mission Bay Drive Bridge is traveled daily by tens of thousands of commuters.

Landmarks

Sea World is a distinct landmark that is located north of the project area. The attraction is a year-round destination point for visitors from around the world. It is located between Mission Bay Park and the San Diego River. Additionally, the San Diego River is a regional landmark.

Scenic Resources

In addition to being a regional landmark, the San Diego River, located between the I-8 corridor and Mission Bay Park, is a scenic resource that consists of sensitive habitats to many species of birds.

Landscape Unit

The landscape unit is the portion of the San Diego River/I-8 freeway corridor that encompasses the project footprint and is consistent from beginning to end through the corridor. The project area is generally characterized as a developed urban environment with elements of open space that is bisected by a major transportation corridor consisting of built roadways, bridges, and manufactured slopes. Aesthetic elements include the open water of the San Diego River and native and ornamental landscaping that fronts the river bank to the north and south.

Project Viewshed

The viewshed is defined by the region's topography and built environment, consisting primarily of urban development built on steep coastal slopes and rolling hills. Viewers experience a variety of close to distant unobstructed views from the West Mission Bay Drive Bridge. The southern boundaries of the viewshed are composed of residences that define the skyline in the middle distance, where the viewer can identify specific forms of the built environment, as shown in Figure 2.2.3-1. Closer edges of the urban environment terminate at the I-8 corridor in the foreground views from the bridge.

As shown in Figure 2.2.3-2, the northern edge of the viewshed is mostly defined by the northern banks of the San Diego River and tree massings in the far foreground. From certain vantage points, towers associated with Sea World and tops of a other buildings in the middle distance are evident. Coastal hills silhouette the scene in the distant background to the north and northeast.

Figure 2.2.3-1. Southern Boundary of Viewshed

Figure 2.2.3-2. Northern Edge of Viewshed

As shown in Figure 2.2.3-3, the views to the west are composed of the tidal mudflats in the foreground and terminate at the Sunset Cliffs Boulevard Bridge. The middleground to background is composed of tree massings along the northwest periphery and a mix of landscape and urban environment to the southwest.

As shown in Figure 2.2.3-4, to the east, the foreground and middleground views are composed of the tidal mudflat waterways, framed by the banks of the river and background elements in the distance. The viewshed is defined by freeway bridge structures at the I-8/I-5 freeway interchange, coastal hills/mesas, and urban development in the far background. Some distant views to the east and north terminate with silhouetted urban development that defines the skyline in the distance.

Figure 2.2.3-3. Western Boundary of Viewshed

Figure 2.2.3-4. Eastern Boundary of Viewshed

At the north end of the project footprint, as shown in Figure 2.2.3-5, views are limited to the foreground, which includes views of the interchange at Sea World Drive and mass plantings of palms, pine trees, and shrubbery along the periphery. At the south end, as shown in Figure 2.2.3-6, foreground views are of the interchange and transition to the urban environment of Sports Arena Boulevard.

Figure 2.2.3-5. North End of the Project

Figure 2.2.3-6. South End of the Project

Existing Visual Quality

The following describes the visual quality of the viewshed as a whole, with variables rated on a scale from 1 (low) to 5 (high).

Vividness – The project setting expresses a moderately high degree of vividness as a result of the varied close-to-distant views within the project viewshed. There are vivid views of water, estuarine habitats, landscape elements, distant mesa tops, and an expansive skyline that

creates a distinct contrast to the built environment. Some views from the freeway along residential or commercial properties have minimal views of the project area, and have a less vivid quality of views. Expansive views toward the north and east are clearly visible from the bridge. The overall vividness rating is moderately high at 4.0.

Intactness – The visual integrity of the project area is considered to be moderate due to the evident encroachment of the built environment up to the edge of the natural landscape. There is a distinct division of the natural landscape and the built environment. The natural landscape provides distant views in several directions and a sense of open space, yet it is distracted by built transportation elements. Most views are open and undistracted, yet tall utility towers and power lines are present in the foreground and middleground toward the south and west. Views are distracted by the urban built environment to the south and southeast. The overall intactness rating is considered to be moderate at 3.0.

Unity – The compositional harmony of the landscape and built elements is considered moderate, as the linear patterns of the river valley and bridge structure create a distinct harmonious pattern. The large scale of the river valley provides a balance to the linear scale of the bridge feature. The patterns in the view are disrupted by some built structures in middle and foreground views within the project area. The distracting elements are the bridge structure and the utility tower and power lines along the freeway corridor west of the bridge. The overall unity rating is considered to be moderate at 3.0.

Existing Viewer Groups

Drivers and passengers in vehicles traveling on I-8 are the largest group of viewers. Those traveling on I-8 in the westbound direction are able to clearly view the project area immediately after passing the I-5 interchange, approximately 1.25 miles away. From this distance, the travelers would only take fleeting glimpses of the view, as they are typically traveling at high rates of speed and would only be generally aware of the elements in the view. Sensitivity rating is considered to be moderate: 3 on a scale of 1 to 5.

The second largest group of viewers includes drivers and passengers in vehicles traveling on local roadways, including the existing bridge and Sea World Drive, or travelers in the queue on the westbound off-ramp. These viewers are likely to be aware of the specific environment through which they are traveling, with a greater attention to the elements in their foreground views. Travelers are less likely to be focused on elements in the middleground and background views. The sensitivity rating of this group is considered to be moderate: 3 on a scale of 1 to 5.

Viewers from nearby neighborhoods and commercial areas generally observe the scene in longer durations and with more intensity and concentration than those traveling in vehicles. Most views are panoramic middleground views from higher topographic locations overlooking the project area and the general region looking toward the northwest. These viewers are most likely to have a keen awareness of the project site. A few residences located immediately south and adjacent to the freeway do not have a view of the project site due to the higher topography of the I-8 roadway, which blocks the view. This group is considered to have high sensitivity: 4 on a scale of 1 to 5.

Pedestrians or bicyclists, although fewer in numbers, traveling the bike paths along either side of the San Diego River or the West Mission Bay Drive Bridge will have the most sensitivity to the visual effects of the project. These viewers traveling at slow speeds will gain a detailed experience of their surroundings, thus providing them with a more acute perception of visual

character and change. Few pedestrians traverse the project area. The sensitivity rating of this group is moderately high: 4 on a scale of 1 to 5.

Key Views

Because it is not feasible to analyze all views in which the proposed project would be seen, it is necessary to select a number of key viewpoints that would clearly display the visual effects of the proposed project. Simulations were completed at two key views to illustrate critical visual changes that would affect the largest number of viewers, as shown in Figure 2.2.3-7. Key View 1 depicts the view looking east toward the proposed project from Sunset Cliffs Bridge, as shown in Figure 2.2.3-8. Key View 2 depicts the view looking southeast toward the proposed project from Old Sea World Drive, as shown in Figure 2.2.3-9.

Environmental Consequences

The following descriptions are used to analyze visual impact levels for the proposed project:

Low – Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.

Moderately Low – Low adverse change to the visual resource with a moderate viewer response, or moderate negative change to the resource with a low viewer response. Impact can be mitigated using conventional practices.

Moderate – Moderate adverse change to the visual resource with moderate viewer response. Impact can be mitigated within 5 years using conventional practices.

Moderately High – Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required would generally take longer than 5 years to mitigate.

High – A high level of adverse change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts

Project Design Features

The project proposes replacing the existing bridge structure with either one or two structures and realigning/widening the westbound off-ramp lanes. Bridge and roadway features would be widened, bridge abutments would be replaced with similar structures, low retaining walls would be added within the levee areas, and off-ramps would be realigned and widened from two to four lanes within Caltrans right-of-way. The bulky bridge pier footings would be replaced with simplified footings improving visual access along the open space corridor. New bridge structures would incorporate architectural detailing to simplify and improve the aesthetics of a slimmer bridge deck, bridge abutments, and tie-back wall features. Grading would be minimal, providing a transition from new improvements to existing grades. Bikeways would be realigned and transitioned beneath the bridges as presently occurs. Additional architectural detailing features would be included in the following project elements:

Source: Bing Maps Aerial (2010)

0 0.25 0.5 Miles

Scale: 1 = 16,000

Figure 2.2.3-7
Key View Locations

Existing

Proposed

Figure 2.2.3-8
Key View 1: View Looking East from Sunset Cliffs Blvd

Existing

Proposed

Figure 2.2.3-9
Key View 2: View Looking Southeast from Old Sea World Drive

- Bridge structure detailing
- Hand railings
- Retaining walls
- Vertical concrete safety barriers
- Grading plan
- Bridge types, columns, and other features
- Lighting, signage, and miscellaneous freeway features
- Storm water facilities

Visual simulations were created by applying conceptual designs of the proposed project to Key View 1 and Key View 2 to show anticipated conditions following completion of construction. The visual simulations are for conceptual analysis of the appearance of the existing and proposed bridge structure and are not intended to provide a precise, scaled depiction of the proposed project. They do not depict tree removal that would occur on the north and south end of the bridge and revegetation in the as part of the project.

Analysis of Key View #1

Figure 2.2.3-8 shows the existing conditions at this location as well as a simulation of the conditions with the proposed project.

Change to Visual Quality/Character

Implementation of the proposed project would alter the bridge structure and built forms in the view. The simplified bridge piers and fewer pier columns would create a lighter bridge support and improve visual access below the bridge. The wider bridge structure and increased paving would increase the contrast between built and landscape elements in the view; however, the bridge aesthetics would be improved to appear lighter and simplified in form. Vividness would decrease slightly due to the increase in size and surface area of built forms, but the overall improvement of the bridge's aesthetic quality would reduce the effect of this change on viewers. There would be no change to intactness or unity because the existing bridge would be replaced by a new bridge. The overall change to the visual quality of the view would be moderate and is likely to be perceived as a positive change due to the improvement of the bridge's improved appearance.

Viewer Response

Many thousands of viewers would experience this view of the proposed project each day for a limited timeframe (several seconds only) when traveling the freeway at high to moderate rates of speed. Viewer exposure would be considered low moderate as a majority of viewers would view the project in foreground and middleground views for very short timeframes. Viewer sensitivity would be low moderate, as drivers and passengers would be more focused on the roadway than the view.

Viewers from nearby neighborhoods and commercial areas would generally observe the bridge in longer durations than those traveling in vehicles. Viewer exposure and sensitivity would be moderate since there would be a change in the overall aesthetic of the bridge; however, the view currently includes an existing bridge so no adverse change in visual resource would occur. In addition, the inclusion of a landscape plan as a project feature, as discussed in the

avoidance, minimization, and/or mitigation subsection below, would result in an overall long-term positive change in the view. The overall viewer response would be considered moderate.

Analysis of Key View #2

Figure 2.2.3-9 shows the existing conditions at this location as well as a simulation of the conditions with the proposed project.

Change to Visual Quality/Character

The increase of built forms would increase the contrast between urban and open space landscape pattern elements; however, the built elements would not create a negative imbalance between elements in the view. The simplified bridge piers and fewer pier columns would create a lighter bridge support and improve visual access to natural open space features beyond the bridge. The bridge aesthetics would be improved to appear lighter and simplified in form. The bridge detailing and fewer piers would provide a further enhanced and simplified built form. Vividness would remain at a moderately high level and intactness would improve to a moderately high level. Unity would be reduced to moderately low. The overall change to the existing visual character would be moderately low. The overall change to existing visual quality would be low.

Viewer Response

A low number of viewers on Old Sea World Drive would experience this view of the project site for several minutes at a time and with focused attention to the view. The majority of motorists on the adjacent Sea World Drive would be generally aware of the scene but traveling at moderate rates of speed and focused on the roadway. Viewer sensitivity would be moderately high as viewers would be focused on foreground views of the landscape and water elements. Viewer exposure would be moderate as the viewers would experience the view for up to a couple of minutes at a time.

Pedestrians and bicyclists traveling the pedestrian/bike paths along either side of the San Diego River or Old Sea World Drive would be more sensitive to the visual effects of the projects. The reduced pier columns and simplified bridge would allow for more visual access below the bridge and along the pedestrian/bike paths. Overall viewer response would be moderate.

No Build Alternative

Under the No Build Alternative, the existing bridge would not be replaced and would continue to operate in its existing condition. No adverse impacts related to visual/aesthetics would occur.

Avoidance, Minimization, and/or Mitigation Measures

The low to moderate visual changes and viewer response would result in no adverse visual/aesthetics impacts from implementation of the proposed project; therefore, no mitigation is required. However, the landscape concept and design features described below would be incorporated to enhance the overall visual/aesthetic setting on both the north and south sides of the bridge, and the bridge design features would improve the visual quality of the new bridge structure.

The project would include specific architectural detailing with the bridge improvements such as smaller and fewer pier footings that reduces the mass bulk size of the bridge structure(s) and allows for improved visual access. Bridge abutment walls would be similar to existing walls and consistent with local transportation features. Retaining walls installed within rip-rap areas would be of minimal height to minimize changes along the river levee. The off-ramp widening would be consistent with the character of I-8 roadway improvements. The project would include the use of natural contour grading to transition new improvements to existing topography. Replacement landscaping would be native coastal sage scrub plantings for an improved sustainable solution that would reduce water usage and maintenance and would provide a visual transition complementary to the natural appearance of the San Diego River corridor. These improvements are inclusive to the project and are consistent with the requirements of the City of San Diego.

2.2.4 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM_{10} and particles of 2.5 micrometers and smaller – $PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics with their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this type of environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

FCAA Section 176(c) prohibits USDOT and other federal agencies from funding, authorizing, or approving plans, programs, or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. "Transportation conformity" takes place on two levels: the regional, or planning and programming, level. The proposed project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. USEPA regulations at 40 CFR 93 govern the conformity process.

Regional l conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas, sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb). However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity

is based on RTPs and FTIPs that include all of the transportation projects planned for a region over a period of at least 20 years for the RTP, and 4 years for the FTIP. RTP and FTIP conformity is based on use of travel demand and air quality models to determine whether the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), FHWA, and Federal Transit Administration (FTA), make determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is "nonattainment" or "maintenance" for CO and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures violation of the relevant standard and USEPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by the USEPA, and are then called "maintenance" areas. "Hot spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot spot analysis. In general, projects must not cause the "hot spot"-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

A 2010 Air Quality Impact Analysis was prepared for the proposed project. This analysis described the existing regional and local air quality, identified the potential air quality impacts related to the proposed project, and demonstrated air quality conformity of the proposed project with SIPs, as required by the federal CAA. This separately prepared technical report serves as the basis for this analysis of impacts to air quality; it is incorporated by reference.

Setting, Climate, and Meteorology

The project site is located within the San Diego Air Basin (SDAB), which is coincident with San Diego County. The climate is characterized by warm, dry summers and mild, wet winters. One of the main determinants of the climatology is a semi-permanent high-pressure area (known as the Pacific High) in the eastern Pacific Ocean. In the summer, the Pacific High is located well to the north, directing storm tracks north of California. The Pacific High maintains clear skies in the region for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. In San Diego County, the months of heaviest precipitation are November through April; the average total annual precipitation is 10.18 inches. The maximum and minimum average temperatures are 69.9 degrees Fahrenheit (°F) and 56.5°F, respectively. The Pacific High also influences the wind patterns of California. The predominant wind directions are westerly and west-southwesterly during all four seasons, and the average annual wind speed is approximately 6 miles per hour.

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific High comes into contact with cooler marine air. The boundary between the layers of air represents a temperature inversion that traps pollutants below it. The inversion layer is approximately 2,000 feet above mean sea level (amsl) May through October. However, during the remaining months (November through April), the temperature inversion is approximately 3,000 feet amsl. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, resulting in a temporary degradation of air quality.

Regional Air Quality Attainment Status

The SDAB meets the federal standards for NO_2, SO_2, and Pb, and is classified as an attainment area for these pollutants. The SDAB is classified as in nonattainment for O_3 (8-hour) federal standards and has state attainment status for all criteria pollutants except O_3, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). Table 2.2.4-1 provides additional details relative to the federal and state air quality standards and the status of the SDAB.

In April 15, 2004, USEPA issued the initial designations for the 8-hour ozone standard, and the SDAB is classified as “basic” nonattainment. This designation took effect on June 15, 2004. Basic is the least severe of the six degrees of ozone nonattainment. The San Diego Air Pollution Control District (SDAPCD) submitted an air quality plan to USEPA in 2007; the plan demonstrated how the 8-hour ozone standard would be attained by 2009. A decision from USEPA is pending. The SDAB also falls under a federal “maintenance plan” for CO following a 1998 redesignation as a CO attainment area. The SDAB currently meets the federal standards for $PM_{2.5}$, PM_{10}, NO_2, SO_2, and lead, and is classified as an attainment area for these pollutants. Table 2.2.4-1 provides additional details relative to the status of O_3 and CO State Implementation Plans.

Project-Level Air Quality Status

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by the City. The monitoring station that represents the project study area’s climate within the SDAB is the San Diego – Beardsley Street monitoring station, located at 1110-A Beardsley Street, San Diego, approximately 5 miles southeast of the project site. The station monitors CO, NO_2, O_3, PM_{10}, and $PM_{2.5}$. Table 2.2.4-2 summarizes the standard exceedances and the highest pollutant levels recorded at this station from 2007 through 2010.

Table 2.2.4-1
Federal and State Air Quality Standards and Attainment Status

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3)[2]	1 hour 8 hours 8 hours (conformity process[5])	0.09 ppm 0.070 ppm	---[4] 0.075 ppm[6] 0.08 ppm (fourth highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds (VOC) also may contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_X) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Non-attainment State: Non-attainment Serious
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm[1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment-Maintenance State: Attainment
Respirable Particulate Matter (PM_{10})[2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 ---[2]	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).	Federal: Attainment State: Non-attainment
Fine Particulate Matter ($PM_{2.5}$)[2]	24 hours Annual 24 hours (conformity process[5])	--- 12 µg/m^3 ---	35 µg/m^3 15.0 µg/m^3 65 µg/m^3 (4th highest in 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other	Federal: Attainment State: Non-attainment

Table 2.2.4-1
Federal and State Air Quality Standards and Attainment Status

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
				contaminant – is in the $PM_{2.5}$ size range. Many aerosol and solid compounds are part of $PM_{2.5}$.	pollutants including NO_X, sulfur oxides (SO_X), ammonia, and ROG.	
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm[7] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours Annual	0.25 ppm --- 0.04 ppm ---	0.075 ppm[8] (98th percentile over 3 years) 0.5 ppm 0.14 ppm 0.030 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment State: Attainment
Lead (Pb)[3]	Monthly Quarterly Rolling 3-month average	1.5 µg/m^3 --- ---	--- 1.5 µg/m^3 0.15 µg/m^3	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Attainment State: Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	State Only: Attainment (entire state)
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources	State Only: Unclassified

Table 2.2.4-1
Federal and State Air Quality Standards and Attainment Status

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
				Headache, nausea.	like volcanic areas and hot springs.	
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above.	State Only: Unclassified
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	State Only: Unclassified (entire state)

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; ppb=parts per billion (thousand million)

[1] Rounding to an integer value is not allowed for the state 8-hour CO standard. Violation occurs at or above 9.05 ppm. Violation of the federal standard occurs at 9.5 ppm because of integer rounding.

[2] Annual PM_{10} NAAQS revoked October 2006; was 50 $\mu g/m^3$. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 $\mu g/m^3$. In September 2009, USEPA began reconsidering the $PM_{2.5}$ NAAQS; the 2006 action was partially vacated by a court decision.

[3] CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both CARB and USEPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect because of toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong. Lead NAAQS are not required to be considered in transportation conformity analysis.

[4] Before June 2005, the 1-hour NAAQS was 0.12 ppm. The 1-hour NAAQS is still used only in 8-hour ozone early action compact areas, of which there are none in California. However, emission budgets for 1-hour ozone may still be in use in some areas where 8-hour ozone emission budgets have not been developed.

[5] The 65 $\mu g/m^3$ $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 $\mu g/m^3$ NAAQS was promulgated in 2006. Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for the newer NAAQS are found adequate or SIP amendments for the newer NAAQS are completed.

[6] As of September 9, 2009, USEPA is reconsidering the 2008 8-hour ozone NAAQS (0.075 ppm); USEPA is expected to tighten the primary NAAQS to somewhere in the range of 60-70 ppb and to add a secondary NAAQS. USEPA plans to finalize reconsideration and promulgate a revised standard by August 2010.

[7] Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial nonattainment area designations should occur in 2012 with conformity requirements effective in 2013. Project-level hot spot analysis requirements, while not yet required for conformity purposes, are expected.

[8] USEPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010.

[9] State standards are "not to exceed" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as noted above.

Source: CARB 2010a

Table 2.2.4-2
Ambient Air Quality Summary – San Diego – Beardsley Street Monitoring Station

Pollutant Standards	2007	2008	2009	2010
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	3.07	2.60	2.77	2.17
Number of days standard exceeded				
NAAQS 8-hour (≥9 ppm)	0	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)	0.098	0.091	0.078	0.077
Annual average (ppm)	0.018	0.019	0.017	0.015
Number of days standard exceeded				
CAAQS 1-hour	0	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	0.087	0.087	0.085	0.078
Maximum 8-hour concentration (ppm)	0.072	0.073	0.063	0.066
Number of days standard exceeded				
CAAQS 1-hour (>0.09 ppm)	0	0	0	0
CAAQS 8-hour (>0.070 ppm)	1	1	0	0
NAAQS 8-hour (>0.08 ppm)	0	0	0	0
Particulate Matter (PM_{10})[a]				
National maximum 24-hour concentration (μg/m^3)	110.0[b]	58.0	59.0	40.0
National second highest 24-hour concentration (μg/m^3)	58.0	54.0	53.0	38.0
State maximum 24-hour concentration (μg/m^3)	111.0[b]	59.0	60.0	40.0
State second highest 24-hour concentration (μg/m^3)	59.0	56.0	54.0	39.0
National annual average concentration (μg/m^3)	30.5[c]	28.6	28.8	22.8
State[d] annual average concentration (μg/m^3)	31.2	29.3	29.4	23.4
Number of days standard exceeded				
NAAQS 24-hour (>150 μg/m^3)[e]	0	0	0	0
CAAQS 24-hour (>50 μg/m^3)[e]	4	4	3	0
Particulate Matter ($PM_{2.5}$)				
National maximum 24-hour concentration (μg/m^3)	69.6[b]	42.0	52.1	29.7
National second highest 24-hour concentration (μg/m^3)	52.1	38.7	42.4	26.2
State maximum 24-hour concentration (μg/m^3)	71.4[b]	42.0	52.1	31.0
State second highest 24-hour concentration (μg/m^3)	52.1	38.7	42.4	29.5
National annual average concentration (μg/m^3)	12.7	13.7	11.7	10.4
State annual average concentration (μg/m^3)	11.7[f]	10.7[f]	11.8	*
Number of days standard exceeded				
NAAQS 24-hour[e,g] (>35 μg/m^3)	8.9	3.5	3.4	0.0

ppm = parts per million; μg/m^3 = micrograms per cubic meter
* Insufficient or no available data available.
[a] Measurements usually collected every 6 days.
[b] PM_{10} and $PM_{2.5}$ data for October 21–27, 2007, includes data related to an "exceptional event" – wildfires.
[c] National annual average PM_{10} standard revoked in December 2006.
[d] State annual average PM_{10} standard of 20 μg/m^3 exceeded in 2007 and 2009.
[e] Exceedance days are projected based on measurements once every 6 days.
[f] State annual average $PM_{2.5}$ standard of 12 μg/m^3 exceeded in 2007.
[g] National $PM_{2.5}$ standard reduced from 65 μg/m^3 to 35 μg/m^3 in December 2006.
Source: California Air Resources Board 2011

Environmental Consequences

Regional Conformity

SANDAG adopted the 2010 RTIP on September 24, 2010, and the 2050 RTP on October 28, 2011.[1] USDOT approved the air quality conformity analysis and made a conformity determination for the 2010 RTIP on December 14, 2010, and for the 2050 RTP on December 2, 2011. The 2010 RTIP has been amended eight times, and Amendments 1 through 6 have been federally approved (Amendment 6 on April 27, 2011); Amendments 7 and 8 are pending federal approval.

The proposed project is included in the 2050 STP as "SANDAG ID SD70 (West Mission Bay Drive Bridge: In San Diego, replace bridge and increase from four-to six-lane bridge including Class II bike lane [52-643])" and is included in the 2010 RTIP as "MPO ID SD 70 (West Mission Bay Drive Bridge over San Diego River – in San Diego, replace bridge and increase from 4 to 6 lanes including Class II bike lane)." The project is designated in the 2010 RTIP as "CI" (Capacity Increasing).

The design concept and scope of the proposed transportation project are consistent with the project's description in the 2050 RTP, the 2010 RTIP, and the assumptions in SANDAG's regional emissions analysis. Therefore, the proposed project would conform to the SIP, and no adverse regional air quality impact would occur as a result of the project. FHWA issued their conformity finding for this project on January 8, 2013, affirming that the project is in conformance with the SIP.

Project-Level Conformity

The Transportation Conformity Rule requires that federal projects not cause or contribute to any new localized CO, PM_{10}, and/or $PM_{2.5}$ violations, or increase the frequency or severity of any existing CO, PM_{10}, and/or $PM_{2.5}$ violations in CO, PM_{10}, and $PM_{2.5}$ nonattainment and maintenance areas. Project effects related to these pollutants are discussed in the following paragraphs.

Carbon Monoxide

The CO portion of the Transportation Conformity Rule applies to the proposed project because the SDAB is classified as a federal CO maintenance area. The air quality analyses of the RTP and RTIP do not include the analyses of local CO impacts; these must be addressed on a project level. The ambient air quality effects of traffic emissions were evaluated qualitatively according to the Transportation Project CO Protocol. The proposed project would not worsen traffic flow, defined for intersections as increasing average delay at signalized intersections operating at LOS E or F. The proposed project meets the screening criteria of the CO Protocol and, therefore, would not have the potential for causing or worsening a violation of the federal or state standards for CO.

[1] SANDAG issued a draft of 2012 RTIP in July 2012 and submitted it for public review and comment. The document is scheduled for approval in December 2012.

Particulate Matter

The SDAB is not a federally designated $PM_{2.5}$ or PM_{10} nonattainment or maintenance area and, therefore, is not subject to either USEPA or FHWA guidance. The SDAB is designated as a state nonattainment area for both pollutants. To meet state requirements, the proposed project is assessed qualitatively.

According to PM analysis guidance, a substantial volume for a new highway or expressway is defined as an annual average daily traffic (AADT) volume of 125,000 or more, and a substantial number of diesel vehicles is defined as 8 percent or more of that total AADT, or more than 10,000 truck AADT. A substantial increase in diesel truck traffic is usually considered to be approximately 10 percent.

The proposed improvements to West Mission Bay Drive Bridge would maintain or improve projected future traffic operations. The design year (2035) AADT volume with the project is 83,000 vehicles and truck AADT is less than 10,000; both of these AADTs are not considered a substantial volume for purposes of PM analysis. The existing diesel-fueled truck percentage within the project limits is projected to be 2 percent of the AADT based on truck percentage on the adjacent section of I-8 and the assumed percentages of trucks entering and exiting the bridge. Under the proposed project, the percentage is anticipated to remain unchanged, as no additional truck trips would be generated by the project.

Pursuant to 40 CFR 93.123(b)(i) and (ii), any new or expanded highway project that does not involve a substantial number (8 percent of AADT) or increase in the number of diesel vehicles (greater than 10 percent) is not of air quality concern and, consequently, does not require a $PM_{2.5}$ or PM_{10} hot-spot analysis. Consequently, $PM_{2.5}$ and PM_{10} hot-spot analyses are not required for this project, and were not undertaken as part of this analysis.

Mobile Source Air Toxics

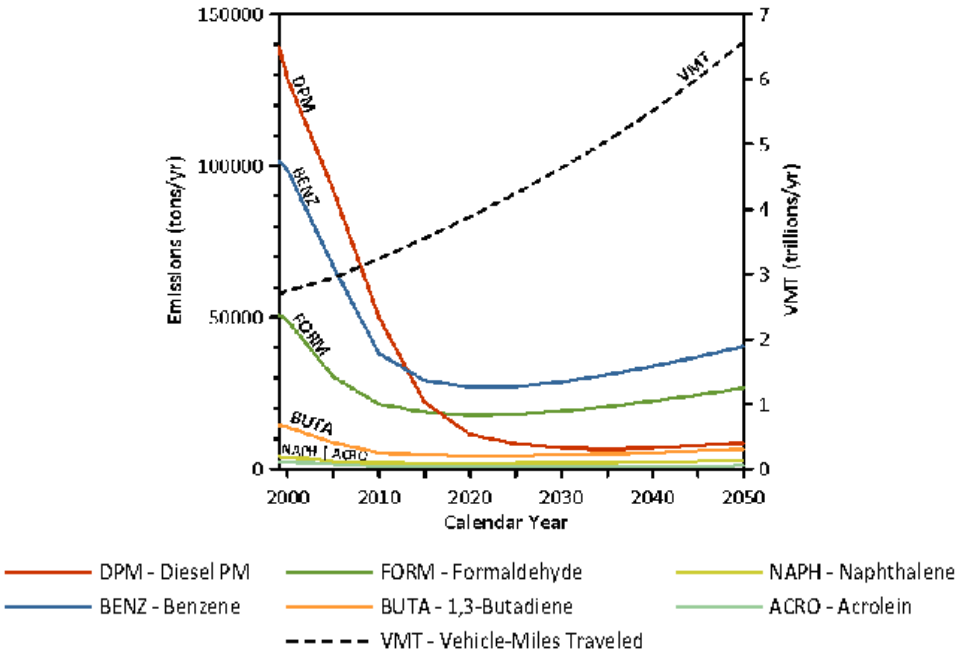
The following discussion is based on an FHWA informational memorandum regarding “Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents,” dated September 30, 2009 (FHWA 2009), which provides an update to the “Interim Guidance on Air Toxic Analysis in NEPA Documents,” dated February 3, 2006 (FHWA 2006a). The purpose of the guidance is to advise when and how to analyze mobile source air toxins (MSATs) in the NEPA process for highways. This guidance is interim because MSAT science still is evolving. As the science progresses, FHWA will update the guidance.

USEPA is the lead federal agency for administering the CAA and has certain responsibilities regarding the health effects of MSATs. USEPA regulates 188 air toxics, known as hazardous air pollutants, under the CAA. USEPA assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System (IRIS).[2] In addition, USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA).[3] These are acrolein, benzene, 1,3-butadiene, diesel PM plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and

[2] Additional information regarding IRIS can be found online at: http://cfcpub.epa.gov/ncea/iris/index.cfm.
[3] Additional information regarding NATA can be found online at: http://www.epa.gov/ttn/atw/nata1999.

polycyclic organic matter. Although FHWA considers these the priority MSATs, the list is subject to change and may be adjusted in consideration of future USEPA rules.

The 2007 USEPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using USEPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 2.2.4-1.



Note:
[1] Annual emissions of polycyclic organic matter are projected to be 561 tons/year for 1999, decreasing to 373 tons/year for 2050.
[2] Trends for specific locations may be different, depending on locally derived information representing vehicle-miles traveled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors
Source: FHWA 2009

Figure 2.2.4-1. National MSAT Emission Trends 1999–2050 for Vehicles Operating on Roadways

Air toxics analysis is a continuing area of research. Although much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, FHWA is expected by the public and other agencies to address MSAT impacts in environmental documents. FHWA, USEPA, the Health Effects Institute (HEI), and others have funded and conducted research

studies to try to more clearly define potential risks from MSAT emissions and highway projects. FHWA will continue to monitor the developing research in this emerging field.

Incomplete or Unavailable Information for Project-Specific MSAT Impact Analysis

This air quality analysis includes a basic analysis of the likely MSAT emission impacts of the proposed project. However, available technical tools would not enable the prediction of project-specific health impacts for the emission changes associated with implementation of the proposed project. Because of these limitations, the following discussion is included in accordance with 40 CFR Section 1502.22(b) regarding incomplete or unavailable information.

In FHWA's view, information is incomplete or unavailable to credibly predict project-specific health impacts because of changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation than by any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with the proposed action.

USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is the lead authority for administering the CAA and its amendments and has specific statutory obligations with respect to hazardous air pollutants and MSATs. USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. It maintains the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."[4] Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations also are active in the research and analyses of the human health effects of MSATs, including the HEI. Two HEI studies are summarized in Appendix D of FHWA's *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* (FHWA 2006a). Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.[5]

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts—each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame. The results produced by USEPA's MOBILE6.2 model, the California EPA's EMFAC2007 model, and USEPA's Draft MOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES

[4] Available online at: http://www.epa.gov/ncea/iris/index.html.
[5] Additional information regarding adverse human health effects of MSAT compounds can be found online at: http://pubs.healtheffects.org/view.php?id=282 and http://pubs.healtheffects.org/view.php?id=306.

model are that MOBILE6.2 significantly underestimates diesel PM emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of USEPA's guideline CAL3QHC model was conducted in a National Cooperative Highway Research Program (NCHRP) study,[6] which documents poor model performance at 10 sites across the country—three where intensive monitoring was conducted plus an additional seven with less-intense monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with NAAQS for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially because some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways and to determine the portion of time that people are actually exposed at a specific location.

Considerable uncertainties are associated with the existing estimates of toxicity of the various MSATs because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI.[7] As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. Neither USEPA nor the HEI has established a basis for quantitative risk assessment of diesel PM in ambient settings.[8]

A lack of national consensus also exists about an acceptable level of risk. The current context is the process used by USEPA, as provided by the CAA, to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires USEPA to determine a "safe" or "acceptable" level of risk because of emissions from a source, which is generally no greater than approximately 100 in 1 million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in 1 million because of emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in 1 million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in 1 million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld USEPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities, plus improved access for emergency response, that are better suited for quantitative analysis.

[6] Available online at: http://www.epa.gov/scram001/dispersion_alt.htm#hyroad.
[7] Available online at: http://pubs.healtheffects.org/ view.php?id=282.
[8] Additional information regarding the quantitative risk assessment of diesel PM can be found online at: http://www.epa.gov/risk/basicinformation.htm#g and http://pubs.healtheffects.org/getfile.php?u=395.

Evaluation of Project MSAT Impacts

FHWA uses a tiered approach to analyzing MSATs in NEPA documents. Depending on the specific project circumstances, FHWA identifies three levels—or categories—of analysis. Category 1 calls for no analysis of projects with no potential for meaningful MSAT effects; Category 2 calls for qualitative analysis of projects with low potential for effects; and Category 3 calls for quantitative analysis of projects with a higher potential for effects. Category 3 projects include those that add new or create significant capacity to interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year.

The proposed project would widen and thereby add capacity to the project-related segment of West Mission Bay Drive. The widening is estimated to accommodate a maximum ADT of 83,000 vehicles in the 2035 design year, which would be substantially less than the FHWA threshold value of 140,000 AADT. Therefore, the proposed project would not be included in Category 3, but would be considered a Category 2 project with low potential for MSAT effects. The qualitative analysis of the project's MSAT effects is presented below.

Technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of the proposed project. However, although reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions for the proposed project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived, in part, from a study conducted by FHWA, "A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives."[9]

The amount of MSATs emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT for the build alternatives would be slightly higher than that for the No Build Alternative, because the proposed project would increase the efficiency of the roadway and attract rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the build alternatives along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase would be offset somewhat by lower MSAT emission rates because of increased speeds; according to USEPA's MOBILE6 emissions model, emissions of all of the priority MSATs except for diesel PM decrease as speed increases. The extent to which these speed-related emissions decreases would offset VMT-related emissions increases cannot be reliably projected because of the inherent deficiencies of technical models.

Regardless of the build alternative that would be selected, emissions would likely be lower than existing levels in the 2035 design year as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases. As such, the proposed project would not result in any adverse MSAT impacts.

[9] Available online at: www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

2.2.5 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 USC 1344), is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material is not permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by USEPA.

USACE issues two types of 404 permits: standard and general permits. Nationwide permits, a type of general permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's standard permits. For standard permits, the USACE decision to approve is based on compliance with USEPA's Section 404(b)(1) guidelines (USEPA 40 CFR Part 230), and whether permit approval is in the public interest. The 404 (b)(1) guidelines were developed by USEPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that would have less adverse effects. The guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have fewer effects on waters of the U.S. and that would not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as FHWA or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that there is no practicable alternative to the construction and that the proposed project includes all practicable measures to minimize harm.

Regional Water Quality Control Boards (RWQCBs) were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCBs also issues water quality certifications in compliance with Section 401 of the CWA. Please see Section 2.3.5 for a discussion of temporary impacts on water quality and storm water runoff.

Affected Environment

Jurisdictional waters of the U.S. were delineated for the proposed project in May 2010, and a subsequent Jurisdictional Delineation Report was prepared in October 2011. Additionally, a Preliminary Jurisdictional Determination was completed in 2007. The Jurisdictional Delineation

Report and Preliminary Jurisdictional Determination Form were prepared to provide assistance and support to USACE in its formal determination regarding jurisdictional waters present within the project survey area. All waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR 328.4 (Limits of Jurisdiction).

The approximate 54.42-acre survey area for conducting the jurisdictional delineation includes the limits of construction (and the 500-foot BSA buffer) and staging areas. The BSA analyzed for the two project alternatives generally includes the proposed construction limits, staging areas on the north side of the bridge, and a surrounding 500-foot buffer. The jurisdictional waters survey area that was formally delineated has the potential for the presence of, at a minimum, three types of federally regulated waters: wetlands, other waters, and tidal waters. The aquatic habitat types that fall under both federal and state regulatory authority include coastal brackish marsh, southern coastal salt marsh, and open water/tidal mudflat. Disturbed wetland in the form of rip-rap river bank is exclusively under state jurisdiction, and is not regulated by federal jurisdiction.

Based on vegetation mapping and field delineation efforts within the survey area, coastal brackish marsh only occurs within a small raised portion of vegetated mudflat, located at the edge of the San Diego River flood control channel near the southwest portion of the bridge. This raised portion of mudflat is likely the result of this patch of common reed trapping sediment, debris, and litter from previous years of growth. This marsh, which is typical for coastal brackish marshes composed of common reed, has low diversity and is considered disturbed or degraded, as it is essentially a monotypic stand of common reed developing within the flood control channel next to a fill substrate (including rip-rap), with nonnative upland vegetation and development abutting its outer extent.

Southern coastal salt marsh occurs in very limited and restricted portions at the toe of the San Diego River flood control channel near the southeast portion of the bridge. This salt marsh has low diversity and is considered incidental, disturbed, or degraded at the outer extent of the flood control channel next to a fill substrate (including rip-rap), with nonnative upland vegetation and development abutting its outer extent.

The disturbed wetland community in the study area is represented by a graded levee that has been armored by rip-rap. Upland herbaceous and shrub species primarily occupy the spaces in between the rip-rap. Although all tidal action occurs within the lower extent (the toe) of the rip-rap, there has not been any natural biotic colonization, as only algae or bare mudflat is present.

Additionally, the subtidal soft bottom of the San Diego River flood control channel supports the development of tidal mudflat, which is an important contributor to the area's food web, and, as such, is considered a Special Aquatic Site, as defined by 40 CFR Part 230 Section 404(b)(1).

A summary of the jurisdictional waters occurring within the survey area is contained in Table 2.2.5-1 and depicted in Figure 2.2.5-1.

Table 2.2.5-1
Summary of Jurisdictional Waters of the U.S., State, and City within the Survey Area

Type of Jurisdictional Water of the U.S., State, and City	Type of Aquatic Habitat	Regulatory Authority	Area (acres)
Wetland	Brackish Marsh	City, CCC, CDFW, RWQCB, and USACE	0.036
Wetland	Coastal Salt Marsh	City, CCC, CDFW, RWQCB, and USACE	0.026
Other	Tidal Mudflat/Open Water	City, CCC, CDFW, RWQCB, and USACE	7.27
		Subtotal Jurisdictional Waters of the U.S.	*7.33*
Rip-Rap Riverbank	Disturbed Wetland	City, CCC, CDFW, and RWQCB	0.70
		Subtotal Jurisdictional Waters of the State	*0.70*
		Total Jurisdictional Waters	**8.03**

Environmental Consequences

This section discusses the permanent impacts on wetlands and other waters. Temporary impacts occurring during construction are discussed in Section 2.3.10. For purposes of the analysis of permanent impacts, there are two types of impacts that are defined as "permanent" by different agencies. USACE does not consider shading of federally regulated waters to be a permanent impact, as shading does not result in discharge of fill material and does not require a Section 404 permit. Shading is, however, considered a permanent impact by California Department of Fish & Wildlife (CDFW), RWQCB, CCC, and the City. Additionally, USACE does not consider placement of piers/pilings in its regulated waters for linear projects such as bridges a permanent impact because piers/pilings also generally do not result in discharge of fill material (33 CFR Part 323.3[c][2]). Such features are considered permanent impacts by CDFW, RWQCB, CCC, and the City. Additional information on jurisdictional impacts and permitting implications is provided in the Jurisdictional Delineation Report prepared for the project.

Alternative 2c

For Alternative 2c, placement of the concrete piles for the replacement structures and increased shading would not result in permanent impacts to waters that are jurisdictional of both the U.S. and state because bridge piles and shading are not regulated by USACE, as discussed above. However, these same features would permanently impact approximately 2.73 acres of waters that are jurisdictional of the state and the City, as shown in Table 2.2.5-2. Figure 2.2.5-2 shows the locations of the impacts for Alternative 2c.

As discussed in detail in Section 2.3.10, the project results in a temporary construction impact on a nonnative invasive wetland community (southern coastal brackish marsh). Following construction, restoration efforts would convert this invasive wetland feature to mudflat, a native wetland community that previously occupied the area prior to establishment of the brackish marsh. Tidal mudflats can support a diverse community of shorebirds, fish larvae, and bottom-dwelling invertebrates (i.e., clams, crabs, and worms) that live within these soft sediments composed of estuarine silts, clays, and marine animal detritus. Tidal mudflat is an important contributor to the detrital (decaying organic) food web of bays, as the decaying plant material is consumed by many benthic invertebrates (such as polychaete worms) and reduced to primary nutrients by bacteria. Therefore, this aspect of the project entails a long-term net ecological benefit.

Source: DigitalGlobe 2008; SanGIS 2010; TYLin 2010

200 100 0 200 Feet

Scale: 1 = 2,400; 1 inch = 200 feet

Figure 2.2.5-1
Jurisdictional Delineation

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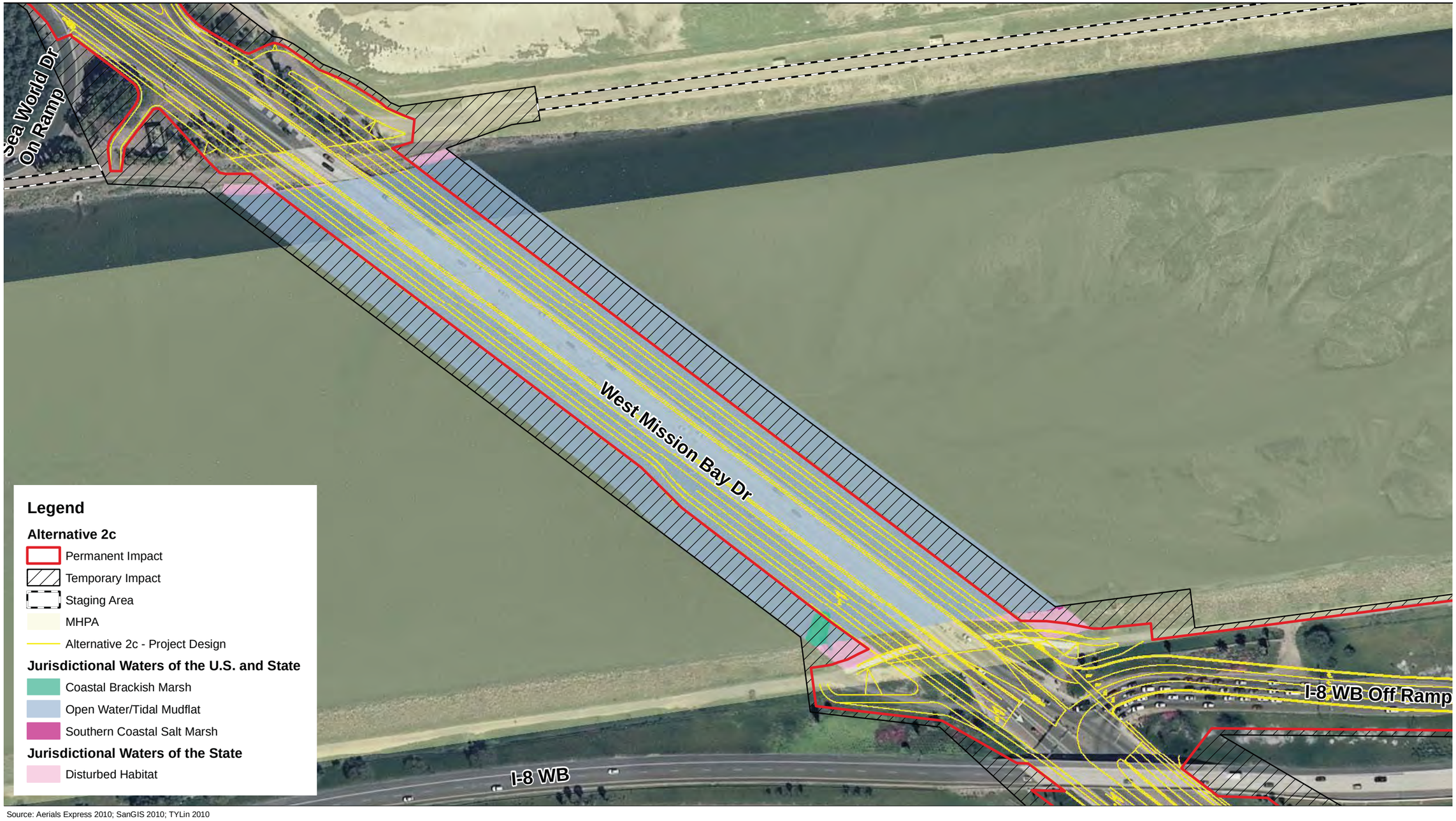

Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.2.5-2
Alternative 2c – Project Design with Waters of the U.S. and State

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Table 2.2.5-2
Alternative 2c: Potential Permanent Impacts to Jurisdictional Waters of the U.S., State and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres) Permanent
USACE/CDFW Jurisdictional Waters	
Tidal Mudflat/Open Water	-
Southern Coastal Brackish Marsh	-
Southern Coastal Salt Marsh	-
Total	**0.00**
City, CCC, CDFW, and RWQCB Jurisdictional Waters	
Tidal Mudflat/Open Water	2.72
Southern Coastal Brackish Marsh	0.002
Disturbed Wetland/Rip-Rap	0.005
Total	**2.73**

Alternative 3

For Alterative 3, placement of the concrete-piles for the replacement structures and increased shading would not result in permanent impacts to waters that are jurisdictional of both the U.S. and state because bridge piles and shading are not regulated by USACE, as discussed above. However, these same features would permanently impact approximately 2.105 acres of waters that are jurisdictional of the state and the City, as shown in Table 2.2.5-3. Figure 2.2.5-3 shows the location of the impacts for Alternative 3.

Table 2.2.5-3
Alternative 3: Potential Permanent Impacts to Jurisdictional Waters of the U.S., State and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres) Permanent
USACE/CDFW Jurisdictional Waters	
Tidal Mudflat/Open Water	-
Southern Coastal Brackish Marsh	-
Southern Coastal Salt Marsh	-
Total	**0.00**
City, CCC, CDFW, and RWQCB Jurisdictional Waters	
Tidal Mudflat/Open Water	2.10
Disturbed Wetland/Rip-Rap	0.005
Total	**2.105**

Similar to Alternative 2c, the Alternative 3 would result in a temporary construction-related impact on southern coastal brackish marsh, which would be converted to mudflat once construction is completed. Restoration of this tidal mudflat under Alternative 3 would result in a net ecological benefit.

No Build Alternative

Under the No Build Alternative, the existing bridge would not be replaced and would continue to operate in its existing condition. No adverse impacts related to wetlands and other waters would occur. However, the post-construction restoration of the brackish marsh to tidal mudflat would not be performed, and the existing invasive wetland community would remain in place.

Requisite Permitting

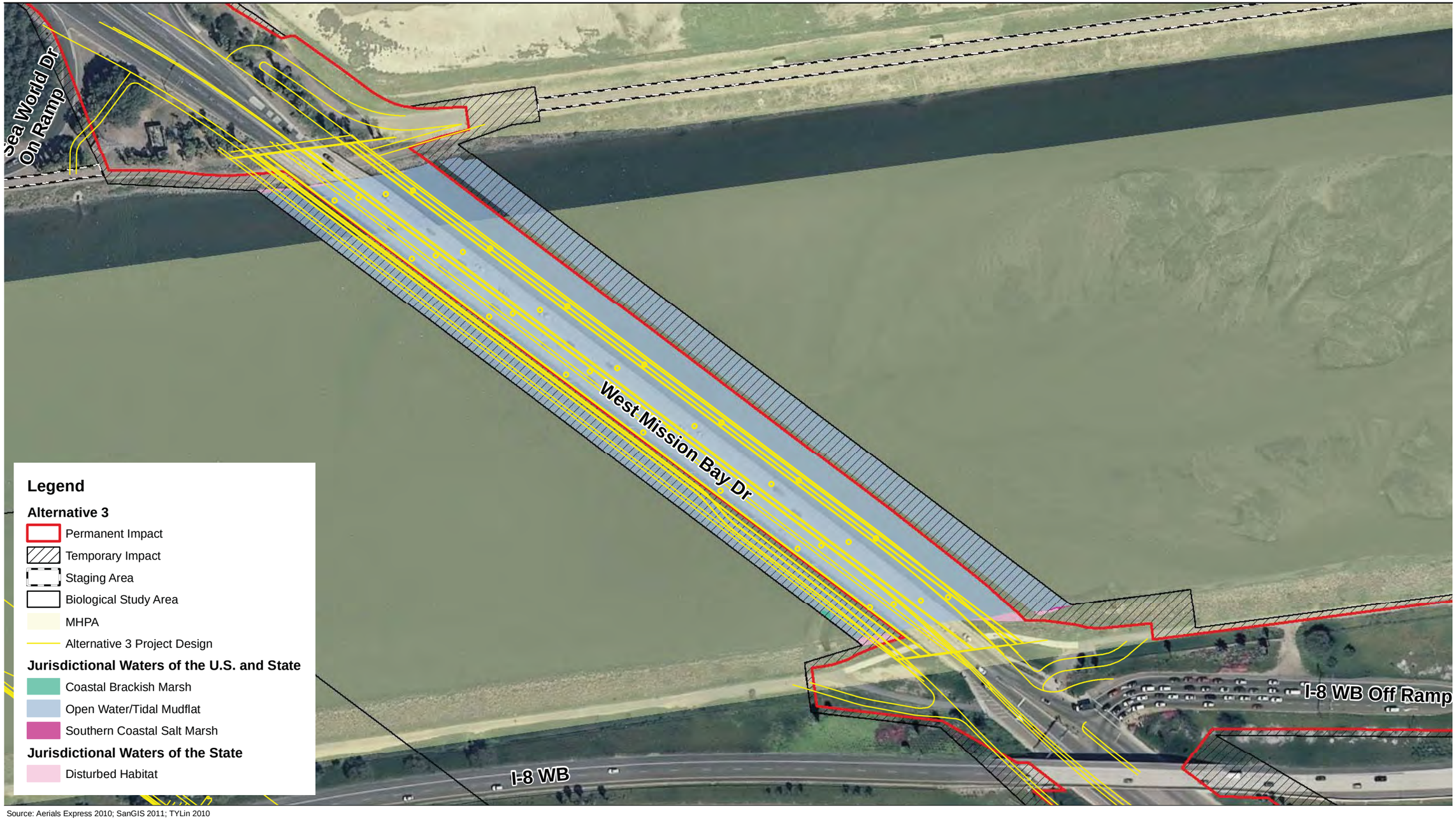
Impacts to jurisdictional waters of the U.S. and state would potentially require the following permits by federal and state regulatory agencies:

1. CCC, Public Resources Code Division 20, Section 30000 et seq., Coastal Development Permit
2. California Fish and Game Code (CFGC) Chapter 6 Section 1600 et seq., Lake and Streambed Alteration Agreement
3. RWQCB, CWA Section 401 state water quality certification/waiver for an action that may result in degradation of waters of the state
4. USACE, CWA Section 404 permit for discharge (placement) of dredged or fill material within waters of the U.S.
5. USACE, Rivers and Harbors Act Section 10 permit for construction in navigable water.

Based on the project description and the amount of potential permanent direct impacts to jurisdictional waters of the U.S., there is the potential for USACE to recommend authorizing this project under the CWA Section 404 Nationwide Permit. Although there are no permanent impacts, the proposed activity would likely have more than minimal individual or cumulative net adverse effects on the environment or otherwise may be contrary to the public interest, and, therefore, USACE has discretionary authority to modify the Nationwide Permit authorization to reduce or eliminate those adverse effects, or to instruct the permittee to apply for a regional general permit or an individual permit. Additionally, mudflats are considered a Special Aquatic Site by USACE. Under Section 404 guidelines, special aquatic sites are subject to greater protection than other jurisdictional waters of the U.S. because of their significant contribution to the overall environment. The presence of this habitat type in the project limits would likely be taken into consideration by USACE during the permitting process.

Avoidance, Minimization, and/or Mitigation Measures

As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of sensitive habitats (e.g., jurisdictional waters). Within the required alignment, the bridge has been designed to avoid and minimize impacts to jurisdictional waters to the maximum practicable extent. Bridge piers were designed as round columns rather than the continuous pier walls used on the existing bridge, which would reduce the overall footprint of disturbance. Bridge abutments would not encroach into wetlands or sensitive habitats beyond their current position.



Source: Aerials Express 2010; SanGIS 2011; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.2.5-3
Alternative 3 – Project Design with Waters of the U.S. and State

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Compensatory mitigation recommendations will be based on three relevant sources:

1. The USACE Compensatory Mitigation for Losses of Aquatic Resources; Final Rule will provide criteria for the mitigation for permanently impacted aquatic resources.[10]
2. CDFW, South Coast Region; Guidelines for Wetland Mitigation will provide mitigation ratios. CDFW mitigation guidelines consider isolated freshwater marsh and unvegetated streams "low-value habitats" and recommend a 1:1 mitigation ratio for losses of these habitats.
3. CCC Procedural Guidance for Evaluating Wetland Mitigation Projects in California's Coastal Zone will provide criteria for mitigation for these listed aquatic resources. Currently, CCC determines the applicable mitigation ratio on a case-by-case basis. In an attempt to account for concerns over project location, interim losses, and reduced chances of success, CCC has required compensatory mitigation ratios greater than 1:1. Coastal Act Section 30607.1 provides direction on the issue of mitigation for temporary projects and states, in part:

   > The mitigation measures shall not be required for temporary or short-term fill or diking if a bond or other evidence of financial responsibility is provided to assure that restoration will be accomplished in the shortest feasible time.

Proposed Mitigation Ratios

Direct permanent and temporary impacts to wetlands are regulated under the City of San Diego's Environmentally Sensitive Lands Ordinance. There would be no permanent direct impacts to vegetated wetlands. Permanent indirect impacts to vegetated wetlands are considered small enough not to reduce wetland function or habitat potential. Additionally, removing the coastal brackish marsh affected by project construction and restoring the area to tidal mudflat would result in a net ecological benefit. Therefore, a mitigation ratio of 1:1 is proposed for permanent indirect impacts to vegetated wetlands and for temporary impacts to vegetated and unvegetated wetlands. Final mitigation ratios would be determined by the requisite state and federal resource agencies (in concert with applicant negotiations) for impacts to jurisdictional waters. Mitigation measures would give the highest priority to on-site/in-kind restoration and enhancement, if possible.

It is anticipated that, through design of the build alternatives, a gain of wetland habitat will occur after completion of either alternative (presenting a potential long-term net ecological benefit). This is because the bridge footprint would be smaller under either of the build alternatives compared to the existing bridge footprint.

Development of a conceptual mitigation and landscape plan is required for both federal and state permit issuance to perform activities that may impact jurisdictional waters (including wetlands). The conceptual mitigation and landscape plan will detail the amount, methods, and type of mitigation proposed. If on-site mitigation for all impacts related to this project is not attainable, then additional and appropriate (i.e., accepted by the resource agencies) off-site mitigation will be pursued. The conceptual mitigation and landscape plan will include details regarding site preparation (e.g., regrading), planting specifications, and (if determined required) irrigation design, as well as maintenance and monitoring procedures. The plan will also outline

[10] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594-19705).

yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria. Any wetland mitigation that cannot be achieved through on-site creation restoration and enhancement would be performed off-site, typically, per agency guidance, within the same hydrologic unit (watershed) where impacts occur. Alternatively, the mitigation obligations may be satisfied by participating in an in-lieu fee-based mitigation program through an approved resource conservation district or wetland mitigation bank. Compensatory mitigation will follow the USACE Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.[11] The proposed mitigation is subject to the resource agencies' review and discretion; thus, the mitigation obligations for the impacts to jurisdictional wetland habitats may change from those recommended herein. However, it should be noted that the impacts will be fully mitigated through the permitting process.

Wetlands Only Practicable Finding

EO 11990 states that a federal agency such as FHWA or Caltrans, as assigned by FHWA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that there is no practicable alternative to the construction and that the proposed project includes all practicable measures to minimize harm to the affected wetland. The project addressed in this EA entails replacing a bridge that spans a river. The existing bridge currently contains several piers in the river. As discussed in Section 1.2.2 of this EA, the existing bridge piers are not stable and must be removed and replaced. Accordingly, it is impossible for project construction to completely avoid activities in wetlands and non-wetland waters. With respect to the project's permanent features, the only way to avoid placing structures in the river would be to construct a single-span, cable-supported bridge over the river, which would not require piers in the river bottom. This design option was considered during preliminary project planning but was found to be infeasible and was eliminated from further consideration. Constructing a single-span bridge over the river would require permanent towers at both banks of the river that would need to reach at least 130 feet in height to accommodate cables supporting the bridge deck. Towers of this height would be highly incompatible with the existing surroundings and far exceed the 30-foot structural height limitation set by the City for this area, creating a considerable visual intrusion. Additionally, the cost of a clear-span bridge was estimated at three to four times the cost of a conventional multi-span bridge with piers in the river. Accordingly, a multi-span bridge was found to be the only feasible solution for this project.

Though the project proposes a bridge with piers in the river bottom, the bridge has been designed to minimize impacts in the river channel by proposing fewer bridge piers than the existing bridge, resulting in a reduction in permanent impact area in the channel. Restoration efforts following completion of the project would convert a nonnative, invasive wetland community affected by the project (southern coastal brackish marsh) to tidal mudflat, a native wetland community, resulting in a net ecological benefit on the affected wetland area. Increased shading of the adjacent non-wetland waters (tidal mudflat/open water) due to the increased bridge-deck area would be fully mitigated by off-site improvements that will be determined through ongoing agency consultation.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and non-wetland waters, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

[11] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594-19705).

Least Environmentally Damaging Alternative: Alternative 2c

Based on the information and analysis contained in this EA, Caltrans has identified Alternative 2c as the LEDPA for the project. This determination is primarily due to the shorter construction duration anticipated for Alternative 2c compared to that of Alternative 3. Alternative 2c will reduce the project's construction-related effects, especially by shortening the time that the temporary berms or trestles are in place in the San Diego River. Accordingly, the temporary effects on wildlife habitat, wetlands/non-wetland waters, and tidal flow would be reduced with selection of Alternative 2c, as would the duration of noise and pollutant generation and traffic disturbance due to project construction.

The permanent effects of the two alternatives are nearly identical, with the exception of the wetlands and waters effects stated above in Section 2.2.5 of this EA. The alternatives are anticipated to have identical physical effects in the river channel because their pier area would be the same. However, as noted in Tables 2.2.5-2 and 2.2.5-3, Alternative 2c is anticipated to result in a slightly greater effect on acreage of wetlands and waters than the effect of Alternative 3. This is due to the larger amount of shading under Alternative 2c, as the separated bridge structure covers a wider area, without considering the narrow gap between the structures. As a result, Alternative 2c shades an approximately 0.62 additional acre of tidal mudflat/open water, which is a non-wetland waters feature, plus approximately 0.002 acre of southern coastal brackish marsh, which is a nonnative wetland community. Restoration efforts following completion of the project would convert the southern coastal brackish marsh to tidal mudflat, a native wetland community, and result in a net ecological benefit. Furthermore, the increased shading in Alternative 2c occurs in a very dynamic waters area that is part of a much larger system upstream and downstream of the project site, and the effect of this small amount of increased shading is anticipated to be very minor in the context of the whole system. This project-related shading increase would be fully mitigated by off-site improvements along the river. Because this is the only appreciable difference in the alternatives' permanent effects, Caltrans has concluded that the benefit of Alternative 2c's shorter construction duration and associated minimization of temporary effects outweigh the slight increase in minor permanent effects, and has identified Alternative 2c as the LEDPA.

2.2.6 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the FESA: 16 USC, Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the FESA, federal agencies, such as Caltrans, as assigned by FHWA, are required to consult with USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take Statement. Section 3 of the FESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt at such conduct."

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as

anadromous species and Continental Shelf fishery resources of the U.S., by exercising sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and by exercising exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

A Biological Assessment (BA) was prepared for the project in 2011 to determine potential impacts to federally listed species known or having the potential to occur in the project area. This separate technical report serves as the basis for this analysis of impacts to threatened and endangered species; it is incorporated by reference. The BA analysis covers the permanent impacts of the two build alternatives, and also considered temporary impacts of the three construction options, as discussed below in Section 2.3.12. Analysis was performed within project limits and a 500-foot buffer area, also known as the biological study area (BSA).

Consultation with USFWS was conducted to confirm those USFWS-regulated species that may be present within the BSA. Additionally, written correspondence with NMFS was provided on February 17, 2011, to confirm the potential for federally listed marine species to occur within the BSA. NMFS initially suggested that two federally endangered marine species—green sea turtle and loggerhead sea turtle—have potential to occur within the BSA. However, further consultation with NMFS on March 21, 2011, determined that, with implementation of pre-construction surveys and construction monitoring, no effect on these species is anticipated.

The federally listed plant and wildlife species having the potential to occur within the BSA, based on initial database research and agency consultation, are discussed in Table 2.2.6-1.[12]

Table 2.2.6-1
Threatened or Endangered Species Potentially Occurring or Known to Occur Within the BSA

Common Name	Status[1]	General Habitat Description[2]	Detected or Potential to Occur
Plants			
salt marsh bird's-beak *Cordylanthus maritimus* ssp. *Maritimus*[1]	USFWS: Endangered CDFW: Endangered CNPS: List 1B.2 MSCP: Covered	Coastal dunes, marshes (coastal salt), playas. Elevation 0–33 feet. Perennial herb, blooms May–July.	Low potential to occur within the BSA. This species was not detected during project surveys, and only marginally suitable habitat occurs within the BSA. The closest known location occurs west of the BSA near the mouth of the San Diego River.
Brand's star phacelia *Phacelia stellaris*	USFWS: Candidate CNPS: List 1B.1	Coastal dunes and coastal scrub. Elevation 0 to 1,250 feet. Annual herb, blooms March–June.	Moderate potential to occur within the BSA. Although this species was not detected during project surveys, a population has recently been identified in disturbed, sandy habitat at Silver Strand, approximately 7 miles to the south.

[12] The full species list is available in Appendix C of the Biological Assessment prepared for the project.

Table 2.2.6-1
Threatened or Endangered Species Potentially Occurring or Known to Occur Within the BSA

Common Name	Status[1]	General Habitat Description[2]	Detected or Potential to Occur
Wildlife			
light-footed clapper rail *Rallus longirostris levipes*	USFWS: Endangered CDFW: Endangered MSCP: Covered	Occurs in saltwater marshes traversed by tidal sloughs where *Spartina foliosa* and *Salicornia* sp. are dominant vegetation. Requires dense vegetation for nesting and/or escape cover.	Detected. Suitable habitat occurs within the BSA. During spring 2010 sensitive avian species surveys a minimum of four individuals (likely two pairs) were detected both visually and aurally.
western snowy plover *Charadrius alexandrinus nivosus*	USFWS: Threatened CDFW: Species of Special Concern MSCP: Covered	Can be found on sandy beaches on marine and estuarine shores, salt pond levees, and the shores of large alkali lakes. Requires sandy or gravelly soils for nesting.	Moderate potential to occur within the BSA. This species was not detected onsite during 2010 sensitive avian surveys and is not expected to nest within the BSA due to the lack of suitable nesting habitat. However, this species has potential to forage on exposed tidal flats within the BSA. The closest active nesting location to the BSA is approximately 5 miles south on the Naval Amphibious Base and others continuing down the Silver Strand.
California least tern *Sterna antillarum browni*	USFWS: Endangered CDFW: Endangered MSCP: Covered	Breeds on bare or sparsely vegetated flat sandy beaches, alkali flats, landfills, or paved areas.	High potential to occur within BSA. This species was not detected onsite during 2010 sensitive avian surveys. However, only two survey days were performed. Although a historic nesting site for this species is located within the BSA, this nesting site has been identified as extirpated (CNDDB). However, there are extant area's for California least tern nesting approximately 0.15 mile north of the BSA on Fiesta Island, another approximately 0.75 mile northwest of the BSA, and a third approximately 1.0 mile west of the BSA. This species has potential to forage within the BSA.
Green sea turtle *Chelonia mydas*	FE, NMFS	Found from July through September off the coast of California. A population is known to occur within South San Diego Bay year-round.	Habitat present. Resident population in San Diego Bay to the south and occurrences documented in Mission Bay to the north. Rooted submerged aquatic plants are present such as surfgrass and widgeongrass on which sea turtles may forage. Potential for occurrence

Table 2.2.6-1
Threatened or Endangered Species Potentially Occurring or Known to Occur Within the BSA

Common Name	Status[1]	General Habitat Description[2]	Detected or Potential to Occur
			is low. No-effect determination made by Caltrans, in consultation with NMFS.
Loggerhead sea turtle *Caretta caretta*	FT, NMFS	The California coast is part of the migratory range of the North Pacific population.	Habitat present. Potential prey items such as striped shore crabs (*Pachygrapsus crassipes*) and California horn snails (*Cerithidea californica*) were observed within the project area during the eelgrass survey, on which loggerheads may forage. Potential for occurrence is very low. No-effect determination made by Caltrans, in consultation with NMFS.

[1] Salt marsh bird's beak was included on the list of federally listed species for the project provided by USFWS on June 27, 2012.

Federally Listed Plant Species

Neither Brand's star phacelia nor salt marsh bird's beak was detected within the BSA during project plant surveys, and only marginal habitat potentially suitable to support salt marsh bird's beak occurs within the BSA. However, due to the presence of salt marsh bird's beak downstream of the BSA, Caltrans will consult with USFWS regarding this species during the ongoing Section 7 consultation process. No effects to the Brand's star phacelia would occur as a result of the project, and this species is not discussed further in this section.

Federally Listed Wildlife Species

Three federally listed bird species are known to or have the potential to occur within the BSA: California least tern, light-footed clapper rail, and western snowy plover. Of these species, only light-footed clapper rail was observed within the BSA.

Two pairs of light-footed clapper rail were detected within patches of pickleweed, which provides suitable nesting and foraging habitat for this species. This habitat is located in coastal brackish marsh habitat approximately 300 to 1,000 feet east of the proposed bridge location and farther east within the San Diego River flood control channel.

Western snowy plover was not detected during avian surveys. The closest confirmed breeding site to the BSA is approximately 5 miles south on the Naval Amphibious Base and others along the Silver Strand. The species is also observed year-round at the mouth of the San Diego River, less than 2 miles west of the BSA, but no nesting occurs in this location. No suitable nesting habitat occurs within the BSA for western snowy plover, but, due to the highly mobile nature of this species, there is the potential for foraging on-site during periods of low tide in which the tidal mudflat is exposed.

California least tern was not identified during surveys, but the BSA includes a historic nesting site for California least tern and there are extant nesting areas for this species approximately 0.15 mile north of the BSA and another approximately 0.75 mile northeast of the BSA, within the California Least Tern Preserve. Due to the proximity of these known nesting sites, California least tern has the potential to forage on the project site.

As discussed above, NMFS initially suggested that the federally endangered green sea turtle and loggerhead sea turtle have potential to occur within the BSA, but neither of these sea turtle species was observed within the BSA during the general wildlife surveys. Follow up consultation with NMFS determined that the potential for these species to be present on the site is very low, and Caltrans, in consultation with NMFS, issued a no-effect determination for these species.

Environmental Consequences

Light-Footed Clapper Rail

Alternative 2c would have a permanent impact on 0.002 acre of coastal brackish marsh that is suitable nesting habitat for the light-footed clapper rail. Alternative 3 would have no impact on this nesting habitat. Mitigation for this permanent impact under Alternative 2c would be accomplished by the habitat restoration and enhancement described above for wetlands and other waters in Section 2.2.5.

Western Snowy Plover

No habitat suitable to support western snowy plover breeding occurs within the project limits; thus, no effects on nesting habitat would occur. Potential foraging habitat is present on exposed tidal flats within the project limits. Permanent impacts on this mudflat habitat would result from installation of columns and from overhead shading by the bridge structure; however, there is an overall net reduction in permanent impacts to mudflat habitat with the new bridge design because the proposed columns would replace existing features that encompass a greater area. Therefore, there is no substantial permanent impact on the western snowy plover and no mitigation is required.

California Least Tern

No habitat suitable to support California least tern nesting occurs within the project limits; thus, no permanent or temporary effects to potential nest habitat would occur. Permanent shading of tidal mudflat and open water from the increased surface area of the overhead bridge structure would result in a loss of foraging habitat for the California least tern, as terns would not be able to dive for prey in this area. A net loss of 2.68 acres of suitable foraging habitat would occur under Alternative 2c, while a net loss of 2.06 acres would occur under Alternative 3. Mitigation for this permanent impact under Alternative 2c would be accomplished by the habitat restoration and enhancement described above for wetlands and other waters in Section 2.2.5.

In addition to the habitat-based impacts on these sensitive bird species, the project has the potential to affect bird behavior by adding permanent nighttime lighting features that could spill beyond the bridge and into the adjacent habitat. A mitigation measure limiting the effects of project lighting has been identified below to address this impact.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation for the permanent impacts on nesting and foraging habitat of the respective listed bird species would be accomplished by habitat restoration and enhancement described above for wetlands and other waters in Section 2.2.5.

Mitigation for potential lighting effects on bird behavior would be accomplished by avoiding spillover into habitat adjacent to the bridge. The project's lighting plan will be reviewed during final design to ensure that the project's permanent lighting would be focused on the bridge and not spill into adjacent areas. A post-construction review of project lighting by a qualified biologist will be conducted to ensure that the lighting features, as built, do not affect adjacent habitat.

USFWS issued their informal Section 7 consultation letter on the project to Caltrans on January 30, 2013. The letter, which is included in Appendix G of this EA, provides additional detail regarding USWFS's mitigation requirements for the project's long-term effects on light-footed clapper rail, California least tern, western snowy plover, and salt marsh bird's beak. Additional detail stated in the letter includes acreages, success criteria, and monitoring and reporting requirements for the mitigation plan as well as design restrictions for lighting and measures to prevent bird strikes. The full list of measures from the USFWS letter pertaining to the project's permanent impacts on federally listed species is included in Appendix B of this EA.

2.3 CONSTRUCTION IMPACTS

This section discusses the temporary impacts associated with project construction. The impact analysis/determinations for the following environmental issues are based on construction activity only and are not related to any permanent impacts. Because of the similarity in construction process for the two build alternatives, this section does not present separate impact analysis of the two build alternatives. Instead, the temporary impact analysis compares the effects that would result from the three construction options defined in Section 1.3 – large berm, small berms, and trestle. Section 1.3 includes a description of the construction activities that are anticipated with each of the 3 construction options.

2.3.1 Parks and Recreational Facilities

Project construction would occur within and adjacent to park and recreational facilities, some of which would be affected by this activity on a temporary basis. This section presents a generalized discussion of these temporary impacts. In addition to this generalized analysis, Appendix C of this EA contains an analysis of resources evaluated relative to the requirements of Section 4(f) as well as a preliminary de minimis impact determination. Impacts on parks and recreational facilities are also addressed in the 2012 CIA.

Affected Environment

The proposed project is located almost entirely within the boundaries of Mission Bay Park (Figure 2.3.1-1), a recreational facility of the City of San Diego. The bridge crosses the City's Southern Wildlife Preserve and two City-maintained bike/pedestrian paths that follow the northern and southern banks of the San Diego River, and is located adjacent to the City's California Least Tern Preserve located between Sea World marine park and the San Diego River. In addition, the proposed project is within two park and recreation resources that are

Source: AerialsExpress 2010; SanGIS 2011; SANDAG 2011; TYLin 2010

2,500 1,250 0 2,500 Feet

Scale: 1:30,000 1 inch = 2,500 feet

Figure 2.3.1-1
Mission Bay Park

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independent of Mission Bay Park--the Famosa Slough and Barnes Tennis Center. Figure 2.3.1-2 shows the locations of these park and recreation resources, and descriptions are provided below.

Mission Bay Park

Mission Bay Park consists of 7 square miles of park area available for water and land recreation, centered around Mission Bay, which is a constructed saltwater bay connected to the Pacific Ocean through an ocean inlet at the southwestern boundary of the park (Figure 2.3.1-1). Visitors to Mission Bay Park can engage in a variety of activities, including sailing, swimming, fishing, jet skiing, picnicking, running/walking, and bicycling. The park frequently hosts popular sporting events such as professional volleyball tournaments, personal watercraft events, water-ski events, and the annual Over-the-Line Tournament. Most recreation areas within the park were developed for passive recreation suited for the calm-water setting of the bay. These passive recreation areas include picnic shelters, barbecues, and designated swim zones staffed with lifeguards during summer months, children's playground equipment, parkland, and beaches. Mission Bay Park also has designated portions for the sustainable management of environmental resources. Habitat preservation within the park is located in the northeastern portion on Fiesta Island and in the southern portion west of Rose Creek, including the portion of the San Diego River flood control channel within park boundaries. Additionally, the Mission Bay Park Master Plan Update has identified areas in the park for future habitat restoration and preservation.

The proposed project is located within the southern portion of Mission Bay Park but does not encroach into any of the park's recreation areas. The proposed project crosses the San Diego River flood control channel within the park and is located adjacent to several other resources within Mission Bay Park, including the Southern Wildlife Preserve and bike/pedestrian trails. Each of these independent resources is described below.

Southern Wildlife Preserve

The proposed project crosses a portion of the San Diego River flood control channel that is designated by the City as the Southern Wildlife Preserve. Habitat within the Southern Wildlife Preserve near the existing West Mission Bay Drive Bridge consists of coastal brackish marsh and open water/tidal mudflat. There are few restrictions to wildlife movement within the Southern Wildlife Preserve river corridor, given that the existing bridges, including the I-5, West Mission Bay Drive, and Sunset Cliffs Boulevard crossings, allow for relatively unimpeded movement beneath them. The Southern Wildlife Preserve is designated as a wildlife preserve in the Mission Bay Park Master Plan Update. There are no active human uses within this preserve area, but visual access to the site is available from public paths on each side of the San Diego River, creating the potential for recreational wildlife-viewing uses.

City of San Diego Bike/Pedestrian Paths

City bike/pedestrian paths follow the northern and southern banks of the San Diego River in the vicinity of the site, each crossing beneath the project bridge. The path on the northern bank runs between Mission Bay Park in the west and Friars Road in the east. The southern path, commonly known as the Ocean Beach Bike Path, connects Ocean Beach in the west to Mission Valley in the east. Both paths are official bike paths as identified in the City of San Diego Bicycle Master Plan and are owned and operated by the City.

California Least Tern Preserve

Land east of the northern terminus of the proposed project is designated as the California Least Tern Preserve in the Mission Bay Park Master Plan Update. The preserve is protected by a small berm that provides a buffer between the preserve and the surrounding environs. Public access is prohibited and there are no active human uses within this preserve, but visual access to the site is available from perimeter paths and creates the potential for recreational wildlife-viewing uses.

Famosa Slough

Famosa Slough is a 37-acre wetland preserve located approximately 0.20 mile west of the proposed project. Twelve acres of the Famosa Slough consist of a channel that extends from West Point Loma Boulevard northward to the San Diego River flood control channel (Southern Wildlife Preserve). The Famosa Slough is bisected by West Point Loma Boulevard and bordered by Famosa Boulevard on its western boundary. Famosa Slough is managed as a wetland preserve by the San Diego Parks and Recreation Department, with help from the organization Friends of Famosa Slough. Both the 12-acre channel portion and 25-acre southern portion of the slough are owned and maintained by the City and are accessible to the public by a trail that includes benches and viewing areas.

Barnes Tennis Center

The Barnes Tennis Center is a private tennis court facility located approximately 0.44 mile west of the proposed project in Ocean Beach. The Barnes Tennis Center provides tennis training programs and also hosts tennis tournaments. It is owned and operated by Youth Tennis San Diego, a private nonprofit organization.

Environmental Consequences

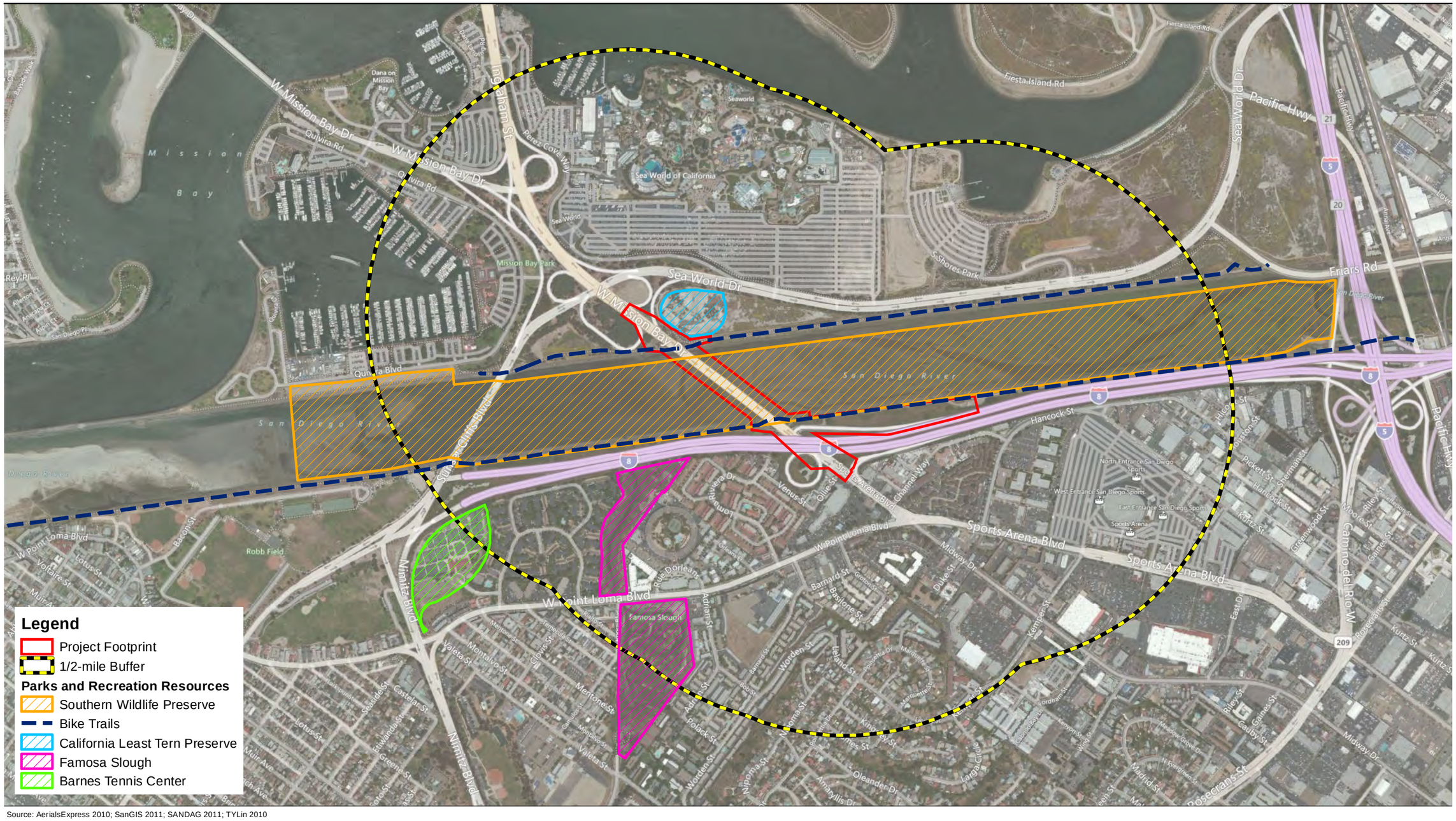
The project would have direct and indirect temporary impacts on parks and recreational uses, as described below. The construction-related impacts with respect to parks and recreation would be identical for the three construction options. Therefore, separate analyses for the three options are not provided below.

Mission Bay Park

Project construction activities and staging areas would not directly encroach into any active recreational areas of Mission Bay Park. Access to all recreational areas at the park would remain open throughout construction. Traffic delays due to lane closure and detours during certain construction stages may present an inconvenience to recreational users of the park, but these intermittent impacts would cease once construction is complete.

Southern Wildlife Preserve

Project construction would occur within the boundaries of the Southern Wildlife Preserve, which likely would limit wildlife use of the site on a temporary basis. This reduction in wildlife use of the site during construction would temporarily limit recreational wildlife-viewing opportunities in the preserve during construction. The preserve is not an active recreational area and, accordingly, there would be no reduction in active uses in the preserve.



Source: AerialsExpress 2010; SanGIS 2011; SANDAG 2011; TYLin 2010

1,000 500 0 1,000 Feet

Scale: 1:12,000 1 inch = 1,000 feet

Figure 2.3.1-2
Parks and Recreation Resources

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City of San Diego Bike/Pedestrian Paths

Project construction would occur in the vicinity of the bike/pedestrian paths on the northern and southern banks of the San Diego River, with a portion of the bridge work spanning directly over the paths. Full access to the existing paths would be maintained throughout project construction and the project would not require path closure or detours. Construction entails erecting protected crossings that would enclose the existing bike/pedestrian paths and thereby allow passage through construction zone and onto the bridge. The temporarily shielded walkways would accommodate all existing uses for the paths, adhere to current standards, and create a continuous path of travel for all users.

The protective crossings are anticipated to be in place for approximately 16 to 22 months of the total construction timeline. The protective crossings would be deconstructed prior to final construction activities, including demobilization, removal of construction equipment and staging and storage areas, final configuration of the bridge connection points, and lane striping. Therefore, the existing bike/pedestrian paths would not be enclosed for the entire duration of construction. The original bike/pedestrian paths and their connections to the new bridge(s) would be restored to their original state once the protective enclosures were removed.

California Least Tern Preserve

Project construction activities would not encroach into the California Least Tern Preserve. There are no public uses of the preserve, so no limitation of public access would result from project construction. Construction activities may temporarily affect wildlife use of the site, which could temporarily limit recreational wildlife-viewing opportunities in the preserve during construction.

Famosa Slough

Project construction would not encroach into the Famosa Slough or its perimeter trails, and would not limit access to this area. Therefore, there would be no impact.

Barnes Tennis Center

Project construction would not encroach into the Barnes Tennis Center and would not affect access to this facility. Therefore, there would be no impact.

Avoidance, Minimization, and/or Mitigation Measures

A Traffic Management Plan (TMP) will be prepared to minimize the impacts of traffic delays during construction. See Section 2.3.2 for additional information regarding traffic operations during construction. There are no other impacts on recreational facilities during project construction that warrant mitigation. Temporary impacts to the City's bike/pedestrian paths would be avoided through construction of protective enclosures that would be provided along the bike paths to shield the pathways from construction activities and to ensure a protected environment for pedestrians and bicyclists throughout the construction zone.

2.3.2 Traffic and Transportation/Pedestrian and Bicycle Facilities

This section analyzes the temporary impacts on traffic due to project construction. The regulatory setting and existing conditions with respect to traffic are discussed above in Section 2.2.2.

Environmental Consequences

Construction-related traffic impacts would be identical for the three construction options. Therefore, separate analyses for the three options are not provided below.

Construction of the proposed project would result in temporary traffic impacts, including periodic traffic delays that could increase travel times for motorists traveling on West Mission Bay Drive and local arterials such as West Point Loma Boulevard, Midway Drive, and Sports Arena Boulevard. These temporary traffic impacts could also delay response times for emergency services due to congestion on the local roadways. Temporary traffic impacts would be minimized by maintaining two lanes of traffic on West Mission Bay Drive in both the northbound and southbound directions at all times throughout the staged construction process. Additionally, implementation of the TMP prepared for the proposed project would minimize traffic impacts by controlling traffic and maintaining access throughout the staged construction process. Implementation of the TMP would provide continued access to all driveways and streets in the traffic study area during all stages of construction to allow access to businesses in the surrounding area. The existing north and south bike paths along the San Diego River banks would remain open at all times during construction. One sidewalk across the bridge would remain open at all times during construction to provide pedestrian access. Bicycle access across the bridge would be available on this sidewalk, with bicyclists asked to dismount and walk their bikes across. Further, for any existing pedestrian facilities within the area that would be affected due to construction activities, advance warning would be provided to notify pedestrians of the associated detour.

Temporary impacts to the two City bike/pedestrian paths would be reduced through construction of protective crossings that would enclose the paths and allow for continued passage through the project area, as well as access to the bridge. This protective enclosure would shield the pathways from construction activities and ensure a protected environment for pedestrians and bicyclists throughout the construction zone. The temporarily shielded paths would accommodate all existing uses, adhere to current standards, and create a continuous path of travel for all users.

Once construction of the proposed project is completed, the original bike/pedestrian paths and their connections to the new bridge(s) would be restored to their original state, and all temporary protective structures would be removed.

Therefore, construction activities would not adversely affect related to vehicular, bicycle, and/or pedestrian access along the bridge or in the surrounding area.

Avoidance, Minimization, and/or Mitigation Measures

Transportation Management Plan

A TMP has been designed for the proposed project to minimize delays during the construction phase. The following is a summary of the TMP elements that would be implemented to reduce traveler delay and enhance traveler safety.

Public Awareness Campaign

A public awareness campaign would educate motorists, merchants, residents, elected officials, and governmental agencies about potential construction impacts. The public awareness

campaign is designed to (1) identify all target audiences who would be impacted by construction activities; (2) serve as the focal point for project-related questions regarding construction activities, road closures, noise, and dust; (3) inform the public about the construction project and how the project could affect their travel along West Mission Bay Drive; and (4) promote alternative modes of transportation and alternate routes.

Motorist Information Strategies

Motorist information strategies would be implemented to divert the desired volume of traffic away from the construction site. These strategies would also enable motorists to make informed decisions about their own travel plans and options by providing them with information that is as close to "real time" as possible. The motorist information strategies considered in the TMP include portable changeable signs, ground-mounted signs, and the Caltrans Highway Information System.

Incident Management

Incident management would consist of the following components:

- Construction Zone Enhanced Enforcement Program (COZEEP): COZEEP involves placing highly visible California Highway Patrol officers within the work area to discourage motorists from committing dangerous moving violations. A limited COZEEP has been made available for this project, as full freeway closures and work in ramp gore areas are not anticipated, and only limited night work is anticipated.

- Towing Availability: A vehicle breakdown or accident has the potential to substantially interrupt bridge service. As such, towing services are critical to smooth and continuous operations within the construction footprint. The phone number of a local towing company serving the project area would be provided to California Highway Patrol and the City's Police Department.

- Traffic Management Team: A Traffic Management Team (TMT) would be scheduled whenever construction activities are expected to cause a traffic queue on I-8. The TMT would help to prevent accidents (queue protection) by providing advance warning to the motorist of abnormal downstream traffic congestion on the freeway.

Construction Strategies

Construction strategies would involve the following:

- Lane Closures: The existing bridge provides two through travel lanes in both the NB and SB directions. Due to the high traffic volumes on the bridge, the proposed project was designed to provide at least two through travel lanes in each direction during each stage of construction. Shoulders would be provided to the maximum extent practicable to allow disabled vehicles a refuge area from the travel way and lessen the probability of extended delays resulting from minor incidents. As the existing number of main lanes would be maintained throughout the construction phase, no diversion of traffic is anticipated. Therefore, the existing roadway segments, intersections, and freeway ramps would only be intermittently impacted by any detoured traffic.

- Business Access Closures: Continued access to all driveways and streets in the project area would be provided during all stages of construction.

- Bicycle/Pedestrian Facility Closures: The existing north and south bike paths along the San Diego River banks would remain open at all times. In addition, one sidewalk across the bridge would remain open at all times throughout construction. For any existing pedestrian facilities within the area that would be affected due to the construction of the proposed project, advance warning signs would be provided to notify pedestrians of the associated detour.

- Access Routes and Construction Staging Area Strategies: The construction access routes and staging areas would ultimately be selected by the contractor and approved by the City and Caltrans. Subsequently, all traffic control related to the proposed project, including any traffic control needed for construction access routes and construction staging areas, would be approved by the City and Caltrans.

- Conflicts with Other Projects and Special Events: Concurrent construction with overlapping project limits should be anticipated in advance and may require a review of TMP elements during construction to avoid unanticipated impacts to traffic flow.

Alternate Route Strategies

Near the project area, the Sunset Cliffs Boulevard Bridge (west of the project site) provides an alternate route for NB-SB traffic. If this route becomes heavily used or is needed in the event of an emergency, the traffic signal timing at the associated intersections may need to be adjusted to minimize delay, especially during the AM and PM commuter peak hours.

Contingency Plans

If redirecting traffic volumes is required, the Caltrans District Traffic Manager Branch shall be available on an as-needed basis to assist in developing solutions. Such efforts may require additional cooperation on the part of Caltrans Public Affairs, California Highway Patrol COZEEP units, the TMP coordinator, Transportation Management Center (TMC) personnel, TMT units, and maintenance personnel. TMC personnel would have access to contact numbers for all of these branches and would assist in communications if required by field personnel.

2.3.3 Visual/Aesthetics

This section analyzes the project's temporary visual impacts due to project construction. The regulatory setting and existing conditions with respect to the visual environment are discussed above in Section 2.2.3.

Environmental Consequences

Construction activities would entail temporary landform modification and the presence of construction materials, equipment, and vehicles in a scenic area, which would alter the public's visual enjoyment of the area on a temporary basis. The three construction options would introduce new elements to the visual setting of the San Diego River for 16-24 months. The majority of viewers are anticipated to be drivers and passengers traveling in vehicles on I-8, West Mission Bay Drive, and other local roadways; bicyclists and pedestrians using the paths

following the San Diego River; some residents located south of the San Diego River in the vicinity of the site; and patrons of commercial uses in the project area.

The primary staging areas for the project would be located on the north side of the San Diego River, including a portion of the Sea World parking lot, a strip of land between Sea World Drive and the San Diego River east of the bridge, and a disturbed area west of the site between Sunset Cliffs Road and the southbound West Mission Bay Drive off-ramp to eastbound Sea World Drive. The staging areas would be visible from the San Diego River paths, motorists and pedestrians crossing the West Mission Bay Drive Bridge and Sunset Cliffs Road bridge, and some visitors to Sea World traveling near the portion of the parking lot used by the project. The areas selected for project staging are not scenic areas and do not feature important visual resources. The visibility of construction equipment in these areas on a temporary basis may represent a temporary nuisance to some viewers.

Large Berm Option

Under the Large Berm Option, a single 8-foot-high berm would span the San Diego River throughout construction. The berm would have the appearance of a long earthen hill that would be visible to motorists traveling nearby roads, users of the San Diego River bicycle/pedestrian paths, and certain residences and commercial patrons south of the river. The berm would be a noticeable component of the visual environment throughout construction and may represent a temporary nuisance to some viewers.

Small Berms Option

The small berms option would construct two 8-foot-high berms on either side of the existing bridge. They would be similar in appearance to the large berm in the prior option. Though their smaller size would slightly reduce their visible scale, their proximity to each other would mean that most viewers would not be able to discern them as separate features. The small berms may represent a temporary nuisance to some viewers.

Trestle Option

Under the trestle option, a series of wooden lattices would be visible spanning the San Diego River, visible by the same viewers who would receive views of the berm options, and no large earthen hill would be visible. These temporary structures would be removed once construction is completed. The nature of their structural design and their location adjacent to an existing bridge would mean that they likely would be perceived as less bulky than the large earthen berms, but some viewers may also perceive them as a temporary nuisance.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures for visual impacts caused by construction activities are not proposed since the impacts would be temporary in nature and it would not feasible to shield viewers from the construction activities.

2.3.4 Hydrology and Floodplain

Construction impacts on hydrology and floodplain were analyzed in a June 6, 2012, letter report. The conclusions of that letter serve as the basis for the discussion in this section.

Affected Environment

The proposed project spans the San Diego River, which is the main drainage of the San Diego River watershed.

The river discharges into the Pacific Ocean approximately 1.6 miles west of the project site.

The limits of the effective Federal Emergency Management Agency (FEMA) analyses for this study include the area between the Pacific Ocean, approximately 8,500 feet downstream of the bridge crossing, and I-5, approximately 6,500 feet upstream of the bridge crossing. Currently, this portion of the San Diego River is identified as a Zone AE floodplain (base floodplain), for which base flood elevations (100-year water surface elevations) have been established by FEMA, as shown in Figure 2.3.4-1. In the vicinity of the bridge crossing, the San Diego River is an improved trapezoidal channel that receives tidal flows and contains wetland vegetation.

The hydraulic model considered existing flow rates for five different levels of storm events ranging from the 10-year storm to the 100-year storm. Existing flow rates for those storms were estimated as follows:

- 100-year storm: 36,000 cubic feet per second (cfs)
- 50-year storm: 17,000 cfs
- 25-year storm: 10,000 cfs
- 10-year storm: 3,100 cfs

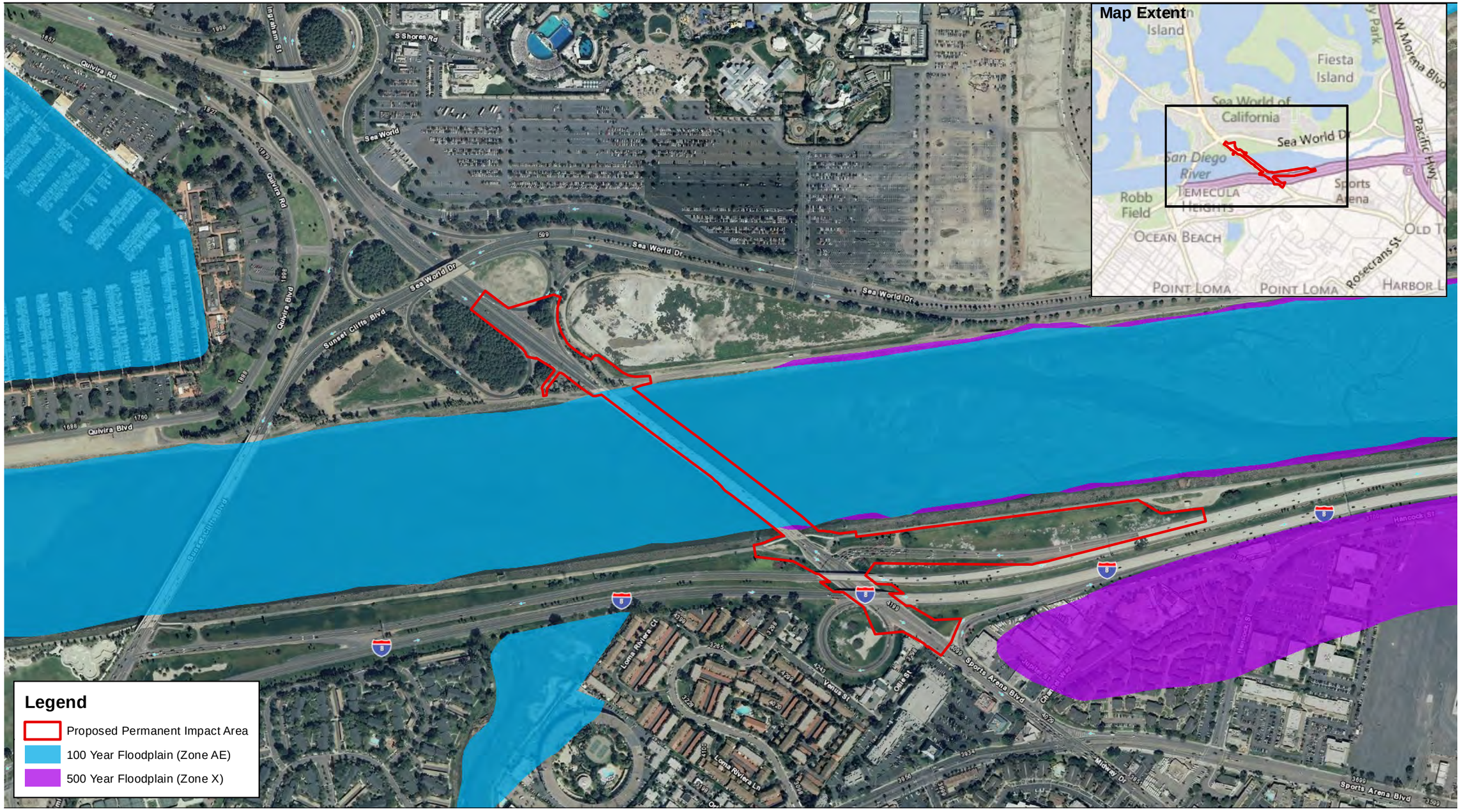
Environmental Consequences

Project construction would entail placement of temporary structures within the San Diego River channel to enable access to the work areas for erecting the new bridge and dismantling the existing bridge. The three construction options, as discussed in Section 1.3, are analyzed separately for their effects on hydraulics of the river.

Temporary Small Berms Option

The small berms option would entail constructing two berms that are approximately 30’ wide, extending approximately 1200 feet across the channel, with a top elevation 7.4 amsl to elevate the berm above the tidal influence elevation and minimize the potential for overtopping in storm events smaller than a 10-year event. The berms would feature 6 or more openings at the base of each berm, each approximately 30-feet wide, to allow river flow and tidal flow beneath the structure. At least one of these openings would be constructed over the river’s low-flow channel.

Under this option, one of the berms would be constructed during one phase of construction upstream of the current bridge location, and the second berm would be constructed downstream of the current bridge location at a later phase. Therefore, two models were prepared, reflecting a single small berm on either side of the current bridge location. Tables 2.3.4-1 and 2.3.4-2 show the impacts of the upstream and downstream scenarios of the small berms option.



Source: Aerials Express 2010; FEMA 2010

500 250 0 500 Feet

Scale: 1 = 6,000; 1 inch = 500 feet

Figure 2.3.4-1
FEMA Flood Zones

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Table 2.3.4-1
Temporary Hydraulic Impacts, Small Berms Option, Upstream Scenario

	10-Year	25-Year	50-Year	100-Year
Flow (cubic feet per second)	3,100	10,000	17,000	36,000
Existing Water Surface Elevation (feet)	6.36	7.17	8.29	11.47
Bermed Water Surface Elevation (feet)	6.26	8.55	10.15	12.35
Maximum Increase (feet)	>0.1	1.38	1.86	0.88
Length of Backwater (feet)	0	8,900	9,735	9,625

Table 2.3.4-2
Temporary Hydraulic Impacts, Small Berms Option, Downstream Scenario

	10-Year	25-Year	50-Year	100-Year
Flow (cubic feet per second)	3,100	10,000	17,000	36,000
Existing Water Surface Elevation (feet)	6.36	7.17	8.29	11.47
Bermed Water Surface Elevation (feet)	6.26	8.50	10.24	12.56
Maximum Increase (feet)	>0.1	1.33	1.86	0.88
Length of Backwater (feet)	0	8,500	9,962	10,364

As shown in the tables above, placement of the temporary small berms across the San Diego River would lead to a slight increase in water elevation during the storm events. As modeled, this temporary increase in storm flow elevation would be contained by the existing banks of the channel and would not impact any existing structures along the river.

An analysis was conducted to determine whether the small berms would be able to allow flows associated with tidal prism. Using the current HEC-RAS model, the analysis determined that the openings in the temporary berms would adequately convey the majority of the water present during the highest high-tide event. The existing tidal volume would be slightly reduced, resulting in a decrease in tidal elevation of approximately 0.01 feet and a decrease in tidal reach by approximately 1.2 feet. This reduction does not constitute an adverse effect on hydraulic conditions within the San Diego River. Furthermore, this analysis was based on a conservative estimate, and it anticipated that a more refined analysis would yield more realistic results and demonstrate even less of change to the total volume of tidal prism during construction.

Similarly, an analysis was conducted to determine whether the small berms would convey daily low flows within the San Diego River. Based on data available for non-rainy days, water flows within the San Diego River were calculated to range between 8.6 cfs and 12.0 cfs, which is well below the 555 cfs that must be conveyed during the highest high-tide event described above.

Since the temporary small berms would be able to adequately convey 555 cfs with minimal impact on hydraulic conditions, they also would be able to convey daily low flows within the San Diego River.

The temporary construction berms would increase water velocities in the vicinity of the berm openings. The HEC-RAS model used to analyze the temporary construction berms determined that water velocities traveling through the berm openings would range between approximately 0.1 to 1.3 feet per second (fps) for flow rates between 100 and 555 cfs. However, velocities within this range typically are not considered erosive. Therefore, increased water velocities associated with the culvert openings would not result in scour effects to the earthen bottom of the San Diego River flood control channel.

Large Berm Option

The large berm option would entail constructing one berm beneath the existing and proposed bridge that would be approximately 280 feet wide, extending approximately 1,200 feet across the channel, with a top elevation 6.5 amsl to elevate the berm above the tidal influence elevation and minimize the potential for overtopping in storm events smaller than a 10-year event. The berm would feature 12 or more openings at the base of the berm, each approximately 30-feet wide, to allow river flow and tidal flow beneath the structure. At least one of these openings would be constructed over the river's low-flow channel. Table 2.3.4-3 shows the temporary hydraulic impacts of the large berm option.

Table 2.3.4-3
Temporary Hydraulic Impacts, Large Berm Option

	10-Year	25-Year	50-Year	100-Year
Flow (cubic feet per second)	3,100	10,000	17,000	36,000
Existing Water Surface Elevation (feet)	6.36	7.17	8.29	11.47
Bermed Water Surface Elevation (feet)	6.34	8.56	9.94	12.89
Maximum Increase (feet)	>0.1	1.39	1.65	1.42
Length of Backwater (feet)	0	8,900	9,549	11,341

Similar to the small berms, placement of the temporary large berm across the San Diego River would lead to a slight increase in water elevation upstream of the berm during storm events. The modeled effects are very similar to those of the small berms, as the openings at the base have been designed to account for the same conditions and minimize effects on storm flows to the greatest extent possible. As modeled, the temporary increase in storm flow elevation under the large berm option would be contained by the existing banks of the channel and would not impact any existing structures along the river.

The large berm is anticipated to have a slightly greater impact on tidal flows than the small berms. The tidal prism analysis determined that the large berm would adequately convey the majority of the water present during the highest high-tide event, but would reduce existing upstream tidal elevation by approximately 0.15 feet (compared to 0.01 feet under the small

berms option). This is estimated to result in a reduction of upstream tidal reach by approximately 9 feet. This temporary reduction does not constitute an adverse effect on hydraulic conditions within the San Diego River. This analysis was based on a conservative estimate, and it is anticipated that a more refined analysis would yield more realistic results and demonstrate even less change to the total volume of tidal prism during construction.

Similarly, an analysis was conducted to determine whether the temporary large berm would convey daily low flows within the San Diego River. Based on data available for non-rainy days, water flows within the San Diego River were calculated to range between 8.6 cfs and 12.0 cfs, which is well below the 555 cfs that must be conveyed during the highest high-tide event described above. Since the large berm would be able to adequately convey 555 cfs with minimal impact on hydraulic conditions, it also would be able to convey daily low flows within the San Diego River.

The temporary large berm would increase water velocities in the vicinity of the berm openings. The HEC-RAS model used to analyze the temporary construction large berm determined that water velocities traveling through the berm openings would range between approximately 0.1 to 1.3 fps for flow rates between 100 and 555 cfs. However, velocities within this range typically are not considered erosive. Therefore, increased water velocities associated with the culvert openings would not result in scour affects to the earthen bottom of the San Diego River flood control channel.

Trestle Option

The trestle option would construct two platforms upstream and downstream of the existing bridge supported by piles driven in the river bed. The piles would be grouped in bents spaced approximately 35 feet apart, with spans between each bent totaling 977 square feet of open area to minimize temporary effects to the westerly flow of water and the tidal prism and allow hydraulic activities to continue as close to their natural state as possible. The orientation of the bents would be orthogonal to the trestle and would not be parallel to the river follow, resulting in increased obstruction of water flow.

As with the small berms option, the two trestle structures would be constructed at different phases of the project construction period, and two models were prepared to analyze the upstream and downstream configuration, as shown in Tables 2.3.4-4 and 2.3.4-5.

Table 2.3.4-4
Temporary Hydraulic Impacts, Trestle Option, Upstream Scenario

	10-Year	25-Year	50-Year	100-Year
Flow (cubic feet per second)	3,100	10,000	17,000	36,000
Existing Water Surface Elevation (feet)	6.36	7.17	8.29	11.47
Bermed Water Surface Elevation (feet)	6.18	7.63	9.26	12.28
Maximum Increase (feet)	>0.1	0.46	0.97	0.81
Length of Backwater (feet)	0	6,849	8,333	9,480

Table 2.3.4-5
Temporary Hydraulic Impacts, Trestle Option, Downstream Scenario

	10-Year	25-Year	50-Year	100-Year
Flow (cubic feet per second)	3,100	10,000	17,000	36,000
Existing Water Surface Elevation (feet)	6.36	7.17	8.29	11.47
Bermed Water Surface Elevation (feet)	6.18	7.56	9.45	12.32
Maximum Increase (feet)	>0.1	0.39	1.16	0.85
Length of Backwater (feet)	0	6,018	8,900	9,549

Similar to the two berm options, placement of the temporary trestles across the San Diego River would lead to a slight increase in water elevation upstream of the berm during storm events. The modeled effects are very similar to those of the berm options, though the results of the trestle analysis suggest that this option would have the least effect on storm flows. As modeled, the temporary increase in storm flow elevation under the trestle option would be contained by the existing banks of the channel and would not impact any existing structures along the river.

The trestles are anticipated to have a slightly greater impact on tidal flows than the small berms, but lesser than the large berm. The tidal prism analysis determined that the trestles would adequately convey the majority of the water present during the highest high-tide event, but would reduce existing upstream tidal elevation by approximately 0.02 feet (compared to 0.01 feet under the small berms option and 0.15 feet under the large berm option). This is estimated to result in a reduction of upstream tidal reach by approximately 0.6 feet. This temporary reduction does not constitute an adverse effect on hydraulic conditions within the San Diego River. This analysis was based on a conservative estimate, and it is anticipated that a more refined analysis would yield more realistic results and demonstrate even less change to the total volume of tidal prism during construction.

Similarly, an analysis was conducted to determine whether the temporary construction trestle would convey daily low flows within the San Diego River. Based on data available for non-rainy days, water flows within the San Diego River were calculated to range between 8.6 cfs and 12.0 cfs, which is well below the 555 cfs that must be conveyed during the highest high-tide event described above. Since the temporary construction trestle would be able to adequately convey 555 cfs with minimal impact on hydraulic conditions, the temporary construction trestle would also be able to convey daily low flows within the San Diego River.

The temporary construction trestle would increase water velocities in the vicinity of the trestle openings. The HEC-RAS model used to analyze the temporary construction trestle determined that water velocities traveling through the openings would range between approximately 0.1 to 1.3 fps for flow rates between 100 and 555 cfs. However, velocities within this range typically are not considered erosive. Therefore, increased water velocities associated with the trestle openings would not result in scour affects to the earthen bottom of the San Diego River flood control channel.

Avoidance, Minimization, and/or Mitigation Measures

The temporary construction scenarios would be designed to convey the twice daily tidal prism and the San Diego River low flows. The temporary berms/trestle would also accommodate projected increases in water surface elevation and length of backwater resulting from storm events. The openings in the temporary construction berms/trestle would be designed to convey the increase in water volume westerly to the Pacific Ocean, ensuring that these increases would be temporary. Once construction of the proposed bridge is complete, the temporary construction berms/trestle would be removed, and negligible effects to the tidal prism, low-flow conditions, and water surface elevation increases would return to the existing conditions.

2.3.5 Water Quality and Storm Water Runoff

A Preliminary Storm Water Data Report was prepared for the project in 2011. Additionally, a 2010 Structures Preliminary Geotechnical Report was prepared. These separately prepared technical reports serve as the basis for this analysis of impacts to water quality and stormwater runoff; they are incorporated by reference.

Affected Environment

The project is located in the San Diego River watershed, within the Mission San Diego HSA 907.11. The San Diego River flows westward beneath the project bridge and discharges into the Pacific Ocean, approximately 1.6 miles west of the project site. Discharge from the San Diego River outlet has the potential to influence water quality in the nearby coastal areas of Ocean Beach, Point Loma, Pacific Beach, and Mission Beach.

The project alignment crosses the San Diego River, which is listed on the 303(d) list of impaired water bodies for the following pollutants of concern: enterococcus, fecal coliform, low dissolved oxygen, nitrogen, phosphorus, total dissolved solids, and toxicity.

Environmental Consequences

Based on the City of San Diego Storm Water Standards Manual, the proposed project falls in the general project category of Streets, Highways, and Freeways. As such, the anticipated pollutants expected from the site that could cause impairment of receiving waters include sediment, heavy metals, organic compounds, trash and debris, oil and grease, bacteria and viruses, and pesticides. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the project in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit. The SWPPP will be implemented concurrently with the commencement of soil-disturbing activities associated with construction. The requirements of the General Permit are intended to be implemented on a year-round basis. A Notice of Intent (NOI) will be filed with the State Water Resources Control Board (SWRCB) and the Waste Discharge Identification (WDID) Number will be obtained. Construction activities on the landside part of the project would result in soil disturbance adjacent to the San Diego River, which would temporarily increase the potential for adding sediment to the river. Construction staging areas would likely include the portion of the Sea World parking lot in the northeast quadrant of the project site between Sea World Drive and the San Diego River, as well as the area on the northwest quadrant of the project site bound by the San Diego River, Sunset Cliffs Boulevard, and the southbound West Mission Bay Drive off-ramp to eastbound Sea World Drive. It is also assumed that the existing access road on the north embankment of the river would be used. Staging impacts would be minimal since the sites

are paved or chip-sealed, and storm water BMPs would be implemented in accordance with water quality standards and storm water permits.

The project entails in-water work that would stir up sediment in the river that could be transported downstream, including establishment of the temporary berms or trestles, installation of the bridge piles, and the removal of the existing bridge. However, due to the grading design, the decrease in sediment source area (due to the conversion of pervious areas to impervious areas associated with the reconfiguration of the I-8 ramps and the addition of two lanes), and implementation of BMPs (described below and included in construction permits), the project is not anticipated to increase sediment loading in the San Diego River.

All three construction options would result in the potential for increased turbidity while grading (berm options) or pile placement (trestle option) occurs. This impact would be avoided by placement of an impermeable barrier along the length of the affected channel area, which likely would be in the form of a temporary cofferdam, made of floating tubes with plastic sheeting hanging down and weighted at the bottom. This method would prevent significant tidal water from passing through the impacted area. Temporary construction impacts on water quality, including impacts from erosion, would be minimized through implementation of the SWPPP and temporary construction BMPs developed in accordance with the Construction General Permit.

Avoidance, Minimization, and/or Mitigation Measures

BMPs implemented during the construction phase would include erosion control, sediment control, vehicle sediment tracking control, wind erosion control, non-storm water management pollution control, waste management, and materials pollution control. BMPs used for construction work occurring within the river channel would include temporary construction berms, in-stream silt curtains, and cofferdams and pumps to dewater soils. The BMPs used for upland construction zones would most likely include debris-catching basins, silt fencing, straw wattles, gravel bags, storm drain inlet protection, stabilized construction entrances, and other similar measures. As the temporary construction berm would increase local velocities during smaller storm events, it is recommended that the contractor place temporary rip-rap near opening(s) to reduce the risk of erosion. These BMPs will be documented in the SWPPP.

Temporary cofferdams would be installed in the river channel prior to constructing the berms or driving the trestle piles. An impermeable barrier would be constructed, likely consisting of floating tubes with plastic sheeting hanging down and weighted at the bottom. This method would prevent substantial tidal water from passing through the impacted area and prevent increased turbidity that could be carried downstream to the ocean.

2.3.6 Geology/Soils/Seismic/Topography

Affected Environment

A Structures Preliminary Geotechnical Report was prepared for the proposed project in 2010. The investigation evaluated potential geotechnical impacts using site reconnaissance, subsurface exploration, laboratory testing of site samples, an assessment of general seismic conditions, and an engineering analysis to develop recommendations for implementation of the proposed project. This technical report serves as the basis for this section; it is incorporated by reference.

Geology and Subsurface Conditions

The project site is located within the coastal plain of the Peninsular Ranges geomorphic province of Southern California. The project site is also located within the San Diego River floodplain and is underlain by Quaternary-age alluvium and paralic (at or approximately sea level) estuarine deposits, with Eocene conglomerate located deep below these deposits. The project site is also located in a transition zone where the San Diego River channel widens into an estuarine depositional environment. Development of this estuary zone has changed the natural landscape to form Mission Bay Park and to channelize the San Diego River. The paralic estuarine deposits are covered with hydraulic fill and fill placed in the 1940s. Excavated estuarine sediments were used to reshape the San Diego River mouth and form the present-day configuration of Mission Bay Park. Shallow alluvium is also present in the active San Diego River flood control channel.

Potential Geologic Hazards

The project site is located near the Rose Canyon Fault, approximately 1.4 miles east of the project site, and is underlain by saturated soils that are loose and poorly consolidated. Geologic hazards at the site would generally be associated with the potential for strong ground shaking and soil liquefaction due to seismic activity from the Rose Canyon Fault.

The project site is located in an area that has been identified by the City as potentially susceptible to liquefaction. The geotechnical investigation indicated that silty sand and sandy silt beds within the paralic estuarine deposits have the potential for liquefaction. The subsurface investigation also suggested that potentially liquefiable paralic estuarine deposits exist on-site to depths of up to 90 or more feet below grade. However, the beds of poorly graded sand with silt within the lower paralic estuarine deposits are too dense to liquefy. An approximately 20-foot-thick layer of poorly graded sand with silt was encountered at depths between 30 and 50 feet below existing grade.

The paralic estuarine deposits that underlie the project site are expected to settle if subjected to new fill loads.

Environmental Consequences

The project entails construction work in a seismically active area at a site underlain by geological conditions that make it susceptible to hazards during an earthquake. In particular, the project entails constructing temporary support structures, depending on the construction option selected, that would need to be properly engineered to maintain safe conditions.

The large berm and small berms would be constructed of fill that would be properly engineered pursuant to professional standards and compacted to minimize the potential for collapse during a strong ground shaking. Similarly, the trestle would be properly engineered to withstand these conditions.

Construction activities, such as grading, installation of the replacement bridge piles, and removal of the existing bridge, would result in soil disturbance that would temporarily increase the potential for soil erosion. Additionally, excavation activities for the proposed bridge foundations may encounter heavy groundwater seepage and caving due to the location of the local groundwater table at or near mean sea level with some tidal fluctuations.

A geotechnical evaluation performed for the project area concluded that the weight of the temporary structures may result in soil compaction in the river bed and that the maximum depression left in the river bed following demolition of the temporary berms/trestle would be 6 inches, but the natural redistribution of sediment is expected to correct the depressions over time. The City will monitor the channel bottom elevation for 6 to 9 months following demolition of the temporary structures; if after 9 months the channel bottom has not returned to the original elevation, supplemental soils of appropriate grain size and constitution will be imported and placed in the depression to bring the elevation back to its original level.

Avoidance, Minimization, and/or Mitigation Measures

Impacts related to soil erosion and sediment loading during construction would be minimized through implementation of erosion-control BMPs described in Section 2.3.5, Water Quality and Storm Water Runoff. Additionally, the construction contractor would mitigate for groundwater seepage during excavations by utilizing geotechnical BMPs, such as dewatering, casing, and using drilling mud as appropriate.

2.3.7 Air Quality

Affected Environment

See Section 2.2.4 for a discussion of affected environment as related to air quality.

Environmental Consequences

Regional Emissions

The principal criteria pollutants emitted during construction would be PM_{10} and $PM_{2.5}$. The source of the pollutants would be fugitive dust created during clearing, grubbing, excavating, and grading land areas for roadway widening at the north and south bridge termini; demolition of existing bridge structures and pavement; construction vehicle travel on paved and unpaved roads; and material blown from unprotected graded areas, stockpiles, and haul trucks. Generally, the distance that particles drift from their source depends on their size, emission height, and wind speed.

The potential settling distance of dust particles is governed by the initial injection height of the particle, the terminal settling velocity of the particle, and the degree of atmospheric turbulence. For a typical mean wind speed of 10 miles per hour, particles larger than PM_{10} are likely to settle within 20 to 30 feet from the edge of the point of emission. Smaller particles (PM_{30} to PM_{10}) are likely to settle within a few hundred feet of the point of emission, depending on the extent of atmospheric turbulence. Finer particles, particularly PM_{10} and $PM_{2.5}$, settle much slower due to atmospheric turbulence, and can travel hundreds of miles.

A secondary source of pollutants during construction would be engine exhaust from construction equipment during all construction activities. The principal pollutants of concern would be nitrogen oxides (NO_X) and volatile organic compounds (VOC) emissions that would contribute to the formation of O_3, which is a regional nonattainment pollutant.

Federal conformity regulations require analysis of construction impacts for projects when construction activities will last for more than 5 years. The proposed project construction phase is projected to last approximately 2 years (16 to 24 months) and would be completed by 2015;

therefore, no quantitative estimates of regional construction emissions have been made. However, it is recommended that specific measures to control dust and particulates be incorporated into project specifications.

Local Emissions

According to 40 CFR, Part 51, Section 93.123(5), CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required for construction-related activities, which create a temporary increase in air emissions. Temporary is defined as increases that only occur during a construction phase and last 5 or fewer years at any individual site. The construction phase of the proposed project would last for approximately 2 years and would be considered temporary. Thus, no local hot-spot is anticipated, and a hot-spot analysis is not required for construction of the proposed project.

Diesel PM emissions are pollutants of concern. While there is no formal guidance for impact analysis, potential adverse impacts would be increased if construction equipment and truck staging areas were to be located near schools, active recreation areas, or areas of higher population density. Such areas in the vicinity of the project site consist of active recreation areas, including bicycle and pedestrian facilities and Sea World, located approximately 1,000 feet from the north end of the bridge; an eldercare facility located approximately 400 feet from the proposed I-8 off-ramp construction; and dense residential areas within 250 feet of the south end of the bridge. The measures described under the Avoidance, Minimization, and/or Mitigation Measures heading below would be implemented to reduce potential diesel emission impacts.

Large Berm Option

The large berm option would entail a large amount of grading work within the San Diego River channel. Earth moving would generate particulate matter emissions, and the equipment used to perform the work would generate diesel particulate matter (diesel PM) and engine exhaust. Grading for the large berm is estimated at 93,000 cy, which is nearly triple that of the small berms option. The large berm option would likely generate the most pollutant emissions of the three construction options but the duration of construction would be shorter (2 to 8 months) with the large berm option than the trestle option.

Small Berms Option

The small berms option would entail approximately 29,000 cy of fill. As in the large berm option, this would generate particulate matter, diesel PM, and engine exhaust. This smaller amount of fill entails a lesser construction effort, which would generate a smaller amount of pollutants than the large berm option; the total construction period would be similar to the large berm option.

Trestle Option

The trestle option would entail a far smaller amount of grading work than either of the berm options, resulting less air pollutant emissions than either of the berm options. However, it would have the longest construction duration of 18 to 24 months.

Avoidance, Minimization, and/or Mitigation Measures

Project activities would comply with Caltrans Standard Specifications (2010) Section 14-9.03: Dust Control:

- Prevent and alleviate dust by applying water, dust palliative, or both (Section 14-9.02), and by covering active and inactive stockpiles (Sections 13-4.03C[3] and 14-9.02).

The following measures would be incorporated into the project to minimize the emission of fugitive dust, PM_{10}, and $PM_{2.5}$:

- Minimize land disturbance.
- Use watering trucks to minimize dust, using enough water to confine dust plumes to the project work areas.
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- Cover all truck beds containing dirt when trucks travel at speeds greater than 15 miles per hour.
- Stabilize the surface of dirt piles that are not removed within 2 days.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried onto the roadway.
- Revegetate disturbed land, including vehicular paths created during construction, to avoid future off-road vehicular activities.
- Remove unused materials.

The following measure will be incorporated into the project to minimize exposure to diesel PM emissions:

- Locate construction equipment and truck staging and maintenance areas as far as feasible from and nominally downwind of schools, active recreation areas, and other areas of high population density.

2.3.8 Noise

Affected Environment

The sensitive noise receivers analyzed within the project area are located in the residential, commercial, and recreational areas along West Mission Bay Drive, Channel Way, Ollie Street, Venus Street, Camulos Street, and Loma Riviera Drive, and the San Diego River. Residential receptors include single-family and multi-family residential units, and an eldercare facility. Commercial receivers include two hotels (including one with an outdoor pool), SKS Motorsports, A-1 Paint and Body Shop, the Baras Foundation Thrift Store, Dive California, SDTV, Muranyi Automotive, and the Midway Towne Center Shopping Center. Recreational receptors include users of the bicycle/pedestrian paths on the north and south banks of the San Diego River. Most surrounding land uses are located at elevations similar to that of the existing bridge structure; however, I-8 is elevated on an embankment and is located between the existing bridge and the

nearest residential and commercial land uses to the south of the project footprint. The noise generated from I-8 is a major contributor to existing ambient noise levels.

Caltrans standard specifications limit construction noise on its construction sites by requiring contracts to include specifications that noise not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.; that alternative warning methods be used instead of sound signals (unless required by safety laws); and that internal combustion engines used during project construction be equipped with manufacturer-recommended mufflers.

Environmental Consequences

Construction noise would be generated by diesel-engine construction equipment used for site preparation and grading; removal of existing pavement; loading, unloading, and placing materials; and paving. Diesel engine trucks would also bring materials to the site and remove the spoils from excavation.

Under loading conditions, diesel-engine noise levels can be 85 to 90 dBA at a distance of 50 feet from the equipment. Occasional pile driving would be required for bridge piers, which would generate noise levels of 95 dBA at 50 feet from the equipment. Construction equipment noise is considered a “point source” and is attenuated over distance at a rate of 6 dBA for each doubling of distance. Thus, a noise level of 85 dBA at 50 feet would be 79 dBA at 100 feet and 73 dBA at 200 feet from the source.

During excavating, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for tasks that do not require the use of equipment, such as measuring. Although maximum noise levels may be 85 to 90 dBA at a distance of 50 feet during most construction activities, hourly average noise levels near the edge of the project footprint where the excavation, grading, and paving would occur would be anticipated to be 65 to 75 dBA L_{eq}. Maximum noise levels during pavement breaking would be approximately 90 dBA L_{max}.

The nearest receivers that are residential units are located approximately 300 feet or greater from the center of proposed construction and pavement-breaking activities. Hourly construction-noise levels at this distance would attenuate to 65 dBA L_{eq} or less. Therefore, no construction-related noise impacts would occur from diesel-engine noise or pavement-breaking activities associated with development of the proposed project.

Pile driving would be required during construction of new bridge footings; however, construction would occur only during the day. Pile-driving activities would generate maximum noise levels of 95 dBA at 50 feet each time the hammer head strikes the pile. It is estimated that the actual strike of an impact pile driver accounts for 20 percent of an hour, which results in an average hourly noise level of 88 dBA L_{eq} at 50 feet from the pile. The receiver nearest to the bridge (R12) would be approximately 400 feet from pile-driving activities. At this distance, noise levels would average 70 dBA L_{eq}, and maximum noise levels would be approximately 77 dBA L_{max}. These noise levels would be temporary and would cease when the construction phase is complete. Additionally, pile-driving activities would not occur over the entire 2-year construction phase, and would primarily be necessary for installation of the bridge pier pilings.

Construction noise would be heard at nearby receivers, and may cause occasional speech disruption, principally during times of pavement breaking. Pile driving would generate higher noise levels than standard construction but, as with all construction, would occur only during

daytime hours. Thus, construction-related noise would be considered a temporary nuisance, but not adverse. Measures to minimize construction noise impacts, described below, would be implemented as part of the proposed project.

Large Berm Option

The large berm option would entail a large amount of grading work within the San Diego River channel that would generate noise received by certain sensitive receptors, depending on their location in relationship to the localized work. Grading for the large berm is estimated at 93,000 cy, which is nearly triple that of the small berms option. The noise generated by grading under this option would not be any louder than under the small berms option, but would occur over a longer period of time and may be perceived as a greater impact by some receptors.

Small Berms Option

Under the small berms option, grading work would occur in a similar location as in the large berm option, but would entail only approximately 29,000 cy of fill. This smaller amount of fill would equate to a shorter duration of grading work, which would be perceived as a lesser noise impact than that of the large berm option by sensitive receptors.

Trestle Option

The trestle option would entail a far smaller amount of grading work than either of the berm options. Construction work to erect the trestles would not entail the same kinds of heavy machinery as in the berm construction and, as a result, the trestle option would entail a lesser noise impact than the other two options.

Avoidance, Minimization, and/or Mitigation Measures

Due to the distance of project construction activities from sensitive human receptors, additional measures to attenuate construction noise impacts for human receptors are not proposed. (Section 2.3.11 discusses construction noise attenuation measures for sensitive wildlife species.)

2.3.9 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The emphasis of the section should be on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors, fish passage, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Note that temporary impacts on wetlands and other waters are also discussed above in Section 2.3.10.

Affected Environment

A Natural Environment Study (NES) was prepared in 2011 to assess the biological resources that would be affected by the two build alternatives, based on surveys conducted in 2010 and 2011. This technical report serves as the basis for this analysis of impacts to natural communities; it is incorporated by reference.

Vegetation Communities

Vegetation communities are assemblages of plant species that usually coexist in the same area. Five vegetation communities and land cover types were identified within the project area, three of which are native vegetation communities: open water/tidal mudflat, coastal brackish marsh, and southern coastal salt marsh; the remaining two cover types are nonnative disturbed habitat and developed land (Figure 2.3.9-1). Both marsh communities include disturbed native vegetation as well.

Open Water/Tidal Mudflat

The biological study area (BSA) lies within the intertidal zone. As a result, the San Diego River flood control channel fluctuates between open water and exposed layers of mud and estuarine silts, clays, and marine animal detritus. These mudflats are exposed approximately twice daily. This cover type makes up nearly 20 percent of the BSA and 13 percent of the project limits.

Coastal Brackish Marsh

An extensive coastal brackish marsh community is present in the San Diego River flood control channel east of the construction limits in the buffer area, and as a small stand community along the south toe of the flood control channel under the existing bridge. This community type is dominated by perennial, emergent, herbaceous monocots up to almost 7 feet in height with vegetative cover often complete and dense. Coastal brackish marsh is similar to southern coastal salt marsh and to coastal and valley freshwater marsh, with some plants characteristic of each. Due to inputs of freshwater, salinity may vary considerably, increasing at high tide or during seasons of low freshwater runoff or both. Coastal brackish marsh usually integrates with coastal salt marsh toward the ocean and occasionally with freshwater marsh at the mouths of rivers. Coastal brackish marsh usually occurs at the interior edges of coastal bays and estuaries or in coastal lagoons adjacent to salt marshes. Coastal brackish marsh is most extensively developed around estuary bays and the mouths of river deltas.

Southern Coastal Salt Marsh

Southern coastal salt marsh is a highly productive association of herbaceous and suffrutescent, salt-tolerant hydrophytes that form a moderate to dense cover and can reach a height of 3 feet. Southern coastal salt marsh communities occur in limited portions at the toe of the San Diego River flood control channel on both sides of the river extending eastward into the buffer area. This salt marsh has low diversity, consisting of primarily nonnative species with only a few native species present. It is considered incidental, disturbed, or degraded at the outer extent of the flood control channel next to a fill substrate (including rip-rap), with nonnative upland vegetation and development abutting its outer extent. A larger area of southern coastal salt marsh was mapped just outside the project limits, in the buffer area. This marsh area had indicators of pooling water and consisted of a mix of native salt marsh species and nonnative upland species, resulting in a highly disturbed community.

Disturbed Habitat

Disturbed habitat comprises approximately 11 percent of the BSA, and 8 percent of the project limits of both project alternatives. Disturbed habitat is an area of high disturbance that is dominated by invasive nonnative forbs that are adapted to a regime of frequent disturbances. Similar to the nonnative grass species in California, many of the exotic weeds now present in

Source: DigitalGlobe 2008; AECOM 2010

825 0 825 Feet

Scale: 1 = 9,900; 1 inch = 825 feet

Figure 2.3.9-1
Biological Study Area and Vegetative Communities

this state are originally from the Mediterranean region. Some of these species are typically prickly Russian thistle (*Salsola tragus*), tocalote, short-pod mustard (*Hirschfeldia incana*), and red brome. This cover type includes rip-rap along the San Diego River flood control channel, which falls under the regulation of CDFW pursuant to Section 1600 of the CFGC.

Developed Land

More than half of the 323-acre BSA and approximately 60 percent of the approximate 55-acre project limits (project footprint and staging areas) of both project alternatives consist of developed land. Developed land is composed of areas of intensive use with much of the land covered by structures. Included in this category are cities; transportation, power, and communications facilities; and areas such as those occupied by mills, shopping centers, industrial and commercial complexes, and institutions that may, in some instances, be isolated from urban areas.

The open water/tidal mudflat cover type lacks substantial vegetation, but is classified as a community nonetheless. The BSA analyzed for the two project alternatives generally includes the proposed construction limits, staging areas on the north side of the bridge, and a surrounding 500-foot buffer.

Wildlife Corridors and Fish Passage

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development.

The BSA spans the San Diego River, which functions as both a local and regional corridor, and is within the City's Multiple Habitat Planning Area (MHPA). The San Diego River corridor provides a regional connection from the Pacific Ocean through Mission Valley, and farther east to large habitat patches in the Mission Trails Regional Park and points beyond. Although portions of the corridor through Mission Valley are highly constrained by infrastructure and adjacent development, it is the only continuous connection in the area between the coast and inland habitats. The San Diego River, particularly its coastal reach, is also one of several coastal areas in San Diego County that are located along the Pacific Flyway, where migrating birds either temporarily stop to rest and forage, or use the area as breeding grounds.

Within and adjacent to the BSA, the San Diego River corridor is predominantly open water, tidal flats, and salt marsh habitats. This portion of the river is designated by the City as the Southern Wildlife Preserve, a resting and feeding spot for birds migrating along the Pacific Flyway. It provides habitat and serves as a major local corridor for a variety of birds, intertidal and subtidal species, and other species, particularly migratory shorebirds and waterfowl. There are few restrictions to wildlife movement within the river corridor, given that existing bridges allow for relatively unimpeded movement beneath them. A local corridor connection also exists between the river and Famosa Slough; this connection begins roughly 1,000 feet west of the BSA. Famosa Slough is a 37-acre wetland preserve located in the Ocean Beach and Peninsula community planning areas southwest of the project. In addition, the inactive California Least Tern Preserve is located within the BSA, directly north of the San Diego River, and an active

California least tern nesting site is located approximately 1 mile west of the BSA near the mouth of the San Diego River.

A viable wildlife and fish migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully. Stream and riparian corridors are particularly important to regional connectivity in two functional capacities. First, riparian corridors provide linear habitat with sufficient structural vegetative cover to allow the passage of many different types of wildlife. Second, riparian habitats are of particular value in San Diego's semiarid Mediterranean climate, where water is a limited resource. Many animals rely upon riparian zones for survival during at least a portion of their life cycle, and often move in and out of these areas from adjacent upland habitats throughout the course of their lives.

The coastal waters of Southern California are designated as Essential Fish Habitat (EFH) and the flood control channel is mapped as EFH from its mouth inland for approximately 3 miles to the I-5 bridge over the flood control channel. Although the project area is shallow and lies approximately 1.7 miles from the ocean, water temperatures within the project area are likely suitable most of the year for four finfish, Pacific sardine, Pacific (chub) mackerel, northern anchovy, and jack mackerel; and market squid. Juvenile sardine and anchovy may venture into or be transported to the project area with tidal waters. Highly migratory species, such as tuna, swordfish, and sharks, are not expected to occur in the project area, although local populations of leopard shark and rays may be present. Mudflats provide potentially suitable foraging habitat for these bottom feeding species.

Environmental Consequences

The project limits of the BSA are considered jurisdictional wetlands and waters. As such, all anticipated impacts to aquatic communities (open water/tidal mudflat, coastal brackish marsh, and southern coastal salt marsh) are analyzed and discussed in Section 2.3.10, Wetlands and Other Waters section.

Developed areas in the BSA consist of pavement and buildings and contain mostly plantings of ornamental trees and shrubs. Disturbed habitat is dominated by invasive nonnative forbs that are frequently disturbed. Developed and disturbed habitat are not considered sensitive communities; therefore, no adverse effects would occur during project construction and operation.

In-water construction activities, such as the installation of temporary construction berms and new pier piles, could adversely affect managed fish species. Additionally, in-water construction activities have the potential to temporarily disturb behavior patterns causing wildlife and fish to leave the area. The openings that will be provided in the temporary berms or trestles to accommodate tidal flows will allow sufficient fish passage through the project area during construction. Caltrans and the City consulted with National Marine Fisheries Service (NMFS) regarding impacts on EFH, and NMFS issued an EFH comment letter on January 8, 2013, which is included in Appendix G of this EA. The NMFS letter expressed approval of the mitigation measures listed in this EA and the EFH Assessment that was integrated into the Natural Environment Study for the project, and requested that Caltrans and the City continue to collaborate with NMFS as mitigation plans are developed. Caltrans issued their response to the NMFS letter on January 16, 2013, which is included in Appendix G of this EA. The Caltrans letter states concurrence with NMFS's comments and agreement to continued collaboration.

Avoidance, Minimization, and/or Mitigation Measures

As discussed, the aquatic natural communities identified within the BSA are jurisdictional wetlands and waters. Proposed avoidance, minimization, and/or mitigation measures for these communities are discussed in Section 2.3.10, Wetlands and Other Waters section.

2.3.10 Wetlands and Other Waters

This section discusses the temporary impacts on wetlands and other waters. Permanent impacts are discussed above in Section 2.2.5. Please see Section 2.2.5 for a discussion of the regulatory environment and existing conditions with respect to wetlands and other waters.

Affected Environment

See Section 2.2.5 for a discussion of the affected environment for wetlands and other waters.

Environmental Consequences

The project would entail construction work within an area containing jurisdictional wetlands and waters. Temporary impacts on wetlands would be slightly different for the two build alternatives and, within those two alternatives, impacts would vary slightly depending on the construction option, as the in-water footprints would be different for the small berms, large berm, or trestles. Accordingly, this section includes separate discussions, tables, and figures for all six of the possible scenarios of project construction.

Alternative 2c

Under Alternative 2c, the temporary small berms option would result in temporary impacts on approximately 2.78 acres of jurisdictional waters of the U.S., state, and City, and approximately 0.17 acre of jurisdictional waters of the state exclusively (Table 2.3.10-1). Figure 2.3.10-1 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the temporary small berms option for Alternative 2c.

Table 2.3.10-1
Alt 2c Temporary Small Berms Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

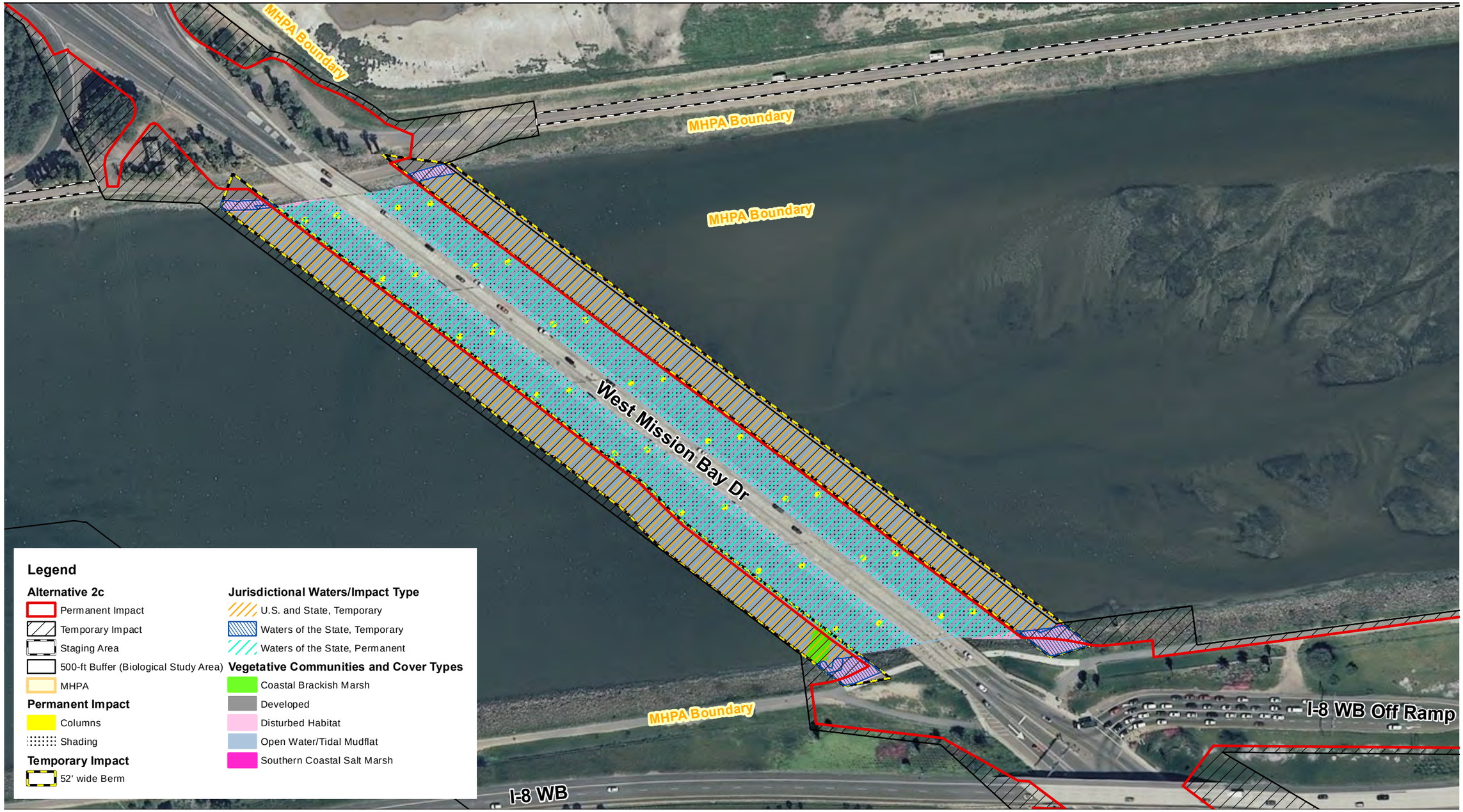
Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and berms)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	2.75
Southern Coastal Brackish Marsh	-	0.03
Southern Coastal Salt Marsh	-	0.004
Total	**0.00**	**2.784**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	2.72	-
Southern Coastal Brackish Marsh	0.002	-
Disturbed Wetland/Rip-Rap	0.005	0.17
Total	**2.73**	**0.17**

The large berm option would entail temporary impacts on approximately 2.65 acres of jurisdictional waters of the U.S., state, and City, approximately 0.39 acre of jurisdictional waters of the state exclusively, as well as approximately 1.08 acres of developed and disturbed habitat (Table 2.3.10-2). Figure 2.3.10-2 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the large berm option for Alternative 2c.

Table 2.3.10-2
Alt 2c Temporary Large Berm Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and berms)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	2.618
Southern Coastal Brackish Marsh	-	0.031
Southern Coastal Salt Marsh	-	0.003
Total	**0.00**	**2.652**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	1.671	-
Southern Coastal Brackish Marsh	0.002	-
Disturbed Wetland/Rip-Rap	0.005	0.394
Total	**1.678**	**0.394**
Other		
Developed	-	0.921
Disturbed Wetland/Rip-Rap	-	0.159
Total	**0.00**	**1.08**

The trestle option would entail temporary impacts on approximately 1.67 acres of jurisdictional waters of the U.S., state, and City, approximately 0.25 acre of jurisdictional waters of the state exclusively, as well as approximately 0.27 acre of developed and disturbed habitat (Table 2.3.10-3). Figure 2.3.10-3 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the trestle option for Alternative 2c.



Source: Aerials Express 2010; SanGIS 2011; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-1
Alternative 2c – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Small Berm

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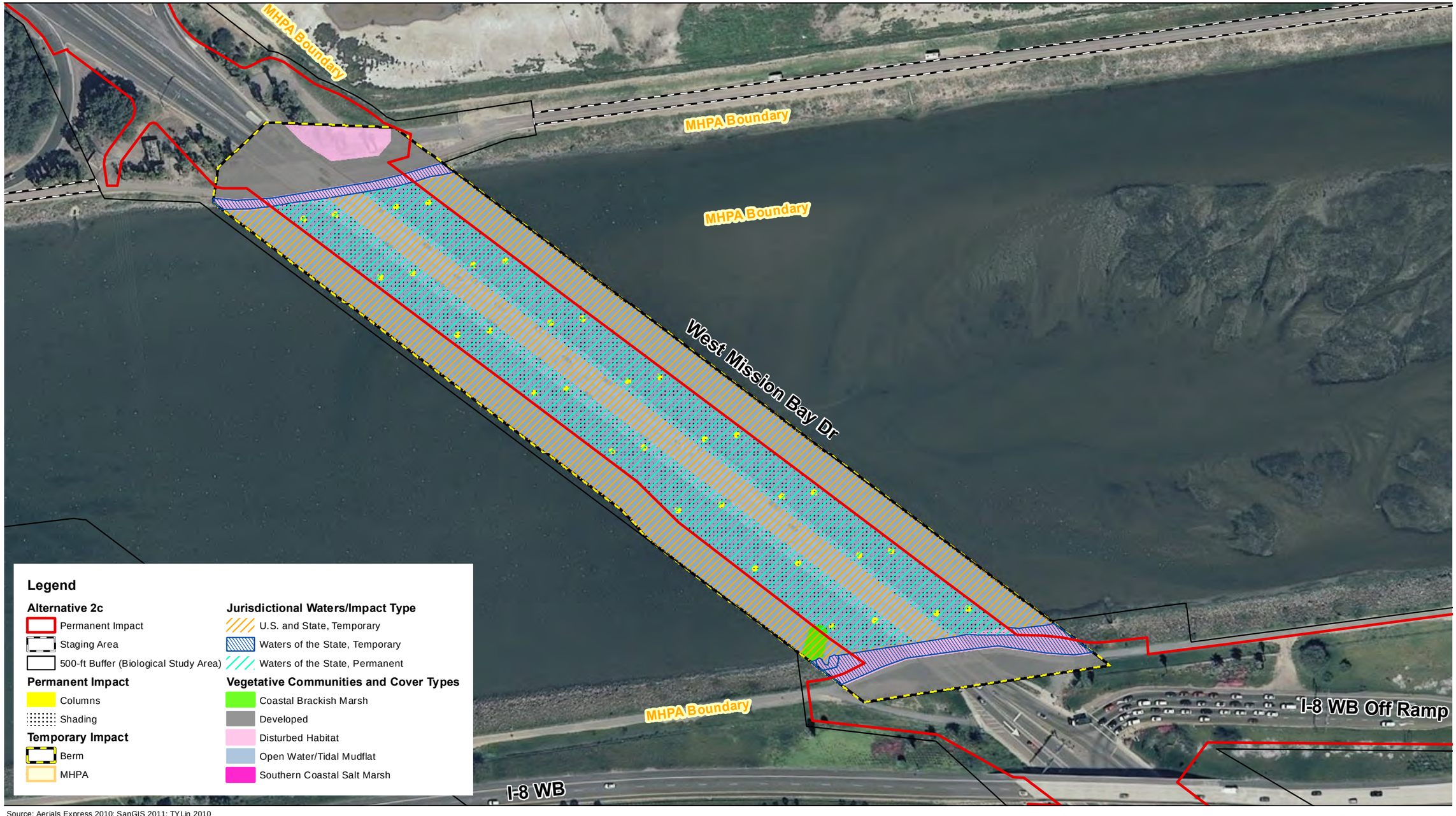

Source: Aerials Express 2010; SanGIS 2011; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-2
Alternative 2c – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Large Berm

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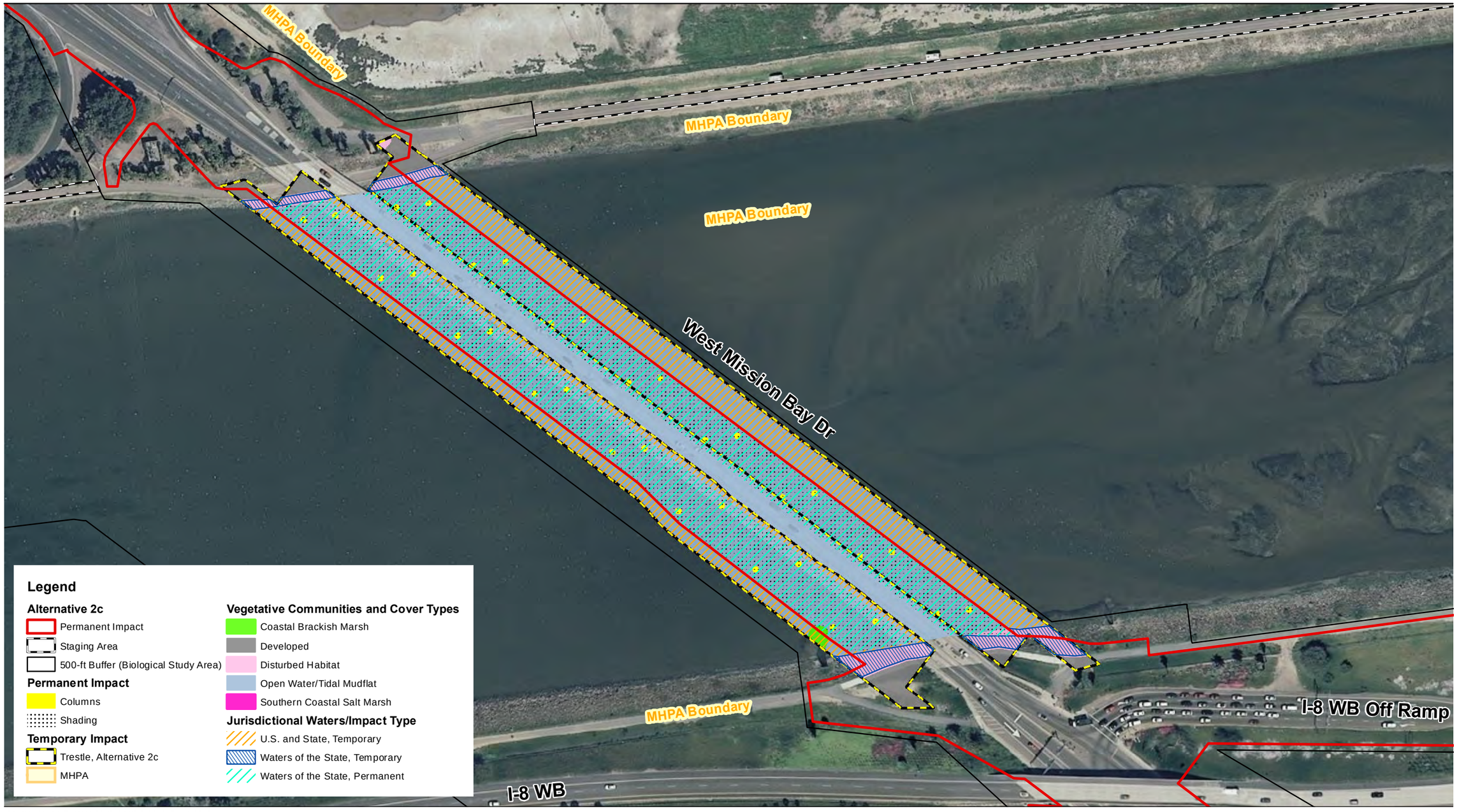

Source: Aerials Express 2010; SanGIS 2011; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-3
Alternative 2c – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Trestle

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Table 2.3.10-3
Alt 2c Temporary Trestle Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and falsework/trestle)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	1.652
Southern Coastal Brackish Marsh	-	0.013
Southern Coastal Salt Marsh	-	0.002
Total	**0.00**	**1.667**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	2.10	-
Southern Coastal Brackish Marsh	0.002	-
Disturbed Wetland/Rip-Rap	0.005	0.251
Total	**1.678**	**0.251**
Other		
Developed	-	0.267
Disturbed Wetland/Rip-Rap	-	0.006
Total	**0.00**	**0.273**

The temporal loss of wetland resulting in the conversion of nonnative invasive wetland community (southern coastal brackish marsh) to mudflat (which previously occupied the area where the marsh established itself) would be considered a temporary impact as the conversion would remain an aquatic feature and not be converted to upland. The southern coastal brackish marsh is not considered a contributing element to the functions and values of the Southern Wildlife Preserve due to its nonnative invasive status; the converted tidal mudflat would be consistent with the surrounding wetlands as well as the functions of the San Diego River. The placement of the earthen berms within the San Diego River would also be considered temporary as the river bottom would be restored to original grade after the completion of construction and would not be permanently converted from an aquatic feature to upland; therefore, placement of the berms would not jeopardize the continuing function or value of the San Diego River and its aquatic habitat.

In addition, the removal of the coastal brackish marsh, which is composed of nonnative species, and restoring the area to tidal mudflat would result in a net ecological benefit. As previously discussed, tidal mudflats can support a diverse community of shorebirds, fish larvae, and bottom-dwelling invertebrates (i.e., clams, crabs, and worms) that live within these soft sediments composed of estuarine silts, clays, and marine animal detritus. Tidal mudflat is an important contributor to the detrital (decaying organic) food web of bays, as the decaying plant material is consumed by many benthic invertebrates (such as polychaete worms) and reduced to primary nutrients by bacteria. Mudflats are considered a Special Aquatic Site (as are federally defined wetlands). Under the 404(b)(1) guidelines (40 CFR 230 Subpart E), special aquatic sites are subject to greater protection than other jurisdictional waters of the U.S. because of their significant contribution to the overall environment.

Alternative 3

Under Alternative 3, the small berms option would result in a temporary impact on approximately 2.03 acres of jurisdictional waters of the U.S., state, and City, and approximately 0.02 acre of jurisdictional waters of the state exclusively (Table 2.3.10-4). Figure 2.3.10-4 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the temporary small berms option for Alternative 3.

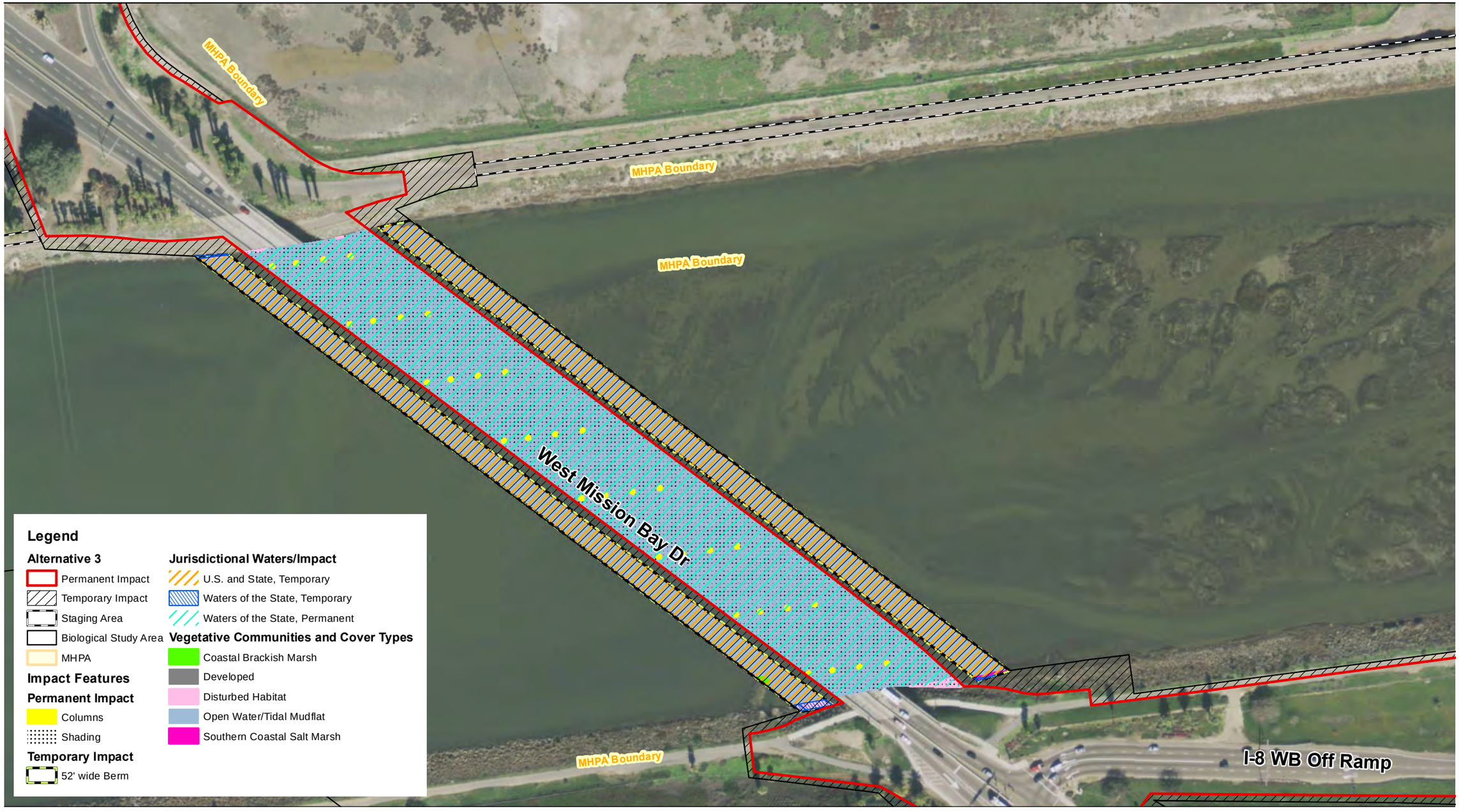
Table 2.3.10-4
Alt 3 Temporary Small Berms Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and berms)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	2.02
Southern Coastal Brackish Marsh	-	0.003
Southern Coastal Salt Marsh	-	0.004
Total	**0.00**	**2.03**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	2.10	-
Disturbed Wetland/Rip-Rap	0.005	0.02
Total	**2.105**	**0.02**

The large berm option would result in a temporary impact on approximately 2.65 acres of jurisdictional waters of the U.S., state, and City and approximately 0.23 acre of jurisdictional waters of the state exclusively (Table 2.3.10-5). Figure 2.3.10-5 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the large berm option for Alternative 3.

Table 2.3.10-5
Alt 3 Temporary Large Berm Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and berms)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	2.80
Southern Coastal Salt Marsh	-	0.007
Total	**0.00**	**2.652**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	2.10	-
Disturbed Wetland/Rip-Rap	0.005	0.225
Total	**2.105**	**0.225**



Source: DigitalGlobe 2008; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-4
Alternative 3 – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Small Berm

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Source: Aerials Express, 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-5
Alternative 3 – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Large Berm

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The trestle option would result in a temporary impact on approximately 1.49 acres of jurisdictional waters of the U.S., state, and City and approximately 0.18 acre of jurisdictional waters of the state exclusively (Table 2.3.10-6). Figure 2.3.10-6 illustrates the anticipated impacts to jurisdictional aquatic habitat and jurisdictional waters as a result of the trestle option for Alternative 3.

Table 2.3.10-6
Alt 3 Temporary Trestle Option:
Potential Impacts to Jurisdictional Waters of the U.S., State, and City

Wetlands, Waters, and Other Aquatic Habitat	Impacts (acres)	
	Permanent[b] (e.g., piers, abutments, rip-rap, and grading)	Temporary (e.g., construction and falsework/trestle)
USACE/CDFW Jurisdictional Waters		
Tidal Mudflat/Open Water	-	1.485
Southern Coastal Salt Marsh	-	0.003
Total	**0.00**	**1.488**
City, CCC, CDFW, and RWQCB Jurisdictional Waters		
Tidal Mudflat/Open Water	2.10	-
Disturbed Wetland/Habitat	0.005	0.184
Total	**2.105**	**0.184**

Similar to Alternative 2c, the temporal loss of wetland resulting in the conversion of southern coastal brackish marsh to mudflat would be considered a temporary impact as the conversion would remain an aquatic feature and not be converted to upland. The placement of the earthen berms within the San Diego River would also be considered temporary as the river bottom would be restored to original grade after the completion of construction and not be permanently converted from an aquatic feature to upland, therefore not jeopardizing the continuing function or value of the San Diego River and its aquatic habitat. In addition, the removal of the coastal brackish marsh, which is composed of nonnative species, and restoring the area to tidal mudflat would result in a net ecological benefit.

Requisite Permitting

Impacts to jurisdictional waters of the U.S. and state would potentially require the following permits by federal and state regulatory agencies:

1. CCC, Public Resources Code Division 20, Section 30000 et seq., Coastal Development Permit
2. CFGC Chapter 6 Section 1600 et seq., Lake and Streambed Alteration Agreement
3. RWQCB, CWA Section 401 State Water Quality Certification/Waiver for an action that may result in degradation of waters of the state
4. USACE, CWA Section 404 permit for discharge (placement) of dredged or fill material within waters of the U.S.

Based on the project description and the amount of potential temporary direct impacts to jurisdictional waters of the U.S., there is the potential for USACE to recommend against authorizing this project under the CWA Section 404 Nationwide Permit. Although there are no

permanent impacts, the proposed activity would likely have more than minimal individual or cumulative net adverse effects on the environment or otherwise may be contrary to the public interest, and, therefore, USACE has discretionary authority to modify the Nationwide Permit authorization to reduce or eliminate those adverse effects, or to instruct the permittee to apply for a regional general permit or an individual permit. Additionally, mudflats are considered a Special Aquatic Site by USACE. Under Section 404 guidelines, special aquatic sites are subject to greater protection than other jurisdictional waters of the U.S. because of their significant contribution to the overall environment. The presence of this habitat type in the project limits would likely be taken into consideration by USACE during the permitting process.

Avoidance, Minimization, and/or Mitigation Measures

Construction limits and staging areas have been located or reduced to minimize direct effects to sensitive resources and maximize the use of disturbed and developed land cover types. As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of sensitive habitats (e.g., jurisdictional waters). Within the required alignment, the bridge has been designed to avoid and minimize impacts to jurisdictional waters to the maximum practicable extent. Bridge piers were designed as round columns rather than the continuous pier walls used on the existing bridge, which would reduce the overall footprint of disturbance. Bridge abutments would not encroach into wetlands or sensitive habitats beyond their current position. Unavoidable construction impacts would be minimized through use of specific drilling methods to install bridge piers and through the previously described staged construction process.

Compensatory mitigation for temporary impacts to jurisdictional waters (including wetlands) would be given the highest priority for on-site/in-kind restoration and enhancement (if possible) after construction to reestablish jurisdictional areas to conditions and functions at least equal to their existing quality at the jurisdictional areas. Temporary impacts to jurisdictional waters (including wetlands) would be mitigated via a combination of in-place and in-kind restoration, enhancement, and self-recovery.

General Construction Avoidance and Minimization Measure

All equipment maintenance; staging; and dispensing of fuel, oil, coolant, or any other such activities would occur in designated areas outside of jurisdictional wetlands or waters and within the fenced project limits. These designated areas would be located in previously compacted and disturbed areas to the maximum extent practicable to prevent any runoff from entering jurisdictional wetlands or waters, and would be shown on the construction plans. Fueling of equipment would take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters. Contractor equipment would be checked for leaks prior to operation and repaired as necessary. “No-fueling” zones would be designated on construction plans.

Proposed Mitigation Ratios

Direct permanent and temporary impacts to wetlands are regulated under the Environmentally Sensitive Lands ordinance. Removing the coastal brackish marsh and restoring the area to tidal mudflat would result in a net ecological benefit. Therefore, a mitigation ratio of 1:1 is proposed for temporary impacts to vegetated and unvegetated wetlands. Final mitigation ratios would be

Source: Aerials Express, 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2.3.10-6
Alternative 3 – Potential Impacts to Waters of the U.S. and State Related to Construction of Temporary Trestle

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determined by the requisite state and federal resource agencies (in concert with applicant negotiations) for impacts to jurisdictional waters. Mitigation measures would give the highest priority to on-site/in-kind restoration and enhancement, if possible.

Proposed mitigation for temporary impacts to jurisdictional waters of the U.S., state, and City is recommended to include mudflat restoration, in-kind/on-site enhancement, regrading, and self-recovery.

Development of a conceptual mitigation and landscape plan is required for the mitigation for both federal and state permit issuance to perform activities that may impact jurisdictional waters (including wetlands). The conceptual mitigation and landscape plan will detail the amount, methods, and type of mitigation proposed. If on-site mitigation for all impacts related to this project is not attainable, then additional and appropriate (i.e., accepted by the resource agencies) off-site mitigation will be pursued. The conceptual mitigation and landscape plan will include details regarding site preparation (e.g., regrading), planting specifications, and (if determined required) irrigation design, as well as maintenance and monitoring procedures. The plan will also outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria. Any wetland mitigation that cannot be achieved through on-site creation restoration and enhancement would be performed off-site, typically, per agency guidance, within the same hydrologic unit (watershed) where impacts occur. Alternatively, the mitigation obligations may be satisfied by participating in an in-lieu fee-based mitigation program through an approved resource conservation district or wetland mitigation bank. Compensatory mitigation will follow the USACE Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.[13] The proposed mitigation is subject to the resource agencies' review and discretion; thus, the mitigation obligations for the impacts to jurisdictional wetland habitats may change from those recommended herein. However, it should be noted that the impacts will be fully mitigated through the permitting process.

2.3.11 Animal Species

Regulatory Setting

Many federal laws regulate impacts on wildlife. USFWS and NMFS are responsible for implementing these laws. State and local laws and regulations also protect special-status animal species. CDFW is responsible for implementing laws pertaining to protected wildlife species. Additionally, the City enforces laws pertaining to locally protected species. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the FESA. Species listed or proposed for listing are discussed in the Threatened or Endangered Species section, below. All other federally, state, and locally protected special-status animal species are discussed here, including USFWS or NMFS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Marine Mammal Protection Act

[13] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594-19705).

State and local wildlife laws and regulations include the following:

- California Endangered Species Act
- San Diego Multiple Species Conservation Program (MSCP)

Affected Environment

A 2011 NES was prepared for the proposed project to determine potential impacts to special-status animal species known or having the potential to occur in the project area. The BSA analyzed for the project generally includes the proposed construction limits, staging areas on the north side of the bridge, and a surrounding 500-foot buffer. The majority of the BSA consists of open water of the San Diego River and developed and disturbed habitats.

Special-status wildlife species are those listed as threatened or endangered by USFWS under the FESA and/or by CDFW under the California Endangered Species Act, considered fully protected species or species of special concern by CDFW, protected by the federal Migratory Bird Treaty Act, and/or considered a covered or narrow endemic species by the MSCP. Species that are federally listed as threatened or endangered under the FESA are discussed below in Section 2.3.12. This section analyzes potential effects on all other special-status wildlife species, including state- and locally protected species.

There are 63 sensitive animal species known to occur within the region based on the results of preliminary database research. Of these, only four species were detected during project surveys: Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), black skimmer (*Rynchops niger*), elegant tern (*Sterna elegans*), and California horned lark (*Eremophila alpestris*). Five additional special-status animal species were determined to have a high potential to occur within the BSA, and two species protected under the Marine Mammal Protection Act were also determined to have potential to occur within the BSA. Other species listed in the preliminary database search were concluded to have low or no potential to occur on the site due a lack of suitable habitat in the area, as confirmed during surveys of the project site, or known range restrictions. The 11 special-status wildlife species having potential to occur within the project area are listed in Table 2.3.11-1. This list comprises nine birds and two marine mammals.

Table 2.3.11-1
Special-Status Animal Species Potentially Occurring or Known to Occur Within the BSA

Animal Species	Status	General Habitat	Detected or Potential to Occur
Birds			
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	CDFW: Endangered MSCP: Covered, Narrow Endemic	Endemic only to coastal salt marshes of Southern California and Baja California, Mexico.	Detected. This species was observed foraging, singing, and defending territories (suggestive breeding behaviors) within pickleweed (*Salicornia* sp.) within the BSA during 2010 surveys.
black skimmer (*Rynchops niger*)	CDFW: Species of Special Concern	Favors coastal waters protected from open surf such as lagoons, inlets, sheltered bays, and estuaries. Local populations are found on	Detected. This species was detected roosting on the exposed tidal flats within the BSA during 2010 surveys.

Table 2.3.11-1
Special-Status Animal Species Potentially Occurring or Known to Occur Within the BSA

Animal Species	Status	General Habitat	Detected or Potential to Occur
		inland lakes in Florida and along California's Salton Sea. They nest on sandy beaches and islands.	
elegant tern (*Sterna elegans*)	MSCP: Covered	Coastal waters, occasionally ocean far from land. Breeds on low, flat, sandy islands.	Detected. This species was detected foraging and roosting on exposed tidal flats within the BSA during 2010 surveys.
California horned lark (*Eremophila alpestris*)	MSCP: Covered	Coastal regions between Sonoma and San Diego Counties. Prefers short grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	Detected. This species was observed within the BSA during 2010 surveys.
Cooper's hawk (*Accipiter cooperi*)	MSCP: Covered	Various types of mixed deciduous forests and open woodlands, including small woodlots, riparian woodlands in dry country, open and pinyon woodlands, and forested mountainous regions. Also now nests in many cities.	High potential to occur within the BSA. Suitable nesting and foraging habitat is present within the BSA.
northern harrier (*Circus cyaneus*)	CDFW: Species of Special Concern MSCP: Covered	Open wetlands, meadows, pastures, prairies, grasslands, croplands, and riparian woodlands.	High potential to occur within the BSA. Suitable foraging habitat and potential nesting habitat exists within the BSA.
white-tailed kite (*Elanus leucurus*)	CDFW: Fully Protected	Widespread over the coastal slope of San Diego County, preferring riparian woodlands, oak groves, and sycamore groves adjacent to grasslands.	High potential to occur within the BSA. Suitable habitat for foraging occurs in portions of the BSA. However, suitable breeding habitat does not occur; thus, this species is not expected to nest or breed with the project footprint.
American peregrine falcon (*Falco peregrines anatum*)	MSCP: Covered	This species nests on cliff edges, buildings, and cranes. Feeds along the coast or inland near lakes and reservoirs.	High potential to occur within the BSA. Suitable nesting habitat does not occur on-site; however, suitable foraging habitat does occur. Additionally, the BSA occurs within typical feeding area along the coast.
long-billed curlew (*Numenius americanus*)	MSCP: Covered	Dry grasslands and shrub savannahs are the traditional breeding habitats. They also nest in grain fields and pastures. During migration and winter, they can be found on coastal mudflats and	High potential to occur within the BSA. This species was not detected during 2010 surveys; however, suitable foraging and winter habitat for this species exists within the BSA.

Table 2.3.11-1
Special-Status Animal Species Potentially Occurring or Known to Occur Within the BSA

Animal Species	Status	General Habitat	Detected or Potential to Occur
		marshes, and less commonly in fields and grasslands.	
Mammals			
Pacific harbor seal (*Phoca vitulina richardsi*)	Protected under MMPA	Permanent residents in the waters off of the San Diego coastline and feed on a variety of fish. They will forage on fish in shallow waters.	Low potential to occur within the BSA. Known to haul out and pup at Point Loma to the south and La Jolla to the north. This species may enter the mouth of the river and swim upstream to the BSA during higher tides to forage.
California sea lion (*Zalphus californianus*)	Protected under MMPA	Occurs along the entire California coast and year-round in waters off the San Diego coast. Will forage on schooling fish in shallow waters.	Moderate potential to occur within the BSA. The seawall separating the boat channel entrances to Mission Bay and the river is a known haul out location. This species may enter the mouth of the river and swim upstream to the BSA during higher tides to forage.

Environmental Consequences

Construction noise may indirectly affect all 11 special-status animal species, potentially causing them to change their behavior and move out of the area. Additionally, construction equipment and installation of project components in aquatic habitats have the potential to directly impact individual Pacific harbor seals (*Phoca vitulina richardsi*) or California sea lions (*Zalphus californianus*) if they are present in the project area. Loud construction equipment could also potentially disturb marine mammals in open waters within the project area and adjacent to the project site. However, with implementation of noise-reduction measures, construction noise would not substantially increase noise levels above existing conditions at approximately 400 feet from the source.

Construction of the proposed project would result in temporary impacts to coastal brackish marsh, habitat that is potentially suitable to support nesting Belding's savannah sparrow (see Section 2.11 for additional details). Restoration of marsh habitat, including recontouring and revegetating the habitat to restore previous functions and values, would occur after the completion of the construction phase.

A small group of trees potentially suitable for nesting Cooper's hawk (*Accipiter cooperi*) lies within the northern corner of the project limits. Additional trees lie within the matrix of roadway intersections and interchanges at the northern end of the project limits within the 500-foot BSA buffer. Construction activities occurring near this area could produce noise levels that would potentially impact suitable Cooper's hawk nesting habitat.

Although these species were detected within the BSA, no suitable nesting habitat exists within the project footprint of either alternative for black skimmer, elegant tern, or California horned lark. Additionally, no habitat suitable to support breeding for northern harrier (*Circus cyaneus*) occurs within the project limits of either build alternative. Therefore, no temporary construction impacts to these four species would occur.

In-channel construction, such as installation of the temporary construction berms or trestles and new pier piles, could temporarily disturb foraging harbor seals or sea lions. Impacts to water quality and subsequent indirect impacts to sea lions could also occur. However, direct and indirect impacts related to the two special-status marine species are not anticipated upon implementation of the construction avoidance and minimization measures described below.

Neither bats nor birds were identified using the bridge structure for roosting or nesting during biological resources surveys for the project; however, the potential exists for bat roosts and/or bird nests to be established in the bridge prior to commencing construction. If roosts or nests were to be present, demolition could result in negative effects on bats or birds. A mitigation measure calling for installation of bat- and bird-exclusion devices underneath the bridge has been identified below.

Avoidance, Minimization, and/or Mitigation Measures

Special-Status Bird Species

Avoidance and minimization to potential breeding Belding's savannah sparrow, black skimmer, elegant tern, white-tailed kite, American peregrine falcon, and long-billed curlew would be achieved through implementation of the general avoidance and minimization measures, as well as noise attenuation and minimization measures, and construction noise monitoring requirements, as outlined below.

Pile driving would generate airborne noise levels that exceed predicted general construction levels and existing and predicted operational levels of the bridge. To avoid the impacts of airborne noise levels from pile driving on special-status avian species, pile driving of the new bridge piers would be conducted outside of the breeding season. Should pile driving occur during the breeding season, impacts can be minimized by restricting the usage of pile drivers. Noise impacts can be further reduced by draping the hammer with sound blankets and placing vibratory dampeners on the hammer head. It is expected that implementation of these mechanical measures would reduce pile-driving noise levels to existing operational levels at approximately 400 feet from the pile-driving source. Noise monitoring during construction is recommended to determine if bird species are being impacted (observed leaving the area).

Pre-construction surveys would be conducted if construction is scheduled to occur during the breeding season of any of the special-status bird species. If no nesting birds are detected during the surveys, no further avoidance and minimization efforts would be necessary. If they are detected, the project must either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged. Pre-construction surveys would be required for the following special-status bird species during their respective breeding seasons:

- Belding's savannah sparrow (April through July)
- California horned lark (March through June)

- Cooper's hawk (March through August)
- northern harrier (April through September)

Roosting Bats/Nesting Birds

Exclusionary devices will be installed underneath the bridge to prevent birds and bats from nesting/roosting prior to and during construction. Installation of these devices will be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist will inspect the area prior to installation for nests/roosts and identify evidence of breeding activity. If breeding activity is not detected, inactive nests/roosts will be destroyed to prevent birds or bats from establishing breeding. If breeding activity is confirmed, exclusionary devices will be installed in all other areas lacking active nests/roosts. Active nests/roosts will be monitored by the project biologist until breeding is complete. Once breeding is complete, exclusionary devices will be installed in these areas.

Special-Status Marine Species

A pre-construction survey and/or construction monitoring for harbor seals and California sea lions would be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent, or behind a cofferdam and absence confirmed, a biological monitor would not be necessary. The integrity of the cofferdam barrier would be inspected weekly, as agile sea lions can potentially penetrate or jump over aquatic barriers.

Preparation and implementation of the SWPPP, a required component of construction permits, would serve to avoid or otherwise minimize construction-related surface water pollution, and guide proper implementation of erosion-control measures. BMPs implemented during the construction phase are discussed in Section 2.3.5. These BMPs would be documented in the SWPPP.

The preliminary storm water report for the project indicates that the project was designed in a way so that post-project (operational) drainage patterns would mimic pre-project patterns, where feasible, to minimize impacts of the project on the flood control channel. Based on the proposed design, no drainage impacts are anticipated downstream of the project. The proposed design calls for filtration devices and other permanent BMPs prior to releasing surface drainage into the flood control channel. These include small-footprint filtration devices, rock-lined bioswales, and small areas of permeable pavement. Refer to Section 2.3.5 for additional information regarding the filtration options. With implementation of these treatment BMPs, it is anticipated that 100 percent of the water quality flow for the project will be treated, resulting in the avoidance of substantial indirect impacts on harbor seals and California sea lions upon implementation of the proposed project.

Additionally, noise monitoring would be conducted during in-channel construction activities to determine if noise harassment levels are occurring. In particular, pile-driving activities could potentially reach harassment levels set by NMFS for marine mammals. Should wildlife monitoring determine that marine mammals are present in the project vicinity, and noise monitoring determine that harassment levels may be occurring, avoidance and minimization measures would be implemented. As described above, a number of factors would minimize potential noise impacts. Further reductions in noise could also be achieved by employing uncontained air bubble curtain technologies or cushion block equipment on the pile-driving machinery. The contractor would be required to employ the necessary methods to maintain in-water sound levels to below the thresholds established by NMFS to prevent injury or behavioral

disturbance to marine mammals (in-water construction noise levels should not exceed the threshold of 120 dB air sound pressure level (expressed as root mean square or RMS) for vibratory pile driving and 160 dB RMS for impact pile driving).

2.3.12 Threatened and Endangered Species

Affected Environment

Existing conditions in the project area with respect to listed species are discussed in detail above in Section 2.2.6. As discussed above, the project site includes suitable nesting and foraging habitat for the light-footed clapper rail and foraging habitat for the western snowy plover and California least tern. The site also has the potential for presence of green sea turtle and loggerhead sea turtle.

Environmental Consequences

Construction activities could result in temporary effects on potentially suitable light-footed clapper rail nesting habitat. As explained in detail below, pre-construction surveys will be conducted if construction is scheduled to occur during the breeding season of the light-footed clapper rail (March through July) to determine the presence of the species and any necessary avoidance measures.

Potential indirect effects on federally listed bird species, including light-footed clapper rail, western snowy plover, and California least tern, could occur as a result of construction noise, which could cause individuals to change their behavior and move out of the area. Implementation of general avoidance and minimization efforts, breeding season construction surveys, noise attenuation and minimization measures described previously, and construction monitoring would avoid disturbance of federally listed threatened, endangered, or candidate wildlife species. Therefore, short-term construction activities are not likely to adversely affect these species.

Additionally, in-channel construction such as installation of the temporary construction berm and new bridge piers could temporarily disturb foraging or transient sea turtles. Construction equipment and installation of project components in aquatic habitat have potential to directly impact individuals if they are present in the project area. Construction noise may also indirectly affect sea turtles if they are present in the vicinity, causing them to change their behavior and move out of the area. Consultation with NMFS determined that, with implementation of pre-construction surveys and construction monitoring, no effect on these species is anticipated.

As discussed in Section 2.2.6, salt marsh bird's beak is known to occur west of the BSA near the mouth of the San Diego River. Due to this presence, Caltrans will consult with USFWS regarding this species during the ongoing Section 7 consultation process.

Avoidance, Minimization, and/or Mitigation Measures

Federally Listed Bird Species

Avoidance and minimization of potential effects on potential foraging western snowy plover would be achieved through implementation of the general avoidance and minimization activities described above. As the western snowy plover is not expected to breed on-site or within the BSA, no further habitat avoidance and minimization efforts are necessary for this species.

Avoidance and minimization of potential effects on potential breeding California least terns and light-footed clapper rails would be achieved through implementation of the general avoidance and minimization measures described above, as well as the noise attenuation and minimization measures described below.

Pile driving would generate airborne noise levels that exceed predicted general construction levels and existing and predicted operational levels of the bridge. To avoid the impacts of airborne noise from pile driving on federally listed avian species, the measures described above would be implemented and followed as prescribed. Noise monitoring during construction would occur to determine if bird species are being impacted (observed leaving the area). For California least tern, monitoring would occur at least once a week during the breeding season, and if a nest is observed within 500 feet of pile-driving activities, daily monitoring would occur. For light-footed clapper rails, if no individuals are found by the biological monitor, construction noise would not be restricted. Also, contractor education would be conducted.

Additionally, these two species would require pre-construction surveys during the breeding season and construction monitoring. Species-specific pre-construction survey requirements for California least tern and light-footed clapper rail are outlined in the following.

California least tern

Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the California least tern (April through June). All potentially suitable habitat areas within the BSA shall be surveyed for presence of this species according to an acceptable USFWS protocol. If no nesting terns are detected during the surveys, no further avoidance and minimization efforts would be necessary for this species. If they are detected, all nests shall be avoided by construction equipment and personnel, and the project shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels at the nest site (below 60 dB per hour), or discontinue work until the young have fledged. A non-disturbance buffer zone of 500 feet around the nest site shall be established, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed. Contractor education shall be conducted to inform workers of the regulatory status of the species, and avoidance and minimization measures shall be put into place.

Light-footed clapper rail

Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the light-footed clapper rail (March through July). The survey shall be conducted in accordance with USFWS methodology. All potentially suitable habitat areas within the BSA shall be surveyed for presence of the species. If nesting rails are detected during the surveys, all nests shall be avoided by construction equipment and personnel, and the project shall either implement noise-reduction measures, described in the following paragraphs, to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged. Construction equipment noise levels must not exceed 60 dBA L_{eq}, or ambient noise levels if higher than 60 dBA, at the nest site during the breeding season. A qualified biologist shall establish a 500-foot construction-free buffer zone around the nest in consultation with CDFW and USFWS. Daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed. The biological monitor shall also confirm that construction noise thresholds are not being exceeded at the established boundary. If the noise threshold is anticipated to be exceeded, the City shall construct noise barriers to maintain construction noise levels at below the threshold. Contractor education shall be conducted to

inform workers of the regulatory status of the species, and avoidance and minimization measures shall be put into place. The equipment noise levels shall be kept below the threshold at the established boundary until chicks have left the nest.

Federally Listed Marine Species

To avoid potential direct effects on green sea turtles and loggerhead sea turtles during installation of the temporary construction berms or trestles and during subsequent construction activities, a pre-construction survey for sea turtles would be conducted for in-channel work occurring May through September, if water is present. Regular biological monitoring of in-channel work would also occur during this time period. Contractor education regarding sea turtles would also be conducted. If work is conducted during low tide, or behind a cofferdam/berm, and absence is confirmed, a biological monitor would not be necessary.

The preparation and implementation of the SWPPP, a required component of construction permits, would serve to avoid or otherwise minimize construction-related surface water pollution, and guide proper implementation of erosion-control measures. BMPs implemented during the construction phase are discussed in Section 2.3.5. These BMPs would be documented in the SWPPP.

The preliminary storm water report for the project indicates that the project was designed in a way so that post-project (operational) drainage patterns would mimic pre-project patterns, where feasible, to minimize impacts of the project on the flood control channel. Based on the proposed design, no drainage impacts are anticipated downstream of the project. The proposed design calls for filtration devices and other permanent BMPs prior to releasing surface drainage into the flood control channel. These include small-footprint filtration devices, rock-lined bioswales, and small areas of permeable pavement. Refer to Section 2.3.5 for additional information regarding the filtration options. With implementation of these treatment BMPs, it is anticipated that 100 percent of the water quality flow for the project would be treated, resulting in the avoidance of substantial indirect impacts on sea turtles upon implementation of the proposed project.

To avoid and minimize potential indirect impacts to behavior patterns of sea turtles in the project vicinity during in-water pile driving activities, in-channel construction activities would be conducted at low tide. Should pile driving occur when water is present, a number of factors would minimize potential noise impacts: the soft bottom nature of the flood control channel, which is optimal for absorbing sound waves; the presence of the temporary construction berm, which would further absorb and block sound waves; and a cofferdam installed to conduct construction activities during periods when water is present in the channel. Further reductions in noise during pile driving could be achieved by employing uncontained air bubble curtain technologies or cushion block equipment on the pile-driving machinery. The contractor would be required to employ the necessary methods to maintain in-water sound levels to below the thresholds established by NMFS to prevent injury and behavioral disturbance to marine species. The NMFS thresholds indicate that in-water construction noise levels should not exceed 120 dB RMS for vibratory pile driving and 160 dB RMS for impact pile driving.

USFWS issued their informal Section 7 consultation letter on the project to Caltrans on January 30, 2013. The letter, which is included in Appendix G of this EA, provides additional detail regarding USWFS's mitigation requirements for the project's temporary, construction-related effects on light-footed clapper rail, California least tern, western snowy plover, and salt marsh bird's beak. Additional detail stated in the letter includes restrictions related to construction timing, construction monitoring requirements, and limitations on night-time lighting. The full list

of measures from the USFWS letter pertaining to the project's permanent impacts on federally listed species is included in Appendix B of this EA.

2.3.13 Invasive Species

Regulatory Setting

On February 3, 1999, president Clinton signed EO 13112, requiring federal agencies to combat the introduction or spread of invasive species in the U.S. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of the state's invasive species list, currently maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Affected Environment

Invasive species were identified and discussed in the NES prepared for the proposed project (AECOM 2011d). This separately prepared technical report serves as the basis for this analysis of impacts to invasive species; it is incorporated by reference. Table 2.3.13-1 summarizes the invasive plant species found within the BSA and their degree of invasiveness based on their listing status.

Table 2.3.13-1
Invasive Plant Species Present within the Biological Survey Area

Scientific Name	Common Name	Invasiveness[a]
Acacia cyclops	cyclops acacia	Not listed by CalEPPC
Agrostis viridis	water beardgrass	Not listed by CalEPPC
Anagallis arvensis	scarletpimpernel	Not listed by CalEPPC
Atriplex semibaccata	Australian saltbush	CalEPPC: List B
Avena barbata	slender wild oat	CalEPPC: Annual Grasses
Brassica nigra	black mustard	CalEPPC: List B
Bromus diandrus	ripgut grass	CalEPPC: List B
Bromus hordeaceus	soft chess	CalEPPC: List C
Bromus rubens	foxtail chess, red brome	CalEPPC: List B
Capsella bursa-pastoris	Shepherd's purse	Not listed by CalEPPC
Carpobrotus edulis	hottentot-fig	CalEPPC: List B
Casuarina cunninghamiana	she-oak	Not listed by CalEPPC
Centaurea melitensis	tocalote	CalEPPC: List B
Chamaesyce maculata	spotted spurge	Not listed by CalEPPC
Conyza bonariensis	flax-leaf fleabane	Not listed by CalEPPC
Cortaderia selloana	Selloa pampas grass	CalEPPC: List A
Cotula coronopifolia	African brass-buttons	CalEPPC: List C
Cynodon dactylon	bermuda grass	Not listed by CalEPPC
Echium candicans	pride of Madeira	CalEPPC: List B
Erodium cicutarium	red-stem filaree/storksbill	CalEPPC: List C
Eucalyptus globulus	bluegum	CalEPPC: List B
Euphorbia peplus	Petty spurge	Not listed by CalEPPC
Glebionis coronaria	garland/crown daisy	CalEPPC: List B
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	Not listed by CalEPPC
Hypochaeris glabra	smooth cat's ear	CalEPPC: List B
Lantana camara	lantana	Not listed by CalEPPC
Limonium perezii	Perez's marsh-rosemary	Not listed by CalEPPC

Table 2.3.13-1
Invasive Plant Species Present within the Biological Survey Area

Scientific Name	Common Name	Invasiveness[a]
Lobularia maritima	sweet alyssum	CalEPPC: List C
Lythrum hyssopifolia	grass poly	CalEPPC: List C
Malva parviflora	cheeseweed	Not listed by CalEPPC
Medicago polymorpha	California burclover	CalEPPC: List C
Melilotus indicus	Indian sweetclover	CalEPPC: List C
Mesembryanthemum crystallinum	crystalline iceplant	CalEPPC: List B
Mesembryanthemum nodiflorum	slender-leaf iceplant	Not listed by CalEPPC
Myoporum laetum	Ngaio, mousehole tree	CalEPPC: List B
Nicotiana glauca	tree tobacco	CalEPPC: List B
Osteospermum fruticosum	trailing African daisy	Not listed by CalEPPC
Parapholis incurva	sicklegrass	Not listed by CalEPPC
Pennisetum setaceum	African fountain grass	CalEPPC: List B
Phalaris aquatica	Harding grass	CalEPPC: List B
Piptatherum miliaceum	Smilo grass	CalEPPC: List C
Phragmites australis	Common reed	CalEPPC: List B
Polypogon monspeliensis	annual beard grass	CalEPPC: List C
Raphanus sativus	wild radish	CalEPPC: List C
Ricinus communis	castor bean	CalEPPC: List C
Rumex crispus	curly dock	CalEPPC: List C
Salsola tragus	prickly Russian-thistle	CalEPPC: List B
Schinus terebinthifolius	Brazilian pepper tree	CalEPPC: List C
Sisymbrium irio	London rocket	CalEPPC: List B
Sonchus oleraceus	common sow-thistle	CalEPPC: List B
Tropaeolum majus	garden nasturtium	Not listed by CalEPPC
Urtica urens	dwarf nettle	Not listed by CalEPPC
Vicia sativa ssp. *sativa*	spring vetch	Not listed by CalEPPC
Washingtonia robusta	Mexican fan palm	CalEPPC: List B

[a] California Exotic Pest Plant Council (CalEPPC) list categories:
List A: Most Invasive Wildland Pest Plants
List B: Wildland Pest Plants of Lesser Invasiveness

One invasive aquatic species of particular concern due to its rapid propagation and negative effects on the native coastal environment is *Caulerpa taxifolia*, an extremely invasive algae species that was detected in June 2000 in Agua Hedionda Lagoon, approximately 25 miles north of the project site. This species was not detected during project surveys.

Environmental Consequences

Construction of either of the build alternatives would disturb a relatively small area, which would be revegetated with appropriate native plant species upon completion of the proposed project. Additionally, control measures would be implemented for invasive species known to occur within the project area. No adverse effects are anticipated from construction activities.

Though unlikely due to the limited historical occurrence in the region, the potential does exist for *Caulerpa taxifolia* to be present in the project area. If this species were present on the project site, in-water construction activity could disperse individuals and cause the invasive community to spread.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would comply with EO 13112 and subsequent guidance from FHWA. Additionally, the measures summarized in Table 2.3.13-2 would be implemented to control invasive species.

Table 2.3.13-2
Control Measures for Invasive Plant Species
Present within the Biological Survey Area

Scientific Name	Common Name	Control Measures[a]
Acacia cyclops	cyclops acacia	None specified.
Agrostis viridis	water beardgrass	None specified.
Anagallis arvensis	scarletpimpernel	None specified.
Atriplex semibaccata	Australian saltbush	Hand-pulling.
Avena barbata	slender wild oat	Physical and chemical control measures are not practical over large expanses especially when intermixed with native species.
Brassica nigra	black mustard	None specified.
Bromus diandrus	ripgut grass	Hand-pulling.
Bromus hordeaceus	soft chess	None specified.
Bromus rubens	foxtail chess, red brome	Physical and chemical control measures are not practical over large expanses especially when intermixed with native species
Capsella bursa-pastoris	Shepherd's purse	None specified.
Carpobrotus edulis	hottentot-fig	Hand-pulling. Spraying should be avoided in areas in which native species are interspersed with highway iceplant clones. Impacts to native species can be reduced by treating iceplant in early or mid-winter when most native plants are dormant.
Casuarina cunninghamiana	she-oak	None specified.
Centaurea melitensis	tocalote	Mowing or weed-eating can be used effectively if conducted at a stage where 2% to 5% of the seeds are flowering (after bolting and before seed is set) and plant is cut below lowest branch.
Chamaesyce maculata	spotted spurge	None specified.
Conyza bonariensis	flax-leaf fleabane	None specified.
Cortaderia selloana	Selloa pampas grass	Physical and chemical control.
Cotula coronopifolia	African brass-buttons	None specified.
Cynodon dactylon	bermuda grass	None specified.
Echium candicans	pride of Madeira	None specified.
Erodium cicutarium	red-stem filaree/storksbill	None specified.
Eucalyptus globulus	bluegum	Hand-pulling; trunks should be cut at ground level and saturated with herbicide.
Euphorbia peplus	Petty spurge	None specified.
Glebionis coronaria	garland/crown daisy	None specified.
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	None specified.
Hypochaeris glabra	smooth cat's ear	None specified.
Lantana camara	lantana	None specified.

Table 2.3.13-2
Control Measures for Invasive Plant Species Present within the Biological Survey Area

Scientific Name	Common Name	Control Measures[a]
Limonium perezii	Perez's marsh-rosemary	None specified.
Lobularia maritima	sweet alyssum	None specified.
Lythrum hyssopifolia	grass poly	None specified.
Malva parviflora	cheeseweed	None specified.
Medicago polymorpha	California burclover	None specified.
Melilotus indicus	Indian sweetclover	None specified.
Mesembryanthemum crystallinum	crystalline iceplant	None specified.
Mesembryanthemum nodiflorum	slender-leaf iceplant	None specified.
Myoporum laetum	Ngaio, mousehole tree	Hand-pulling; trunks should be cut at ground level and saturated with concentrated glyphosate.
Nicotiana glauca	tree tobacco	None specified.
Osteospermum fruticosum	trailing African daisy	None specified.
Parapholis incurva	sicklegrass	None specified.
Pennisetum setaceum	African fountain grass	None specified.
Phalaris aquatica	Harding grass	Hand-pulling and mowing.
Piptatherum miliaceum	Smilo grass	None specified.
Phragmites australis	Common reed	Hand remove; restore invaded area to tidal mudflat through sediment removal and recontouring.
Polypogon monspeliensis	annual beard grass	None specified.
Raphanus sativus	wild radish	Hand-pulling.
Ricinus communis	castor bean	None specified.
Rumex crispus	curly dock	None specified.
Salsola tragus	prickly Russian-thistle	None specified.
Schinus terebinthifolius	Brazilian pepper tree	None specified.
Sisymbrium irio	London rocket	None specified.
Sonchus oleraceus	common sow-thistle	None specified.
Tropaeolum majus	garden nasturtium	None specified.
Urtica urens	dwarf nettle	None specified.
Vicia sativa ssp. *sativa*	spring vetch	None specified.
Washingtonia robusta	Mexican fan palm	None specified.

[a] Control measures were derived from Bossard et al. 2000

To ensure that project construction would not result in the spread of invasive aquatic species due to disturbances in the channel, pre-construction surveys for *Caulerpa taxifolia* would be conducted as part of a pre-construction survey program, consistent with version 4 of the *Caulerpa Control Protocol* (NMFS and CDFW 2008).

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CHAPTER 3
COMMENTS AND COORDINATION

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental evaluation and documentation; the level of analysis; potential impacts; and avoidance, minimization, and/or compensation measures and related environmental requirements. Agency consultation and public participation for this project were accomplished through a variety of formal and informal methods, including project development team (PDT) meetings, interagency coordination meetings, and public meetings with project stakeholders. The project team will also hold a public hearing to coincide with release of the Draft EA for public review, revise the EA as needed to address any comments received during the review period, and then prepare a Final EA. This chapter summarizes the results of efforts by Caltrans to fully identify, address, and resolve project-related issues through early and continuing coordination.

3.1 CONSULTATION AND COORDINATION WITH PUBLIC AGENCIES

Resource Agency Coordination

Development and analysis of the proposed project began in 1999 when the City hired a consultant team to design project alternatives and begin engineering and environmental analysis for the retrofit or replacement of the existing bridge. This initiation process included early coordination with Caltrans – District 11 and FHWA.

The PDT held several meetings with the resource agencies that would be issuing permits for the proposed project. A resource agency pre-application meeting was held September 13, 2011, at the San Diego CDFW office; the meeting was attended by the City, Caltrans, CDFW, USFWS, RWQCB, CCC, and the consultant team. The pre-application meeting presented the resource agencies with an overview of the proposed project that included the results of the biological technical analysis and a range of construction methodologies that may be used for the proposed project. The meeting also included a discussion of potential impacts to biological resources, mitigation measures, and the permits that would be required.

A project site visit was held on October 18, 2011, that allowed the resource agencies to view the environmental resources on-site. The project site visit focused on the types of berms that would be constructed under the various construction methodologies. The resource agencies provided input on the potential impacts that the construction berms may have on natural resources within the San Diego River flood control channel. The PDT used this information to refine the proposed construction methodologies that may be used; the refined methods were used in the evaluation of potential effects in the EA.

An additional meeting was conducted between the environmental subconsultant and USACE on December 20, 2011, at the San Diego USACE office. The meeting allowed the environmental subconsultant and USACE to have further discussions on the anticipated impacts to federal waters of the U.S. and the permits that would be required. USACE concluded that the proposed project would require a Rivers and Harbors Act Section 10 permit, but would not require a Section 408 permit. USACE also confirmed that compensatory mitigation would not be required for shading impacts. Subsequent to this focused meeting, USACE determined that an individual permit would likely be required for the proposed project because the construction berms would

be placed in the San Diego River flood control channel for more than 6 months. USACE anticipates that obtaining an individual permit would require a 4- to 6-month permitting process.

On April 24, 2012, USFWS hosted a meeting to address the project's shading impacts and prospective mitigation. The meeting was attended by representatives of Caltrans, the City, the City's project engineer, the project environmental consultant, NMFS, CCC, USACE, RWQCB, and CDFW. USFWS has requested compensatory mitigation for shading of tidal mudflat at a 1:1 ratio.

Caltrans also informally consulted with NMFS regarding potential impacts to the Pacific harbor seal and California sea lion, and determined that implementation of pre-construction surveys, construction monitoring, and sound attenuation measures to minimize waterborne sound levels during construction would ensure that the proposed project would not impact these species. Caltrans also informally consulted with NMFS regarding potential impacts on Essential Fish Habitat (EFH) and marine species. An EFH assessment was submitted to NMFS for review that included avoidance and minimization measures to limit impacts. NMFS issued an EFH comment letter to Caltrans on January 8, 2013, which is included in Appendix G of this EA. The NMFS letter expressed approval of the mitigation measures listed in this EA and the EFH Assessment, and requested that Caltrans and the City continue to collaborate with NMFS as mitigation plans are developed. Caltrans issued their response to the NMFS letter on January 16, 2013, which is also included in Appendix G of this EA. The Caltrans letter states concurrence with NMFS's comments and agreement to continue collaboration with NMFS.

Section 7 Consultation under the Federal Endangered Species Act

The 1973 FESA and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the FESA, federal agencies, such as FHWA, are required to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

Caltrans contacted USFWS on April 22, 2009, to confirm the list of potential federally listed species that may be present within the BSA. USFWS determined that three federally endangered wildlife species are present within the BSA: the light-footed clapper rail, western snowy plover, and California least tern. Caltrans also contacted NMFS on January 13, 2011, to confirm the federally listed species that may be present within the BSA; NMFS confirmed the potential for the federally endangered green sea turtle. Caltrans informally consulted with Dan Lawson of NMFS on March 21, 2011, and determined that implementation of pre-construction surveys and construction monitoring, as well as the implementation of sound attenuation measures incorporated during construction as described in Section 2.20 Threatened and Endangered Species, would ensure that the proposed project would not impact the green sea turtle.

A Draft BA was prepared in October 2011. Based on the conclusions of the NES and BA, Caltrans has requested that USFWS concur with a "may affect, but not likely to adversely affect" finding for the California least tern, western snowy plover, light-footed clapper rail, and salt marsh bird's beak. USFWS issued an informal Section 7 consultation letter to Caltrans on January 30, 2013. The letter, which is included in Appendix G of this EA, provides additional detail regarding USWFS's mitigation requirements. Additional detail stated in the letter includes acreages, success criteria, and monitoring and reporting requirements for the mitigation plan as well as design restrictions for lighting and measures to prevent bird strikes.

Mission Bay Park Committee

The PDT attended a Mission Bay Park Committee meeting on December 6, 2011, to present the committee with an overview of the proposed project. The PDT presented the committee with the purpose and need for replacing the existing bridge, an overview of the build alternatives, and an update on the status of the engineering design and environmental analysis being conducted for the proposed project.

3.2 PUBLIC OUTREACH

Stakeholder Meetings

The engineering consultant, in cooperation with the City, presented the bridge architectural design process to stakeholder representatives in the first of three stakeholder meetings. Stakeholder groups at the meeting were the Mission Bay Park Committee, the Pacific Beach Town Council, the Hyatt Regency Mission Bay, Sea World, and a representative from San Diego City Council Member Kevin Faulconer's office. This first stakeholder meeting was held to present the results of the viewshed analysis, functional requirements analysis, and constraints analysis that were prepared for the proposed project. Stakeholders provided comments to the engineering consultant on the design of the replacement bridge.

The engineering consultant used the results of this stakeholder meeting to develop schematic diagrams and design narratives for the proposed build alternatives. The engineering consultant also used the results to develop conceptual themes that would help describe bridge amenities and secondary elements such as materials, textures, railing, bike/pedestrian path surfaces, and lighting. These bridge drawings, concepts, and elements were presented to the community at a second stakeholders meeting on February 23, 2012. This second stakeholder meeting allowed the stakeholders to see the latest bridge designs and comment on whether the refined designs met project goals that were defined by the community. The second stakeholder meeting also established the selection criteria that were used to identify the preferred alternative.

The consultant team held a third and final stakeholder meeting on March 22, 2012, to present a summary of the feedback received from public meetings and present bridge architectural alternatives to the stakeholder group. The consultant team presented the benefits and disadvantages of each alternative, and participated in the discussion with the stakeholder group.

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CHAPTER 4
LIST OF PREPARERS

Jason Reynolds, Project Director; Bachelor of Science, City & Regional Planning, Minor in Public Administration, California Polytechnic State University, San Luis Obispo; 17 years of experience, 6 years of experience at AECOM

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Angie Harbin-Ireland, Senior Biologist; Bachelor of Science, Wildlife, Fish, and Conservation Biology, University of California, Davis; Habitat Evaluation Procedures Certification, Virginia Polytechnic Institute and State University, Blacksburg; Master of Science, Conservation Ecology, University of California, Davis; Wildlife, Fish, and Conservation Biology, University of California, Davis; 14 years of experience, 10 years of experience at AECOM

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Cristina Lowery, Environmental Planner; Coursework toward Bachelor of Science, Natural Science, Loyola Marymount University, Anticipated Completion: Summer 2012; 4.5 years of experience, 1.5 years with AECOM.

CHAPTER 5
DISTRIBUTION LIST

Federal Agencies

U.S. Army Corps of Engineers
Carlsbad Field Office
Attn: Robert Revo Smith, Jr., P.E.
6010 Hidden Valley Rd, Suite 105
Carlsbad, CA 92011-4213

U.S. Fish & Wildlife Service
Attn: Sally Brown
6010 Hidden Valley Road, Suite 101
Carlsbad, CA 92011

National Oceanic and Atmospheric Administration
Fisheries Division
Attn: Eric Chavez
501 W. Ocean Blvd., Suite 4200
Long Beach, CA 90802

U.S. Environmental Protection Agency
Environmental Review Office
Attn: Susan Sturges (Mail Code CED-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

State Agencies

California Coastal Commission
San Diego District Office
Attn: Gabriel Buhr
7575 Metropolitan Drive, Suite 103
San Diego, CA 92108

California Department of Fish & Wildlife
Attn: Tim Dillingham
3883 Ruffin Road
San Diego, CA 92123

California Regional Water Quality Control Board
San Diego Region
Attn: Alan T. Monji
9174 Sky Park Court, Suite 100
San Diego, CA 92123

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APPENDIX A
CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS

APPENDIX A
CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS

Relevant Key Goals and Policies	Project Considerations	Consistency
Mission Bay Park Master Plan Update		
Circulation and Access		
Goal 1: A park which promotes and ensures safe and enjoyable access for all park users and minimizes negative transportation-related impacts on surrounding neighborhoods.	Implementation of the proposed project will reduce existing and future traffic congestion by improving existing roadway and on- and off-ramp connections, as well as providing two additional lanes that will provide increased roadway capacity, thereby alleviating transportation-related impacts on the surrounding neighborhoods. In addition, the proposed project will include dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities, which will improve access for park users and minimizing impacts to surrounding neighborhoods.	Both alternatives would be consistent with this goal.
Goal 3: A park which provides a complete, clearly defined and safe (Class I) bike path that ties in with the existing bicycle network for adjoining neighborhoods.	Implementation of the proposed project will include dedicated barrier-protected Class I separated bicycle facilities that will connect to the existing bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge.	Both alternatives would be consistent with this goal.
Environment		
Goal 1: A park in which aquatic wildlife and natural resources are a major recreational attraction for park users. Goal 2: A park in which biodiversity is sustained and enhanced through the protection of natural resources and the expansion of habitat areas for sensitive species.	The proposed project is designed to protect aquatic wildlife and natural resources within Mission Bay Park by locating the replacement bridge within the existing right-of-way alignment and by reducing the overall footprint of the new bridge within the San Diego River flood control channel with smaller and fewer pier columns.	Both alternatives would be consistent with these goals.

Relevant Key Goals and Policies	Project Considerations	Consistency
Aesthetics and Design		
Goal 1: A park whose image, as defined by its landscape architecture and public works manifest and magnify its unique and distinctive aquatic nature.	The proposed project will not alter the image of Mission Bay Park. The existing bridge is being replaced with a bridge designed to be context-sensitive, thereby protecting the unique and distinctive nature of the park.	Both alternatives would be consistent with this goal.
Goal 3: A park that extends beyond its boundaries by offering "image bytes" or encapsulated views of its open water and landscape to surrounding roadways, neighboring streets, and distant viewing points.	The proposed project includes design features that would improve the visual quality of the park from surrounding areas, including use of a thin deck supported by individual columns that would reduce structure massing and improve visual access, use of smaller and fewer pier columns, and implementation of a landscape concept plan.	Both alternatives would be consistent with this goal.
Local Coastal Program (LCP)		
Public Access: Improving vehicular, emergency, bicycle, and pedestrian access to the Park.	The proposed project will improve vehicular access to Mission Bay Park by providing an additional two lanes on the bridge and roadway improvements, allowing for a more seamless transition from the local roadway connections. In addition, the proposed project will include dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities.	Both alternatives would be consistent with the LCP.
Preservation of Water, Marine and Biological Resources: The highest water quality; sustained bio-diversity; ongoing education and research; and the reduction of traffic, noise and air pollution should all be priorities. The Park's natural resources should be conserved and enhanced not only to reflect environmental values but also for aesthetic and recreational benefits.	The proposed project is designed to protect aquatic wildlife and natural resources within Mission Bay Park by locating the replacement bridge within the existing right-of-way alignment and by reducing the overall footprint of the new bridge within the San Diego River flood control channel. The proposed project would reduce traffic congestion by providing an additional two lanes on the bridge and roadway improvements to allow for a more seamless transition from the local roadway connections. The	Both alternatives would be consistent with the LCP.

Relevant Key Goals and Policies	Project Considerations	Consistency
	proposed project would also conform to the State's implementation plan as outlined in the 2050 RTP and 2010 RTIP; therefore no adverse regional air quality effects will occur as a result of the proposed project.	
Visual Resources: Preservation of significant views into the Park from surrounding…roadways, such as I-5, and from main entrance roads such as Pacific Coast Highway and Tecolote Road. In addition, ensure the compatible integration of any new development, private or public, with the Bay environment.	The proposed project will not impede significant views into Mission Bay Park due to the reduced structural massing and use of smaller and fewer pier columns. The reduced overall footprint of the new bridge and its placement within the existing right-of-way alignment will allow the new bridge to compatibly integrate with the existing Bay environment.	Both alternatives would be consistent with the LCP.
Public Works: Recommends new infrastructure in terms of roadways, emergency services, restroom facilities, paths and parking to meet the anticipated needs of future Park visitors.	The proposed project will help meet the needs of future Mission Bay Park visitors by providing two additional lanes that would increase roadway capacity, as well as including dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities.	Both alternatives would be consistent with the LCP.
City of San Diego General Plan 2008		
Land Use and Community Planning Element		
The purpose of the Land Use and Community Planning Element is to guide future growth and development into a sustainable, Citywide development pattern while maintaining or enhancing quality of life in San Diego communities.	Implementation of the proposed project would provide additional traffic capacity to accommodate future growth projected by SANDAG. The resulting reduction in traffic congestion will enhance the quality of life in the surrounding San Diego community planning areas and larger San Diego region.	Both alternatives would be consistent with this goal.
Mobility Element (ME)		
ME-C.2: Provide adequate capacity and reduce congestion for all modes of transportation on the street and freeway system.	Implementation of the proposed project will provide additional traffic capacity and reduce existing and future traffic congestion.	Both alternatives would be consistent with this goal.
ME-C.3: Design an interconnected street network within and between communities,	Implementation of the proposed project will improve bicycle and pedestrian connections by	Both alternatives would be consistent with this goal.

Relevant Key Goals and Policies	Project Considerations	Consistency
which includes pedestrian and bicycle access, while minimizing landform and community character impacts.	constructing Class I bike paths that will connect to the existing bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge.	
ME-C.6: Locate and design new streets and freeways and, to the extent practicable, improve existing facilities to respect the natural environment, scenic character, and community character of the area traversed, and to meet safety standards.	The proposed project was designed to respect the surrounding natural environment by locating the replacement bridge within the existing right-of-way alignment and by reducing the overall footprint of the new bridge within the San Diego River flood control channel.	Both alternatives would be consistent with this goal.
ME-F.1: Implement the Bicycle Master Plan, which identifies existing and future needs, and provides specific recommendations for facilities and programs over the next 20 years.	Construction of Class I barrier-separated bike paths across the replacement bridge would be consistent with Goal 1 (Promote bicycle transportation) and Goal 3 (Improve the local and regional bikeway network) of the City of San Diego Bicycle Master Plan, 2011.	Both alternatives would be consistent with this goal.
ME-F.3: Maintain and improve the quality, operation, and integrity of the bikeway network and roadways regularly used by bicyclists.	Introduction of Class I barrier-separated bike paths across the replacement bridge would improve the existing bikeway network.	Both alternatives would be consistent with this goal.
Urban Design (UD) Element		
UD-A.1: Preserve and protect natural landforms and features. UD-A.3: Design development adjacent to natural features in a sensitive manner to highlight and complement the natural environment in areas designated for development.	The proposed project is designed to respect surrounding natural landforms and features by locating the new bridge within the existing right-of-way alignment and by reducing the overall footprint of the bridge within the San Diego River flood control channel with smaller and fewer pier columns.	Both alternatives would be consistent with these goals.
UD-A.10: Design or retrofit streets to improve walkability, bicycling, and transit integration; strengthen connectivity; and enhance community identity. Streets are an important aspect of urban design, as referenced in the Mobility Element.	The proposed project would improve walkability and bicycling by constructing dedicated barrier-protected intermodal connections and improved intermodal facility connections through wider sidewalks and separated bicycle facilities.	Both alternatives would be consistent with this goal.

Relevant Key Goals and Policies	Project Considerations	Consistency
Recreation Element (RE)		
RE-C.1: Protect existing parklands and open space from unauthorized encroachment by adjacent development through appropriate enforcement measures. RE-F.1: Protect and enhance park lands from adjacent incompatible uses and encroachments.	The proposed project was designed to protect the surrounding portions of Mission Bay Park by locating the new bridge within the existing right-of-way alignment and by reducing the overall footprint of the bridge within the San Diego River flood control channel with smaller and fewer pier columns.	Both alternatives would be consistent with these goals.
Conservation Element (CE)		
CE-B.1: Protect and conserve the landforms, canyon lands, and open spaces that define the City's urban form; provide public views/vistas; serve as core biological areas and wildlife linkages; are wetlands habitats; provide buffers within and between communities; or provide outdoor recreational opportunities. CE-C.1: Protect, preserve, restore, and enhance important coastal wetlands and habitat (tide pools, lagoons, and marine canyons) for conservation, research, and limited recreational purposes. CE-G.1: Preserve natural habitats pursuant to the MSCP, preserve rare plants and animals to the maximum extent practicable, and manage all City-owned native habitats to ensure their long-term biological viability.	The proposed project was designed to protect resources by locating the new bridge within the existing right-of-way alignment and by reducing the overall footprint of the bridge within the San Diego River flood control channel with smaller and fewer pier columns.	Both alternatives would be consistent with these goals.
CE-C.9: Develop an integrated system of pedestrian, bicycle, local transit, and automobile access to the shoreline that will connect major coastal activity areas, with a focus on the ocean and natural scenic corridors.	The proposed project includes an integrated pedestrian/bicycle/vehicle system with dedicated barrier-protected intermodal connections and improved intermodal facility connections through wider sidewalks and separated bicycle facilities, which will connect to the existing bike/pedestrian paths that cross under the existing West Mission Bay Drive Bridge.	Both alternatives would be consistent with this goal through implementation of the biological mitigation measures described in the NES prepared for the proposed project.

Relevant Key Goals and Policies	Project Considerations	Consistency
SANDAG's 2050 San Diego Regional Transportation Plan: Our Region, Our Future (2050 RTP)		
The proposed project is identified in the 2050 RTP as SANDAG ID SD70 (W. Mission Bay Bridge: Over San Diego River – replace from four to six lanes with class II bike lane [52-643]).	The design concept and scope of the proposed project are consistent with the project description in the 2050 RTP and the assumptions in the SANDAG regional emissions analysis. Therefore, the proposed project is assumed to conform to the State Implementation Plan (SIP), and no adverse regional air quality effect would occur as a result of operation of the project.	Both alternatives would be consistent with this plan.
SANDAG's 2010 Regional Transportation Improvement Program (2010 RTIP)		
The proposed project is included in the 2010 RTIP as MPO ID SD 70 (West Mission Bay Drive Bridge over San Diego River – in San Diego, replace bridge and increase from 4 to 6 lanes including Class II bike lane).	The design concept and scope of the proposed project are consistent with the project description in the 2010 RTIP and the assumptions in the SANDAG regional emissions analysis. Therefore, the proposed project is assumed to conform to the SIP, and no adverse regional air quality effect would occur as a result of operation of the project.	Both alternatives would be consistent with this plan.

APPENDIX B
AVOIDANCE, MINIMIZATION, AND/OR MITIGATION SUMMARY

Appendix B
Avoidance, Minimization, and/or Mitigation Summary

Summary of Proposed Avoidance, Minimization, and/or Mitigation Measures

Parks and Recreational Facilities

The proposed project was designed to minimize impacts to existing park and recreation resources by locating the replacement bridge within the existing right-of-way and avoiding construction of pier walls or bridge pilings in portions of the San Diego River flood control channel that are not currently affected by the existing bridge. The replacement bridge will also consist of fewer pier walls, resulting in an overall reduced footprint within the flood control channel. The proposed project was designed to avoid the California Least Tern Preserve, and will not physically encroach into the preserve during construction or operation. Impacts to the Southern Wildlife Preserve will be fully restored through biological mitigation (see Section 2.3.10 of the EA). Temporary impacts to the City's bike/pedestrian paths will be mitigated through construction of protective enclosures that will be provided along the bike paths to shield the pathways from construction activities and to ensure a protected environment for pedestrians and bicyclists throughout the construction zone.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Transportation Management Plan

A TMP has been prepared and is designed to minimize delays and enhance safety during the construction phase. The following is a summary of the TMP elements that will be implemented.

Public Awareness Campaign

A public awareness campaign will educate motorists, merchants, residents, elected officials, and governmental agencies about potential construction impacts. The public awareness campaign is designed to (1) identify all target audiences who would potentially be impacted by construction activities; (2) serve as the focal point for project-related questions regarding construction activities, road closures, noise, and dust; (3) inform the public about the construction project and how the project could affect their travel along West Mission Bay Drive; and (4) promote alternative modes of transportation and alternate routes.

Motorist Information Strategies

Motorist information strategies will be implemented to divert the desired volume of traffic away from the construction site. These strategies will also enable motorists to make informed decisions about their own travel plans and options by providing them with information that is as close to "real time" as possible. The motorist information strategies considered in the TMP include portable changeable signs, ground-mounted signs, and the Caltrans Highway Information System.

Incident Management

Incident management will consist of the following components:

- Construction Zone Enhanced Enforcement Program (COZEEP): COZEEP involves placing highly visible California Highway Patrol officers within the work area to discourage motorists from committing dangerous moving violations. A limited COZEEP

has been made available for this project, as full freeway closures and work in ramp gore areas are not anticipated, and only limited night work is anticipated.

- Towing Availability: A vehicle breakdown or accident has the potential to significantly interrupt bridge service. As such, towing services are critical to smooth and continuous operations within the construction footprint. The phone number of a local towing company serving the project area will be provided to California Highway Patrol and the City's Police Department.

- Traffic Management Team: A Traffic Management Team (TMT) will be scheduled whenever construction activities are expected to cause a traffic queue on I-8. The TMT will help to prevent accidents (queue protection) by providing advance warning to the motorist of abnormal downstream traffic congestion on the freeway.

Construction Strategies

Construction strategies will involve the following:

- Lane Closures: The existing bridge provides two through travel lanes in both the NB and SB directions. Due to the high traffic volumes on the bridge, the proposed project was designed to provide at least two through travel lanes in each direction during each stage of construction. Shoulders will be provided to the maximum extent practicable to allow disabled vehicles a refuge area from the travel way and lessen the probability of extended delays resulting from minor incidents. As the existing number of main lanes will be maintained throughout the construction phase, no diversion of traffic is anticipated. Therefore, the existing roadway segments, intersections, and freeway ramps will not be impacted by any detoured traffic.

- Business Access Closures: Continued access to all driveways and streets in the project area will be provided during all stages of construction.

- Bicycle/Pedestrian Facility Closures: The existing north and south bike paths along the San Diego River banks will remain open at all times. In addition, one sidewalk across the bridge will remain open at all times throughout construction. For any existing pedestrian facilities within the area that would be affected due to the construction of the proposed project, advance warning signs will be provided to notify pedestrians of the associated detour.

- Access Routes and Construction Staging Area Strategies: The construction access routes and staging areas will ultimately be selected by the contractor and approved by the City and Caltrans. Subsequently, all traffic control related to the proposed project, including any traffic control needed for construction access routes and construction staging areas will be approved by the City and Caltrans.

- Conflicts with Other Projects and Special Events: Concurrent construction with overlapping project limits should be anticipated in advance and may require a review of TMP elements during construction to avoid unanticipated impacts to traffic flow.

Alternate Route Strategies

Near the project area, the Sunset Cliffs Boulevard Bridge (west of the project site) provides an alternate route for NB-SB traffic. If this route becomes heavily used or is needed in the event of an emergency, the traffic signal timing at the associated intersections may need to be adjusted to minimize delay, especially during the AM and PM commuter peak hours.

Contingency Plans

If redirecting traffic volumes is required, the Caltrans District Traffic Manager Branch shall be available on an as-needed basis to assist in developing solutions. Such efforts may require additional cooperation on the part of Caltrans Public Affairs, California Highway Patrol COZEEP units, the TMP coordinator, Transportation Management Center (TMC) personnel, TMT units, and maintenance personnel. TMC personnel would have access to contact numbers for all of these branches and will assist in communications if required by field personnel.

Visual/Aesthetics

The project proposes replacing the existing bridge structure with either one or two structures and realigning/widening the westbound off ramp lanes. Bridge and roadway features would be widened, bridge abutments would be replaced with similar structures, low retaining walls would be added within the levee areas, and off ramps realigned and widened from two to four lanes within the Caltrans right-of-way. The bulky bridge pier footings would be replaced with simplified footings improving visual access along the open space corridor. New bridge structures would incorporate architectural detailing to simplify and improve the aesthetics of a slimmer bridge deck, bridge abutments, and tie back wall features. Grading would be minimal, providing a transition from new improvements to existing grades. Bikeways would be realigned and transitioned beneath the bridges as is presently.

Cultural Resources

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in the area or any nearby area suspected to overlie remains, and the county coroner shall be contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the most likely descendent. At this time, the person who discovered the remains will contact the Caltrans Environmental Branch so that it may work with the most likely descendent for the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 will be followed as applicable.

Hydrology and Floodplain

The temporary construction scenarios will be designed to convey the twice-daily tidal prism and the westerly San Diego River low flow channel, as described in Section 2.3.4 of the EA. The temporary berms will also accommodate projected increases in water surface elevation and length of backwater resulting from storm events. The openings in the temporary construction berm will be designed to convey the increase in water volume westerly to the Pacific Ocean, ensuring that these increases will be temporary. Once construction of the proposed bridge is complete, the temporary construction berm(s) will be removed, and negligible effects to the tidal prism, low flow conditions, and water surface elevation increases will return to the existing conditions.

Water Quality and Storm Water Runoff

Construction

Best Management Practices (BMPs) implemented during the construction phase will include erosion control, sediment control, vehicle sediment tracking control, wind erosion control, non-storm water management pollution control, waste management, and materials pollution control. BMPs used for construction work occurring within the river channel will include temporary construction berms, in-stream silt curtains, and cofferdams and pumps to dewater soils. The BMPs used for upland construction zones will include debris-catching basins, silt fencing, straw wattles, gravel bags, storm drain inlet protection, stabilized construction entrances, and other similar measures. As the temporary construction berm would increase local velocities during smaller storm events, it is recommended that the contractor place temporary rip-rap near opening(s) to reduce the risk of erosion. These BMPs will be documented in the SWPPP.

Operation

Biofiltration Swales/Strips

A rock-lined bioswale is proposed to treat runoff from the I-8 westbound off-ramp to Sports Arena Boulevard and surrounding landscaped area. This rock-lined bioswale will be approximately 115 feet in length and 18 feet in width. It will be sized to treat the approximately 2.1 acres of roadway associated with the off-ramp, as well as approximately 5.1 acres of pervious landscaping that is tributary to this area. No live vegetation is proposed within the swale.

Media Filters

Media filters are proposed for the project in the form of small footprint filtration devices. As heavy sediment and litter loads are not anticipated, pre-treatment is not necessary for these small footprint filtration devices. Eight of these devices are proposed at the existing inlets and for the new inlets proposed on each of the four corners of the new bridge structure.

Geology/Soils/Seismic/Topography

Impacts related to soil erosion and sediment loading during construction will be minimized through implementation of erosion-control BMPs described for Water Quality and Storm Water Runoff. Additionally, the construction contractor will be required to mitigate for groundwater seepage during excavations by utilizing geotechnical BMPs, such as dewatering, casing, and using drilling mud as appropriate.

Impacts related to liquefaction and settlement will be minimized by utilizing construction methods that create stable geologic conditions beneath the replacement bridge. Grading and earthwork will be conducted in accordance with the City of San Diego grading ordinance and specific requirements of the Caltrans Standard Specifications. Consistent with these standards, foundation and grading excavations will be observed by geotechnical experts to identify field conditions that differ from those anticipated during preliminary design and adjust designs to actual field conditions. Similarly, soils will be monitored for potential settlement during grading and construction of surface improvements above filled areas will be delayed until settlement is substantially completed. The replacement bridge will utilize cast-in-drilled-hole (CIDH) or cast-in-drilled-shell (CISS) concrete piles that will extend 5-feet into undisturbed conglomerate to minimize impacts associated with ground shaking and earthquake-induced liquefaction

Hazardous Waste/Materials

The following mitigation measures are recommended based on the information obtained regarding the potential presence of hazardous materials within the project footprint, including asbestos-containing materials, lead-based paint, and aerially deposited lead.

- If asbestos-containing materials and damaged lead-based paint are discovered at the project site, these materials shall be removed prior to demolition activities. Removal of intact lead-based paint shall be further assessed during demolition activities.
- If soil in unpaved areas of the site is to be disturbed as part of the proposed project, an aerially deposited lead survey shall be performed. If elevated levels of lead are present, these materials shall be handled in accordance with current Caltrans guidelines.
- Dewatering will likely be required during construction, as groundwater in the vicinity of the project site has been reported at depths of approximately 3 to 14 feet below ground surface. Dewatering activities shall be completed in accordance with the RWQCB's General Waste Discharge Requirements.
- If the storm water pump station building is to be disturbed during construction activities, SDG&E shall be notified to remove the associated electrical transformer.

Air Quality

Project activities will comply with Caltrans Standard Specifications (2010) Section 14-9.03: Dust Control:

- Prevent and alleviate dust by applying water, dust palliative, or both (Section 14-9.02), and by covering active and inactive stockpiles (Sections 13-4.03C[3] and 14-9.02).

The following measures will be incorporated into the project to minimize the emission of fugitive dust, PM_{10}, and $PM_{2.5}$:

- Minimize land disturbance.
- Use watering trucks to minimize dust, using enough water to confine dust plumes to the project work areas.
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- Cover all truck beds containing dirt when trucks travel at speeds greater than 15 miles per hour.
- Stabilize the surface of dirt piles that are not removed within 2 days.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried onto the roadway.
- Revegetate disturbed land, including vehicular paths created during construction, to avoid future off-road vehicular activities.
- Remove unused materials.

The following measure will be incorporated into the project to minimize exposure to diesel PM emissions:

- Locate construction equipment and truck staging and maintenance areas as far as feasible from and nominally downwind of schools, active recreation areas, and other areas of high population density.

Noise

Construction

The following measures will be implemented to avoid or minimize construction noise impacts:

- As required by Caltrans Standard Specification 7-1.011, each internal combustion engine shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.
- Staging areas shall be located at least 500 feet from occupied residential units. Work in staging areas that generates loud noises, such as equipment maintenance, shall not occur during the hours prohibited for construction work.
- If traffic control and construction signs that require power for lighting or flashing are located near residential units, the source of power shall be batteries, solar cells, or another quiet source. Gas- or diesel-fueled internal combustion engines shall not be used.
- Pile driving will be restricted to the hours of 7 a.m. to 7 p.m. Monday through Friday, and will not be allowed on Saturdays, Sundays, or holidays.

Natural Communities

The sensitive natural communities identified within the biological survey area (BSA) are jurisdictional wetlands and waters. Proposed avoidance, minimization, and mitigation measures for these communities are discussed below in the Wetlands and Other Waters section.

Wetlands and Other Waters

Construction limits and staging areas have been located or reduced to minimize direct effects to sensitive resources and maximize the use of disturbed and developed land cover types. As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of sensitive habitats (e.g., jurisdictional waters). Bridge piers were designed as round columns rather than the continuous pier walls used on the existing bridge, which will reduce the overall footprint of disturbance. Bridge abutments will not encroach into wetlands or sensitive habitats beyond their current position. Unavoidable construction impacts will be minimized through use of specific drilling methods to install bridge piers and through the staged construction process described in Section 1.3.1.

Construction

The temporal loss of wetland habitat resulting in the conversion of a nonnative invasive wetland community (southern coastal brackish marsh) to mudflat (which previously occupied the area where the marsh established itself) would be considered a temporary impact, as the conversion would remain an aquatic feature and would not be converted to upland (see Figures 2.2.6-2 and 2.2.6-3. The placement of the earthen berms within the San Diego River would also be considered temporary, as the river bottom would be restored to original grade through the use

of LIDAR to ensure a high level (centimeter) of accuracy after the completion of construction, and would not be permanently converted from an aquatic feature to an upland area.

Temporary impact acreages of the various construction scenarios under each build alternative are detailed in Tables 2.3.10-1 through 2.3.10-6. Compensatory mitigation for temporary impacts to jurisdictional waters (including wetlands) would be given the highest priority for on-site/in-kind restoration and enhancement (if possible) after construction to reestablish jurisdictional areas to conditions and functions at least equal to their existing quality at the jurisdictional areas. Temporary impacts to jurisdictional waters (including wetlands) would be mitigated via a combination of in-place and in-kind restoration, enhancement, and self-recovery.

General Construction Avoidance and Minimization Measure

All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would occur in designated areas outside of jurisdictional wetlands or waters and within the fenced project limits. These designated areas would be located in previously compacted and disturbed areas to the maximum extent practicable to prevent any runoff from entering jurisdictional wetlands or waters, and would be shown on the construction plans. Fueling of equipment would take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters. Contractor equipment would be checked for leaks prior to operation and repaired as necessary. “No-fueling” zones would be designated on construction plans.

Operation

Compensatory mitigation recommendations will be based on three relevant sources:

1. The USACE Compensatory Mitigation for Losses of Aquatic Resources; Final Rule will provide criteria for the mitigation for permanently impacted aquatic resources.[1]

2. CDFG, South Coast Region; Guidelines for Wetland Mitigation will provide mitigation ratios. CDFG mitigation guidelines consider isolated freshwater marsh and unvegetated streams “low-value habitats” and recommend a 1:1 mitigation ratio for losses of these habitats (National Research Council 2001).

3. CCC Procedural Guidance for Evaluating Wetland Mitigation Projects in California’s Coastal Zone will provide criteria for mitigation for these listed aquatic resources. Currently, CCC determines the applicable mitigation ratio on a case-by-case basis. In an attempt to account for concerns over project location, interim losses, and reduced chances of success, CCC has required compensatory mitigation ratios greater than 1:1 (CCC 1995). Coastal Act Section 30607.1 provides direction on the issue of mitigation for temporary projects and states, in part:

> The mitigation measures shall not be required for temporary or short-term fill or diking if a bond or other evidence of financial responsibility is provided to assure that restoration will be accomplished in the shortest feasible time.

Proposed Mitigation Ratios

Direct permanent and temporary impacts to wetlands are regulated under the Environmentally Sensitive Lands ordinance. There would be no permanent direct impacts to vegetated wetlands. Permanent indirect impacts to vegetated wetlands are considered small enough not to reduce wetland function or habitat potential. Additionally, removing the coastal brackish marsh

[1] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594-19705).

(composed of nonnative species [see below]) and restoring the area to tidal mudflat will result in a net ecological benefit. Therefore, lower mitigation ratios than are prescribed by the City are recommended. A mitigation ratio of 1:1 is proposed for permanent indirect impacts to vegetated wetlands and for temporary impacts to vegetated and unvegetated wetlands. Final mitigation ratios will be determined by the requisite state and federal resource agencies (in concert with applicant negotiations) for impacts to jurisdictional waters. Mitigation measures will give the highest priority to on-site/in-kind restoration and enhancement, if possible. It is anticipated that, through design of the build alternatives, a gain of wetland habitat will occur after completion of either alternative (presenting a potential long-term net ecological benefit). This is because the bridge footprint will be smaller under either of the build alternatives compared to the existing bridge footprint.

Proposed mitigation for temporary impacts to jurisdictional waters of the U.S., state, and City is recommended to include mudflat restoration, in-kind/on-site enhancement, regrading, and self-recovery. Mitigation for unavoidable permanent impacts to jurisdictional waters of the U.S., state, and City in the form of wetland and riparian habitat occurring within the survey area will also be mitigated with a combination of mudflat restoration, in-kind/on-site enhancement, regrading, and self-recovery.

Development of a conceptual mitigation and landscape plan is required for both federal and state permit issuance to perform activities that may impact jurisdictional waters (including wetlands). The conceptual mitigation and landscape plan will detail the amount, methods, and type of mitigation proposed if measures beyond those already described above are required through the resource agency permitting process. If on-site mitigation for all impacts related to this project is not attainable, then additional and appropriate (i.e., accepted by the resource agencies) off-site mitigation will be pursued. The conceptual mitigation and landscape plan will include details regarding site preparation (e.g., regrading), planting specifications, and (if determined required) irrigation design, as well as maintenance and monitoring procedures. The plan will also outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria. Any wetland mitigation that cannot be achieved through on-site creation restoration and enhancement would be performed off-site, typically, per agency guidance, within the same hydrologic unit (watershed) where impacts occur. Alternatively, the mitigation obligations may be satisfied by participating in an in-lieu fee-based mitigation program through an approved resource conservation district or wetland mitigation bank. Compensatory mitigation will follow the USACE Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.[2] The proposed mitigation is subject to the resource agencies' review and discretion; thus, the mitigation obligations for the impacts to jurisdictional wetland habitats may change from those recommended herein. However, it should be noted that the impacts will be fully mitigated through the permitting process.

Animal Species

Special-Status Bird Species

Avoidance and minimization to potential breeding Belding's savannah sparrow, black skimmer, elegant tern, white-tailed kite, American peregrine falcon, and long-billed curlew will be achieved through implementation of the general avoidance and minimization measures, as well as noise attenuation and minimization measures, and construction noise monitoring requirements, as outlined below.

Pile driving would generate airborne noise levels that exceed predicted general construction levels and existing and predicted operational levels of the bridge. To avoid the impacts of

[2] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594-19705).

airborne noise levels from pile driving on special-status avian species, pile driving of the new bridge piers will be conducted outside of the breeding season. Should pile driving occur during the breeding season, impacts can be minimized by restricting the usage of pile drivers to weekdays during the normal business hours. Noise impacts can be further reduced by draping the hammer with sound blankets and placing vibratory dampeners on the hammer head. It is expected that implementation of these mechanical measures will reduce pile-driving noise levels to existing operational levels at approximately 400 feet from the pile-driving source. Noise monitoring during construction is recommended to determine if bird species are being impacted (observed leaving the area).

Pre-construction surveys will be conducted if construction is scheduled to occur during the breeding season of any of the special-status bird species. If no nesting birds are detected during the surveys, no further avoidance and minimization efforts would be necessary. If they are detected, the project must either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged. Pre-construction surveys will be required for the following special-status bird species during their respective breeding seasons:

- Belding's savannah sparrow (April through July)
- California horned lark (March through June)
- Cooper's hawk (March through August)
- northern harrier (April through September)

Exclusionary devices will be installed underneath the bridge to prevent birds and bats from nesting/roosting prior to and during construction. Installation of these devices will be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist will inspect the area prior to installation for nests/roosts and identify evidence of breeding activity. If breeding activity is not detected, inactive nests/roosts will be destroyed to prevent birds or bats from establishing breeding. If breeding activity is confirmed, exclusionary devices will be installed in all other areas lacking active nests/roosts. Active nests/roosts will be monitored by the project biologist until breeding is complete. Once breeding is complete, exclusionary devices will be installed in these areas.

Special-Status Marine Species

A pre-construction survey and/or construction monitoring for harbor seals and California sea lions will be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent, or behind a cofferdam and absence confirmed, a biological monitor will not be necessary. The integrity of the cofferdam barrier will be inspected weekly, as agile sea lions can potentially penetrate or jump over aquatic barriers.

Preparation and implementation of the SWPPP, a required component of construction permits, will serve to avoid or otherwise minimize construction-related surface water pollution, and guide proper implementation of erosion-control measures. BMPs implemented during the construction phase are discussed in the Water Quality and Storm Water Runoff section, above. These BMPs would be documented in the SWPPP.

The preliminary storm water report for the project indicates that the project was designed in a way so that post-project (operational) drainage patterns will mimic pre-project patterns, where feasible, to minimize impacts of the project on the flood control channel. Based on the proposed design, no drainage impacts are anticipated downstream of the project. The proposed design calls for filtration devices and permanent BMPs prior to releasing surface drainage into the flood control channel. These include small-footprint filtration devices, rock-lined bioswales, and small areas of permeable pavement. Refer to the Water Quality and Storm Water Runoff section for

additional information regarding the filtration options. With implementation of these treatment BMPs, it is anticipated that 100 percent of the water quality flow for the project will be treated, resulting in less-than-significant indirect impacts on harbor seals and California sea lions upon implementation of the proposed project.

Additionally, noise monitoring would be conducted during in-channel construction activities to determine if noise harassment levels are occurring. In particular, pile-driving activities could potentially reach harassment levels set by NMFS for marine mammals. Should wildlife monitoring determine that marine mammals are present in the project vicinity, and noise monitoring determine that harassment levels may be occurring, avoidance and minimization measures will be implemented. As described above, a number of factors would minimize potential noise impacts. Further reductions in noise could also be achieved by employing uncontained air bubble curtain technologies or cushion block equipment on the pile-driving machinery. The contractor will be required to employ the necessary methods to maintain in-water sound levels to below the thresholds established by NMFS to prevent injury or behavioral disturbance to marine mammals (in-water construction noise levels should not exceed the threshold of 120 dB air sound pressure level (expressed as root mean square or RMS) for vibratory pile driving and 160 dB RMS for impact pile driving).

Threatened and Endangered Species

Construction

Federally Listed Bird Species

Avoidance and minimization of potential effects on potential foraging western snowy plover will be achieved through implementation of the general avoidance and minimization activities described above. As the western snowy plover is not expected to breed on-site or within the BSA, no further habitat avoidance and minimization efforts are necessary for this species.

Avoidance and minimization of potential effects on potential breeding California least terns and light-footed clapper rails will be achieved through implementation of the general avoidance and minimization measures described above, as well as the noise attenuation and minimization measures described below.

Pile driving will generate airborne noise levels that exceed predicted general construction levels and existing and predicted operational levels of the bridge. To avoid the impacts of airborne noise from pile driving on federally listed avian species, the measures described above will be implemented and followed as prescribed. Noise monitoring during construction will occur to determine if bird species are being impacted (observed leaving the area). For California least tern, monitoring will occur at least once a week during the breeding season, and if a nest is observed within 500 feet of pile-driving activities, daily monitoring will occur. For light-footed clapper rails, if no individuals are found by the biological monitor, construction noise will not be restricted. Also, contractor education will be conducted.

Additionally, these two species will require pre-construction surveys during the breeding season and construction monitoring. Species-specific pre-construction survey requirements for California least tern and light-footed clapper rail are outlined in the following.

California least tern

Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the California least tern (April through June). All potentially suitable habitat areas within the BSA shall be surveyed for presence of this species according to an acceptable

USFWS protocol. If no nesting terns are detected during the surveys, no further avoidance and minimization efforts will be necessary for this species. If they are detected, all nests shall be avoided by construction equipment and personnel, and the project shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels at the nest site (below 60 dB per hour), or discontinue work until the young have fledged. A nondisturbance buffer zone of 500 feet around the nest site shall be established, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed. Contractor education shall be conducted to inform workers of the regulatory status of the species, and avoidance and minimization measures shall be put into place.

Light-footed clapper rail

Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the light-footed clapper rail (March through July). The survey shall be conducted in accordance with USFWS methodology. All potentially suitable habitat areas within the BSA shall be surveyed for presence of the species. If nesting rails are detected during the surveys, all nests shall be avoided by construction equipment and personnel, and the project shall either implement noise-reduction measures, described in the following paragraphs, to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged. Construction equipment noise levels must not exceed 60 dBA L_{eq}, or ambient noise levels if higher than 60 dBA, at the nest site during the breeding season. A qualified biologist shall establish a 500-foot construction-free buffer zone around the nest in consultation with CDFG and USFWS. Daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed. The biological monitor shall also confirm that construction noise thresholds are not being exceeded at the established boundary. If the noise threshold is anticipated to be exceeded, the City shall construct noise barriers to maintain construction noise levels at below the threshold. Contractor education shall be conducted to inform workers of the regulatory status of the species, and avoidance and minimization measures shall be put into place. The equipment noise levels shall be kept below the threshold at the established boundary until chicks have left the nest.

Federally Listed Marine Species

To avoid potential direct effects on green sea turtles and loggerhead sea turtles during installation of the temporary construction berms or trestles and during subsequent construction activities, a pre-construction survey for sea turtles will be conducted for in-channel work occurring May through September, if water is present. Regular biological monitoring of in-channel work will also occur during this time period. Contractor education regarding sea turtles will also be conducted. If work is conducted during low tide, or behind a cofferdam/berm, and absence is confirmed, a biological monitor will not be necessary.

The preparation and implementation of the SWPPP, a required component of construction permits, will serve to avoid or otherwise minimize construction-related surface water pollution, and guide proper implementation of erosion-control measures. BMPs implemented during the construction phase are discussed in the Water Quality and Storm Water Runoff section, above. These BMPs will be documented in the SWPPP.

The preliminary storm water report for the project indicates that the project was designed in a way so that post-project (operational) drainage patterns will mimic pre-project patterns, where feasible, to minimize impacts of the project on the flood control channel. Based on the proposed design, no drainage impacts are anticipated downstream of the project. The proposed design calls for filtration devices and other permanent BMPs prior to releasing surface drainage into the flood control channel. These include small-footprint filtration devices, rock-lined bioswales, and small areas of permeable pavement. Refer to the Water Quality and Storm Water Runoff section for additional information regarding the filtration options. With implementation of these treatment BMPs, it is anticipated that 100 percent of the water quality flow for the project will be

treated, resulting in less-than-significant indirect impacts on sea turtles upon implementation of the proposed project.

To avoid and minimize potential indirect impacts to behavior patterns of sea turtles in the project vicinity during in-water pile driving activities, in-channel construction activities will be conducted at low tide. Should pile driving occur when water is present, a number of factors will minimize potential noise impacts: the soft bottom nature of the flood control channel, which is optimal for absorbing sound waves; the presence of the temporary construction berm, which will further absorb and block sound waves; and a cofferdam installed to conduct construction activities during periods when water is present in the channel. Further reductions in noise during pile driving could be achieved by employing uncontained air bubble curtain technologies or cushion block equipment on the pile-driving machinery. The contractor will be required to employ the necessary methods to maintain in-water sound levels to below the thresholds established by NMFS to prevent injury and behavioral disturbance to marine species. The NMFS thresholds indicate that in-water construction noise levels should not exceed 120 dB RMS for vibratory pile driving and 160 dB RMS for impact pile driving.

Operation

Measures to avoid and minimize bird mortality during operation of the project will be implemented through design of the proposed bridge. Also, as previously described, the use of vertical poles, bridge fencing, or other comparable feature should be incorporated into the design of the bridge to minimize the number of bird strike mortalities.

Mitigation for potential lighting effects on bird behavior would be accomplished by avoiding spillover into habitat adjacent to the bridge. The project's lighting plan will be reviewed during final design to ensure that the project's permanent lighting would be focused on the bridge and not spill into adjacent areas. A post-construction review of project lighting will be implemented to ensure that the lighting features, as built, do not affect adjacent habitat.

USFWS Measures Stated in Informal Section 7 Consultation Letter

Construction

1. A CFWO-approved biologist will be on site weekly during project construction within 200 feet of rail, tern, and/or plover habitat to ensure compliance with all conservation measures. The biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO prior to initiating project construction. The contract of the biologist will allow direct communication with the CFWO at any time regarding the proposed project. The biologist will be provided with a copy of this consultation.
2. The CFWO approved biologist will submit a final report to the CFWO within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all conservation measures was achieved. The report will specify numbers, locations, and sex of rails, terns, and plovers (if observed); observed rail, tern and plover behavior (especially in relation to project activities); and remedial measures employed to avoid and minimize impacts to rails, terns, and plovers. Raw field notes should be available upon request by the CFWO.
3. The clearing and grubbing of coastal marsh will occur between August 1 and March 14 to avoid the rail breeding season (or sooner than August 1 if a biologist knowledgeable of rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail nesting is complete).

4. Contractor(s) will be informed, prior to the bidding process, regarding the biological constraints of this project. The project limits will be clearly marked on project maps provided to the contractor(s) and areas outside of the project limits will be designated as "no construction" zones. A construction manager will be present during all construction activities to ensure that work is limited to designated project limits.

5. A channel or channels large enough for rail and fish movement will be kept open throughout project construction in the San Diego River. Depending upon tidal conditions, rails are anticipated to be able to swim or walk through the channel(s). Channel(s) may occur under construction trestles or through construction berm culverts depending upon the construction methodology selected. Prior to initiation of construction, the City, through Caltrans, will submit a plan to the CFWO which will detail the construction methodology selected and how the project will maintain a channel or channels for rail and fish movement through the project area.

6. Temporary construction fencing (with silt barriers) will be installed at the limits of project impacts (including construction staging areas and access routes) to prevent habitat impacts and prevent the spread of silt from the construction zone into adjacent habitats. The fencing will be installed in a manner that does not impact habitats to be avoided and that directs rails to the open channel(s) under bridges to the extent feasible. The City, through Caltrans, will submit the final plans for initial clearing and grubbing of habitat and project construction to the CFWO for review and approval at least 30 days prior to initiating project impacts. These final plans will include photographs that show the fenced limits of impact and all areas to be impacted or avoided. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced construction limits, staging areas, and routes between the construction limits and staging areas. Temporary construction fencing will be removed upon project completion.

7. An employee education program will be developed and implemented by a CFWO-approved biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. Sign in sheets will be maintained to document completion of the program by each employee. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.

8. A CFWO-approved biologist will monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. All heavy equipment will be washed and cleaned of debris prior to entering the project area to minimize the spread of invasive weeds.

9. If nighttime construction is necessary, all project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed toward the construction site and away from rail, tern, and plover habitat. Lighting will be of the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into rail, tern, and plover habitat.

10. If project construction is necessary during the rail breeding season (March 15–July 31), nesting surveys will be conducted to determine and document the presence/absence of breeding rails. If active nests are identified within 500 feet of the noise generating

construction activities and noise is in excess of 60 dBA hourly Leq, or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, measures will be implemented to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported daily to the CFWO. A CFWO-approved biological monitor will ensure that avoidance and minimization measures are implemented such that adverse effects to the rail do not occur as a result of the adjacent construction activities (e.g., noise and lighting). If the biological monitor suspects that avoidance and minimization measure are ineffective, and project activities may be adversely affecting the rail, culpable activities will be suspended within 500 feet of active nesting territories until nesting activity is completed and fledglings are no longer in the area, or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If measures cannot be identified, implemented, and demonstrated to be effective to avoid adverse effects to the rail, then project construction will stop until consultation has been completed with the CFWO to address unanticipated impacts to the species.

11. If treated wood piles are required for project construction, they will meet applicable water quality requirements. The project will avoid the use of piles treated with noxious substances that could negatively affect water quality.

12. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas in previously compacted and disturbed areas to the maximum extent practicable, outside of jurisdictional wetlands or waters, and within the fenced project limits. They will be located such that runoff from the designated areas will not enter rail, tern, and plover habitat, and will be shown on construction plans.

13. Appropriate erosion and siltation controls will be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

14. Appropriate best management practices (BMPs) will be used to control erosion and sedimentation and to capture debris and contaminants from bridge demolition and construction to prevent their deposition in the San Diego River Channel. All debris from the demolition and construction of bridges will be contained so that it does not fall into channels. Appropriate BMPs will be used during construction to limit the spread of resuspended sediment and contain debris. These may include cofferdams, blasting mats, silt curtains, turbidity curtains and/or other barriers. Water within cofferdams will not be returned to the San Diego River Channel until it is clear and clean. This may be accomplished through the use of desiltation tanks or other appropriate measures. Collected sediments will be removed from the site and disposed of properly. BMPs (e.g., gravel bags) will be used at the discharge point to avoid erosion.

15. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

16. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly. Disposal or temporary placement of excess fill, brush, or other debris will not be allowed in waters of the United States or their banks. All areas of temporary impact will be returned to original grade, and temporary construction fill will be removed from the waterway following project construction.

17. If fill must be borrowed from and/or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to the City and Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate section 7 consultation.

18. Project personnel will be prohibited from bringing domestic pets to the construction site to ensure that domestic pets do not disturb or depredate wildlife in the adjacent native habitat.

Operation

1. Permanent shading and temporary construction impacts of up to a total of 5.46 acres of rail, tern, and/or plover habitat will be offset by restoration/enhancement of up to: 18.23 acres of coastal wetlands downstream of the project near the mouth of the San Diego River and/or 13.68 acres of coastal wetlands upstream of the project within the San Diego River channel. At a minimum, 2.68 acres of permanent shading impacts will be offset with an equivalent amount of restoration/enhancement. A draft proposed mitigation plan has been submitted with offsite restoration/enhancement options (AECOM 2012). The City, through Caltrans, will submit a more detailed draft restoration/enhancement plan to the Carlsbad Fish and Wildlife Office (CFWO) for review and approval prior to initiating project impacts. The City, through Caltrans, will provide the final restoration plan to the CFWO.

2. No invasive species listed in the National Invasive Species Management Plan, State of California Noxious Weed List, or Cal-IPC Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint. Caltrans will review the landscaping plans for the project and then submit them to the CFWO for review and approval.

3. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the bridge and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Permanent project lighting will be fitted with bird control spikes to ensure that raptors will not be able to use lighting as a perch to prey on listed bird species. Caltrans will review the permanent lighting plans for the project and then submit them to the CFWO for review and approval.

4. To avoid and minimize vehicle caused bird mortality, vertical poles (Sebastian poles) or bridge fencing will be incorporated into the design of the new bridges that will be of sufficient height to guide birds over vehicle traffic, and will be designed to prevent perching by raptors.

Invasive Species

The proposed project will comply with EO 13112 and subsequent guidance from FHWA. Additionally, control measures, such as hand pulling, herbicide spraying, mowing, and weed-eating, will be implemented to control invasive species.

To ensure that project construction would not result in the spread of invasive aquatic species due to disturbances in the channel, pre-construction surveys for *Caulerpa taxifolia* would be conducted as part of a pre-construction survey program, consistent with the *Caulerpa Control Protocol* established in 2008 by NMFS and CDFG.

APPENDIX C

DE MINIMIS DETERMINATION AND RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

APPENDIX C
DE MINIMIS DETERMINATION AND RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f) WEST MISSION BAY DRIVE BRIDGE PROJECT

1.0 INTRODUCTION

The following discusses existing properties within and adjacent to the proposed West Mission Bay Drive Bridge Project (proposed project) that may warrant protection under Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. The properties are evaluated for potential use by the proposed project. In instances where there is a potential use of a Section 4(f) resource, these instances are evaluated with references to Section 4(f) use criteria.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project are being, or have been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to 23 U.S. Code (USC) 327. The discussion is prepared in support of the Draft Initial Study/Environmental Assessment being prepared for the proposed project.

Section 4(f) of the USDOT Act of 1966, codified in federal law as 49 USC 303, declares that "[it] is the policy of the United Sates Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "the Secretary [of Transportation] may approve a transportation program or project … requiring the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge of national, State or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. there is no prudent and feasible alternative to using that land; and
2. the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from such use."

Section 4(f) also requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and Housing and Development, in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

According to 23 Code of Federal Regulations (CFR) 774.17, the "use" of Section 4(f) lands is defined in the following three ways:

1. Actual Use – when land from a Section 4(f) resource is permanently incorporated into a transportation facility or project.
2. Temporary Occupancy – when there is a temporary occupancy of a Section 4(f) resource that does not meet the prescribed five criteria for a temporary use exception (defined below in Section 5.0).

3. Constructive Use – when a project's indirect or "proximity impacts" to a Section 4(f) resource are severe enough that the protected activities, features, or attributes of the Section 4(f) resource are substantially diminished by the project.

1.1 Background

The proposed project is located in southwest San Diego County (Figure 1) and spans the San Diego River flood control channel between the Sports Arena Boulevard/Interstate 8 (I-8) intersection and the Sunset Cliffs/Sea World Drive intersection (Figure 2). The City of San Diego (City) is proposing to improve the West Mission Bay Drive Bridge (Bridge No. 57C-0023) crossing of the San Diego River to a six-lane primary arterial by removing the existing four-lane bridge and replacing it with either two new parallel bridge structures or one new single-structure bridge. The proposed project is located entirely within the California Coastal Zone.

1.2 Purpose and Need

1.2.1 Project Purpose

The purpose of the proposed project is to provide an improved transportation link across the San Diego River between the communities of Pacific Beach/Mission Bay and communities within the Peninsula community planning area, such as Loma Portal and Point Loma, in order to improve the safe and efficient local and regional movement of people and goods. The existing four-lane West Mission Bay Drive Bridge (Bridge No. 57C-0023) is the gateway to the Mission Bay community, and provides a vital transportation link from I-8 and the Midway/Pacific Highway Corridor community planning area (Midway) across the San Diego River to the Pacific Beach/Mission Bay area and the Sea World Adventure Park.

The objectives of this project are to:

- Improve future traffic levels of service in 2035 over the future no-build levels of service;
- Provide congestion relief in order to improve traffic flow on the regional transportation system;
- Improve multi-modal coastal access;
- Protect and/or enhance the human and natural environment while still meeting future transportation needs.

1.2.2 Project Need

Capacity and Transportation Demand

The existing West Mission Bay Bridge has been evaluated and classified by the California Department of Transportation (Caltrans) as functionally obsolete and structurally deficient, and is, therefore, eligible for federal replacement funding under the Highway Bridge Program. The functionally obsolete classification is appropriate because the capacity of the existing bridge is currently below acceptable levels. The bridge's existing four-lane configuration is designed to handle approximately 40,000 average daily trips (ADT); however, daily traffic volumes currently exceed 64,000 vehicles during the summer months, and exceed 53,000 vehicles during the

Figure 1
Project Location Map

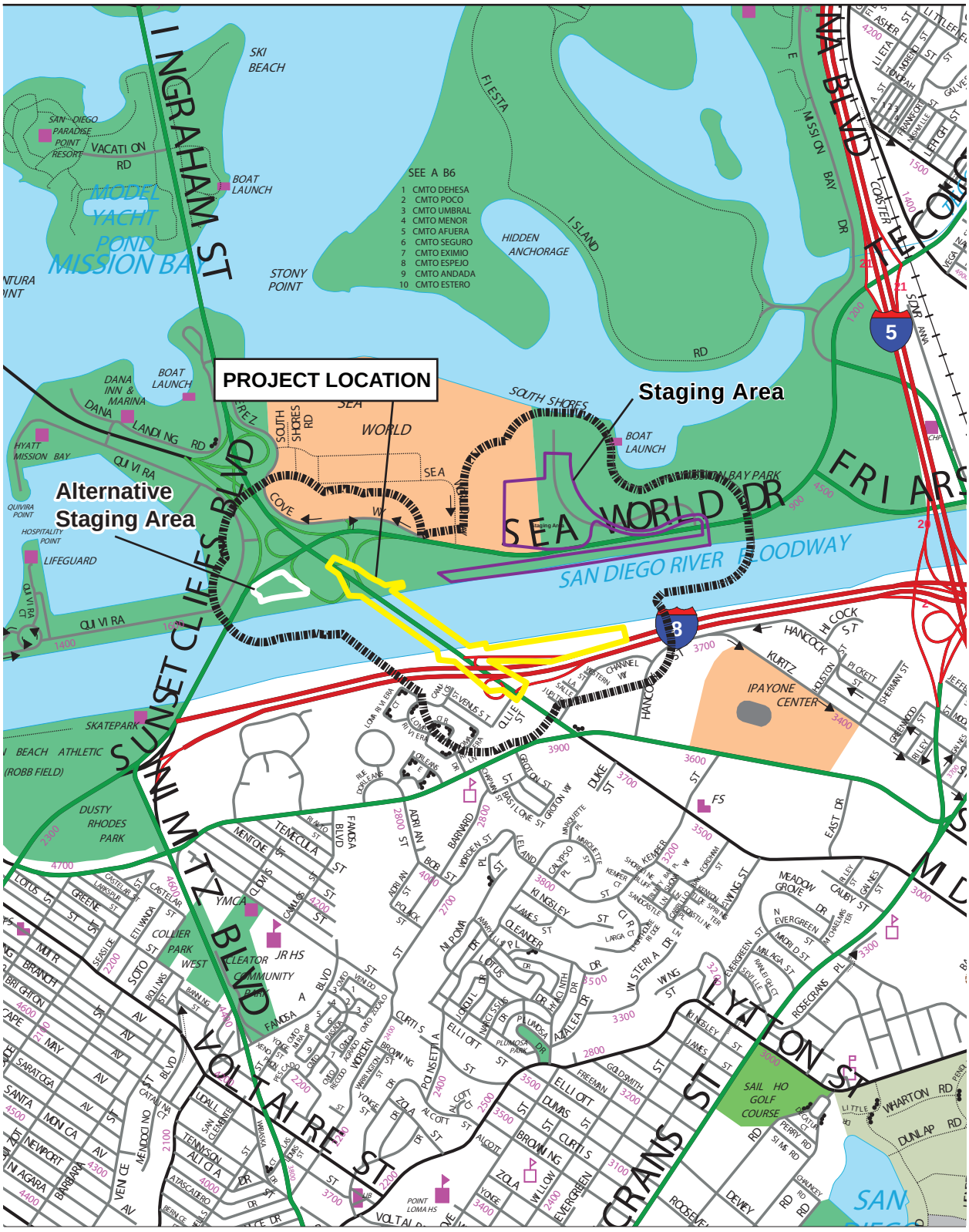

Figure 2
Project Vicinity Map

remainder of the year. These traffic volumes result in an unacceptable level of service (LOS), especially during peak periods. In addition, with projected ADT volumes of 83,000 vehicles in 2035, these unacceptable LOS conditions would degrade further without improvement. The traffic analysis prepared for the proposed project found that the West Mission Bay Drive/I-8 westbound off-ramp signalized intersection currently operates at LOS F during the AM summer weekend peak hour.

With the existing bridge's four-lane configuration and the adjacent local roadway connections at a six-lane configuration on both ends of the bridge, the transition between the two creates weaving conflicts. The interface between these two lane configurations is further exacerbated by multiple on and off-ramps connecting West Mission Bay Drive with I-8 to the south and Sea World Drive to the north.

Although the bridge is classified to have a Class I (bike path) facility according to the City of San Diego's Bicycle Master Plan, bicycle and pedestrian facilities on the bridge currently consist of a shared narrow pathway. Bicyclists are currently prohibited from using the narrow pathway on the east side of the existing bridge.

Roadway Deficiencies

As identified above, the existing bridge has been classified as structurally deficient based on a Condition Rating of 3, "Serious Condition," which is shown on the current Structure Inventory and Appraisal Report by the Caltrans Division of Structure Maintenance and Investigations. A Condition Rating of 3 means that concrete spalling has seriously affected the structural integrity of the bridge deck, shear cracks may be present, and local failures are possible. These conditions and associated risks cannot be addressed by resurfacing the existing paved surface (major deck rehabilitation); complete deck replacement is required.

The bridge is also seismically deficient since the existing pier walls are not anchored into bedrock; instead, the foundation piles were driven into soft soil that is defined as liquefiable. The liquefiable soils extend to an approximate depth of 90 feet and the existing timber piles were driven to an approximate depth of 45 feet. Based on this condition, during a major seismic event, the soft soil may experience total post-liquefaction settlements ranging from roughly 4 to 6 inches in the upper 50 feet. If the soils liquefy to depths of 100 feet, the bridge would be susceptible to post-liquefaction settlement of 10 to 13 inches. This level of settlement constitutes collapse, and it is likely that the entire bridge would be unserviceable and need to be replaced after such an event.

1.3 Project Description

The City is proposing to improve the West Mission Bay Drive Bridge crossing of the San Diego River into a six-lane primary arterial by removing the existing four-lane bridge and replacing it with a new bridge. The alternatives include Alternative 2c (two new three-lane parallel bridge structures), Alternative 3 (a new single 6-lane bridge structure) and the No-Build Alternative. Figure 3 depicts the project footprint and staging areas (collectively referred to as the proposed project limits) of Alternative 2c (LPA) and Figure 4 depicts the proposed project limits of Alternative 3. For additional project details, please refer to Chapter 1, Proposed Project, of the Draft EA.

1.3.1 Common Design Features of the Build Alternatives

Bike/Pedestrian Paths

The proposed project would include dedicated barrier-protected intermodal connections and improve intermodal facility connections through wider sidewalks and separated bicycle facilities. Currently, two City bike/pedestrian paths cross under the existing West Mission Bay Drive Bridge running parallel to the San Diego River flood control channel and Southern Wildlife Preserve. The path on the south side of the Southern Wildlife Preserve is a stand-alone paved path solely for the use of bicyclists and pedestrians. The path on the north side of the Southern Wildlife Preserve is a stand-alone paved path west of the existing West Mission Bay Drive Bridge that shares the roadway of Old Sea World Drive east of the existing West Mission Bay Drive Bridge. The path on the north side of the Southern Wildlife Preserve also serves as an informal wildlife observation point. Both paths are official bike paths as identified in the City of San Diego Bicycle Mater Plan and are owned and operated by the City. A Class I bike path would be constructed on each bridge, and the recreational trails located under the existing bridge on either side of the San Diego River would be connected to these new features.

Interstate 8 Westbound Exit Ramp

Three lane configuration options were analyzed in the traffic analysis report for the proposed project (Rick Engineering 2011). The report determined that three southbound lanes and one southbound auxiliary lane (for southbound right-turns toward I-8 eastbound loop ramp) would be needed to accommodate future southbound traffic at the West Mission Bay Drive Bridge/I-8 westbound off-ramp. Therefore, all three options assume this configuration.

Option 1 includes two westbound left turn lanes, two westbound right turn lanes on the I-8 westbound off-ramp, and two northbound lanes approaching the intersection of West Mission Bay Drive/I-8 westbound off-ramp. Similar to Option 1, Option 2 also includes two westbound left turn lanes and two westbound right turn lanes on the I-8 westbound off-ramp; however, Option 2 includes three northbound lanes approaching the West Mission Bay Drive/I-8 westbound off-ramp to align with the proposed 3 lanes northbound on the bridge. Additionally, two scenarios were considered for Option 2: Option 2a would allow for right turns on red lights at this signal, as under existing conditions, and Option 2b would prohibit right turns on red lights. Option 3 assumes two northbound lanes approaching the intersection of West Mission Bay Drive/I-8 westbound off-ramp, two westbound left turn lanes and three westbound right turn lanes. Option 3 was included as option since it was identified as a mitigation measure of the Sea World Master Plan Update, March 2001.

Construction Methodologies

There are three likely construction methodologies that have been evaluated for the proposed project and are applicable to both build alternatives: a larger berm option, a small berms option, and a falsework/trestle option, which are each described in greater detail below. The anticipated construction timeline would be approximately 16-24 months in duration. The actual methods of construction for the project would be determined by the contractor. However, any construction approach will meet the following performance criteria:

- From the City of San Diego Multiple Species Conservation Program (MSCP) Sub Area Plan 1997 Section 1.4.3:

Source: DigitalGlobe 2008; SanGIS 2010; TYLin 2010

500 250 0 500 Feet

Scale: 1 =6,000; 1 inch = 500 feet

Figure 3
Alternative 2c (City's Locally Preferred Alternative) Project Design

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Source: DigitalGlobe 2008; SanGIS 2010; TYLin 2010

500 250 0 500 Feet

Scale: 1 =6,000; 1 inch = 500 feet

Figure 4
Alternative 3 Project Design

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  - All drainage from the additional impervious areas will be directed away from the Multiple Habitat Planning Area (MHPA) (which includes the river).
  - Products that are potentially toxic or would result in impacts to wildlife and habitat or water quality will be prevented from entering the MHPA.
  - Lighting adjacent to the MHPA will be directed away or shielded to protected sensitive species.
  - No invasive nonnative plant species will be introduced.
- Best management practices (BMPs) will prevent increased turbidity during construction.
- BMPs will prevent the release of 303D contaminants of concern for the Lower San Diego River (toxicity, fecal coliform, total dissolved solids [TDS], phosphorous, nitrogen, low dissolved oxygen, and Enterococcus [SWRCB 2010]).
- BMPs required by the State Storm Water General Construction Permit will minimize/prevent soil erosion during construction.
- Changes to westerly river flows and tidal prism during construction would be avoided through the design of the temporary construction berms that would include culverts and/or bridged openings to allow hydraulic activities to function in their natural state.
- Light Detection and Ranging (LIDAR) will be utilized to acquire a topographic and elevation baseline to ensure that the grade of the San Diego River will be returned to pre-construction conditions once the berms are removed.
- Construction methods will minimize an increase in surface water elevation.
- Recreational opportunities will be maintained and not impacted during construction.

Temporary Large Berm Option

The temporary large berm option would require the contractor to build one large temporary berm that would cover an area approximately 50 feet east of the new edge of deck for the east West Mission Bay Drive Bridge and approximately 50 feet west of the new edge of deck for the west West Mission Bay Drive Bridge. This single wide berm would allow for more lateral movement under and on the bridge during demolition and construction. The width of the berm would be approximately 265 feet on top and 300 feet on the bottom and would extend from the north side of the San Diego River southward across the flood control channel. The volume of the fill material would be approximately 93,000 cubic yards (cy) and would consist of non-silty/non-clay materials. Using the berm and the embankment, the contractor would construct the columns, place temporary falsework, and construct phase one of the bridge replacement. Upon completion of phase one, the contractor would deconstruct the falsework and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. The westerly half of the existing bridge would be demolished before construction of phase two begins. It is anticipated that the sequence of construction of phase two of the new bridge would be identical to that used for phase one. Once construction of phase two is completed, the remainder of the existing bridge would be demolished.

The contractor will be required to establish 12 or more berm openings, including culverts in the berm, at approximately 30-feet wide each that total 1,444 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism of the area. At least one of these openings would be located over the existing low flow channel

within the San Diego River. Openings may be constructed of multiple corrugated metal pipes (CMP) placed perpendicular to the alignment of the berm. Annular space between CMPs would be filled with dirt, and plates would likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s). The openings would be constructed by placing a short trestle section across the span with no obstructions placed below each span. The openings must span upstream to downstream without obstruction; therefore, the piers must be avoided from both the existing bridge and the proposed bridge in order to leave enough clearance around the piers to complete the required work.

With the placement of up to 93,000 cy of fill material as described above and within the outer banks of the San Diego River, the contractor should not need to create cofferdams to construct the CIDH piles for the columns. Other options may be available to the contractor with the placement of the large temporary berm, such as enlarging the berm around the pile locations or placing a large-diameter casing at each column location, essentially creating a temporary cofferdam.

At the face of each abutment, the contractor would place a short falsework bent, likely constructed of wooden corbels; a 12- by 12-foot sill beam and 12- by 12-foot posts; and a 12- by 12-foot cap beam. The number of piles (if used) in a falsework bent and the number of falsework spans are to be determined by the contractor but are estimated at approximately 230 temporary piles (115 per phase).

The approximate costs associated with the temporary large berm option would be determined by the contractor. Based on comparative projects, the temporary large berm option would cost approximately $6.9 million. The approximate timeline for this construction option would be 16-22 months.

Temporary Small Berms Option

The expected sequence of construction for the Temporary Small Berms Option would be for the contractor to build a temporary berm from the north side of the San Diego River southward into the river on the east side of the new alignment. This option would only allow for back and forth movement during demolition and construction. The width of the berm would be approximately 30 feet on top and 62 feet on the bottom with a height of 8 feet, with approximately 14,500 cy of fill material, substantially smaller than the large berm option. Using the berm, the existing ridge, and the embankment, the contractor would construct the columns, place temporary falsework, and construct phase one. Upon completion of phase one, the contractor would deconstruct the falsework and berm and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. Once construction of phase two is complete, the remainder of the existing bride would be demolished. It is anticipated that the sequence of construction of phase two of the new bridge would be identical to that used for phase one. The westerly half of the existing bridge would be demolished before construction of phase two would begin.

Prior to the operation beginning, the contractor would identify the area within the river channel that would be impacted by the berm and place an impermeable barrier along the length of this area to avoid an increase in turbidity while the berm is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent substantial tidal water from passing through the impacted area.

The contractor would be required to establish six or more berm openings, including culverts in the berm, at approximately 30-feet wide each that total 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism. At least one of these openings would be located over the existing low flow channel within the San Diego River. Openings may be constructed of multiple CMPs placed perpendicular to the alignment of the berm. Annular space between CMPs would be filled with dirt, and plates would likely be placed over the CMPs. An alternative is for the contractor to build a small bridge(s) made of steel stringers and steel plates to span the opening(s). The width of the berm may vary to accommodate locations where outriggers for contractor's cranes or concrete pumps may be placed. The openings would be constructed by placing a short trestle section across the span with no obstructions placed below each span.

To protect the river from debris and deleterious products used in the drilling of the piles, the contractor would likely construct a cofferdam of interlocking sheet piling. To construct the cofferdam, piles, and permanent columns, it would be necessary for the contractor to mobilize sheet piling, a large pile crane equipped with a vibrating hammer, a large-diameter drill rig and casings (to construct the pile foundation), a concrete pump and concrete trucks, and forms (to construct the columns). At the face of each abutment, the contractor would place a short falsework bent, likely constructed of wooden corbels; a 12- by 12-foot sill beam and 12- by 12-foot posts; and a 12- by 12-foot cap beam. The number of piles in a falsework bent and the number of falsework spans are to be determined by the contractor, but are estimated at approximately 230 piles (115 per phase).

The approximate costs associated with the temporary small berms option would be determined by the contractor. Based on comparative projects, the temporary small berms option would be approximately $8.3 million. The approximate timeline for this construction option would be 16-22 months.

Temporary Trestle Option

The approximate width of the temporary trestle would be 30 feet. At each pier for the new bridge, a side trestle would be built to allow access for pile and column construction. This would be constructed in a similar manner as the rest of the trestle. It would be approximately the width of the new bridge and 25 to 30 feet long at each pier.

The expected sequence of construction for the Temporary Trestle Option is for the contractor to build a temporary trestle from the north side of the San Diego River southward into the river on the east side of the new alignment. Using the temporary trestle, the existing trestle, and the embankment, the contractor would construct the columns, place temporary falsework, and construct phase one. Upon completion of phase one, the contractor would deconstruct the falsework and trestle and remobilize the same materials to the west side of the existing bridge to construct phase two of the new bridge. The westerly half of the existing bridge would be demolished before construction of phase two would begin. It is anticipated that the sequence of construction of phase two of the new bridge would be identical to that used for phase one. Once construction of phase two is complete, the remainder of the existing bridge would be demolished.

As part of the demolition of the existing bridge, a temporary trestle would be constructed to provide access to the existing bridge. The temporary trestle for demolition would be as complex as the trestle used to construct the bridge but would be narrower. The temporary trestle for

demolition would also require a netting system (or equivalent) supported from the trestle and existing piers to prevent debris from falling into the San Diego River during demolition.

Prior to the operation beginning, the contractor would identify the area within the San Diego River that would be impacted by the driven piles and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the trestle is being constructed. This barrier may be in the form of floating tubes with plastic sheeting hanging down and weighted at the bottom to prevent substantial tidal water from passing through the impacted area. The contractor can construct this barrier by use of a small boat. (A likely scenario is for the contractor to construct this impermeable barrier to envelope the entire area impacted by the trestle and temporary falsework for the bridge.)

Falsework piles would be required for the temporary trestle option. Design of the trestle, including the number of piles in each row and spacing of pile rows, would be determined by the contractor; the estimated number of piles is approximately 500 to 600 (250 to 300 per phase), twice as many as the temporary large berm or small berms options. Trestle piles are grouped around each of the 38 bents required for the temporary trestle option, with each bent spaced at 35 feet on center, with trestle spans between each bent. The orientation of the trestle bents would be orthogonal to the trestle and would not be oriented parallel to the river flow, resulting in increased obstruction; however, the trestle design would provide a total of 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism. The contractor would drive the first row of piles into the embankment area at the interface where the trestle and embankment meet. The next row of piles would be driven into the river with the pile rig on the initial platform (on the embankment).

Removal of each temporary pile would result in a hole in the channel bottom as well as a swelling of soil around the pile after it is pulled out of the channel bottom, approximately 2 feet to 4 feet high. Depending on the soil properties, the holes in the channel bottom may collapse and fill themselves in over time or remain for an extended period of time.

The approximate costs associated with the temporary trestle option would be determined by the contractor. Based on comparative projects, the temporary trestle option would be approximately $15.5 million. The approximate timeline for this construction option would be 18-24 months.

Staging

The majority of access for implementing all three construction methodologies would come from the north side of the San Diego River. The contractor's staging areas would likely include part of the eastern limits of the Sea World parking lot; the area on the northeast quadrant of the site between Sea World Drive and the San Diego River; and the area on the northwest quadrant of the site bound by the San Diego River, Sunset Cliffs Road, and the southbound West Mission Bay Drive off-ramp to eastbound Sea World Drive (Figures 3 and 4). It is assumed that the contractor would use the access road that exists on the north embankment of the San Diego River to mobilize personnel, equipment, and material to the bridge site. Access to the west side of the existing West Mission Bay Drive Bridge for phase two would likely be limited to traveling under the new and existing West Mission Bay Drive Bridges. Part of the existing structure that is to remain may create additional access constraints. Staging areas for construction of the southern abutments (abutment 1) and the first span of the new bridge would be on the south side of the San Diego River between the river and the westbound I-8 off-ramp to West Mission Bay Drive/Sports Arena Boulevard.

Staging impacts would be minimal since the sites are paved or chip-sealed, and storm water BMPs would be in place following the water quality standards and storm water permits.

The detailed construction methods described above represent the three most likely options the construction contractor would use to build the proposed replacement West Mission Bay Drive Bridge. The methodologies, dimensions, and timing described are based on experience and industry standards, and the actual methods implemented at the time of construction may be different. The anticipated staging areas are also based on the best available information regarding viable options in the project area; however, the contractor is not obligated to use these areas for staging. The temporary use of these areas would be subject to coordination and agreement between the City's Engineering and Capital Projects team (project sponsor), the City's Parks and Recreation Department, and Sea World.

1.3.2 Alternative 2c (City's Locally Preferred Alternative [LPA])

Implementation of Alternative 2c (LPA) would be accomplished by removing the existing 4-lane bridge and replacing it with two 3-lane parallel structures, for a total of six lanes. Each parallel structure would be approximately 62 feet in width and would have one 14-foot-wide lane and two 12-foot-wide lanes, an 8-foot-wide shoulder lane, and a 12-foot-wide dedicated Class I bike path/pedestrian crossing that is protected from oncoming traffic with an approximately 1.5-foot concrete barrier. The parallel structures would be set approximately 35 feet apart from each other. The new bridge structures would be supported by concrete pier pilings, and the supporting structure for the new bridges would consist of 32 concrete pier piles, each with an 8-foot diameter. The pier piles would be made up of eight "bents" (pier-pile groupings), with four pier piles per bent. The overall bridge replacement effort would include a construction area of approximately 131 feet in width on both sides of the existing bridge as measured from the existing edge of the deck. The length of the bridge construction would be approximately 1,296 feet.

Alternative 2c (LPA) would also include improvements at the north and south ends of the existing West Mission Bay Drive Bridge. The northbound right lane on West Mission Bay Drive would become a dedicated on-ramp for eastbound Sea World Drive. A 600-foot-long auxiliary lane in the southbound direction would also be included as part of this alternative. The auxiliary lane is needed to facilitate traffic transitioning onto eastbound I-8. Alternative 2c (LPA) also proposes improvements to the westbound I-8 off-ramp onto West Mission Bay Drive. The proposed improvements include widening the off-ramp and extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet. Widening is necessary based on projected increases in traffic volumes, the need for additional storage, and to facilitate intersection operations at the ramp termini point with West Mission Bay Drive. Additionally, a Class I bike path would be constructed on each bridge.

1.3.3 Alternative 3

Alternative 3 would remove the existing bridge and replace it with a new single-structure bridge that shifts the centerline of the existing roadway approximately 52 feet to the east. The bridge would be approximately 123 feet in width and would have two 14-foot-wide lanes and four 12-foot-wide lanes, two 8-foot shoulders, and two 12-foot dedicated Class I bike paths/pedestrian crossings that would be protected from traffic with an approximately 1.5-foot concrete barrier. Similar to Alternative 2c (LPA), this new bridge structure would be supported by 32 concrete pier piles, each with an 8-foot diameter, made up of eight "bents" (pier-pile groupings), with four pier piles per bent. The overall bridge replacement effort would include a

construction area of approximately 123 feet in width on both sides of the existing bridge as measured from the existing edge of the deck. The length of the bridge construction would be approximately 1,296 feet.

Alternative 3 would also dedicate the northbound right lane on West Mission Bay Drive as an on-ramp for eastbound Sea World Drive, and would include a 600-foot-long auxiliary lane in the southbound direction that would facilitate traffic transitioning onto eastbound I-8. Alternative 3 also proposes to widen the westbound I-8 off-ramp onto West Mission Bay Drive by extending the existing four-lane configuration at the existing ramp termini east for approximately 1,200 feet. The widening is necessary based on projected increases in traffic volumes, the need for additional storage, and to facilitate intersection operations at the ramp termini point with West Mission Bay Drive. Similar to Alternative 2c (LPA), a Class I bike path would be constructed on the bridge.

1.3.4 No Build Alternative

Under the No Build Alternative, no new West Mission Bay Drive Bridge would be constructed and the existing four-lane West Mission Bay Drive Bridge would continue to serve as the primary connection between I-8 to the south and Sea World Drive to the north. The No Build Alternative represents the option of no action. This alternative would not propose any changes to the existing number of lanes of the existing bridge. Under the No Build Alternative, traffic would continue to increase and exceed the bridge's capacity, which would cause longer delays and further degrade LOS. The bridge would remain structurally and seismically deficient, increasing the likelihood of local and seismic failure. The No Build Alternative would not improve north-south access for bikes and pedestrians.

2.0 DISCUSSION OF PROPERTIES

Field reconnaissance and reviews of applicable local plans were used to identify resources in the vicinity of the proposed project that could potentially be subject to evaluation under Section 4(f). All potential Section 4(f) properties within 0.5 mile of the proposed project were identified, as listed in Table 1. Figure 5 shows the location of these potential Section 4(f) resources, with the exception of Mission Bay Park, which is shown in relation to the project site in Figure 6.

Table 1
Potential Section 4(f) Resources

Resource	Distance from Proposed Project (miles)
Mission Bay Park	0.00
San Diego River Trail Bike/Pedestrian Paths	0.00
Southern Wildlife Preserve	0.00
California Least Tern Preserve	0.01
Famosa Slough	0.20
Barnard Elementary School	0.22
Barnes Tennis Center	0.44

The recreational and wildlife/waterfowl preserve properties on this list were considered to determine if they meet the criteria for Section 4(f). The Section 4(f) process analyzes all potential Section 4(f) properties found in the project vicinity for (1) public ownership, (2) public access, (3) use of the property and analysis of the use, and (4) analysis of proximity impacts.

Source: AerialsExpress 2010; SanGIS 2011; SANDAG 2011; TYLin 2010

1,000 500 0 1,000 Feet

Scale: 1:12,000 1 inch = 1,000 feet

Figure 5
Potential Section 4(f) Resources

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Resources found to be eligible for protection under Section 4(f) are evaluated in Chapter 3. Resources found not to warrant protection under Section 4(f) are discussed in Chapter 4. Due to the anticipated duration of this project's construction, particularly the period during which the berms or trestles would be in place in the San Diego River, this evaluation considers the temporary occupancy of the project's construction process, while also evaluating the permanent aspects of the project in terms of constructive use and actual use. Though a Section 4(f) evaluation typically determines whether a project would result in a temporary occupancy, a constructive use, or an actual use, this project can be interpreted as having both a temporary occupancy and an actual use, as reflected in the discussion provided in Chapter 3.

The evaluation of Section 4(f) use determined that the difference in the two build alternatives with respect to the identified resources would be negligible. The permanent footprint of the proposed bridge pier columns would be the same for both alternatives, 0.04 acre, though the locations of these bridge pier columns would be slightly different between the two build alternatives. The difference in location would not result in a difference in the use of any of Section 4(f) resources. Similarly, both build alternatives would use one of the construction methodologies described in Chapter 1.0. Therefore, the Section 4(f) evaluation below is equally applicable to both alternatives.

3.0 RESOURCES EVALUATED FOR SECTION 4(f) USE

This section discusses the project's use of resources that are subject to Section 4(f) protection. These include three features that are located within the boundaries of Mission Bay Park—the Southern Wildlife Preserve, the bike/pedestrian trails on the banks of the San Diego River, and the California Least Tern Preserve. This section begins with a general description of Mission Bay Park, followed by an analysis of the three individual components with respect to Section 4(f) requirements.

3.1 Mission Bay Park

Mission Bay Park consists of 7 square miles of park area available for water and land recreation (Figure 6). The park is centered around Mission Bay, which is a constructed saltwater bay connected to the Pacific Ocean through an ocean inlet at the southwestern boundary of the park. Development of Mission Bay Park began in 1944 when the San Diego Chamber of Commerce committee recommended developing Mission Bay into a tourist attraction in an effort to diversify the City's economy, which was heavily dependent on the military at the time. Dredging and filling operations began in the late 1940s, and most of the water and land bodies present today were completed by the early 1960s.

Visitors to Mission Bay Park can engage in a variety of activities, including sailing, swimming, fishing, jet skiing, picnicking, running/walking, and bicycling. Mission Bay Park and Sea World are major destinations for locals and tourists, and generate much of the traffic using the West Mission Bay Drive Bridge. This traffic reaches a peak during summer months when the greatest number of visitors come to Mission Bay, as well as during sporting events held at Mission Bay, such as for professional volleyball, personal watercraft events, water-ski events, and Over-the-Line Tournaments. Most recreation areas within the park were developed for passive recreation suited for the calm-water setting of the bay. These passive recreation areas include picnic shelters, barbecues, and designated swim zones staffed with lifeguards during summer months, children's playground equipment, parkland, and beaches. Commercial enterprises are present within the park, but have been limited in number by the Mission Bay Park Master Plan to avoid reducing the park's emphasis on passive recreation.

Mission Bay Park also has designated portions for the sustainable management of environmental resources. Habitat preservation within the park is located in the northeastern portion on Fiesta Island and in the southern portion west of Rose Creek, including the portion of the San Diego River flood control channel within park boundaries. Additionally, the Mission Bay Park Master Plan Update has identified areas in the park for future habitat restoration and preservation.

The proposed project is located within the southern portion of Mission Bay Park. The proposed project crosses the San Diego River flood control channel within the park and is located adjacent to several specific resources within Mission Bay Park that are protected by Section 4(f), including the Southern Wildlife Preserve and bike/pedestrian trails. These resources are shown in Figure 7, and an individual analysis of potential uses of each resource is provided below.

3.2 Southern Wildlife Preserve

3.2.1 Description

The proposed project crosses a portion of the San Diego River flood control channel that is designated by the City as the Southern Wildlife Preserve (Figure 7). This preserve, identified within the Mission Bay Park Master Plan Update and owned by the City, is a resting and feeding spot for birds migrating along the Pacific Flyway. It provides habitat and serves as a major local corridor for a variety of birds, intertidal and sub-tidal species, and other species, particularly migratory shorebirds and waterfowl. The Southern Wildlife Preserve consists of approximately 200 acres of land. Habitat within the Southern Wildlife Preserve near the existing West Mission Bay Drive Bridge consists of open water/tidal mudflat, coastal brackish marsh, and southern coastal salt marsh. There are few restrictions to wildlife movement within the Southern Wildlife Preserve river corridor, given that the existing bridges, including the I-5, West Mission Bay Drive, and Sunset Cliffs Boulevard crossings, allow for relatively unimpeded movement beneath them. The Southern Wildlife Preserve's status as a wildlife preserve identified in the Mission Bay Park Master Plan Update qualifies this resource for protection under Section 4(f).

3.2.2 Evaluation

Temporary Occupancy

FHWA has identified several exceptions to the requirement for Section 4(f) approval (see 23 CFR 774.113). These exceptions include temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f). A project must meet the following five criteria in order to meet the temporary occupancy exception:

1. Duration of occupancy must be temporary, and there should be no change in ownership of the land;
2. Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the Section 4(f) resource must be minimal);
3. There are no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purposes of the resource, on either a temporary or permanent basis;

Source: AerialsExpress 2010; SanGIS 2011; SANDAG 2011; TYLin 2010

2,500 1,250 0 2,500 Feet

Scale: 1:30,000 1 inch = 2,500 feet

Figure 6
Mission Bay Park

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Source: AerialsExpress 2010; SanGIS 2011; SANDAG 2011; TYLin 2010

600 300 0 600 Feet

Scale: 1:7,200 1 inch = 600 feet

Figure 7
Potentially Affected Resources
Within Mission Bay Park

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4. The land being used must be fully restored (i.e., the resource must be returned to a condition that is at least as good as what existed prior to the project); and
5. There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the previous four conditions.

An analysis of whether the proposed project meets these five criteria with respect to the Southern Wildlife Preserve is provided below.

1. Duration of occupancy must be temporary, and there should be no change in ownership of the land

As described in Section 1.3.1, the total construction timeline is anticipated to last approximately 16 to 24 months and would require placement of temporary berms or trestles within the Southern Wildlife Preserve in order to construct the replacement bridge(s) and demolish the existing bridge. Also as described in Section 1.3.1, construction of the replacement bridge would be conducted in stages in order to maintain existing bridge operations. Therefore, construction activities during the first stage of the proposed project would require the placement of a single large berm, one small berm, or falsework and trestle in the Southern Wildlife Preserve to construct the eastern half of the replacement bridge. Once Stage 1 is completed, the single large berm would remain in place as the next stage of construction begins, the first small berm or falsework and trestle would be deconstructed and the second small berm or falsework and trestle would be constructed west of the existing bridge. The temporary large and small berms are both anticipated to be located within the Southern Wildlife Preserve for approximately 16 to 22 months of the total construction timeline while the temporary falsework and trestle are anticipated to be located within the Southern Wildlife Preserve for approximately 18-24 months. The single large berm, second small berm, or falsework and trestle would be deconstructed and removed prior to final construction activities, including demobilization, removal of construction equipment and staging and storage areas, final configuration of the bridge connection points, and lane striping. Therefore, the temporary construction berms or falsework and trestle would not be located within the Southern Wildlife Preserve for the entire duration of construction.

Once construction of the proposed project is completed, the original river channel would be fully restored, and all construction debris, equipment, and protective fencing associated with construction activities and temporarily placed within the limits of the Southern Wildlife Preserve would be removed prior to completion of construction activities. Therefore, occupancy of the Southern Wildlife Preserve would be temporary. There would also be no change in ownership of preserve.

2. Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the Section 4(f) resource must be minimal)

- Small Berms - If the temporary construction small berm option is employed, construction of the proposed project would require placement of temporary construction berms within the San Diego River flood control channel that would temporarily occupy approximately 2.8 acres of the Southern Wildlife Preserve. However 2.8 acres only constitutes 1.4 percent of the total 200 acres of the Southern Wildlife Preserve. Furthermore, the temporary construction berms would be located on unvegetated mudflats and result in limited effect to active foraging areas within the Southern Wildlife Preserve.

- Large Berm - If the temporary construction large berm option is employed, construction of the proposed project would require placement of temporary construction berms within the San Diego River flood control channel that would temporarily occupy approximately 2.6 acres of the Southern Wildlife Preserve. However 2.6 acres only constitutes 1.3 percent of the total 200 acres of the Southern Wildlife Preserve. Furthermore, the temporary construction berms would be located on unvegetated mudflats and result in limited effect to active foraging areas within the Southern Wildlife Preserve.

  Additionally, design of the temporary construction berm(s), small and large, would include culverts and/or 6 to 12 bridged openings to avoid temporary effects to the westerly flow of water and the tidal prism and allow a replication of hydraulic activities, as detailed previously. Hydraulic operations would be returned to pre-construction conditions without man-made replication once the temporary construction berms are removed. Therefore, the scope of work affecting the Southern Wildlife Preserve would be minor.

- Trestle - If the temporary construction trestle option is employed, construction of the proposed project would require placement of falsework and trestle within the San Diego River flood control channel that would temporarily occupy approximately 1.7 acres of the Southern Wildlife Preserve. However 1.7 acres only constitutes 0.9 percent of the total 200 acres of the Southern Wildlife Preserve. Furthermore, the temporary construction falsework and trestle would be located on unvegetated mudflats and result in limited effect to active foraging areas within the Southern Wildlife Preserve.

  Additionally, design of the temporary construction trestle option would include trestle spans between each bent that is spaced approximately 35 feet on center. The orientation of the trestle bents would be orthogonal to the trestle and would not be oriented parallel to the river flow, resulting in increased obstruction; however, the trestle design would provide a total of 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the natural twice daily tidal prism. Hydraulic operations would be returned to pre-construction conditions without man-made replication once the temporary falsework and trestle are removed. Therefore, the scope of work affecting the Southern Wildlife Preserve would be minor.

3. There are no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purposes of the resource, on either a temporary or permanent basis

Although the proposed project would encroach into the Southern Wildlife Preserve, the proposed project's construction limits and staging areas were located and reduced in size to minimize direct effects to sensitive vegetation communities and to maximize use of disturbed and developed land cover types. As described in Section 1.3.5, access for constructing the proposed project would come from the north side of the San Diego River (Figures 3 and 4). It is also assumed that the contractor would use the access road that exists on the north embankment of the San Diego River to mobilize personnel, equipment, and materials. Access to the west side of the existing bridge for stage 2 would likely be limited to traveling under the new and existing bridges, using the existing frontage road (Old Sea World Drive). Therefore, construction activities related to vehicular use of access routes, stockpiling of materials, and material laydown areas would not temporarily or permanently use the Southern Wildlife Preserve.

Placement of the temporary construction berms or falsework and trestle within the San Diego River flood control channel would use portions of the Southern Wildlife Preserve that

consists of unvegetated mudflats, and therefore, would result in limited effect to active foraging areas.

- Small Berms - If the temporary construction small berms option is employed, the berms placed within the flood control channel would, as described under criteria #2, use a maximum of 1.4 percent of the Southern Wildlife Preserve, and the remaining 98.6 percent of the preserve would remain available for resting and feeding by migratory birds. For the temporary construction small and large berm options, placement of the berm(s) within the Southern Wildlife Preserve would temporarily modify the westerly flow of water and the tidal prism within the San Diego River. However, the temporary construction small berms used during the staged construction process would include culverts and/or 6 or more bridged openings approximately 30-feet wide each, with a total 977 square feet of open area to allow the river flow west into the Pacific Ocean and to accommodate the twice daily tidal prism; therefore allowing hydraulic activities to continue in their current state. Hydraulic operations would be returned to pre-construction conditions without man-made replication once the temporary construction berms are removed. Additionally, the existing grade of the San Diego River would be returned to pre-construction conditions. Prior to construction, LIDAR would be utilized to ascertain the topography of the existing grade of the San Diego River. Upon project completion, the portion of the San Diego River affected during construction would utilize laser guiding based on LIDAR mapping to return the grade of the river to the existing condition. Addition, mitigation measures described under criteria #3 and #4 would also minimize temporary impacts during construction and fully restore the Southern Wildlife Preserve to its original condition.
- Large Berm - If the temporary construction large berm option is employed, the berm placed within the flood control channel would, as described under criteria #2, use a maximum of 1.3 percent of the Southern Wildlife Preserve, and the remaining 98.7 percent of the preserve would remain available for resting and feeding by migratory birds. As discussed under the small berms option above, placement of the berm within the Southern Wildlife Preserve would temporarily modify the westerly flow of water and the tidal prism within the San Diego River. However, the temporary construction berms used during the staged construction process would include culverts and/or 12 or more bridged openings approximately 30-feet wide each, with a total 1,444 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the twice daily tidal prism; therefore allowing hydraulic activities to continue in their current state. Hydraulic operations would be returned to pre-construction conditions without man-made replication once the temporary construction berms are removed. Additionally, the existing grade of the San Diego River would be returned to pre-construction conditions. Prior to construction, LIDAR would be utilized to ascertain the topography of the existing grade of the San Diego River. Upon project completion, the portion of the San Diego River affected during construction would utilize laser guiding based on LIDAR mapping to return the grade of the river to the existing condition. Addition, mitigation measures described under criteria #3 and #4 would also minimize temporary impacts during construction and fully restore the Southern Wildlife Preserve to its original condition.
- Trestle - If the temporary construction trestle option is employed, the falsework and trestle placed within the flood control channel would, as described under criteria #2, use a maximum of 0.9 percent of the Southern Wildlife Preserve, and the remaining 99.1 percent of the preserve would remain available for resting and feeding by migratory birds. Additionally, design of the temporary construction trestle option would include

trestle spans between each bent that is spaced approximately 35 feet on center. The orientation of the trestle bents would be orthogonal to the trestle and would not be oriented parallel to the river flow, resulting in increased obstruction; however, the trestle design would provide a total of 977 square feet of open area to allow the river to flow west into the Pacific Ocean and to accommodate the twice daily tidal prism. Hydraulic operations would be returned to pre-construction conditions without man-made replication once the temporary falsework and trestle are removed.

Prior to construction, LIDAR would be utilized to ascertain the topography of the existing grade of the San Diego River. Upon project completion, the portion of the San Diego River affected during construction would utilize laser guiding based on LIDAR mapping to return the grade of the river to the existing condition. Additionally, mitigation measures described under criteria #3 and #4 would also minimize temporary impacts during construction and fully restore the Southern Wildlife Preserve to its original condition.

Therefore, construction of the proposed project would not temporarily or permanently interfere with the active foraging areas or preclude migratory birds from resting and feeding within the Southern Wildlife Preserve.

In addition, an eelgrass survey conducted for the proposed project determined that there are no established eelgrass beds within or adjacent to the project limits in the San Diego River flood control channel. While the temporary construction berms or falsework and trestle would not affect any eelgrass beds, they would use portions of the San Diego River classified as essential fish habitat. However, given the shallow depths and distance from the ocean, managed fish species are not anticipated to be present in the project area, and if so, would only be transitory.

The initial in-channel construction activities would be conducted at low tide and the temporary construction options would also include openings to maintain the twice daily tidal prism and the westerly low flow channel. Therefore, construction of the proposed project would not result in permanent physical adverse impacts, would not temporarily or permanently use, or adversely interfere with the protected activities and purpose of the preserve.

Three wetland communities are located within the project boundary that would be impacted during construction: open water/tidal mudflat, coastal brackish marsh, and southern coastal salt marsh. However, impacts to these wetland communities during construction would be temporary, involve a beneficial conversion to tidal mudflat as described above, and would be fully restored through on-site compensatory mitigation. See criteria #4 for a description of wetland restoration/tidal mudflat conversion that would be implemented for the proposed project. Additional avoidance and minimization measures described in the Natural Environment Study (NES) prepared for the proposed project, including pre-construction surveys for breeding birds and noise attenuation measures if necessary, would minimize potential effects to biological resources within the Southern Wildlife Preserve during construction. Therefore, construction of the proposed project would not result in permanent adverse physical impacts or temporarily or permanently interference with the purpose of the Southern Wildlife Preserve.

Construction of the proposed project would temporarily modify and potentially affect the westerly flow of water and the tidal prism within the San Diego River depending on the construction method employed. However, temporary construction berms or falsework and trestle options used during the staged construction process would include culverts and/or bridged openings to allow hydraulic activities to continue and to replicate the twice daily

tidal prism, preserving the quality of aquatic resources within the Southern Wildlife Preserve. Hydraulic operations would be returned to pre-construction conditions, without man-made replication, once the temporary construction berms are removed, and BMPs, such as LIDAR, would be utilized to ensure that the grade of the San Diego River would be returned to pre-construction conditions. Therefore, construction of the proposed project would not temporarily or permanently affect hydraulic operations or the grade of the San Diego River within the Southern Wildlife Preserve.

4. The land being used must be fully restored (i.e., the resource must be returned to a condition that is at least as good as what existed prior to the project)

The portions of the Southern Wildlife Preserve temporarily impacted by the proposed project would be fully restored. As described above under criteria #2 and #3 construction of the proposed project would result in temporary direct impacts to tidal mudflat/open water, including:

- 2.8 acres for the small berms option
- 2.6 acres for the large berm option
- 1.7 acres for the trestle option

Compensatory mitigation for impacts to open water/tidal mudflat are proposed that would fully restore the proposed project's temporary impacts. Based on the technical analysis conducted and a detailed understanding of the likely construction methodologies to be employed, the recommended compensation/restoration requirements will include mudflat restoration, in-kind/on-site enhancement, re-grading to pre-project conditions and elevations, and self-recovery. Additional measures, if deemed necessary, will be determined through ongoing coordination and negotiations with the U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), the California Coastal Commission (CCC), and the City.

Construction of the proposed project would also result in temporary direct impacts to coastal brackish marsh located west of the existing bridge adjacent to the southern bank of the San Diego River flood control channel:

- 0.03 acres of coastal brackish marsh with the small berms option
- 0.03 acres of coastal brackish marsh with the large berm option
- 0.01 acres of coastal brackish marsh with the trestle option

This specific area of coastal brackish marsh consists of a monotypic stand of common reed (*Phragmites australis*), which is considered an invasive species that can deleteriously alter ecosystems (Cal-IPC 2011; USDA 2011). Therefore, removing the coastal brackish marsh and returning the area back to tidal mudflat would present beneficial conversion, result in a net ecological benefit, and provide compensatory mitigation for impacts. Therefore the conversion of the existing coastal brackish marsh is proposed through recontouring the area back to the original grade of the tidal mudflat.

Construction of the proposed project would also result in temporary direct impacts to southern coastal salt marsh located east of the existing bridge adjacent to the southern bank of the San Diego River flood control channel:

- 0.004 acres of southern coastal salt marsh with the small berms option
- 0.003 acres of southern coastal salt marsh with the large berm option
- 0.002 acres of southern coastal salt marsh with the trestle option.

In addition to the general avoidance and minimization measures presented in the proposed project's NES, impacts to southern coastal salt marsh would be mitigated through on-site restoration consistent with a 1:1 mitigation ratio based on the nature of temporary impacts associated with construction activities. In addition, a conceptual mitigation and landscape plan that will be developed for the proposed project. The conceptual mitigation and landscape plan will employ additional restorative measures, including details regarding site preparation, planting specifications, and (if required) irrigation design, maintenance and monitoring procedures, as well as outline yearly success criteria and remedial measures (if required).

Irrespective of the build alternative selected and the construction methodology employed hydraulic operations would be returned to pre-construction conditions, without man-made replication, once the temporary construction activities are completed. All of the potential impacts associated with the proposed project would be mitigated through the avoidance, minimization, and mitigation measures described above. Therefore, the Southern Wildlife Preserve would be fully restored to its original condition.

5. There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the previous four conditions

This Section 4(f) Evaluation was submitted to the City Park and Recreation Director, the official with jurisdiction over these City resources, to establish concurrence on meeting the requirements for the temporary occupancy exception. The Director issued concurrence with the findings of the conditions listed above via an email submitted to Caltrans on August 24, 2012 (see attached correspondence).

As detailed above, the project's construction period meets all five criteria for consideration as temporary occupancy of the Southern Wildlife Preserve.

Constructive Use

Constructive use occurs when a project's indirect or "proximity impacts" to a Section 4(f) resource rise to the level of substantial impairment, meaning that the impacts are severe enough that the protected activities, features, or attributes of the Section 4(f) resource are substantially diminished by the project. Public access to the Southern Wildlife Preserve is restricted in the existing condition and implementation of the proposed project would not add any additional restrictions to public access. Implementation of the proposed project would not dramatically alter views of the Southern Wildlife Preserve due to the presence of the existing West Mission Bay Drive Bridge. The proposed project would not introduce a new structure in a location where one does not currently exist, but would replace an existing bridge. The proposed project would implement permanent treatment BMPs, including small footprint filtration devices, a rock-lined bioswale, and small areas of permeable pavement to treat runoff coming from the project site. These treatment BMPs are anticipated to treat 100 percent of the water flow for the proposed project, minimizing impacts to water quality. The proposed project would not result in any permanent air quality impacts that would adversely affect the Southern Wildlife Preserve (AECOM 2012).

The potential for proximity impacts would be limited to post-project operational noise-level increases that could adversely affect special-status wildlife species within the Southern Wildlife Preserve. A noise analysis was conducted to evaluate anticipated future noise levels during construction and operation of the two project alternatives and to determine the potential noise-induced indirect impacts on sensitive wildlife. Existing noise conditions and predicted

construction and operation noise levels for both build alternatives are presented in the project Noise Study Report (NSR) (AECOM 2011a). Noise contour maps based on the results of the NSR were developed for the NES that concluded that operations would not increase noise levels at the existing preserves (AECOM 2011b). Figure 8 and Figure 9 show noise contours under existing conditions and for each of the build alternative scenarios. These contours indicate that noise levels would not exceed 68 decibels (dB), which is the highest noise contour identified in the existing conditions.

Noise contours would not shift substantially under either build alternative scenario compared to existing conditions. Consequently, changes to noise conditions within the Southern Wildlife Preserve would be minimal and would not adversely affect special-status wildlife species. Additionally, the proposed project would not result in permanent increases in vibration that would adversely affect special-status wildlife species. Therefore, the proposed project would not result in constructive use of the Southern Wildlife Preserve.

Actual Use

Actual use of a Section 4(f) resource occurs when land from a Section 4(f) resource is permanently incorporated into a transportation facility or project. The removal of the existing bridge and construction of a new bridge is considered an "actual use" within the boundaries of the Southern Wildlife Preserve, since the new bridge is being constructed within the preserve's limits.

Implementation of the proposed project would be accomplished by removing the existing bridge and replacing it with a new structure(s). The replacement bridge would be constructed within and immediately adjacent to the footprint of the existing bridge and would be supported by circular concrete pier columns as opposed to the current pier walls. The permanent footprint of the proposed bridge pier columns (0.04 acre) would be less than the permanent footprint of the existing bridge pier walls (0.11 acre). This reduction in the permanent footprint in the San Diego River flood control channel would slightly reduce water surface elevations associated with 50-year and 100-year storm events compared to the pre-project condition. Similarly, the proposed project would not increase water velocities associated with 50-year and 100-year storm events.

The portion of the Southern Wildlife Preserve that would be used by the proposed project consists of unvegetated mudflats. Because unvegetated mudflats are considered low quality foraging habitat and the proposed project would result in a reduction in the permanent footprint in the channel, the pier columns of the replacement bridge would not adversely affect active foraging areas within the preserve. Implementation of the proposed project would not dramatically alter the existing visual character of the Southern Wildlife Preserve due to the presence of the existing West Mission Bay Drive Bridge. The proposed project would not introduce a new structure in a location where one does not currently exist, but would replace an existing bridge. The proposed project would include architectural detailing, such as a thin bridge deck and smaller and fewer pier columns/footings, to minimize impacts to views of the Southern Wildlife Preserve. Additionally, a landscape concept plan would be implemented to enhance the overall aesthetic setting on both the north and south sides of the bridge. Therefore, the proposed project would not adversely affect the existing visual character of the Southern Wildlife Preserve.

Actual use of the Southern Wildlife Preserve has been concluded to be *de minimis*. When comparing the new column footprint acreage against the total acreage of the Southern Wildlife

Source: DigitalGlobe 2008; SanGIS 2010; AECOM 2010; Rick Engineering 2010

825 0 825 Feet

Scale: 1 = 9,900; 1 inch = 825 feet

Figure 8
Alternative 2c (City's Locally Preferred Alternative) and Existing Condition Noise Contours

Source: DigitalGlobe 2008; SanGIS 2010; AECOM 2010; Rick Engineering 2010

825 0 825 Feet

Scale: 1 = 9,900; 1 inch = 825 feet

Figure 9
Alternative 3 and
Existing Condition Noise Contours

Preserve (approximately 200 acres) and Mission Bay Park (approximately 4,045 acres), the column acreage (0.04 acre) represents a negligible area of impact. Furthermore, the permanent footprint of the proposed bridge pier columns (0.04 acre) would be less than the permanent footprint of the existing bridge pier walls (0.11 acre). Therefore, there would be a reduction in the permanent use of the preserve by the West Mission Bay Drive Bridge due to the reduced footprint. Impacts to wetlands during construction would be mitigated through mudflat restoration, in-kind/on-site enhancement, regrading to original baseline conditions/elevations using LIDAR, water quality treatment features, BMPs, and natural self-recovery would also occur to ensure that all of the preserve's functions and values would be returned to pre-construction conditions. Therefore, implementation of the proposed project would not adversely affect the protected activities, features, or attributes that qualify the Southern Wildlife Preserve for protection under Section 4(f) and a *de minimis* use determination is proposed.

3.3 Bike/Pedestrian Paths

3.3.1 Description

Two city bike/pedestrian paths cross under the existing West Mission Bay Drive Bridge running parallel to the San Diego River flood control channel and Southern Wildlife Preserve. The path on the south side of the Southern Wildlife Preserve is a stand-alone paved path solely for the use of bicyclists and pedestrians. The path on the north side of the Southern Wildlife Preserve is a stand-alone paved path west of the existing West Mission Bay Drive Bridge that shares the roadway of Old Sea World Drive east of the existing West Mission Bay Drive Bridge. The path on the north side of the Southern Wildlife Preserve also serves as an informal wildlife observation point. Both paths are official bike paths as identified in the City of San Diego Bicycle Mater Plan and are owned and operated by the City. Therefore, these bike paths qualify for protection under Section 4(f).

3.3.2 Evaluation

Temporary Occupancy

If the following five conditions can be satisfied, a Section 4(f) use would not occur and a temporary occupancy exception would apply:

1. Duration of occupancy must be temporary, and there should be no change in ownership of the land

Implementation of the proposed project is anticipated to last approximately 16 to 24 months and would be conducted in stages in order to maintain multi-modal access during construction. Full access to the bike/pedestrian paths would be maintained throughout the construction process. Maintaining access would include provisions requiring construction of a protected crossing that would enclose the existing bike/pedestrian paths where they cross under the existing bridge. This protective enclosure would be provided along the bike paths to shield the pathways from construction activities and to ensure a protected environment for pedestrians and bicyclists throughout the construction zone. The temporarily shielded walkways would accommodate all existing uses for the paths, adhere to current standards, and create a continuous path of travel for all users.

Construction activities would not preclude use of the northern bike/pedestrian path as an informal wildlife observation point. While the majority of construction access and staging would occur on the north side of the Southern Wildlife Preserve, the width of the existing

paved and unpaved frontage road (Old Sea World Drive) is approximately 30 feet. This width is adequate to allow for continued use, as well as construction access. Therefore, users would also be afforded the continued use of the northern bike path as a wildlife observation point.

The protective crossings are anticipated to be in place for approximately 16 to 22 months of the total construction timeline. The protective crossings would be deconstructed prior to final construction activities, including demobilization, removal of construction equipment and staging and storage areas, final configuration of the bridge connection points, and lane striping. Therefore, the existing the bike/pedestrian paths would not be enclosed for the entire duration of construction. The original bike/pedestrian paths and their connections to the new bridge(s) would be restored to their original state once the protective enclosures were removed. In addition, a new Class I barrier separated bike path would be constructed on the bridge in both northbound and southbound directions. These new features would enhance the existing connections and provide improved access across the bridge. Based on the above discussion and the measures proposed to maintain access throughout construction, as well as and the improved connections across the bridge, a temporary occupancy determination of the bike/pedestrian paths is applicable. There would also be no change in the ownership of the bike/pedestrian paths.

2. Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the Section 4(f) resource must be minimal)

Construction activities would occur within the bike/pedestrian path but would not alter or affect access to the bike/pedestrian paths during the course of construction of the proposed project. Pedestrians and bicyclists would be afforded full access and use of the bike paths. Since access would not be obstructed, the surrounding community could continue to use the northern bike path as an informal wildlife observation point. While construction work would occur within the bike/pedestrian paths, passage through the construction area by pedestrians and bicyclists would not be hindered and full access would be maintained. Following completion of the proposed project, overall access, including passage across the bridge, would be enhanced. Therefore, the scope of work affecting the bike/pedestrian paths would be minor.

3. There are no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purposes of the resource, on either a temporary or permanent basis

Implementation of the proposed project would include measures to maintain public access to the bike/pedestrian paths during construction. These measures would include provisions requiring construction of a protected undercrossing that encloses the existing paths. This protective enclosure would be provided along the bike paths to shield the pathways from construction activities and to ensure a protected environment for pedestrians and bicyclists throughout the construction zone. This temporary shielding would accommodate all existing uses for the paths, adhere to current standards, and create a continuous path of travel for pedestrians and bicyclists.

Although construction of the proposed project would require temporarily shielded walkways, the original bike paths would be restored to their original state, and all temporary features would be removed prior to completion of construction activities. Therefore, implementation of the proposed project would not result in any permanent or temporary interference with the activities and purposes of the bike/pedestrian paths.

4. The land being used must be fully restored (i.e., the resource must be returned to a condition that is at least as good as what existed prior to the project)

The portions of the bike paths temporarily affected by construction of the proposed project would be fully restored to their original state. The temporarily shielded walkways and all associated features, as well as all construction debris, equipment, and protective fencing associated with construction activities would be removed prior to completion of construction activities. Introduction of Class I barrier separated bike paths in both northbound and southbound directions would enhance existing connections and provide improved access across the new bridge. Therefore, the proposed project would fully restore all access and connections within the bike/pedestrian paths.

5. There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the previous four conditions

This Section 4(f) Evaluation was submitted to the City Park and Recreation Director, the official with jurisdiction over the affected City resources, to establish concurrence on the temporary occupancy determination for the existing bike/pedestrian paths. The Director issued concurrence with the findings of the 4 conditions listed above via email submitted to Caltrans on August 24, 2012 (see attached correspondence).

Because the project meets all five of the criteria listed above with respect to the City's bike/pedestrian paths, the project would result in a temporary occupancy of this Section 4(f) resource.

Constructive Use

The proposed project would not result in a constructive use of the bike/pedestrian paths since the proximity impacts caused by the proposed project would not rise to the level of substantial impairment. The existing City bike/pedestrian paths are paved pathways that provide bicycle and pedestrian access. As such, the existing City bike/pedestrian paths do not contain vegetation, wildlife, or water resources that could be affected by proximity impacts. The proposed project would improve access by constructing new Class I barrier-separated bike paths on the bridge in both northbound and southbound directions that would connect to the existing City bike/pedestrian paths that cross under the bridge. Implementation of the proposed project would not dramatically alter views from the bike/pedestrian paths since the bridge undercrossings for the West Mission Bay Drive Bridge are already part of the visual environment. The proposed project would not introduce a new structure in a location where one does not currently exist, but would replace an existing bridge. The proposed project would not result in any permanent air quality impacts that would adversely affect users on the existing City bike/pedestrian paths (AECOM 2012).

The potential for proximity impacts would be limited to post-project operational noise-level increases. The NSR prepared for the proposed project determined that post-project operations would increase noise by 2 dBA at locations on both bike/pedestrian paths for Alternative 2c. Similarly, post-project operations would increase noise by 2 dBA at a location on the southern bike/pedestrian path and 4 dBA at a location on the northern path for Alternative 3 (AECOM 2011a). However, use of the existing bike/pedestrian paths is transient in nature, as users do not stay in the same location for an hour or more. Therefore, these post-project noise increases would not adversely affect users on the existing bike/pedestrian paths. Furthermore, the proposed project would not result in permanent increases in vibration that would adversely

affect existing bike/pedestrian path users. Therefore, the proposed project would not result in constructive use of the existing bike/pedestrian paths.

Actual Use

The proposed project would not permanently incorporate any portion of the existing City bike/pedestrian paths into the replacement bridge. Once construction of the proposed project is completed, the original bike/pedestrian paths and their connections to the new bridge(s) would be restored to their original state, and all temporary protective structures would be removed before final activities are completed. In addition, a new Class I barrier-separated bike path would be constructed on the bridge in both northbound and southbound directions. These new features would enhance the existing connections and provide improved access across the bridge. Therefore, the proposed project would not result in an actual use of the existing City bike/pedestrian paths.

3.4 California Least Tern Preserve

3.4.1 Description

Land east of the northern terminus of the proposed project is designated as a California Least Tern preserve in the Mission Bay Park Master Plan Update. The preserve is surrounded by West Mission Bay Drive to the west, Old Sea World Drive and the San Diego River/Southern Wildlife Preserve to the south, and Sea World Drive to the east and north. The preserve rests at a slightly higher elevation than Old Sea World Drive, which runs parallel to the preserve on its southern boundary. The area is marked with signage informing bicyclists and pedestrians that the preserve is off limits and that people should avoid entering the preserve. The Southern Wildlife Preserve's status as a wildlife preserve identified in the Mission Bay Park Master Plan Update qualifies this resource for protection under Section 4(f).

3.4.2 Evaluation

Actual Use

The proposed project would not physically encroach into the California Least Tern Preserve during construction or operation. Therefore, the proposed project would not result in an actual use of the preserve.

Temporary Occupancy

Construction of the proposed project would not encroach into the California least tern preserve but would temporarily encroach into the earthen berm surrounding the preserve that provides a buffer between the preserve and the surrounding environs. The berm is not part of the preserve but serves as a delineated buffer.

Constructive Use

The proposed project would not result in a constructive use of the California Least Tern Preserve since the proximity impacts caused by the proposed project would not rise to the level of substantial impairment. Public access to the California Least Tern Preserve is prohibited in the existing condition and implementation of the proposed project would not change public access to the preserve. The California Least Tern Preserve does not possess water resources

that could be affected by proximity impacts. Similarly, the visual character of the preserve is not a quality that qualifies this resource for protection under Section 4(f). The proposed project would not result in any permanent air quality impacts that would adversely affect the California Least Tern Preserve (AECOM 2012).

Figure 8 and Figure 9 above show noise contours under existing conditions and for each of the build alternative scenarios. These contours indicate that noise levels would not exceed 68 decibels (dB), which is the highest noise contour identified in the existing conditions. Therefore, noise levels would not exceed the highest noise contour identified in the existing conditions evaluation and noise contours would not shift substantially under either build alternative scenario compared to existing conditions. Consequently, changes to noise conditions within the California Least Tern Preserve would be minimal and would not adversely affect special-status wildlife species. Additionally, the proposed project would not result in any permanent increases in vibration that would adversely affect special-status wildlife species. Therefore, the proposed project would not result in constructive use of the California Least Tern Preserve.

3.5 Famosa Slough

Famosa Slough is a 37-acre wetland preserve located approximately 0.20 mile west of the proposed project. Twelve acres of the Famosa Slough consist of a channel that extends from West Point Loma Boulevard northward to the San Diego River flood control channel (Southern Wildlife Preserve). The Famosa Slough is bisected by West Point Loma Boulevard and bordered by Famosa Boulevard on its western boundary. Famosa Slough is managed as a wetland preserve by the San Diego Parks and Recreation Department with help from the Friends of Famosa Slough. Both the 12-acre channel portion and 25-acre southern portion of the slough are owned and maintained by the City and are accessible to the public by a trail that includes benches and viewing areas.

Famosa Slough's status as a publicly owned wildlife preserve open to the public qualifies the resource for protection under Section 4(f). However, the location of the proposed project, approximately 0.20 mile to the east, precludes it from having any effect on the slough. Therefore, the proposed project would not impair the protected activities, features, or attributes of this Section 4(f) property, and would not cause a temporary occupancy, constructive use due to proximity impacts, or actual use of the Famosa Slough.

4.0 RESOURCES NOT PROTECTED BY SECTION 4(f)

Further analysis of the properties and features preliminarily identified as being potential Section 4(f) resources determined that Barnard Elementary School and the Barnes Tennis Center do not qualify for protection under Section 4(f). Although Barnard Elementary School is publicly owned, playground equipment at the school is not open to the public after school hours; therefore, it is not eligible for protection under Section 4(f). The Barnes Tennis Center is owned and operated by Youth Tennis San Diego, a private nonprofit organization, and is, therefore, not eligible for protection under Section 4(f).

5.0 REFERENCES

AECOM

2012 *West Mission Bay Drive Bridge Project – Air Quality Impact Analysis.* January.

2011a *West Mission Bay Drive Bridge Project Noise Study Report*. October.

2011b *West Mission Bay Drive Bridge Project – Natural Environment Study.* October.

California Invasive Plant Council (Cal-IPC)

2010 Don't Plant a Pest. California Invasive Plant Council, Berkeley, CA. Available at http://www.cal-ipc.org/landscaping/dpp/planttypes.php?region=socal. Accessed July 2010.

Meyerson, L.A., K. Saltonstall, L. Windham, E. Kiviat, and S. Findlay

1999 A Comparison of Phragmites Australis in Freshwater and Brackish Marsh Environments. *North America Wetlands Ecology and Management* 8:89–110. Kluwer Academic Publishers.

Regional Water Quality Control Board (RWQCB)

2010 303d List for Region 9: Clean Water Act Section 303(d) List of Water Quality Limited Segments and Section 305(b) Surface Water Quality Assessment. Available at http://www.swrcb.ca.gov/rwqcb9/programs/303dlist.html.

Rick Engineering Company

2010 West Mission Bay Drive Bridge – San Diego, CA, Traffic Analysis. December 14.

U.S. Department of Agriculture (USDA)

2011 National Invasive Species Information Center. Available at http://www.invasivespeciesinfo.gov/aquatics/commonreed.shtml. Accessed May 2011.

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"LoMedico, Stacey" <SLomedico@sandiego.gov>
To 'Kevin Hovey' <kevin_hovey@dot.ca.gov>
08/24/2012 09:07 AM
cc "Oskoui, Virginia" <VOskoui@sandiego.gov>, "Nagelvoort, James" <JNagelvoort@sandiego.gov>, "Gibson, Marnell" <MGibson@sandiego.gov>, "Palaseyed, Abi" <APalaseyed@sandiego.gov>, "Jacob, Paul" <PJacob@sandiego.gov>, Bruce April <bruce_april@dot.ca.gov>, Erwin Gojuangco <erwin_gojuangco@dot.ca.gov>, "Purcell, Carrie" <CPurcell@sandiego.gov>, "McKenzie, Stacy" <SLMcKenzie@sandiego.gov>, "Aberra, Nitsuh" <NAberra@sandiego.gov>

Subject RE: Replacement of the West Mission Bay Drive Bridge over San Diego River Project - Section 4(f)

Good afternoon Kevin,

As the City's Park and Recreation Director responsible for the City's park assets on record I have read the attached and also received clarification from Public Works Dept staff on the determinations. I concur with the findings found under each of the following determinations:

1) the temporary, construction related impacts to the Southern Wildlife Preserve located with Mission Bay Park are such that they qualify for Temporary Occupancy;

2) the permanent, new bridge related impacts to the Southern Wildlife Preserve located within Mission Bay Park are such that they are de minimis; and

3) the temporary, construction related impacts to the bicycle/pedetrain paths located within Mission Bay Park are such that they qualify for Temporary Occupancy.

If you need anything more, please let me know.

Thank you,

-----Original Message-----
From: Kevin Hovey [mailto:kevin_hovey@dot.ca.gov]
Sent: Tuesday, August 21, 2012 11:09 AM
To: LoMedico, Stacey
Cc: Oskoui, Virginia; Nagelvoort, James; Gibson, Marnell; Palaseyed, Abi; Jacob, Paul; Bruce April; Erwin Gojuangco

Subject: Replacement of the West Mission Bay Drive Bridge over San Diego River Project - Section 4(f)

Stacey:

My name is Kevin Hovey, I work for Caltrans here in San Diego and my job is to ensure that our local agencies, such as the City of San Diego, comply with federal environmental law when they use FHWA monies on their transportation projects. In this regard, I am overseeing the City of San Diego's proposed West Mission Bay Drive Bridge replacement project. I have been working closely with Virginia Oskoui, Nitsuh Aberra, and Abi Palaseyed from the City during this project's development process. Virginia provided me with your contact information.

This project will temporarily and permanently impact City owned recreational and wildlife resources that are afforded protection under Section 4(f) of the U.S. Department of Transportation Act of 1966 (Act).
This Act and a description of the resources that are impacted are described in detail in the attached Section 4(f) analysis below. I am emailing you today because, as defined in the Act, you are the "official with jurisdiction" over these resources. Your concurrence with the Section 4(f) conclusions the City of San Diego and I have reached for each of the impacted resources is needed. Specifically, I am requesting your concurrence with the following determinations:

1) the temporary, construction related impacts to the Southern Wildlife Preserve located with Mission Bay Park are such that they qualify for Temporary Occupancy;

2) the permanent, new bridge related impacts to the Southern Wildlife Preserve located within Mission Bay Park are such that they are de minimis; and

3) the temporary, construction related impacts to the bicycle/pedetrain paths located within Mission Bay Park are such that they qualify for Temporary Occupancy.

The rationale used to reach each of the above conclusions is included in the attached analysis. The first half includes a complete project description, the actual arguments begin on page C-16. You will see that the analysis labelled "Appendix C," this is because it will be appened to the federal environmental document that is being prepared for the project.

If you concur with the findings, the Act requires nothing more than an email from you, or your delegate. If you have any questions or concerns or if I can be of any assistance please do not hesitate to contact me by phone @ 619-688-0240 or by email at the address above. I look forward to your response.

Kevin Hovey
Senior Environmental Planner
Caltrans District 11
Local Assistance NEPA Coordinator
Chief, Cultural Resources

APPENDIX D
LIST OF ACRONYMS

APPENDIX D
LIST OF ACRONYMS

AADT	annual average daily traffic
ADA	Americans with Disabilities Act
ADT	average daily trips
air toxics	toxic air contaminants
amsl	above mean sea level
APM	automated people mover
ARB	Air Resources Board
BA	Biological Assessment
BMP	best management practice
BRT	bus rapid transit
BSA	biological study area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Code
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIA	Community Impact Assessment
CIDH	cast in drilled hole
City	City of San Diego
CMP	corrugated metal pipes
CNPS	California Native Plant Society
CO	carbon monoxide
COZEEP	Construction Zone Enhanced Enforcement Program
CWA	Clean Water Act
cy	cubic yard
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DRIM	Draft Relocation Impact Memorandum
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
ESHA	environmentally sensitive habitat area
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration

fps	feet per second
FTIP	Federal Transportation Improvement Program
HASR	Historic Architectural Survey Report
HCP	habitat conservation plan
HPSR	Historic Property Survey Report
HRB	Historical Resources Board
I	Interstate
ILV	Intersection Lane Vehicle
kV	kilovolt
LCP	local coastal program
LEDPA	least environmentally damaging practicable alternative
L_{eq}	equivalent noise level over a period of time
LIDAR	Light Detection and Ranging
LOS	level of service
MHPA	Multiple Habitat Planning Area
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MSAT	Mobile Source Air Toxic
MSCP	Multiple Species Conservation Program
MTDB	Metropolitan Transit Development Board
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
PA	Programmatic Agreement
PA/ED	project approval and environmental document
PDT	project development team
PEAR	Preliminary Environmental Analysis Report
PES	Preliminary Environmental Study
PM	particulate matter
$PM_{2.5}$	particulate matter with particles of 2.5 micrometers and smaller
PM_{10}	particulate matter with particles of 10 micrometers and smaller
ppm	parts per million
PRC	Public Resources Code
RCP	Regional Comprehensive Plan
RMS	root mean square
RSA	resource study area
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments

SCS	sustainable communities strategy
SDAB	San Diego Air Basin
SDFD	San Diego Fire-Rescue Department
SDG&E	San Diego Gas & Electric
SDPD	San Diego Police Department
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SWDR	Storm Water Data Report
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TMDL	Total Maximum Daily Load
TMP	traffic management plan
TMT	Traffic Management Team
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VOC	volatile organic compounds
WDR	Waste Discharge Requirement
WDID	Waste Discharge Identification

APPENDIX E

LIST OF TECHNICAL STUDIES

APPENDIX E
LIST OF TECHNICAL STUDIES

Biological Assessment – June 2012

Jurisdictional Delineation Report – October 2011

Natural Environment Study – October 2011

Air Quality Impact Analysis – January 2012

Noise Study Report – October 2011

Community Impact Assessment – April 2012

Relocation Impact Memorandum – November 2011

Historic Property Survey Report – August 2010

Historic Resources Board Evaluation – February 2011

Structures Preliminary Geotechnical Report – March 2010

Initial Site Assessment – August 2011

Preliminary Hydraulic Report – September 2010

Preliminary Storm Water Data Report – January 2012

Visual Impact Assessment – January 2012

APPENDIX F

TITLE VI POLICY STATEMENT

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. Box 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711

Flex your power!
Be energy efficient!

July 20, 2010

TITLE VI
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

CINDY McKIM
Director

"Caltrans improves mobility across California"

APPENDIX G

USFWS AND NMFS CONSULTATION LETTERS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

In Reply Refer To:
FWS-SDG-09B0224-13I0118

JAN 30 2013

Mr. Robert A. James
Senior Environmental Planner
California Department of Transportation - District 11
4050 Taylor Street
San Diego, California 92110

Subject: Informal Section 7 Consultation for the West Mission Bay Drive Bridge Project, City of San Diego, California

Dear Mr. James:

This is in response to your correspondence, dated October 9, 2012, requesting our concurrence with your determination that the subject project is not likely to adversely affect the federally endangered light-footed clapper rail (*Rallus longirostris levipes*, rail), California least tern [*Sternula* (*Sterna*) *antillarum browni,* tern], salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum* (*Cordylanthus maritimus* subsp. *maritimus*)], and the federally threatened western snowy plover (*Charadrius alexandrinus nivosus,* plover) in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The California Department of Transportation (Caltrans) has assumed the Federal Highway Administration's (FHWA) responsibilities under the Act for this consultation in accordance with Sections 6004 and 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) 2005, as described in the National Environmental Policy Act (NEPA) Delegation Pilot Program Memorandum of Understanding between FHWA and Caltrans (effective July 1, 2007) and codified in Renewed 23 U.S.C. 326 and 23 U.S.C. 327.

The proposed West Mission Bay Drive Bridge project is located over the San Diego River flood control channel, in the City of San Diego (City). The City, in cooperation with Caltrans, will remove the existing four-lane Mission Bay Drive Bridge supported by 10 pier walls and replace it with a 6-lane facility consisting of 2 new parallel bridges supported by 32 concrete piles (Alternative 2c), as detailed in the Biological Assessment (Caltrans 2012). The existing bridge has been evaluated and classified by Caltrans as functionally obsolete due to inadequate capacity, as well as seismically and structurally deficient due to concrete spalling, potential presence of shear cracks, and possibility of local failures. The project will also widen the westbound Interstate-8 off-ramp onto West Mission Bay Drive and construct a Class I bike path on each bridge. To allow flexibility in contract bidding, Caltrans and the City evaluated the following three construction methods for the project, one of which will be used by the contractor selected

by the City: large berm, small berms, and a trestle. The project will take approximately 2 years to complete and is scheduled for construction from approximately 2014 to 2016.

The project site consists of an existing bridge in the San Diego River flood control channel over tidal mudflat/open water along the channel bottom, and rip-rap with a small amount of coastal brackish marsh along the channel slopes. The permanent impact footprint of new bridge columns (0.04 acre) will be less than the footprint of existing bridge pier walls (0.11 acre), so the project will result in a 0.07-acre net gain of tidal mudflat/open water upon project completion. However, the new bridges will permanently shade an additional 2.69 acres of jurisdictional waters of the United States, composed of approximately 2.68 acres of tidal mudflat/open water, 0.002 acre southern coastal brackish marsh, and 0.005 acre of rip-rap. If the most impactful construction method (i.e., small berms) is chosen, an additional 2.78 acres of habitat, consisting of 0.034 acres of coastal marsh and 2.75 acres of tidal mudflat/open water, will be temporarily impacted, for a total of up to 5.46 acres of impacts to rail, tern and/or plover habitat.

The project will restore/enhance coastal wetlands, including invasive weed removal, in the San Diego River upstream and/or downstream of the project to offset impacts up to 5.46 acres (AECOM 2012). When adjusted for nonnative plant cover (30 percent cover downstream, and 40 percent cover upstream) the restoration/enhancement will include up to 18.23 acres downstream of the project near the mouth of the San Diego River, and/or up to 13.68 acres upstream of the project within the San Diego River channel, as detailed in the Draft Proposed Mitigation Plan (AECOM 2012). At a minimum, 2.68 acres of permanent shading impacts will be offset with an equivalent amount of restoration/enhancement. Both potential restoration/enhancement sites are owned by the City and are within the multiple habitat planning area (or preserve) of the City's Multiple Species Conservation Program Subarea Plan. The rail, tern, and plover are known to occur in the project vicinity and these restoration/enhancement sites, and salt marsh bird's-beak is known to occur in the vicinity of the downstream restoration/enhancement site.

Light-footed clapper rail

Two pairs of rails were detected within suitable habitat approximately 300 to 1,000 feet east of the project site, as well as farther east within the San Diego River flood control channel in and near the proposed upstream restoration/enhancement site, during surveys conducted in 2010 (Caltrans 2012).

The project will result in 0.002 acre and up to 0.034 acre of permanent shading and temporary construction impacts, respectively, to coastal marsh habitat suitable for rail nesting. In addition, the project will result in 2.68 acres and up to 2.75 acres of permanent shading and temporary construction impacts, respectively, to tidal mudflat/open water habitat suitable for rail foraging. Project construction (e.g., noise, light, dust, material disposal, sedimentation, contaminant run-off, spread of invasive weeds and/or human encroachment/disturbance) and restoration/enhancement (e.g., human encroachment/disturbance) may also temporarily impact rail breeding and/or foraging.

California least tern and western snowy plover

No terns or plovers were detected during 2010 surveys, and no nesting habitat for these species occurs, within the project impact footprint (Caltrans 2012). Therefore, bridge construction is not anticipated to result in any direct impacts to nesting habitat for the tern or plover.

However, there are extant tern nesting areas within foraging distance of the project site both to the north on Fiesta Island, and to the west near the mouth of the San Diego River at the downstream restoration/enhancement site (Caltrans 2012). An area just northeast of the project site is also managed for tern nesting though terns have never been known to nest at this location. The plover has also been observed foraging at the downstream restoration/enhancement site, less than 2 miles downstream from the project site, and plovers may forage within the project impact footprint during periods of low tide when tidal mudflat is exposed (Caltrans 2012).

The project will result in 2.68 acres and up to 2.75 acres of permanent shading and temporary construction impacts, respectively, to tidal mudflat/open water habitat that is suitable for tern and plover foraging. In addition, the project has the potential to result in temporary construction impacts to tern and plover foraging (e.g., turbidity, noise, light, dust, material disposal, sedimentation, contaminant run-off, spread of invasive weeds, and/or human encroachment disturbance). Restoration/enhancement at the downstream site may also temporarily impact tern nesting and plover foraging (e.g., human encroachment/disturbance).

Salt marsh bird's-beak

Salt marsh bird's-beak occurs near the mouth of the San Diego River about 1.6 miles west of the project site, within salt marsh habitat at the downstream restoration/enhancement site. Restoration/enhancement at this site may temporarily impact salt marsh bird's-beak (e.g., human encroachment/disturbance).

The following measures have been incorporated into the project design to avoid and minimize potential effects to the rail, tern, plover and/or salt marsh bird's beak:

1. Permanent shading and temporary construction impacts of up to a total of 5.46 acres of rail, tern, and/or plover habitat will be offset by restoration/enhancement of up to: 18.23 acres of coastal wetlands downstream of the project near the mouth of the San Diego River and/or 13.68 acres of coastal wetlands upstream of the project within the San Diego River channel. At a minimum, 2.68 acres of permanent shading impacts will be offset with an equivalent amount of restoration/enhancement. A draft proposed mitigation plan has been submitted with offsite restoration/enhancement options (AECOM 2012). The City, through Caltrans, will submit a more detailed draft restoration/enhancement plan to the Carlsbad Fish and Wildlife Office (CFWO) for review and approval prior to initiating project impacts. The City, through Caltrans, will provide the final restoration plan to the CFWO. The final plan will include the following information and conditions:

a. All habitat restoration/enhancement sites will be prepared for planting in a way that mimics natural habitat to the maximum extent practicable. All plantings will be installed in a way that mimics natural plant distribution and not in rows.

b. Planting palettes (plant species, size, and number/acre) and seed mix (plant species and pounds/acre). The plant palettes proposed in the draft plan will include native species specifically associated with the habitat type(s). Unless otherwise approved by the CFWO, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible will be used. The source and proof of local nativeness of all plant material and seed will be provided.

c. Container plant survival will be 80 percent of the initial plantings for the first 5 years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by natural recruitment.

d. A final implementation schedule will indicate when all impacts, as well as restoration/enhancement planting and irrigation will begin and end. Offsite restoration/enhancement planting and irrigation will be completed during the concurrent or next planting season (i.e., late fall to early spring) after initiating project impacts.

e. Five years of success criteria for restoration/enhancement areas including: percent cover, evidence of natural recruitment of multiple species for all habitat types, 0 percent coverage will be maintained for California Invasive Plant Council's (Cal-IPC's) "Invasive Plant Inventory" species, and no more than 10 percent coverage for other exotic/weed species.

f. A minimum 5 years of maintenance and monitoring of restoration/enhancement areas, unless success criteria are met earlier and all artificial water supplies have been off for at least 2 years.

g. A qualitative and quantitative vegetation monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified-random sampling will be used for all quantitative monitoring.

h. Contingency measures in the event of creation/restoration/enhancement failure.

i. Annual mitigation maintenance and monitoring reports will be submitted to the CFWO no later than December 1 of each year.

j. If restoration/enhancement activities in an area potentially occupied by rails, terns, or plovers, are necessary between March 15 and September 15, a biologist with knowledge of rail, tern, and plover biology and ecology and approved by the CFWO will survey for

rails, terns, and plovers within the restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by restoration/enhancement site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if rails, terns, and/or plovers are found during any of the visits, Caltrans will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the rail, tern, and plover (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

k. A CFWO-approved biologist familiar with salt marsh bird's-beak will conduct training sessions for each employee conducting restoration/enhancement activities within habitat occupied by the species. The training will include the following topics: identification of the species (including photographs), the species general ecology and host plants, and appropriate avoidance measures.

2. A CFWO-approved biologist will be on site weekly during project construction within 200 feet of rail, tern, and/or plover habitat to ensure compliance with all conservation measures. The biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO prior to initiating project construction. The contract of the biologist will allow direct communication with the CFWO at any time regarding the proposed project. The biologist will be provided with a copy of this consultation.

3. The CFWO approved biologist will submit a final report to the CFWO within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all conservation measures was achieved. The report will specify numbers, locations, and sex of rails, terns, and plovers (if observed); observed rail, tern and plover behavior (especially in relation to project activities); and remedial measures employed to avoid and minimize impacts to rails, terns, and plovers. Raw field notes should be available upon request by the CFWO.

4. The clearing and grubbing of coastal marsh will occur between August 1 and March 14 to avoid the rail breeding season (or sooner than August 1 if a biologist knowledgeable of rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail nesting is complete).

5. Contractor(s) will be informed, prior to the bidding process, regarding the biological constraints of this project. The project limits will be clearly marked on project maps provided to the contractor(s) and areas outside of the project limits will be designated as "no construction" zones. A construction manager will be present during all construction activities to ensure that work is limited to designated project limits.

6. A channel or channels large enough for rail and fish movement will be kept open throughout project construction in the San Diego River. Depending upon tidal conditions, rails are anticipated to be able to swim or walk through the channel(s). Channel(s) may occur under construction trestles or through construction berm culverts depending upon the construction methodology selected. Prior to initiation of construction, the City, through Caltrans, will submit a plan to the CFWO which will detail the construction methodology selected and how the project will maintain a channel or channels for rail and fish movement through the project area.

7. Temporary construction fencing (with silt barriers) will be installed at the limits of project impacts (including construction staging areas and access routes) to prevent habitat impacts and prevent the spread of silt from the construction zone into adjacent habitats. The fencing will be installed in a manner that does not impact habitats to be avoided and that directs rails to the open channel(s) under bridges to the extent feasible. The City, through Caltrans, will submit the final plans for initial clearing and grubbing of habitat and project construction to the CFWO for review and approval at least 30 days prior to initiating project impacts. These final plans will include photographs that show the fenced limits of impact and all areas to be impacted or avoided. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced construction limits, staging areas, and routes between the construction limits and staging areas. Temporary construction fencing will be removed upon project completion.

8. An employee education program will be developed and implemented by a CFWO-approved biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. Sign-in sheets will be maintained to document completion of the program by each employee. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.

9. No invasive species listed in the National Invasive Species Management Plan, State of California Noxious Weed List, or Cal-IPC Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint. Caltrans will review the landscaping plans for the project and then submit them to the CFWO for review and approval.

10. A CFWO-approved biologist will monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid

their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. All heavy equipment will be washed and cleaned of debris prior to entering the project area to minimize the spread of invasive weeds.

11. If nighttime construction is necessary, all project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed toward the construction site and away from rail, tern, and plover habitat. Lighting will be of the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into rail, tern, and plover habitat.

12. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the bridge and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Permanent project lighting will be fitted with bird control spikes to ensure that raptors will not be able to use lighting as a perch to prey on listed bird species. Caltrans will review the permanent lighting plans for the project and then submit them to the CFWO for review and approval.

13. If project construction is necessary during the rail breeding season (March 15–July 31), nesting surveys will be conducted to determine and document the presence/absence of breeding rails. If active nests are identified within 500 feet of the noise generating construction activities and noise is in excess of 60 dBA hourly Leq, or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, measures will be implemented to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported daily to the CFWO. A CFWO-approved biological monitor will ensure that avoidance and minimization measures are implemented such that adverse effects to the rail do not occur as a result of the adjacent construction activities (e.g., noise and lighting). If the biological monitor suspects that avoidance and minimization measure are ineffective, and project activities may be adversely affecting the rail, culpable activities will be suspended within 500 feet of active nesting territories until nesting activity is completed and fledglings are no longer in the area, or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If measures cannot be identified, implemented, and demonstrated to be effective to avoid adverse effects to the rail, then project construction will stop until consultation has been completed with the CFWO to address unanticipated impacts to the species.

14. If treated wood piles are required for project construction, they will meet applicable water quality requirements. The project will avoid the use of piles treated with noxious substances that could negatively affect water quality.

15. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas in previously compacted and disturbed areas to the maximum extent practicable, outside of jurisdictional wetlands or waters, and within the fenced project limits. They will be located such that runoff from the designated areas will not enter rail, tern, and plover habitat, and will be shown on construction plans.

16. Appropriate erosion and siltation controls will be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

17. Appropriate best management practices (BMPs) will be used to control erosion and sedimentation and to capture debris and contaminants from bridge demolition and construction to prevent their deposition in the San Diego River Channel. All debris from the demolition and construction of bridges will be contained so that it does not fall into channels. Appropriate BMPs will be used during construction to limit the spread of resuspended sediment and contain debris. These may include cofferdams, blasting mats, silt curtains, turbidity curtains and/or other barriers. Water within cofferdams will not be returned to the San Diego River Channel until it is clear and clean. This may be accomplished through the use of desiltation tanks or other appropriate measures. Collected sediments will be removed from the site and disposed of properly. BMPs (e.g., gravel bags) will be used at the discharge point to avoid erosion.

18. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

19. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly. Disposal or temporary placement of excess fill, brush, or other debris will not be allowed in waters of the United States or their banks. All areas of temporary impact will be returned to original grade, and temporary construction fill will be removed from the waterway following project construction.

20. If fill must be borrowed from and/or disposed of off site, the construction contractor will identify any necessary borrow and disposal sites and provide this information to the City and Caltrans for review. Caltrans will review borrow and disposal site information and

submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate section 7 consultation.

21. Project personnel will be prohibited from bringing domestic pets to the construction site to ensure that domestic pets do not disturb or depredate wildlife in the adjacent native habitat.

22. To avoid and minimize vehicle caused bird mortality, vertical poles (Sebastian poles) or bridge fencing will be incorporated into the design of the new bridges that will be of sufficient height to guide birds over vehicle traffic, and will be designed to prevent perching by raptors.

Based on the information provided and the above measures that have been incorporated into the proposed project, we concur with your determination that the proposed project is not likely to adversely affect the rail, tern, plover, and salt marsh bird's-beak. We base our concurrence on the following reasons: 1) native vegetation removal for the proposed project will be conducted outside the rail breeding season under the supervision of a CFWO-approved biologist,; 2) the small extent of rail, tern, and plover habitat that will be permanently impacted by shading from the project (i.e., 2.68 acres) is not anticipated to significantly interfere with essential rail, tern, and plover breeding, feeding, or sheltering behaviors; 3) construction activities will be modified to limit turbidity, invasive species, noise, light, fragmentation, dust, material disposal, sedimentation, contaminant run-off, and human encroachment disturbance to rails, terns, and plovers such that we anticipate any potential effects will be reduced to the level of insignificance; 4) permanent shading and temporary construction impacts of up to a total of 5.46 acres of coastal salt marsh and tidal mudflat/open water habitats that are suitable for the rail, tern, and plover will be offset by restoration/enhancement of up to: 18.23 acres of coastal wetlands downstream of the project near the mouth of the San Diego River and/or 13.68 acres of coastal wetlands upstream of the project within the San Diego River channel. At a minimum, 2.68 acres of permanent shading impacts will be offset with an equivalent amount of restoration/enhancement; and 5) restoration/enhancement work will be conducted in a manner that avoids impact to rails, terns, plovers, and salt marsh bird's-beak. The restoration/enhancement is expected to contribute to the survival and recovery of the rail, tern, and plover.

Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Although our concurrence ends informal consultation, obligations under section 7 of the Act will be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered or this action is subsequently modified in a manner that was not considered in this assessment.

This document does not authorize take under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. §§ 703-712). In order to comply with the MBTA, the City will avoid take of active nests by removing vegetation outside of the bird breeding season and by installing exclusion devices on bridge drain holes and ledges between September 16 and February 1 to prevent birds from nesting on or within the bridge during construction.

Thank you for your coordination on this project. If you have any questions regarding this letter, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

Karen A. Goebel
Assistant Field Supervisor

References Cited

AECOM. 2012. Memorandum on the West Mission Bay Drive Bridge Project Agency Meeting, Draft Proposed Mitigation Plan, dated October 4, 2012. 4+pp.

California Department of Transportation. 2012. West Mission Bay Drive Bridge Project Biological Assessment. June. 61+pp.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

January 8, 2013

In response, refer to:
SWR/F/SWER1:EC

Robert A. James
California Department of Transportation
Environmental Division MS-242
4050 Taylor Street
San Diego, California 92110-2737

Dear Mr. James:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Essential Fish Habitat (EFH) Assessment and Draft Environmental Assessment (EA) for the West Mission Bay Drive Bridge Replacement Project. The proposed project would replace the existing four-lane bridge that spans the San Diego River flood control channel in the Mission Bay area of San Diego, California, with a new six-lane bridge. NMFS offers the following comments pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act (FWCA).

Proposed Action

For the purposes of this consultation, the proposed action is to replace the existing four-lane bridge, which Caltrans has evaluated and classified as functionally obsolete and structurally deficient, with a new six-lane bridge. Three construction methods were evaluated for the proposed project, including a large berm option, a small berms option, and a trestle option. All three methods would employ a staged construction approach and would last approximately two years. Stage 1 would include building a temporary berm or trestle from the north side of the channel on the east side of the new bridge structure allowing falsework and columns to be placed to begin building the bridge. After completing stage 1, the falsework and temporary berm would be deconstructed and mobilized to the west side of the project site to continue construction on that portion of the bridge. The westerly portion of the existing bridge would be demolished prior to initiating stage 2, which would be identical to stage 1 construction activities. After completing stage 2, the remainder of the existing structure would be demolished and all temporary fill (i.e., berms or trestles) would be removed.

Under the locally preferred alternative (Alternative 2c), the new bridge would include two three-lane parallel structures, each approximately 62 feet wide and 1,296 feet long. The two structures would be set 35 feet apart and would be supported by 32 eight-foot diameter concrete pier piles. Overwater coverage associated with the existing structure is approximately 1.75 acres, while the proposed structure under Alternative 2c would cover 4.43 acres, resulting in a net increase of approximately 2.69 acres.

The footprint of the proposed pilings (.04 acre) is less than the existing footprint of the existing support structures (.11 acre), leading to a net gain of tidal mudflat/open water once the project is completed. The temporary berm described in Alternative 2c would be approximately 30 feet wide at the top and 62 feet wide at the bottom and would extend across the width of the channel, encompassing a total area of 2.78 acres for both berms. The temporary construction berm would include one or more openings totaling a minimum of 964 square feet, at least one of which would be located in the "low flow" channel within the larger flood control channel. This opening(s) is designed to withstand a 10-year storm event and maintain tidal flow through the project site. Upon completion of construction, the project site would be restored to its pre-project condition using LIDAR to ensure high accuracy.

NMFS supports the avoidance, minimization and compensatory mitigation measures detailed in Section IV of the EFH Assessment and Chapter 2 and Appendix B of the Draft EA. Specifically, NMFS believes the "Hydrology and Floodplain" measures included in the Draft EA to maintain tidal flow during construction and ensure the integrity of adjacent banks and structures during storm events, as detailed above, are of great importance. Of equal importance are those measures included under "Wetlands and Other Waters" that state: 1) there would be no permanent direct impacts to vegetated wetlands; and 2) compensatory mitigation would be provided for permanent indirect impacts and for temporary impacts to vegetated and unvegetated wetlands. Final mitigation ratios would be determined by the requisite state and federal resource agencies, giving the highest priority to on-site/in-kind restoration and enhancement, if possible.

Magnuson-Stevens Fishery Conservation and Management Act Comments

Action Area

The proposed project occurs within EFH for various federally managed fish species within the Pacific Coast Groundfish and Coastal Pelagic Species Fishery Management Plans (FMPs). In addition, the project occurs within an estuary and near eelgrass habitat, designated as habitat areas of particular concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish FMP. HAPC are described in the regulations as subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPC will be more carefully scrutinized during the consultation process.

Effects of the Action

The placement of additional fill material associated with the temporary berm options may decrease tidal circulation to estuarine areas upriver of the proposed project. Adverse effects associated with these temporary structures include : 1) partially or completely blocked habitat; 2) altered water chemistry composition through suppressed mixing of fresh and saltwater; 3) decreased sediment and nutrient delivery; and 4) degraded water quality through thermal loading. Inhibiting the mixing of fresh and saltwater and nutrients over the original volume of habitat can decrease the overall productivity of the system (Hanson *et al.* 2003).

Overwater structures and associated activities affect the ecological functions of habitat through

the alteration of habitat controlling factors, including light regime, wave energy, substrate and water quality. These alterations can, in turn, interfere with habitat processes supporting the key ecological functions of fish spawning, rearing, foraging, and refugia. Nightingale and Simenstad (2001) identify the potential mechanisms of impact overwater structures can pose to nearshore habitats. Some of the direct impacts that may result from the proposed overwater structure and related activities (*e.g.*, piling installation/removal) include: 1) reduced light levels and altered ambient light patterns; 2) altered wave and tidal energy patterns; 3) substrate disturbance and smothering; 4) an increase of non-indigenous species; and 5) elevated levels of toxics, nutrients, and bacteria. These impacts can limit plant growth and recruitment, alter plant and animal assemblages, affect animal behavior, modify substrate type, alter sediment transport and distribution, and facilitate the replacement of native species with exotics.

As mentioned previously, the applicant intends to implement compensatory mitigation for permanent shading impacts and for temporary construction-related impacts to vegetated and unvegetated wetlands. To accomplish this, the applicant proposes to conduct invasive removal and habitat enhancement at a salt marsh site (approximately 28 acres) directly downstream from the project site. This effort would supplement, but be independent from, the existing San Diego River Park invasives removal program. The amount of mitigation credit available at this site will depend upon the percent coverage of invasives, and will require a baseline survey. An alternative mitigation site (approximately 38 acres) has been identified directly upstream of the project in case the area available at the first site is insufficient. Both sites are owned by the City of San Diego. In addition, the proposed project includes a pre-construction survey in accordance with the Southern California Eelgrass Mitigation Policy (SCEMP). If eelgrass is found, a post-construction survey would be performed and any impacts would be mitigated in accordance with SCEMP. A preliminary eelgrass survey conducted on June 2, 2010 did not find eelgrass within the project footprint or adjacent area.

Another potential project concern is the spread of the invasive alga *Caulerpa taxifolia* from project activities. As you may be aware, this alga was introduced to our coastline. Evidence of harm that can result from an uncontrolled spread of the alga has already been seen in the Mediterranean Sea where it destroyed local ecosystems, impacted commercial fishing areas, and affected coastal navigation and recreational opportunities. Although it is not known to be present within the San Diego River, it was detected in two other locations in Southern California. If the invasive alga is present within the project area, the bottom disturbing activities would adversely affect EFH by promoting its spread and increasing its negative ecosystem impacts. The proposed project includes a provision to complete a *Caulerpa taxifolia* survey in accordance with the current Caulerpa Control Protocol to address this concern.

EFH Conservation Recommendations

Based upon the above effects analysis, NMFS has determined that the proposed action would adversely affect EFH for various federally managed fish species within the Coastal Pelagic Species and Pacific Coast Groundfish FMPs. Therefore, pursuant to section 305(b)(4)(A) of the MSA, NMFS offers the following EFH Conservation Recommendation to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH.

1) NMFS conceptually supports the proposed compensatory mitigation plan, but believes additional details (*e.g.*, final site selection and mitigation ratios) still need to be determined. Therefore, in order to ensure adverse impacts are adequately addressed, we recommend that

Caltrans continue to collaborate with NMFS and other resource agencies on the development of the conceptual mitigation and landscape plan described in the Draft EA.

Statutory Response Requirement

Please be advised that regulations at section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k) of the MSA require your office to provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. Your final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH Conservation Recommendation, you must provide an explanation of the reasons for not implementing that recommendation. The reasons must include the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

Supplemental Consultation

Pursuant to 50 CFR 600.920(l), the action agency must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH Conservation Recommendations.

Fish and Wildlife Coordination Act Comments

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development [16 U.S.C. 661]. The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage [16 U.S.C 662(a)]. Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA allows the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the MSA. NMFS believes the proposed project would adversely affect estuarine and wetland habitat. NMFS has determined that the EFH Conservation Recommendation provided above may also serve as FWCA recommendations to compensate for any negative impacts.

Please contact Mr. Eric Chavez at (562) 980-4064, or via email at Eric.Chavez@noaa.gov if you have any questions concerning this EFH consultation or require additional information.

Sincerely,

Steven A. Edmondson
Assistant Regional Administrator
for Habitat Conservation

References

Hanson, J., M. Helvey, and R. Strach (eds.). 2003. *Nonfishing Effects on West Coast Groundfish Essential Fish Habitat and Recommended Conservation Measures* (Version 1). National Marine Fisheries Service. August 2003.

Nightingale, B., and C.A. Simenstad. 2001. *Overwater structures: marine issues*. White Paper Research Project T1803, Task 35. WSDOT.

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
4050 TAYLOR STREET
SAN DIEGO, CA 92110-2737
PHONE: (619) 688-0236
robert.a.james@dot.ca.gov

January 16, 2013

Mr. Eric Chavez
National Marine Fisheries Service
501 W Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213

Subject: Response to NMFS Essential Fish Habitat Comment Letter for West Mission Bay Drive Bridge Replacement Project, City of San Diego, SWR/F/SWER1:EC

Dear Mr. Chavez:

In your letter dated January 8, 2013, NMFS offered Essential Fish Habitat (EFH) conservation recommendations to further avoid, minimize, mitigate, or otherwise offset effects to EFH located in the area of the West Mission Bay Drive Bridge over the San Diego River. This project is being built by the City of San Diego, and has Federal funding through Caltrans. In accordance with Section 305(b) (4) (B) of the Magnuson-Stevens Fishery Conservation and Management Act and regulations governing conservation of EFH, Caltrans provides the following response to the recommendations in your letter.

Your letter consisted of one recommendation, as follows:

> "1) NMFS conceptually supports the proposed compensatory mitigation plan, but believes additional details (e.g., final site selection and mitigation ratios) still need to be determined. Therefore, in order to ensure adverse impacts are adequately addressed, we recommend that Caltrans continue to collaborate with NMFS and other resource agencies on the development of the conceptual mitigation and landscape plan described in the Draft EA."

Caltrans and the City of San Diego will continue to collaborate on mitigation planning with NMFS and other agencies (U.S. Fish and Wildlife Service, Calif. Dept. of Fish and Wildlife, Calif. Coastal Commission, and the Regional Water Quality Control Board).

Thank you for your guidance for this project, and we appreciate your timely response.

Sincerely,

Robert A. James
Senior Environmental Planner-Biologist

cc: City of San Diego (C Purcell, N Aberra)

APPENDIX H
RESPONSES TO COMMENTS
ON THE DRAFT EA

List of Agencies Commenting on the Draft EA

The following agencies submitted letters to Caltrans in response to the Draft EA, listed in chronological order of their receipt:

1. Native American Heritage Commission, letter dated November 8, 2012
2. California Department of Fish & Game (now California Department of Fish & Wildlife), letter dated November 16, 2012
3. California Coastal Commission, letter dated November 29, 2012
4. National Marine Fisheries Service, email dated November 29, 2012
5. California Governor's Office of Planning and Research, letter dated November 29, 2012

The letters and Caltrans responses to the letters are provided in subsequent pages, with comment letters appearing on the left-hand side of the page and responses appearing on the right-hand side of the page. Comments are indicated with numbered brackets for organizational purposes, and responses are numbered to correspond with the respective comments. Due to the length of some responses, pages of certain letters have been repeated so that all responses appear adjacent to their respective comment.

STATE OF CALIFORNIA — Edmund G. Brown, Jr., *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

November 8, 2012

Mr. Kevin Hovey, Environmental Planner
California Department of Transportation – District 11
4050 Taylor Street
San Diego, CA 92110

Re: SCH#2012021017; NEPA Document; draft Environmental Assessment (EA) for the **"West Mission Bay Drive Bridge Replacement Project;"** located in the Sports Center, Mission Bay area of the City of San Diego; San Diego County, California

Dear Mr. Hovey:

The NAHC is the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The NAHC understands that the funds for the proposed project may be from the Federal Highway Administration (FHWA) but this project is also subject to the California Environmental Quality Act (CEQA) as the City of San Diego adopted a Mitigated Negative Declaration for the proposed project previous to this environmental review. The NAHC is concerned that State of of California cultural preservation laws, pursuant to Public Resources Code Section 5097.9 also apply to the proposed project as it is implemented. Federal law, particularly the National Historic Preservation Act (16 U.S.C. 470 *et seq.*) requires consultation with local, culturally affiliated American Indian tribes.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal

1. As stated in Section 2.1 of the Draft EA, cultural resources investigation conducted for the project, including research and field surveys, concluded that the project would not result in impacts on archaeological resources. In addition, Native American consultation was performed for the project through a series of letters submitted to tribal representatives in June-August 2010. There were no responses from the tribes indicating concern for the project. The City prepared an MND for the project, which was adopted in November 2012. The MND included all necessary documentation of the cultural resources impact analysis and consultation associated with this project pursuant to CEQA.

parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and California Public Resources Code Section 21083.2 (Archaeological Resources) that requires documentation, data recovery of cultural resources, construction to avoid sites and the possible use of covenant easements to protect sites.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

1

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

2

Native American Contacts
San Diego County
November 8, 2012

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road Diegueno
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sue@barona-nsn.gov
(619) 443-6612
619-443-0681

Viejas Band of Kumeyaay Indians
Anthony R. Pico, Chairperson
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La Posta Band of Mission Indians
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Kumeyaay Cultural Historic Committee
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San Pasqual Band of Mission Indians
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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SSCH#2012021017; NEPA Document; draft Environmental Assessment (EA) for the West Mission By Drive Bridge REplacement Project; located in the Mission Bay Area of the City of San Diego; San Diego County, California.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND GAME
South Coast Region (R5)
3883 Ruffin Road
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(858) 467-4201
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EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

November 16, 2012

Mr. Kevin Hovey
Senior Environmental Planner
California Department of Transportation
4050 Taylor Street
San Diego, CA 92110

Dear Mr. Hovey:

The Department of Fish and Game (Department) has reviewed the above-referenced Draft Environmental Assessment (DEA) for the West Mission Bay Drive Bridge Project (Project) dated October 2012. The Department has identified potential effects of this project on wildlife and sensitive habitats. The comments provided herein are based on the information provide in the DEA, a site visit on October 18, 2011, and our knowledge of sensitive and declining habitats.

The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (§§ 15386 and 15281, respectively) and is responsible for ensuring appropriate conservation of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA; Fish and Game Code § 2050 et seq.) and Fish and Game Code Section 1600 et seq. The Department also administers the Natural Community Conservation Planning program. The proposed project is within the Multiple Habitat Preservation Area (MHPA) of the City of San Diego's (City) Multiple Species Conservation Program (MSCP) Subarea Plan.

The proposed project consists of replacing the West Mission Bay Bridge through one of two alternatives: Alternative 2c, comprised of two separate three lane bridges with pedestrian and bicycle paths for each direction of travel; or Alternative 3, a single bridge with six lanes of travel, three in each direction, with pedestrian and bicycle paths, also in each direction.

Design features and mitigation measures have been added to the project to avoid or reduce potential environmental impacts. Sensitive biological resources in the vicinity of the project are associated with the native terrestrial and aquatic habitats of the San Diego River. Sensitive species located within or directly adjacent to the project limits that may be adversely affected include CESA-listed and Endangered Species Act (ESA)-listed plant and animal species. Among the species which may be affected are: California least tern (*Sterna antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed clapper rail (*Rallus longirostris levipes*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) and salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*).

The Department provides the following specific comments and recommendations to assist the California Department of Transportation in avoiding or minimizing potential impacts to sensitive native plants, wildlife, and vegetation communities identified in the DEA:

1 1. Page 2-60. The DEA incorrectly identifies the tidal mudflats as a low quality un-vegetated channel. We consider the characterization of this habitat as low quality un-vegetated channel to be an erroneous statement as the Department considers tidal

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1. We apologize for this misunderstanding. The reference to low-quality habitat on page 2-60 of the Draft Environmental Assessment (EA) references California Department of Fish and Game (CDFG) wetland mitigation guidelines, which identify unvegetated streams as "low-value habitats." We agree that tidal mudflat is an important habitat and that impacts to tidal mudflat require proper mitigation. Following lead agency policy, impacts to this habitat were minimized to the maximum practicable extent. Section 2.2.5 of the Draft EA assesses the permanent impacts on this habitat due to increased shading, and discusses mitigation for permanent impacts. As noted on page 2-60 of the Draft EA, the mitigation ratio for the project's permanent impacts, including those due to shading, will be decided by discussions between the City, the California Department of Transportation (Caltrans), and the resource agencies, including CDFG (now called the California Department of Fish and Wildlife [CDFW]). The U.S. Fish and Wildlife Service (USFWS) issued its informal Section 7 consultation letter on January 30, 2013, which acknowledges the Draft Mitigation Plan prepared for the project in December 2012 that specifies restoration acreages to mitigate for the project's temporary and permanent impacts on tidal mudflat and other wetlands and waters habitats. As stated in the Draft Mitigation Plan, the letter indicates that restoration/enhancement will involve up to 18.23 acres of coastal wetlands downstream of the project site or up to 13.68 acres of coastal wetlands upstream of the project site, depending on the location selected for the restoration effort. Those acreages are for the construction option with the greatest impacts on wetlands and waters (the small berm option), and these acreages would be less if a different construction option is employed.

With respect to temporal loss of this habitat during construction, Section 2.3.10 of the Draft EA discusses temporary impacts due to the presence of berms or trestles during the construction period. Project mitigation proposes habitat restoration at a 1:1 ratio for all temporary impacts on vegetated and unvegetated wetlands. As an additional ecological benefit, the existing southern coastal brackish marsh (a nonnative, invasive community) would be replaced by tidal mudflat, a native community that can support a diverse community of shorebirds, fish larvae, and bottom-dwelling invertebrates.

With respect to artificial nighttime lighting, final design will include no more lighting than is necessary for safety purposes. Bridge deck lighting will be designed to be directed toward the roadway and shielded from the river so as to minimize impacts on surrounding habitat. It is our goal to eliminate all light shine onto the river below the bridge. A discussion of the project's lighting has been included in Section 1.3.1 of the Final EA. Section 2.2.6 has been revised in the Final EA to discuss the potential impact on listed species activity in the adjacent habitat due to permanent project lighting features. A mitigation measure has been added to this section calling for design review and post-construction review of project lighting by a qualified biologist to ensure that bridge lights are properly designed and do not adversely affect this habitat.

mudflat to be a rare habitat and of high significance for wildlife, and therefore requiring an appropriate level of mitigation to offset impacts from shading, artificial night lighting, and temporal loss of use by wildlife. 1

2. As noted on page 2-87, construction of the bridge(s) may require from 16 to 24 months, and would require construction techniques including berms (up to 2.78 acres) and/or trestles (1.49 acres) with significant, long-term (greater than 12 months) temporary impacts to tidal mudflats. The Department considers this temporal loss of a substantial portion of the foraging area in the San Diego River for resident and migratory birds to be significant. Accordingly, this temporal loss should be mitigated through enhancement, restoration and/or inclusion of features within the bridge structure for wildlife. 2

3. The Department recommends the addition of artificial bat structures with a capacity of at least 2,000 individuals as a measure to improve wildlife habitat on the bridge and help reduce nuisance insect populations on the adjacent recreational fields and river paths. Concrete on the underside of the bridge should be roughened to allow for bats and nesting birds in areas over riprap and the river channel. Areas over pedestrian pathways or bicycle paths may be smooth to dissuade bat and bird use in those sections of the bridge. 3

4. Pile driving activities may have deleterious effects on wildlife attempting to use the surrounding habitat. The Department recommends pile driving be performed only in the non-breeding season (September 15 through March 1) and noise reduction techniques to reduce the disturbance to wildlife at all times. Pile driving during periods where water is in the channel may require bubble curtains to reduce impacts to fish, unless the piles are contained within coffer dams or berms. 4

5. Lighting during construction and long-term lighting of the bridge are of concern to the Department as this introduces a new impact to this location over the river. Potential impacts from ecological effects of artificial night lighting, especially related to CESA- and ESA -listed threatened or endangered species, could be significant and may contribute to permanent impact areas by the project. The Department therefore recommends that all construction lighting be directed at the project, night construction be avoided if possible, and that long term (permanent) lighting of the bridge be only of the bridge deck (bicycle and pedestrian lanes), utilizing lower impact lighting such as low sodium lighting and/or full cutoff luminaire type fixtures, and only if necessary. The Department also recommends only lighting vehicle traffic lanes if mechanical structures (e.g. reflector dots) or marking are insufficient to achieve safety requirements, and then only to minimum standards. Lighting should not extend to areas underneath the bridge or into the river channel to avoid impacting wildlife in order to be consistent with the City's MSCP biology guidelines. 5

6. We feel that the 1:1 mitigation ratio proposed to offset the impacts from the bridge are insufficient and inconsistent with the City's MSCP biology guidelines, which require 4:1 mitigation for impacts to coastal wetlands. Proposed mitigation for the project includes augmenting an existing grant to remove non-native invasive species near the San Diego river mouth and/or removal of exotics adjacent to the Interstate (I-) 5 crossing of the San Diego River. The Department concurs that the removal of exotics at the I-5 crossing is appropriate for the project, but that augmenting the existing grant may not achieve the goal of mitigating project impacts. The Department is willing to discuss this issue to achieve consensus prior to adoption of a final EA. 6

2. Please see our response to comment #1 regarding temporary impacts on tidal mudflat. The associated effects of this temporary impact on bird species are discussed in Sections 2.3.11 and 2.3.12 of the Draft EA. It is our view that the mudflat area affected during project construction does not constitute a "substantial portion of the foraging area in the San Diego River," as it represents only a small percentage of the entire foraging area available throughout the river. Furthermore, the temporary impact is localized, and is generally perpendicular to tidal flows, which will allow for more rapid faunal recolonization once the berm or berms are removed. The project proposes habitat restoration at a 1:1 ratio for all temporary impacts, with the existing southern coastal brackish marsh replaced by tidal mudflat, a native wetland community. This aspect of project mitigation will result in an ecological enhancement of the river's intertidal area.

3. Neither bats nor birds were identified using the bridge structure for roosting or nesting during biological resources surveys for the project. Because there are no project-related impacts on existing bats or birds that are currently known to use the bridge for roosting or nesting, mitigation measures to address this issue are not necessary. As discussed in Sections 2.3.11 and 2.3.12 of the Draft EA, preconstruction bird surveys will be conducted to ensure that project construction would not have any impacts on nesting birds. Due to the potential for bat roosting or bird nesting in the bridge prior to commencement of project construction, Section 2.3.11 has been revised to identify this potential construction impact. A mitigation measure has been included in this section calling for preconstruction installation of bat- and bird-exclusion devices underneath the bridge that will prevent the establishment of roosts and nests.

4. We concur that pile-driving may have an impact on wildlife. Please see Sections 2.3.11 and 2.3.12 of the Draft EA for this discussion. As mentioned on page 2-117 of the Draft EA, all pile-driving is expected to occur outside of the bird breeding season. Additionally, page 2-119 of the Draft EA discusses the use of noise-reduction measures such as bubble curtains.

5. Please see our response to comment #1 regarding construction lighting and permanent lighting. All construction lighting will be directed at the project and, to the maximum extent practicable, shielded from the river to reduce spillover into adjacent habitat. Final design will include no more lighting than is necessary for safety purposes, and lighting will be designed to be directed toward the roadway and shielded from the river to minimize impacts on surrounding habitat. Discussion of the project's lighting features is provided in Section 1.3.1 of the Final EA, and Section 2.2.6 was revised in the Final EA to discuss the potential impact on adjacent habitat due to project lighting features, with a mitigation measure calling for the review of project lighting to ensure that bridge lighting does not adversely affect this habitat.

mudflat to be a rare habitat and of high significance for wildlife, and therefore requiring an appropriate level of mitigation to offset impacts from shading, artificial night lighting, and temporal loss of use by wildlife. 1

2. As noted on page 2-87, construction of the bridge(s) may require from 16 to 24 months, and would require construction techniques including berms (up to 2.78 acres) and/or trestles (1.49 acres) with significant, long-term (greater than 12 months) temporary impacts to tidal mudflats. The Department considers this temporal loss of a substantial portion of the foraging area in the San Diego River for resident and migratory birds to be significant. Accordingly, this temporal loss should be mitigated through enhancement, restoration and/or inclusion of features within the bridge structure for wildlife. 2

3. The Department recommends the addition of artificial bat structures with a capacity of at least 2,000 individuals as a measure to improve wildlife habitat on the bridge and help reduce nuisance insect populations on the adjacent recreational fields and river paths. Concrete on the underside of the bridge should be roughened to allow for bats and nesting birds in areas over riprap and the river channel. Areas over pedestrian pathways or bicycle paths may be smooth to dissuade bat and bird use in those sections of the bridge. 3

4. Pile driving activities may have deleterious effects on wildlife attempting to use the surrounding habitat. The Department recommends pile driving be performed only in the non-breeding season (September 15 through March 1) and noise reduction techniques to reduce the disturbance to wildlife at all times. Pile driving during periods where water is in the channel may require bubble curtains to reduce impacts to fish, unless the piles are contained within coffer dams or berms. 4

5. Lighting during construction and long-term lighting of the bridge are of concern to the Department as this introduces a new impact to this location over the river. Potential impacts from ecological effects of artificial night lighting, especially related to CESA- and ESA -listed threatened or endangered species, could be significant and may contribute to permanent impact areas by the project. The Department therefore recommends that all construction lighting be directed at the project, night construction be avoided if possible, and that long term (permanent) lighting of the bridge be only of the bridge deck (bicycle and pedestrian lanes), utilizing lower impact lighting such as low sodium lighting and/or full cutoff luminaire type fixtures, and only if necessary. The Department also recommends only lighting vehicle traffic lanes if mechanical structures (e.g. reflector dots) or marking are insufficient to achieve safety requirements, and then only to minimum standards. Lighting should not extend to areas underneath the bridge or into the river channel to avoid impacting wildlife in order to be consistent with the City's MSCP biology guidelines. 5

6 We feel that the 1:1 mitigation ratio proposed to offset the impacts from the bridge are insufficient and inconsistent with the City's MSCP biology guidelines, which require 4:1 mitigation for impacts to coastal wetlands. Proposed mitigation for the project includes augmenting an existing grant to remove non-native invasive species near the San Diego river mouth and/or removal of exotics adjacent to the Interstate (I-) 5 crossing of the San Diego River. The Department concurs that the removal of exotics at the I-5 crossing is appropriate for the project, but that augmenting the existing grant may not achieve the goal of mitigating project impacts. The Department is willing to discuss this issue to achieve consensus prior to adoption of a final EA. 6

6. As discussed in Section 2.2.5 of the Draft EA, final mitigation ratios for impacts to jurisdictional waters will be determined through further negotiations with the requisite state and federal resource agencies, including CDFW (formerly CDFG), during the final design and permitting process. The City's Mitigated Negative Declaration (MND) for the project, which was adopted on November 13, 2012, considered the project's temporary impacts in light of the City's Multiple Species Conservation Program (MSCP) Guidelines and determined that a 1:1 mitigation ratio was sufficient to address the impacts of these temporary features. The 1:1 mitigation for these temporary impacts also offers a net ecological benefit of replacing a stand of invasive, nonnative coastal brackish marsh with native mudflat habitat.

With respect to permanent impacts, the project would result in a reduced footprint in the water due to fewer and smaller piers, although it does result in increased shading, as discussed in Section 2.2.5 of the Draft EA. Shading impacts and the appropriate mitigation were a point of discussion at the most recent meeting with the project design team and the resource agencies, held on October 4, 2012. At this meeting, USFWS requested compensatory mitigation for shading of tidal mudflat at a 1:1 ratio (noted on page 3-2 of the Draft EA). Please see our response to comment #1 for information on the USFWS Informal Section 7 Consultation letter and its discussion of mitigation acreages for the project's impact on wetlands and waters.

Thank you for the opportunity to comment on the DEA. If you have any questions regarding this letter, please contact Mr. Tim Dillingham at (858) 467-4250 or email tdilling@dfg.ca.gov.

Sincerely,

Stephen M. Juarez
Environmental Program Manager
South Coast Region

ec: Sally Brown, U.S. Fish and Wildlife Service, Sally_Brown@fws.gov
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STATE OF CALIFORNIA -- THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

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November 29, 2012

Kevin Hovey
Senior Environmental Planner
California Department of Transportation
4050 Taylor Street
San Diego, CA 92110

Re: West Mission Bay Drive Bridge Replacement Project Draft Environmental Assessment (DEA)

Dear Mr. Hovey:

Commission staff appreciates the opportunity to review and provide comments on the above-referenced environmental document.

The project as proposed would result in the demolition of the existing 4-lane West Mission Bay Drive Bridge and the construction of a new bridge. The new bridge would include three traffic lanes in each direction, a Class I bike path and incorporate existing water and sewer lines within the new structure across the San Diego River Channel. The proposed project also includes widening of the west-bound off ramp from the I-8 freeway.

The proposed project is located within the Coastal Zone. While the City of San Diego does have a certified Local Coastal Program (LCP), the project is located within the Mission Bay Park segment of the LCP, which is an area of deferred certification. The proposed project therefore requires a Coastal Development Permit from the Coastal Commission for approval of the subject development.

Commission staff comments on the project as presented in the DEA are as follows:

1 1. Regarding the visual impact of the proposed bridge on visual resources, while the proposed bridge design includes narrower piers that would reduce impacts to public views through the bridge compared to the current piers, the proposed design includes new arches running between the proposed piers that would increase impacts on visual resources and, if not necessary for structural integrity, should be removed from the design. Alternative designs should be considered that meet the goals of protecting visual resources while still being an aesthetically pleasing addition to the Coastal Zone.

2 2. Any railing running along the top of the bridge should be as visually permeable as possible while still meeting necessary safety requirements. Please reference the

1. The project's design engineers confirmed that the arches are a necessary component of the bridge's structural support. If the arches were eliminated from the bridge design, the replacement bridge would require more piers in the river than is currently proposed with the arched design, as they would be needed to carry the additional loads that otherwise are transferred to the smaller number of piers under the arch design. Preliminary design of a constant-depth bridge (i.e., lacking arches) showed that this would require seven bridge piers, as opposed to four in the current design, which would result in greater impacts on wetland habitat and hydraulic function in the river. As the project moves through the design process the project team will take into consideration the Coastal Commission's concern for protecting visual resources during the final design and permitting process.

2. The bridge's vehicular and pedestrian safety rails must be and have been designed to meet all Caltrans standards. In addition, design of these rails was based upon Caltrans' "Bridge Rails and Barriers: A Reference Guide for Transportation Projects in the Coastal Zone." The rails adjacent to vehicular traffic are proposed as a Caltrans Standard Type 80 barrier, as described in the "Bridge Rails and Barriers" document. A Type 80 barrier is a concrete post-and-beam railing that has openings and allows bridge users and observers views through the rail, while maintaining appropriately safe conditions for drivers. The outside edge of the bridge is designed to support a metal pedestrian/bicycle railing compliant with American Association of State Highway and Transportation Officials standards, consisting of transparent fence material supported by steel posts. As the project progresses through the design process, our goal will be to maximize visual permeability of the rails.

2 Bridge Rails and Barriers document developed in coordination with Caltrans and Coastal staff for potential design options that could meet this purpose.

3 3. Any final color palate for the bridge should be earth-toned, so as to blend in with the surrounding river channel.

4 4. The proposed bridge appears to include an increased number of light standards compared to existing conditions. Please provide information as to why an increased amount of lighting would be required in association with the proposed bridge replacement. Potential spillover lighting from the proposed project onto adjacent wetlands and sensitive habitats should be minimized to the greatest extent possible. Any and all lighting on the proposed bridge should fall only onto the bridge deck, and should include only as much light as necessary to meet safety requirements.

5 5. Furthermore, installation of a greater number of light standards also creates a greater number of perches for raptors that could then negatively impact protected species such as Light-Footed Clapper Rails, California Least Terns, and Western Snowy Plovers. This is another reason why the number of light standards should be kept to the absolute minimum necessary to meet safety requirements. Additionally, any and all light standards that are installed should be designed in a manner that reduces their suitability as raptor purchases.

6 6. The proposed project and associated staging areas have the potential to impact several trees in the immediate area. A biological survey should be conducted to see if any raptors, herons, or other migratory bird species are currently or have historically utilized these trees for nesting.

7 7. The West Mission Bay Drive Bridge has been identified as a habitat for local bats. Demolition would remove this habitat and drive off the bat population for a substantial period of time. Mitigation for this should include, but is not limited to, designing the new bridge in such a way as to make it conducive to future use by bats.

8 8. Because construction activities would occur over a period of 16-24 months and would require techniques such as berms or trestles, impacts to the mudflats would be long-term and substantial. As such, Commission staff would not consider these impacts to be "temporary" and instead would consider them permanent, and should be mitigated as such. The proposed 1:1 mitigation ratio for both permanent and "temporary" impacts is insufficient and inconsistent with the City's MSCP biology guidelines, which require 4:1 mitigation for impact to coastal wetlands. Furthermore, of that required amount, at least 1:1 should be creation of new wetlands, preferably on-site, if possible, but in any case, mitigation should occur in the Coastal Zone.

9 9. If berms are used they would have the effect of compacting and dewatering the underlying sediments. It is estimated in the DEA that these sediments may be depressed 6 inches. All infauna would also be killed and the new state of the substrate may not support the same community. The infaunal community should be assessed before and after the impact at both the impact site and a control site, and any negative effects mitigated. It may be necessary to rip the compacted sediments to aid in their physical recovery. It is also possible that shading affects the infauna, and this should enter into the design analysis.

3. The bridge's final color palette will consist of earth tones, so as to blend in with the surrounding environment.

4. A discussion of the project's lighting features has been provided in Section 1.3.1 of the Final EA. Final design of all lighting will include no more lighting than is necessary for safety purposes. Roadway lighting was designed to comply with the City's current street design requirements. Due to updated requirements and the proposed bridge deck's larger surface area, the project must include a greater number of lights than the existing bridge. However, lighting locations and design were selected to avoid spillover beyond the bridge deck. Pedestrian lighting on the bridge deck will be low-level and directed onto the pedestrian path. Trail crossings beneath the bridge will feature lighting for safety purposes that will be directed toward the trail and designed to limit spillover into the adjacent areas. Section 2.2.6 was revised in the Final EA to discuss the potential impact on wildlife activity due to project lighting features. A mitigation measure was added to Section 2.2.6 calling for the postconstruction review of project lighting by a qualified biologist to ensure that bridge lights do not adversely affect this habitat.

5. All light standards will be designed so as to minimize their suitability and attractiveness as raptor perches. Spike strips will be included on light standards as warranted to discourage raptor use.

6. Section 2.3.11 of the Draft EA identified a group of trees in the northern portion of the project site that are potentially suitable for nesting use by Cooper's hawk. Surveys conducted for the project's biological resources impacts assessment did not identify nesting in the project site by Cooper's hawk or any other bird species. As discussed in Section 2.3.11 of the Draft EA, pre-construction bird surveys will be performed to ensure that the project will not have any adverse effect on nesting birds.

7. No bats were detected during visual inspections of the existing bridge as a part of the project's biological resources assessment. Because there are no project-related impacts on roosting bats currently using the bridge, a mitigation measure to address this issue is not necessary. Because of the potential for bat roosting prior to commencement of project construction, Section 2.3.11 has been revised to identify this potential construction impact. A mitigation measure has been included calling for pre-construction installation of bat-exclusion devices underneath the bridge that will prevent the establishment of roosts.

Bridge Rails and Barriers document developed in coordination with Caltrans and Coastal staff for potential design options that could meet this purpose.

3. Any final color palate for the bridge should be earth-toned, so as to blend in with the surrounding river channel.

4. The proposed bridge appears to include an increased number of light standards compared to existing conditions. Please provide information as to why an increased amount of lighting would be required in association with the proposed bridge replacement. Potential spillover lighting from the proposed project onto adjacent wetlands and sensitive habitats should be minimized to the greatest extent possible. Any and all lighting on the proposed bridge should fall only onto the bridge deck, and should include only as much light as necessary to meet safety requirements.

5. Furthermore, installation of a greater number of light standards also creates a greater number of perches for raptors that could then negatively impact protected species such as Light-Footed Clapper Rails, California Least Terns, and Western Snowy Plovers. This is another reason why the number of light standards should be kept to the absolute minimum necessary to meet safety requirements. Additionally, any and all light standards that are installed should be designed in a manner that reduces their suitability as raptor purchases.

6. The proposed project and associated staging areas have the potential to impact several trees in the immediate area. A biological survey should be conducted to see if any raptors, herons, or other migratory bird species are currently or have historically utilized these trees for nesting.

7. The West Mission Bay Drive Bridge has been identified as a habitat for local bats. Demolition would remove this habitat and drive off the bat population for a substantial period of time. Mitigation for this should include, but is not limited to, designing the new bridge in such a way as to make it conducive to future use by bats.

8. Because construction activities would occur over a period of 16-24 months and would require techniques such as berms or trestles, impacts to the mudflats would be long-term and substantial. As such, Commission staff would not consider these impacts to be "temporary" and instead would consider them permanent, and should be mitigated as such. The proposed 1:1 mitigation ratio for both permanent and "temporary" impacts is insufficient and inconsistent with the City's MSCP biology guidelines, which require 4:1 mitigation for impact to coastal wetlands. Furthermore, of that required amount, at least 1:1 should be creation of new wetlands, preferably on-site, if possible, but in any case, mitigation should occur in the Coastal Zone.

9. If berms are used they would have the effect of compacting and dewatering the underlying sediments. It is estimated in the DEA that these sediments may be depressed 6 inches. All infauna would also be killed and the new state of the substrate may not support the same community. The infaunal community should be assessed before and after the impact at both the impact site and a control site, and any negative effects mitigated. It may be necessary to rip the compacted sediments to aid in their physical recovery. It is also possible that shading affects the infauna, and this should enter into the design analysis.

8. The Draft EA fully examined the impacts of using berms and trestles for project construction, and identified appropriate mitigation to address these impacts. The project does not propose the berms and trestles as permanent additions to the project area, and the affected area will be restored to tidal mudflat and marsh habitat after removal of the berms or trestles. Therefore, the Draft EA properly characterizes the impacts of the berms or trestles on mudflat and marsh habitats as temporary impacts, and identifies appropriate mitigation for temporary impacts on these habitats (see Sections 2.2.5 and 2.3.10). The City's MND for the project, which was adopted on November 13, 2012, considered the project's temporary impacts in light of the City's MSCP Guidelines, and determined that a 1:1 mitigation ratio was sufficient to address the impacts of these temporary features. The 1:1 mitigation for these temporary impacts also offers a net ecological benefit of replacing a stand of invasive, nonnative coastal brackish marsh with native mudflat habitat.

9. The area of tidal mudflat that would be affected by the project's construction-related berm or berms is a very small percentage of the larger mudflat community that exists upstream and downstream of the project site. Under existing conditions, the mudflat substrate where the berms would be placed is a highly dynamic environment affected by tidal flows and associated sediment distribution, and it is populated with infaunal and epifaunal species that are conditioned to that changing environment. This portion of the project site does not contain any special-status infaunal or epifaunal species. Accordingly, a focused survey and analysis of the benthic environment for purposes of this project's environmental review is not warranted.

As discussed in Section 1.3.1 of the Draft EA, the natural redistribution of sediment is expected to correct the berm-related depressions over time and restore the area and its infaunal suitability to its prior state. The recent success of the Batiquitos Lagoon restoration, as discussed in the "Batiquitos Lagoon Long-Term Biological Monitoring Program Final Report" prepared by Merkel & Associates in 2009, demonstrates the ability of benthic communities to quickly reestablish and thrive in tidal areas, even under extreme conditions in which tidal flow had been severely restricted for decades. The West Mission Bay Drive Bridge project site is a much less extreme situation, as functional tidal mudflat will continue to be present upstream and downstream of the berms during the 1 to 2 years of project construction. It is anticipated that the berm depression will reestablish itself quickly and effectively following berm removal and the reconnection to these continuously functional tidal areas adjacent to the berm site.

Bridge Rails and Barriers document developed in coordination with Caltrans and Coastal staff for potential design options that could meet this purpose.

3. Any final color palate for the bridge should be earth-toned, so as to blend in with the surrounding river channel.
4. The proposed bridge appears to include an increased number of light standards compared to existing conditions. Please provide information as to why an increased amount of lighting would be required in association with the proposed bridge replacement. Potential spillover lighting from the proposed project onto adjacent wetlands and sensitive habitats should be minimized to the greatest extent possible. Any and all lighting on the proposed bridge should fall only onto the bridge deck, and should include only as much light as necessary to meet safety requirements.
5. Furthermore, installation of a greater number of light standards also creates a greater number of perches for raptors that could then negatively impact protected species such as Light-Footed Clapper Rails, California Least Terns, and Western Snowy Plovers. This is another reason why the number of light standards should be kept to the absolute minimum necessary to meet safety requirements. Additionally, any and all light standards that are installed should be designed in a manner that reduces their suitability as raptor purchases.
6. The proposed project and associated staging areas have the potential to impact several trees in the immediate area. A biological survey should be conducted to see if any raptors, herons, or other migratory bird species are currently or have historically utilized these trees for nesting.
7. The West Mission Bay Drive Bridge has been identified as a habitat for local bats. Demolition would remove this habitat and drive off the bat population for a substantial period of time. Mitigation for this should include, but is not limited to, designing the new bridge in such a way as to make it conducive to future use by bats.
8. Because construction activities would occur over a period of 16-24 months and would require techniques such as berms or trestles, impacts to the mudflats would be long-term and substantial. As such, Commission staff would not consider these impacts to be “temporary” and instead would consider them permanent, and should be mitigated as such. The proposed 1:1 mitigation ratio for both permanent and “temporary” impacts is insufficient and inconsistent with the City’s MSCP biology guidelines, which require 4:1 mitigation for impact to coastal wetlands. Furthermore, of that required amount, at least 1:1 should be creation of new wetlands, preferably on-site, if possible, but in any case, mitigation should occur in the Coastal Zone.
9. If berms are used they would have the effect of compacting and dewatering the underlying sediments. It is estimated in the DEA that these sediments may be depressed 6 inches. All infauna would also be killed and the new state of the substrate may not support the same community. The infaunal community should be assessed before and after the impact at both the impact site and a control site, and any negative effects mitigated. It may be necessary to rip the compacted sediments to aid in their physical recovery. It is also possible that shading affects the infauna, and this should enter into the design analysis.

{Response To Comment #9 Continued]

As noted on page 1-6 of the Draft EA, the City will monitor the channel bottom elevation for 6 to 9 months following demolition of the temporary structures; if, after 9 months, the channel bottom has not returned to the original elevation, supplemental soils of appropriate grain size and constitution will be imported and placed in the depression to bring the elevation back to its original level, encouraging the reestablishment of benthic communities.

With respect to the effects of shading on infauna within the affected tidal mudflats, shading impacts are analyzed as permanent impacts in the Draft EA, and adequate mitigation has been identified to address these impacts. The effects of shading on non-sensitive infauna species in the project area do not necessitate a separate analysis of this issue in the Draft EA.2009, demonstrates the ability of benthic communities to quickly reestablish and thrive in tidal areas, even under extreme conditions in which tidal flow had been severely restricted for decades. The West Mission Bay Drive Bridge project site is a much less extreme situation, as functional tidal mudflat will continue to be present upstream and downstream of the berms during the 1 to 2 years of project construction. It is anticipated that the berm depression will reestablish itself quickly and effectively following berm removal and the reconnection to these continuously functional tidal areas adjacent to the berm site. As noted on page 1-6 of the Draft EA, the City will monitor the channel bottom elevation for 6 to 9 months following demolition of the temporary structures; if, after 9 months, the channel bottom has not returned to the original elevation, supplemental soils of appropriate grain size and constitution will be imported and placed in the depression to bring the elevation back to its original level, encouraging the reestablishment of benthic communities.

10. The construction activity proposed, such as pile driving and use of heavy machinery, would create substantial noise impacts in the surrounding habitat areas. Pile driving is a significant issue that is only cursorily analyzed for effects of pile-driving-produced sounds in the water. Approximately 230 20-inch diameter steel pilings will be driven for the berm proposal and 500-600 such pilins will be driven for the trestle proposal. Because the adjacent habitat is mudflat, pile-driving may also affect the infauna, which is not addressed but should be monitored. There should be a commitment to real-time acoustic monitoring of sounds levels in water and the dual criteria for effects should be employed (an accumulated SEL of 187 dB (183 dB for fish less than 2 grams) and a peak sound pressure of 206 dB). Pile driving noise in the air may also affect various avian species. Possible effects on the behavior of Clapper Rails and on foraging shorebirds should be monitored and mitigated if negative effects are documented. Close coordination with California Department of Fish and Game and the U.S. Fish and Wildlife Service should be pursued so as to properly avoid and/or mitigate for those impacts.

10

11. In addition to the above comments, the comments from Commission staff's comment letter of March 28, 2012 in response to the Final Mitigated Negative Declaration still apply.

11

Thank you again for the opportunity to provide review and comment on the proposed project. If you have any questions or require further clarification, please do not hesitate to contact me at the above office.

Sincerely,

Alexander Llerandi
Coastal Program Analyst

10. The project's noise effects on birds and marine mammals due to pile driving and other construction activity were analyzed and discussed in Section 2.3.11 and Section 2.3.12 of the Draft EA. With respect to infauna, the pile-driving activities would affect an even smaller area of infaunal habitat than those described above in the response to the Coastal Commission's comment #9. Therefore, a separate analysis for these species is not necessary, nor is noise monitoring that is specific to benthic communities. As discussed in Section 2.3.11 and Section 2.3.12 of the Draft EA, noise monitoring will be conducted to ensure that the project does not result in adverse effects on wildlife.

11. The Final EA includes responses specific to comments received on the Draft EA prepared by Caltrans in conformance with NEPA requirements. Full responses to comments on the City's MND, including comments submitted by the Coastal Commission, were provided by the City in the Final MND, which was adopted on November 13, 2012.

Eric Chavez - NOAA Federal
<eric.chavez@noaa.gov>

11/29/2012 04:23 PM

To: Robert A James <robert_a_james@dot.ca.gov>

cc: <kevin_hovey@dot.ca.gov>, Dan Lawson - NOAA Federal <Dan.Lawson@noaa.gov>, "Sally_Brown@fws.gov" <sally_brown@fws.gov>, Robert Smith <Robert.R.Smith@usace.army.mil>, Alan Monji <amonji@waterboards.ca.gov>, Tim Dillingham <TDilling@dfg.ca.gov>, Gabriel Buhr <gbuhr@coastal.ca.gov>, Les Hopper <leslie.hopper@tylin.com>, <arthur.popp@aecom.com>, "Zinn, Joshua" <Joshua.Zinn@aecom.com>

Subject: Re: W Mission Bay Dr Bridge - EFH Consultation

Hello Robert,

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Draft Environmental Assessment for the West Mission Bay Drive Bridge Replacement Project (Draft EA) and offers the following comments pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act. Our understanding is that you have been coordinating with other NMFS staff in our Protected Resources Division regarding Endangered Species Act considerations.

1

In your email from November 6, 2012, you stated that the EFH Assessment was incorporated in the Draft EA as Appendix E in the Natural Environment Study (NES). Since Appendix E only contains a list of technical studies, we assume you are referring to the EFH Assessment we received in September 2011. If this is not correct, and there is an updated EFH Assessment available, please let us know.

2

NMFS was expecting an updated EFH Assessment based on communications with project proponents because certain project details have changed since September, 2011. For instance, the EFH Assessment stated the proposed project would result in "an increase in height of the bridges over the channel from the existing single, lower height bridge structure", which would minimize shading impacts to sensitive mudflat and in-water vegetation. But based on subsequent communications and the Draft EA (e.g., Alternatives 2c and 3), the proposed project would result in increased shading. However, NMFS believes the project description, effects analysis, and proposed avoidance and mitigation measures provided in the Draft EA adequately capture the necessary elements of an EFH Assessment. Therefore, once the Final EA is released, NMFS will plan to use that information to complete the EFH consultation. If other elements of the September 2011 EFH Assessment require updating, please include those in the Final EA.

3

NMFS supports the avoidance, minimization and mitigation measures detailed in Chapter 2 and Appendix B of the Draft EA. Specifically, NMFS believes the "Hydrology and Floodplain" measures included to maintain tidal flow during construction and ensure the integrity of adjacent banks and structures during storm events are of great importance. Of equal importance are those measures included under "Wetlands and Other Waters" that state: 1) there would be no permanent direct impacts to vegetated wetlands; and 2) compensatory mitigation would be provided for permanent indirect impacts and for temporary impacts to vegetated and unvegetated wetlands. Final mitigation ratios would be determined by the requisite state and federal resource agencies, giving the highest priority to on-site/in-kind restoration and enhancement, if possible.

4

1. The project design team and lead agencies have consulted with the National Marine Fisheries Service (NMFS) Protected Resources Division with regard to listed species impacts; this consultation has been concluded. We also consulted with the NMFS Habitat Conservation Division and will continue to do so throughout design and construction phases.

2. The Essential Fish Habitat (EFH) Assessment for the project was last updated in October 2011. A copy of this version was provided to NMFS staff for the EFH Consultation. The EFH Assessment is Appendix E of the project's Natural Environment Study (NES), not Appendix E of the Draft EA. NMFS issued an EFH comment letter on January 8, 2013, expressing approval of the mitigation measures listed in the EA and the EFH Assessment, and requesting that Caltrans and the City continue to collaborate with NMFS as mitigation plans are developed. Caltrans issued its response to the NMFS letter on January 16, 2013, agreeing to continue collaboration with NMFS.

3. The October 2011 iteration of the EFH Assessment (Appendix E of the NES) provides a complete analysis of the project's EFH impacts, and revision of the EFH Assessment is not necessary. Additional information regarding project details and related impacts is provided in the EA, allowing NFMS an adequate assessment of the project's impacts with respect to the resources under NMFS's jurisdiction. Please see our response to comment #2 regarding issuance of the NMFS EFH consultation letter. We acknowledge NMFS's opinion of the adequacy of the Draft EA in addressing EFH impacts.

4. We acknowledge NMFS's support for the avoidance, minimization, and mitigation measures identified in the Draft EA. As indicated in the Draft EA and reiterated in this comment, specifics of the project mitigation plan, including acreage ratios, are the subject of ongoing agency consultation. Caltrans and the City will continue to involve NMFS in this consultation process.

Furthermore, the project site would be restored to its pre-project condition using LIDAR to ensure high accuracy, and it is anticipated that the project would result in a net gain of wetland habitat due to the reduced bridge footprint. NMFS looks forward to continued collaboration with CalTrans and other resource agencies on the development of the conceptual mitigation and landscape plan described in the Draft EA. 4

In addition to the proposed conservation measures noted above, NMFS would like to reiterate our recommendation that a pre-construction survey be conducted for *Caulerpa taxifolia* in accordance with the Caulerpa Control Protocol. This highly invasive alga has the potential to severely impact native habitats and communities. If present, it could be spread through bottom disturbing activities. For efficiency and cost reduction, we recommend combining the Caulerpa survey with another required pre-construction habitat survey(s). 5

We'd like to thank you for your ongoing coordination with NMFS and the other resource agencies regarding the proposed project and establishing appropriate avoidance, minimization and compensatory mitigation measures. Please feel free to contact me with any questions.

Regards,
Eric

5. Page 7 of the EFH Assessment (Appendix E of the NES) states that preconstruction surveys for Caulerpa taxifolia will be conducted, consistent with NMFS/CDFW protocol. This information was omitted from the Draft EA, but a discussion of this species and identification of the requirement of preconstruction surveys has been added to Section 2.3.13 of the Final EA and to Appendix B.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

November 29, 2012

Kevin Hovey
Caltrans
4050 Taylor Street
San Diego, CA 92110

Subject: West Mission Bay Drive Bridge Replacement Project
SCH#: 2012021017

Dear Kevin Hovey:

The State Clearinghouse submitted the above named Environmental Assessment to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 28, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

1. Thank you for your assistance in distributing the Draft EA to the reviewing agencies.

NEPA/CEQA RE-VALIDATION FORM

DIST./CO./RTE.	11
PM/PM	N/A
E.A. or Fed-Aid Project No.	BHLS-5004(049)
Other Project No. (specify)	N/A
PROJECT TITLE	West Mission Bay Drive Bridge Replacement Project
ENVIRONMENTAL APPROVAL TYPE	EA/FONSI
DATE APPROVED	2/8/13
REASON FOR CONSULTATION (23 CFR 771.129)	*Check reason for consultation:* ☒ *Project proceeding to next major federal approval* ☒ *Change in scope, setting, effects, mitigation measures, requirements* ☐ *3-year timeline (EIS only)* ☐ ***N/A** (Re-Validation for CEQA only)*
DESCRIPTION OF CHANGED CONDITIONS	*Briefly describe the changed conditions or new information on page 2. Append continuation sheet(s) as necessary. Include a revised Environmental Commitments Record (ECR) when applicable.*

NEPA CONCLUSION - VALIDITY

Based on an examination of the changed conditions and supporting information: [*Check ONE of the three statements below, regarding the validity of the original document/determination (23 CFR 771.129). If document is no longer valid, indicate whether additional public review is warranted and whether the type of environmental document will be elevated.]*

☐ **The original environmental document or CE remains valid. No further documentation will be prepared.**

☒ **The original environmental document or CE is in need of updating; further documentation has been prepared and ☐ is included on the continuation sheet(s) or ☒ is attached. With this additional documentation, the original ED or CE remains valid.**

Additional public review is warranted (23 CFR 771.111(h)(3)) Yes ☐ No ☒

☐ **The original document or CE is no longer valid.**

Additional public review is warranted (23 CFR 771.111(h)(3)) Yes ☐ No ☐

Supplemental environmental document is needed. Yes ☐ No ☐

New environmental document is needed. Yes ☐ No ☐ (If "Yes," specify type: _____)

CONCURRENCE WITH NEPA CONCLUSION

I concur with the NEPA conclusion above.

Signature: Environmental Branch Chief	8/31/16 Date	Signature: Project Manager/DLAE	8/30/16 Date

CEQA CONCLUSION: *(Only mandated for projects on the State Highway System.)*

Based on an examination of the changed conditions and supporting information, the following conclusion has been reached regarding appropriate CEQA documentation: *(Check ONE of the five statements below, indicating whether any additional documentation will be prepared, and if so, what kind. If additional documentation is prepared, attach a copy of this signed form and any continuation sheets.)*

☐ **Original document remains valid. No further documentation is necessary.**

☐ **Only minor technical changes or additions to the previous document are necessary. An addendum has been or will be ☐ prepared and is ☐ included on the continuation sheets or ☐ will be attached. It need not be circulated for public review. *(CEQA Guidelines, §15164)***

☐ **Changes are substantial, but only minor additions or changes are necessary to make the previous document adequate. A Supplemental environmental document will be prepared, and it will be circulated for public review. *(CEQA Guidelines, §15163)***

☐ **Changes are substantial, and major revisions to the current document are necessary. A Subsequent environmental document will be prepared, and it will be circulated for public review. *(CEQA Guidelines, §15162)***
(Specify type of subsequent document, e.g., Subsequent FEIR)

_____

☐ **The CE is no longer valid. New CE is needed. Yes ☐ No ☐**

CONCURRENCE WITH CEQA CONCLUSION

I concur with the CEQA conclusion above.

Signature: Environmental Branch Chief	Date	Signature: Project Manager/DLAE	Date

NEPA/CEQA RE-VALIDATION FORM

CONTINUATION SHEET(S)

Address only changes or new information since approval of the original document and only those areas that are applicable. Use the list below as section headings as they apply to the project change(s). Use as much or as little space as needed to adequately address the project change(s) and the associated impacts, minimization, avoidance and/or mitigation measures, if any.

Changes in project design, e.g., scope change; a new alternative; change in project alignment

1. Increase in number of bridge spans from 5 to 7.
    - The bridge design considered in the Final EA featured 5 spans, with 16 pier piles (8 per bridge structure) grouped into 8 bents (4 per bridge structure).
    - In response to Caltrans comments issued during the type-selection process, the number of spans was increased from 5 to 7. The revised design features 24 pier piles (12 per bridge structure) grouped into 12 bents (6 per bridge structure).
    - This change increases the permanent features proposed in the river but does not affect the impact acreage assessed in the Final EA, which was based on the bridge deck footprint. The bridge footprint from the updated design was compared to the footprint used to calculate impacts in the Final EA and no appreciable difference was identified because that aspect of project design did not change.
    - The modified design results in a minor change in the project's visual impact, as additional structures would be visible in the river. The December 2015 addendum to the Visual Impact Assessment is included as Attachment A. This change does not increase the magnitude of the visual impact discussed in the Final EA, and there is no need for additional mitigation as a result of this change.
2. Minor realignment of bicycle path connection at north abutment.
    - The planned connector between the southbound bridge's bike path to the bike path along the north side of the river has been realigned. The prior design assumed maintaining the existing connector in this location, which passes east of an SDG&E transformer enclosed in a concrete block wall. The updated design proposes to remove this existing connection and establish a new connection to the bike path approximately 200 feet to the west. The realigned connector will pass to the north of the transformer and an existing SDG&E electrical tower and then turn south to meet the existing path along the river. The pavement of the existing connector would be removed. A plan drawing highlighting the existing and proposed alignment of this bike path connector is included as Attachment B.
    - The new alignment would affect land that was mapped as developed in the Final EA, and would include removal of part of an existing stand of palm trees adjacent to the bike path that was not specifically identified in the Final EA (see additional tree removal discussion below). The alignment would be adjacent to a proposed bioretention basin that is also outside the impact area previously assumed in the Final EA, but is also located in an area mapped as developed. These features together would increase the project's impact on developed land by approximately 0.19 acres.
3. Staging yard location
    - The primary staging yard identified in the Final EA (Sea World parking lot) is not available because of concerns by Sea World management over a need for customer parking during peak months. The project will use the area identified as the "alternative staging area" in the Final EA, which is located on disturbed land in City of San Diego right-of-way northwest of the bridge's north abutment. The selected staging yard location is shown as "Alternative Staging Area" in Figure 1.1-2 of the Final EA, and the vegetation mapping of this area is shown in Figure 2.3.9-1 of the Final EA, both of which are included as Attachment C.
4. Tree removal
    - The project will entail additional tree removal beyond that considered in the Final EA. The Army Corps, as part of the 408 permit approval, has required that all trees be removed

within a 15-foot-wide vegetation-free zone around the Corps levees, which would entail removal of ornamental palm trees. The project is anticipated to result in removal of 144 palm trees. Relocation of two existing Torrey pine trees is planned due to additional grading needed for bike path and drainage basin improvements; this tree would be replanted on-site. Anticipated tree removal and relocation is shown in Attachment D.

- Tree removal / relocation will be done September 2-January 14 unless a qualified biologist determines that nesting birds would not be adversely affected.

Changes in environmental setting, e.g., new development affecting traffic or air quality;

No changes in environmental setting.

Changes in environmental circumstances, e.g., a new law or regulation; change in the status of a listed species.

No changes in environmental circumstances.

Changes to environmental impacts of the project, e.g., a new type of impact, or a change in the magnitude of an existing impact.

No changes to environmental impacts of the project. See discussion above regarding impacts associated with the design change to increase number of bridge spans.

Changes to avoidance, minimization, and/or mitigation measures since the environmental document was approved.

1. Media filters replaced by bioretention basins.
   - The "Water Quality and Storm Water Runoff" section of EA Appendix B identified installation of media filters to treat storm water runoff. Since publication of the EA, the project's post-construction storm water design has been updated to comply with the MS4 storm water permit, pursuant to the City of San Diego's Draft "Storm Water Standards" dated August 2015, which does not allow media filters. Storm water runoff will instead be treated by a series of bioretention basins that were sized to meet water quality volume and draw-down requirements to treat 100% of the water quality volume generated from the site by infiltration.
2. Maintenance and fueling in/adjacent to jurisdictional waters.
   - The "Wetlands and Other Waters" section of EA Appendix B states "All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would occur in designated areas outside of jurisdictional wetlands or waters….Fueling of equipment would take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters." The text of this measure has been revised to be consistent with the measure stated in the Section 7 consultation letter issued by the United States Fish & Wildlife Service:

     All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to ~~would occur in~~ designated areas in previously compacted and disturbed areas to the maximum extent practicable, outside of jurisdictional wetlands or waters, and within the fenced project limits. They will be located such that runoff from the designated areas will not enter rail, tern, and plover habitat, and will be shown on construction plans. ~~These designated areas would be located in previously compacted and disturbed areas to the maximum extent practicable to prevent any runoff from entering jurisdictional wetlands or waters, and would be shown on the construction plans. Fueling of equipment would take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters.~~ Contractor equipment would be checked for leaks prior to operation and repaired as necessary. "No-fueling" zones would be designated on construction plans.

NEPA/CEQA RE-VALIDATION FORM

Changes to environmental commitments since the environmental document was approved, e.g., the addition of new conditions in permits or approvals. When this applies, append a revised Environmental Commitments Record (ECR) as one of the Continuation Sheets.

1. Removal of requirement to construct Sebastian Poles
    - As required by the Coastal Commission, wildlife diversion poles will not be installed on the bridge.

APPENDIX C

WETLAND AND MITIGATION MONITORING PLAN

WEST MISSION BAY DRIVE BRIDGE
REPLACEMENT PROJECT
WETLAND MITIGATION AND MONITORING PLAN

Prepared for:

City of San Diego
525 B Street Suite 750
San Diego, CA 92101
(619) 533-5410
Contact: Jesus Garcia, Project Manager

Prepared by:

AECOM
401 West A Street, Suite 1200
San Diego, CA 92109
(619) 610-7600
Contact: Alex Hardy, Authorized Representative

Final
July 2017

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CHAPTER 1.0
OBJECTIVES

1.1 INTRODUCTION

The purpose of the project is to the improve the West Mission Bay Drive Bridge that has been evaluated and classified by the California Department of Transportation as functionally obsolete and structurally deficient and as a result is planned to be replaced under the Federal Highway Administration Surface Transportation Program, formerly known as the Highway Bridge Program. The bridge has been determined seismically deficient as a result of the existing piers being anchored into the mud below, which is highly susceptible to liquefaction in the event of an earthquake. Traffic analysis of the West Mission Bay Drive Bridge has concluded that the capacity of the existing bridge is currently below acceptable levels for average daily trips, resulting in an unacceptable level of service. The bridge structure would be improved to a six-lane primary arterial by removing the existing four-lane bridge and replacing it with two new parallel structures. The bridge project (project) is intended to provide an improved transportation link across the San Diego River.

Benefits of the project include implementation of many Community Plan goals:

- An improved "gateway to the coast" including Mission Bay, Pacific Beach, Mission Beach, Ocean Beach, and Point Loma
- Improved views of coastal areas
- Recreational opportunities such as wildlife viewing decks and a combination class one bicycle lane/pedestrian path on the bridge
- Fewer piers in the San Diego River improving hydrology and wildlife movement
- Conversion of non-native vegetation in the river to native mudflats
- Conversion of non-native vegetation on the river banks to native upland habitat
- The project's restoration and mitigation activities are expected to contribute to the recovery of threatened and endangered species.

This project will result in primarily temporary impacts to biological resources and wildlife habitat that is regulated by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). Due to projected temporary construction and

permanent shading impacts to wetlands and jurisdictional resources, the project requires permits from the U.S. Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB), and California Coastal Commission (CCC). This mitigation plan has been prepared to present compensatory mitigation for project jurisdictional impacts and for inclusion in permit application packages as part of obtaining permit approvals necessary for the project. The permits and approvals being processed include the following:

- Section 404 of the Clean Water Act (CWA) (as regulated by USACE and the U.S. Environmental Protection Agency [USEPA])[1]
- Section 401 of the CWA (as regulated by the RWQCB)[2]
- Section 10 of the Rivers and Harbors Act (RHA) (as regulated by USACE)
- Section 14 of the RHA (as regulated by the USACE) for 408 permission
- California Fish and Game Code Chapter 6 Section 1600 et seq. (as regulated by CDFW)[3]
- California Public Resource Code (CPRC) Division 20. Section 30000 et seq. (California Coastal Act) (as regulated by CCC)[4]

The project will result in a total of 4.35 acres of impacts to jurisdictional resources, which includes habitat for light-footed Ridgway's rail (*Rallus obsoletus levipes*; formerly light-footed clapper rail [*Rallus longirostris levipes*]), California least tern (*Sterna antillarum browni*), and/or western snowy plover (*Charadrius alexandrinus nivosus*) habitat. Of the 4.35 acres of projected impact to mostly tidal mudflat/open water, 2.69 acres will result from permanent shading due to bridge widening and 1.66 acres will result from temporary shading beyond the permanent impact area caused by the presence of temporary access platforms for project construction that would be supported by trestles. Due to the length of time the trestles are projected to be in place, the temporary loss of tidal mudflat/open water (and less than 0.1 acre of marsh habitat) and its associated effect is greater than it would be for a shorter duration temporary impact. At the end of construction once the trestles are no longer needed, fill soil will be removed and preconstruction grades restored to reestablish preconstruction tidal mudflat/open water (and area for recolonization of marsh habitat). For the shading impacts and construction trestle impacts, no jurisdictional resources will be physically removed or permanently lost. The permanent footprint

[1] 40 CFR Part 230 (provided USACE determines that some or all of these delineated waters occurring within the survey area present a significant nexus with the Pacific Ocean and are thus under federal jurisdiction as administered by USACE). CWA Section 404(b)(1) Guidelines, established by USEPA, constitute the substantive environmental criteria used in evaluating activities regulated under Section 404 of the CWA.

[2] CWA Section 401 would apply to this project if it has been determined by USACE that some or all of these delineated waters occurring within the survey area are jurisdictional waters of the U.S.

[3] California Code of Regulations (CCR) Title 14, Division 1.

[4] CCR Title 14, Division 5.5 and CPRC Sections 30600(a) and 30600(d).

of the pier columns will be less than the existing footprint; therefore, a permanent loss of jurisdictional waters is not proposed. Impacts to aquatic resources and habitats associated with the project are summarized in Table 1.

The following plan presents the locations and approach including implementation, maintenance, and monitoring activities to successfully complete compensatory mitigation for impacts to jurisdictional resources due to the bridge project.

1.2 REVIEW OF JURISDICTIONAL IMPACTS AND COMPENSATORY MITIGATION

The mitigation sites and mitigation approach to offset the impacts are summarized in Tables 2 and 3. Since the western mitigation site (southern coastal salt marsh) does not provide enough mitigation on its own, a second eastern mitigation site (mostly disturbed southern willow scrub adjacent to southern coastal salt marsh) in the San Diego River is also included for compensatory mitigation. Although permanent shading impacts would occur in addition to temporary impacts from the construction platforms, no jurisdictional resources would be permanently removed or lost. Therefore, a 1:1 mitigation replacement ratio is planned to mitigate project impacts. Information on the project impact site and mitigation sites was entered into the USACE South Pacific Division mitigation ratio-setting checklist worksheet (Appendix A) for determination of mitigation ratios, which confirmed a 1:1 mitigation replacement ratio is appropriate. The mitigation approach at the two sites includes removal of invasive exotic plant species, taking advantage of native plant natural recruitment, native planting (including potential transplants at the western southern coastal salt marsh site) and seeding, temporary manual irrigation when needed and maintenance and monitoring to attain specified success standards. The two mitigation sites are considered appropriate because they occur in the San Diego River in the same watershed where project impacts will occur, and they provide in-kind mitigation for southern coastal salt marsh habitat impacts and higher quality out-of-kind southern coastal salt marsh and southern willow scrub mitigation (i.e., vegetated habitats) for tidal mudflat/open water and minor southern coastal brackish marsh impacts.

A jurisdictional delineation of the mitigation sites was conducted in September 2014 and presented in the *Jurisdictional Delineation Report for Waters of the U.S., State of California, and City of San Diego, Salt Marsh and San Diego River Mitigation Sites for the West Mission Bay Drive Bridge Project, San Diego, California* (AECOM 2014). A qualitative assessment of habitat condition (i.e., assessment of native and nonnative plant cover and degree of habitat disturbance) and a California Rapid Assessment Method (CRAM) survey were conducted in

Table 1. Projected Project Impacts to Jurisdictional Waters of the U.S. and State[1]

	USACE/CDFW Jurisdictional Waters		City, CCC, CDFW, and RWQCB Jurisdictional Waters				
Wetlands, Waters, and Other Aquatic Habitats	**Temporary Impacts (construction and trestles)**	**Permanent Impacts (abutments, rip-rap, and grading)**	**Temporary Impacts (construction and trestles)**	**Permanent Impacts (shading)**	**Total Impacts**	**Mitigation Ratio**	**Mitigation Requirements**
Tidal Mudflat/ Open Water	1.65	-	-	2.68	4.33	1:1	4.33
Southern Coastal Brackish Marsh	<0.1 (0.01)	-	-	<0.1 (0.002)	<0.1 (0.012)	1:1	<0.1 (0.012)
Southern Coastal Salt Marsh	<0.1 (0.002)	-	-	-	<0.1 (0.002)	1:1	<0.1 (0.002)
Rip-Rap	-	-	0.251[2]	<0.1 (0.005)	<0.1 (0.005)	1:1	<0.1 (0.005)
Total	**1.66[3]**	**0.00**	**0.251**	**2.69**	**4.35**		**4.35**

[1] Based on a jurisdictional delineation survey conducted in May 2010.
[2] Not anticipating mitigation for temporary impacts to rip-rap; would be restored to preconstruction conditions.
[3] Since the temporary construction trestles are projected to be in-place for approximately 11.5 months, the temporal loss of 1.65 acres of tidal mudflat/open water and less than 0.1 acre of marsh habitat and its associated effect is greater than it would be for a shorter duration temporary impact. When construction is complete, the trestles will be removed and preconstruction grades restored to reestablish tidal mudflat/open water (including area for recolonization of marsh habitat).

Table 2. Existing Habitats and Jurisdictional Status of Proposed Mitigation Sites

Wetlands, Waters, and Other Aquatic Habitats	Southern Coastal Salt Marsh Site (West Site)	Southern Willow Scrub Site (East Site)		Combined Mitigation Sites
	Federal/State Wetlands (Acres)	State Wetlands (Acres)	Federal/State Wetlands (Acres)	Acres
High/Transitional Southern Coastal Marsh	5.1	-	-	5.1
Mid-Southern Coastal Salt Marsh	5.5	-	-	5.5
Arundo Dominated Riparian	-	-	0.06	0.06
Disturbed Southern Willow Scrub	-	0.38	0.98	1.36
Exotic Trees	-	-	0.09	0.09
Total	**10.6**	**0.38**	**1.13**	**12.11**

Table 3. Mitigation Approach, Value and Acreage

Mitigation Site	Mitigation Approach	Total Site Acreage	Mitigation Value	Mitigation Acreage
Southern Coastal Salt Marsh (West Site)	Removal of Nonnative Invasive *Limonium duriusculum*, Native Plant Revegetation, and Long-Term Preservation and Management	10.6	20%[1]	2.12
	Long-Term Preservation and Management	8.48[2]	10%[3]	0.85
Southern Willow Scrub (East Site)	Removal of Nonnative Invasive Species, Native Plant Revegetation, and Long-Term Preservation and Management	1.51	90%[4]	1.36
	Long-Term Preservation and Management	0.15[5]	10%[6]	0.02
Total				**4.35**

[1] Mitigation value is based on approximate 20% cover of the invasive exotic species, European sea lavender (*Limonium duriusculum*).

[2] A total of 8.48 acres of the 10.6-acre site is remaining after subtracting approximately 2.12 acres of the site-occupied invasive exotic species.

[3] Mitigation value of 10% is based on long-term preservation and management to maintain native habitat and ecological functions. Note: Invasive exotic species will be removed from sewer pipeline corridors (i.e., 0.30 acre) within the mitigation area limits but the easement limits and designation which provides access for utility repair and/or replacement will not change.

[4] Mitigation value of 90% is based on the significantly degraded condition of the site with approximately 80% relative cover of nonnative species and expanding nonnative cover from highly invasive species including phragmites, Brazilian pepper, and arundo.

[5] A total of 0.15 acre of the 1.51-acre site is remaining after subtracting approximately 1.36 acres of the site occupied by invasive exotic species.

[6] Mitigation value of 10% is based on long-term preservation and management to maintain native habitat and ecological functions. Note: Invasive exotic species will be removed from the transportation ROW (i.e., 0.54 acre; with right-of-entry permission from Caltrans) and sewer pipeline corridors (i.e., 0.26 acre) within the mitigation area limits, but the ROW and pipeline easement limits and designations, which provide access for infrastructure repair and/or replacement, will not change.

2015. The CRAM survey was updated in 2016 for the eastern mitigation site to account for a reduction in size of the mitigation site following initial preparation of this plan, due to a reduction in the project's temporary impact acreage.

The determination of mitigation value at the western and eastern mitigation sites is based on the jurisdictional delineation surveys conducted in August and September 2014, and transect data collection and qualitative assessments conducted in February 2015 to assess existing conditions and presence of native and nonnative exotic species. CRAM surveys were also conducted in February 2015 to determine a baseline condition of existing ecological functions and so that monitoring of ecological functions can be incorporated into the mitigation plan and success standards. The CRAM survey was updated in 2016 for the eastern mitigation site. The CRAM letter report and transect data are included in Appendices B and C, respectively.

In the western mitigation area, it was determined that European sea lavender (*Limonium duriusculum*) currently accounts for approximately 20% coverage of the 10.6 acres of high/transitional and mid-southern coastal salt marsh at the site. European sea lavender occurs throughout the 10.6-acre site but is currently more prevalent in the high/transitional southern coastal salt marsh than in the mid-southern coastal salt marsh. It is highly invasive and, without control, is expected to further spread and occupy more cover within the overall area. No other invasive exotics were detected in this mitigation area. Since European sea lavender occupies approximately 20% of the site, the mitigation value is 2.12 acres (i.e., 10.6 acres x 0.20 = 2.12 acres). Since the remaining 8.48 acres of the 10.6-acre site (i.e., 10.6 acres minus 2.12 acres = 8.48 acres) will need to be monitored and maintained by the City to accomplish contiguous control of exotic species and native habitat restoration in this area, 10% mitigation value is given to this acreage, which results in 0.85 acre of value and a total of 2.97 acres of mitigation value for the western mitigation area.

The eastern mitigation area totals 1.51 acres and does not include San Diego River open water channels. Because the site is highly disturbed, nonnative exotic plant cover (e.g., phragmites, Brazilian pepper, arundo, fennel, castor-bean, wild radish, etc.) occupies over 80% relative cover of the site and it appears nonnative cover with these highly invasive species is increasing over time, 90% mitigation value is given to the 1.51 acres, which totals 1.40 acres (i.e., 1.51 acres x 0.90 = 1.40 acres). Since the remaining 0.15 acre of the site (i.e., 1.51 acres minus 1.40 acres = 0.15 acre) will need to be monitored and maintained by the City to accomplish contiguous control of exotic species and native habitat restoration in this area, 10% mitigation value is given to this acreage, which results in 0.02 acre of value and a total mitigation value of 1.38 acres for the eastern mitigation area. Caltrans transportation right-of-way (ROW) areas and three City Public Utility Department (PUD) sewer pipelines segments occur under portions of the 1.51-acre wetland mitigation area.

No grading or landform modification is planned as part of the mitigation. Mitigation includes invasive exotic plant removal; revegetation of native plant habitats (via natural recruitment and native planting and seeding); a 5-year maintenance and monitoring program to achieve mitigation establishment success standards; and long-term maintenance, monitoring, and preservation of the mitigation sites. Since native plant revegetation in the western mitigation area will occur after invasive exotic plant removal through a combination of natural recruitment and planting (i.e., in larger openings after invasive exotic plant removal), the mitigation type is considered a combination of "enhancement" and "rehabilitation restoration" as defined in the Compensatory Mitigation Final Rule (73 Federal Register, April 10, 2008, 33 Code of Federal Regulations [CFR] pt. 325). Since an active planting and seeding program is needed for portions of the eastern mitigation area after invasive exotic plant removal, the mitigation type is considered "rehabilitation restoration." Although neither enhancement nor rehabilitation

restoration results in a net gain in wetland acreage, both improve and repair historic functions of degraded resources and result in gains in aquatic functions (i.e., biological and chemical).

1.3 OBJECTIVES AND GOALS TO PROVIDE COMPENSATORY MITIGATION

The primary goals and objectives are to provide aquatic restoration and enhancement compensatory mitigation that:

- is ecologically appropriate for site conditions;
- is self-sustaining and resilient to a range of natural disturbances (e.g., flood, extended drought, and fire);
- contributes to the long-term viability of adjoining aquatic resources locally, and on a watershed and regional scale; and
- is appropriate in regard to habitat functions and services to compensate for jurisdictional impacts.

This plan establishes goals and success standards to be achieved during a post-installation 5-year maintenance and monitoring program and the long-term maintenance and monitoring plan.

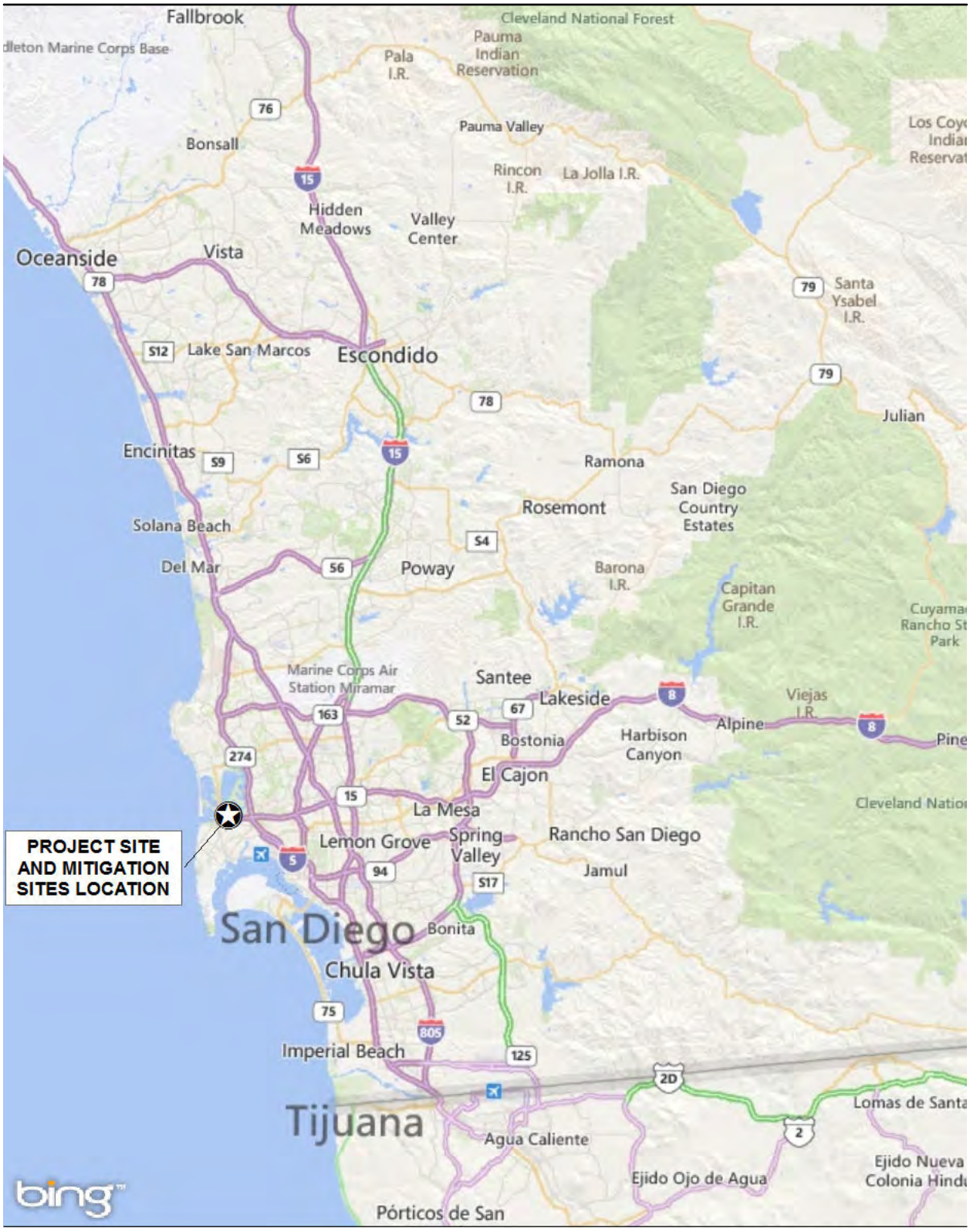
CHAPTER 2.0
MITIGATION SITES

2.1 LOCATION AND SIZE

The bridge project is located in the Mission Bay area of San Diego and spans the San Diego River flood channel between Sports Arena Boulevard/Interstate 8 intersection and the Sunset Cliffs/Sea World Drive intersection. The two mitigation sites occur in the San Diego River downstream (west site) and upstream (east site) of the project bridge (Figures 1 and 2). The two mitigation areas total 12.11 acres, from which 4.35 acres of mitigation value will be conducted. The west mitigation area parcel identification number is #2576144. The east mitigation occurs within two City Assessor Parcel numbers, #43548017 and #43548016. Both the west and east sites are within the Multi-Habitat Planning Area (MHPA) preserve of the City's MSCP Subarea Plan.

The 10.6-acre southern coastal salt marsh mitigation west site (Figure 3) is located within Assessor Parcel Number #2576144 approximately 1.25 miles west (downstream) of the bridge project site, near the mouth of the San Diego River and is under management of the City's Parks and Recreation Department. It is adjacent to Dog Beach in the neighborhood of Ocean Beach, San Diego City and County, California. Within the western mitigation area, two City PUD underground sewer pipelines and their associated ten-foot easements total 0.30 acre within the mitigation site limits.

The 1.51-acre southern willow scrub mitigation east site (Figure 4) is located in Assessor Parcel Numbers #43548017 and #43548016 approximately 1 mile east (upstream) of the project site within the San Diego River channel. The northern parcel is under management of the City's Transportation and Storm Water Department and the southern parcel is under the City's Parks and Recreation Department. It is bordered by Friars Road to the north, Pacific Highway to the east, Interstate 8 to the south, and Interstate 5 to the west. Within the eastern mitigation area, Caltrans transportation ROW areas (associated with Pacific Highway and Interstate 5) total 0.54 acre and three City PUD sewer pipeline segments and their associated ten-foot easements total 0.26 acre within the mitigation site limits.



Source: © 2015 Nokia © AND © 2015 Microsoft Corporation

8 4 0 8 Miles

Scale: 1 = 500,000 1 inch = 8 miles

Figure 1
Regional Map of Project and Mitigation Sites

Path: P:\2007\07080207 W Mission Bay Dr Bridge\5GIS\MXD\MitPlan\RegionalMap.mxd, 3/9/2015, steinb

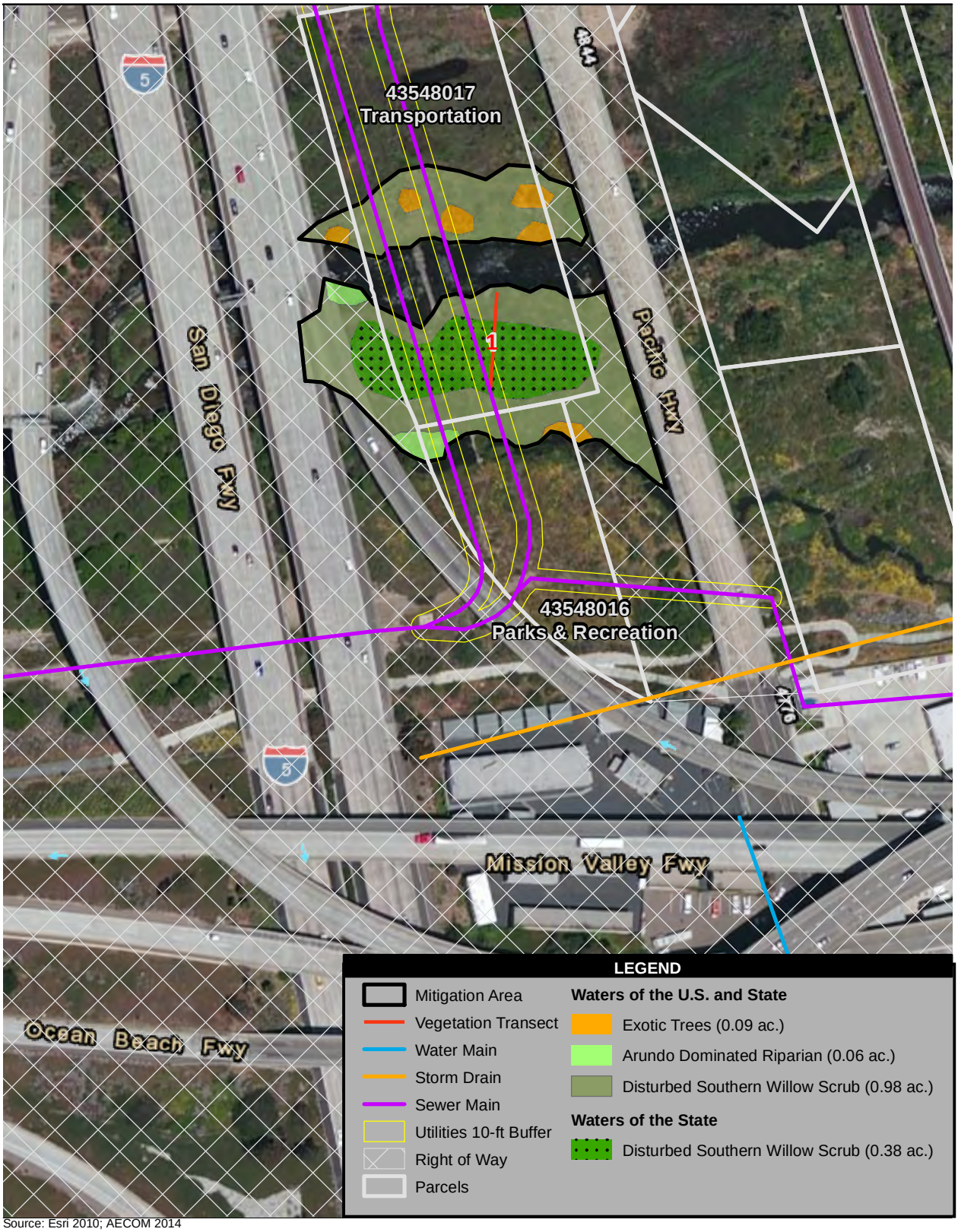
Figure 2
Vicinity of Project and Mitigation Sites

Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; AECOM 2014

200 0 200 Feet

Scale: 1:2,400; 1 inch = 200 feet

Figure 3
Western Mitigation Area



Source: Esri 2010; AECOM 2014

150 0 150 Feet

Scale: 1:1,800; 1 inch = 150 feet

Figure 4
Eastern Mitigation Area

Path: \\ussdg1fp001.na.aecomnet.com\data\projects\2007\07080207 W Mission Bay Dr Bridge\5GIS\MXD\MitPlan\Mit_East.mxd, 6/9/2016, janssenn

2.2 REGIONAL CONTEXT

2.2.1 Multiple Species Conservation Program

The mitigation sites are subject to the City's MSCP Guidelines. The MSCP is a comprehensive habitat conservation planning program that addresses multiple species habitat needs and the preservation of native vegetation communities in the San Diego region. The overall goal of the program is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitats (City of San Diego 1997a). The MSCP Subarea Plan forms the basis for the Implementing Agreement that allows the City to issue Federal incidental take permits at the local level.

2.2.2 City of San Diego Multi-Habitat Planning Area

The MSCP's core hard-line biological preserve system is referred to as the Multi-Habitat Planning Area (MHPA). The mitigation sites are located within the MHPA boundaries. When land is preserved as part of the MSCP, management is necessary to ensure biological values are maintained over time. The City is responsible, under the MSCP Implementing Agreement, to manage and maintain lands within MHPA boundaries that the City owns. The management objectives for the MHPA provide the basis for the mitigation sites' goals (City of San Diego 1997a).

According to the MSCP Subarea Plan, the San Diego River includes open space that provides necessary habitat for native species in an otherwise urban setting. MSCP Subarea Plan program guideline B.15 requires the restoration of native vegetation along portions of the San Diego River. Major issues include intense land use adjacent to covered species habitat, trash, encampments, utilities maintenance activities, non-native species, and urban runoff (City of San Diego 1997a).

2.2.3 Mission Valley Community Plan, Mission Bay Park Master Plan and San Diego River Park Master Plan

The following plans provide a watershed context for justification of the mitigation sites as appropriate locations.

The Mission Valley Community Plan adopted by City Council in 1985 covers the San Diego River to the east from Interstate 5 and to the west from State Route 163. The West Mission Bay Drive Bridge Eastern Mitigation Site occurs within the Mission Valley Community Plan. The Plan identifies the San Diego River watershed as a major open space asset. The plan identifies

conditions to consider in future planning efforts, including flooding, protection of the river and associated sensitive habitat, and enhancement of recreational opportunities (City of San Diego 2013a).

The Mission Bay Park Master Plan Land adopted by City Council on August 2, 1994 encompasses the eastern mitigation site. This mitigation accomplishes the Plan's overall goal of conservation and enhancement of the Park's wetland and upland habitats for the benefit of both wildlife and people (City of San Diego 2002).

The San Diego River Park Master Plan was adopted by the City Council on May 20, 2013. The plan provides the vision and guidance to restore a symbiotic relationship between the San Diego River and surrounding communities by creating a river-long park, stretching from the headwaters near Julian to the Pacific Ocean at Ocean Beach. The overall vision of the plan is to reclaim the valley as a common area that provides a synergy of water, wildlife, and people. The vision is supported by five guiding principles, as follows: 1) restore and maintain a healthy river system; 2) unify fragmented lands and habitats; 3) create a connected continuum, with a sequence of unique places and experiences; 4) reveal the river valley history; and 5) reorient development toward the river to create value and opportunities for people to embrace the river (City of San Diego 2013b).

2.2.4 San Diego River Watershed Management Plan

The San Diego River Watershed Management Plan (SDRWMP) identifies issues of concern within the watershed where management actions should be prioritized based on benefits and to maximize watershed improvements. This plan splits the watershed into three sections and includes the two West Mission Bay Drive Bridge mitigation sites within the San Diego Management Area. The SDRWMP describes this area as highly urbanized with the most pronounced water quality problems such as eutrophic conditions, hydromodification, trash, pesticides, and exotic species. This mitigation project will address many of the issues identified in this plan.

2.3 SITE SELECTION

The southern coastal salt marsh west site and southern willow scrub east site were selected as compensatory mitigation sites primarily because they provide in-kind southern coastal salt marsh mitigation for impacts to this habitat type and appropriate out-of-kind vegetated wetlands (i.e., southern coastal salt marsh and southern willow scrub) mitigation for impacts to unvegetated wetlands (i.e., tidal mudflat/open water) and minor impacts to southern coastal brackish marsh. The mitigation sites are in the same hydrologic unit watershed and river system where impacts

will occur, and they are ecologically suitable to provide desired and self-sustaining aquatic and riparian functions. The sites are significantly disturbed and provide an excellent opportunity for significant ecological lift from implementation of planned mitigation activities. Site hydrologic conditions, soil characteristics, other physical characteristics, and biotic conditions are appropriate to support the planned and desired habitats and aquatic and riparian resource functions. The western site was recommended through consultation with the USFWS because it is adjacent to areas being restored by the San Diego River Park Foundation through a Service grant. The eastern site was identified as a priority for restoration by the Foundation.

2.4 SITE PROTECTION

40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources requires a long-term plan for jurisdictional mitigation site protection and maintenance into perpetuity. The Rule states that long-term protection may be achieved through integrated natural resource management plans such as the MSCP.

The City-owned mitigation sites are protected principally by their location in the MHPA preserve and the MSCP Implementing Agreement. In addition, they are zoned "designated floodway" and uses permitted by the Floodway Zone are limited to non-structural uses unaffected by flooding. The western site is within the Southern Wildlife Preserve, the eastern site is in the Mission Valley Preserve, and two of the parcels are designated "open space" all of which prohibit development. Furthermore, as mentioned in previous sections, the parcels are subject to land use guidelines in the San Diego River Master Park Plan, the Mission Valley Community Plan, and the Mission Bay Park Master Plan, which call for these areas to remain natural.

The MSCP Implementing Agreement acts as the primary preservation mechanism in perpetuity. Section 21.3 of the Implementing Agreement states that "notwithstanding the stated term as herein set forth, the Parties agree and recognize that once Take of a Covered Species has occurred and/or their habitat modified within the Subarea, such Take and habitat modification will be permanent. The Parties, therefore, agree that the preservation and maintenance of the habitat provided for under this Agreement shall likewise be permanent and extend beyond the term of this Agreement." Therefore, although the Term of the MSCP is 50 years (1997 – 2047), the preservation of lands within the MHPA, especially in areas where preserved lands are specifically required due to a permanent impact/take, is explicitly permanent.

The City has established protections for lands within the MHPA, in conformance with the Implementing Agreement, through Section 143.0101 of the City's Land Development Code (Environmentally Sensitive Lands Regulations). This section of the Land Development Code

incorporates Sections 1.4.1 and 1.4.2 of the MSCP Subarea Plan that restricts uses within the MHPA in a similar fashion as a conservation easement or deed restriction. The City has code enforcement staff to investigate illegal encroachment into Environmentally Sensitive Lands. The Land Development Code also incorporates Section 1.4.3 of the MSCP Subarea Plan that restricts land uses even adjacent to the MHPA, and precludes establishment of potential adverse drainage conditions, toxic chemical uses, direct lighting, noise, and invasive species.

The mitigation sites are further protected through the Open Space Element of the General Plan, the Resource Protection Ordinance and Guidelines, the Environmental Quality Ordinance. As added protection, any future proposed development project must go through the CEQA review process. If jurisdictional or endangered species habitat would be impacted, resource agency permits would be required in the CEQA document. This level of review protects sensitive lands and mitigation sites in the City limits, and also limits encroachment into mitigation sites and buffer areas.

The documents associated with the mitigation for West Mission Bay Dr. Bridge Replacement including this final approved mitigation plan, the ACOE, RWQCB, CDFW, and CCC permits will be made part of the Action Sheet Log for the mitigation properties at the City of San Diego Real Estate Assets Department (READ). READ maintains records regarding every City property. The Action Sheet Log is managed, kept up to date and maintained by a READ Records Management Analyst. Prior to any real estate action being taken on a City-owned property, the Agent must first check the Action Sheet Log to be sure the requested action is in conformance with the guidelines pertaining to the property. This process provides a traceable chain of actions and/or restrictions regarding a property and ensures that any future actions on the property are dictated by those restrictions.

2.5 EXISTING CONDITIONS

Provided below is a review of existing conditions including topography; geology and soils; climate; watershed setting; wetland hydrology; vegetation, cover types, and jurisdictional status; and sensitive wildlife species.

2.5.1 Topography

Topography across the west site has a gradual 2% slope moving north through the southern coastal salt marsh from the open water channel. Small undulating coastal dunes occur adjacent to the west site on the north.

Topography across the east site is predominantly flat, with an elevation range of approximately 2 to 8 feet North America Vertical Datum (NAVD).

The San Diego River flows through and/or adjacent to both of the mitigation sites flowing in an east-west orientation.

2.5.2 Geology and Soils

The mitigation sites are located within and directly adjacent to the San Diego River, which is underlain by Lagoon Water and Made Land soil series (Figure 5). Lagoon Water is not considered a soil, but includes tidal action temporarily removing surface water and exposes layers of mud and estuarine silts, clays, and mainline animal detritus (Bowman 1973). Made Land soil series consist of areas that have been filled with excavated and transported soil material.

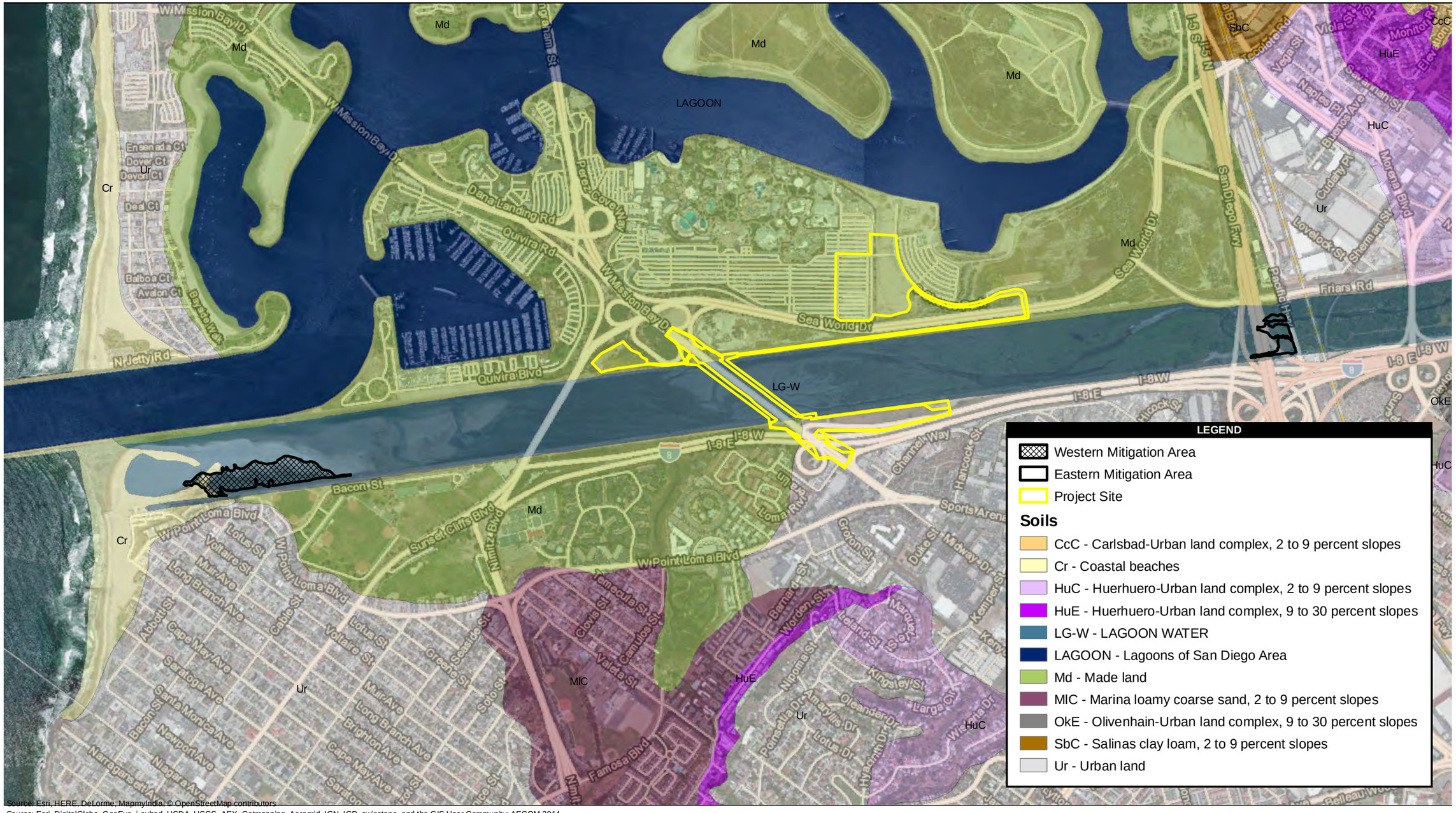
2.5.3 Climate

The climate of the project area is characterized as Mediterranean and typically has hot, dry summers, and cooler, wetter winters. The most recently active climatological station closest to the mitigation areas (approximately 3 miles southeast of the western southern coastal salt marsh mitigation site and 2 miles south of the eastern southern willow scrub mitigation site) that monitors temperature and precipitation is the San Diego Airport Climate Station (COOP ID: 047740). The mean annual temperatures at the San Diego Airport Climate Station range from a minimum of 56.5 degrees Fahrenheit (°F) to a maximum of 69.9°F. Mean annual rainfall at the San Diego Airport Climate Station is 10.13 inches (WRCC 2015).

2.5.4 Watershed Setting

The mitigation sites occur within the San Diego Watershed (Hydrologic Unit Code 18070304) and are located within the RWQCB San Diego Basin Region 9, San Diego Hydrologic Basin Planning Area. The western mitigation site spans two hydrologic unit watersheds, the Peñasquitos Hydrologic Unit (906.00) and the San Diego Hydrologic Unit (907.00)—and two Hydrologic Areas—Mission Bay San Diego (906.5) and Lower San Diego (907.1). The eastern mitigation site is entirely within the San Diego Hydrologic Unit (907.00). Both of the mitigation sites are located within the Mission Hydrologic Subarea (906.80) (Figure 6).

These watersheds drain a highly urbanized region in coastal San Diego County. These watersheds are still experiencing significant land development. The degree of imperviousness within these watersheds can be used to consider the condition and health of the aquatic resources



Source: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; AECOM 2014

1,250 0 1,250 Feet

Scale: 1:15,000; 1 inch = 1,250 feet

Figure 5
Soils within Project Area and Mitigation Sites

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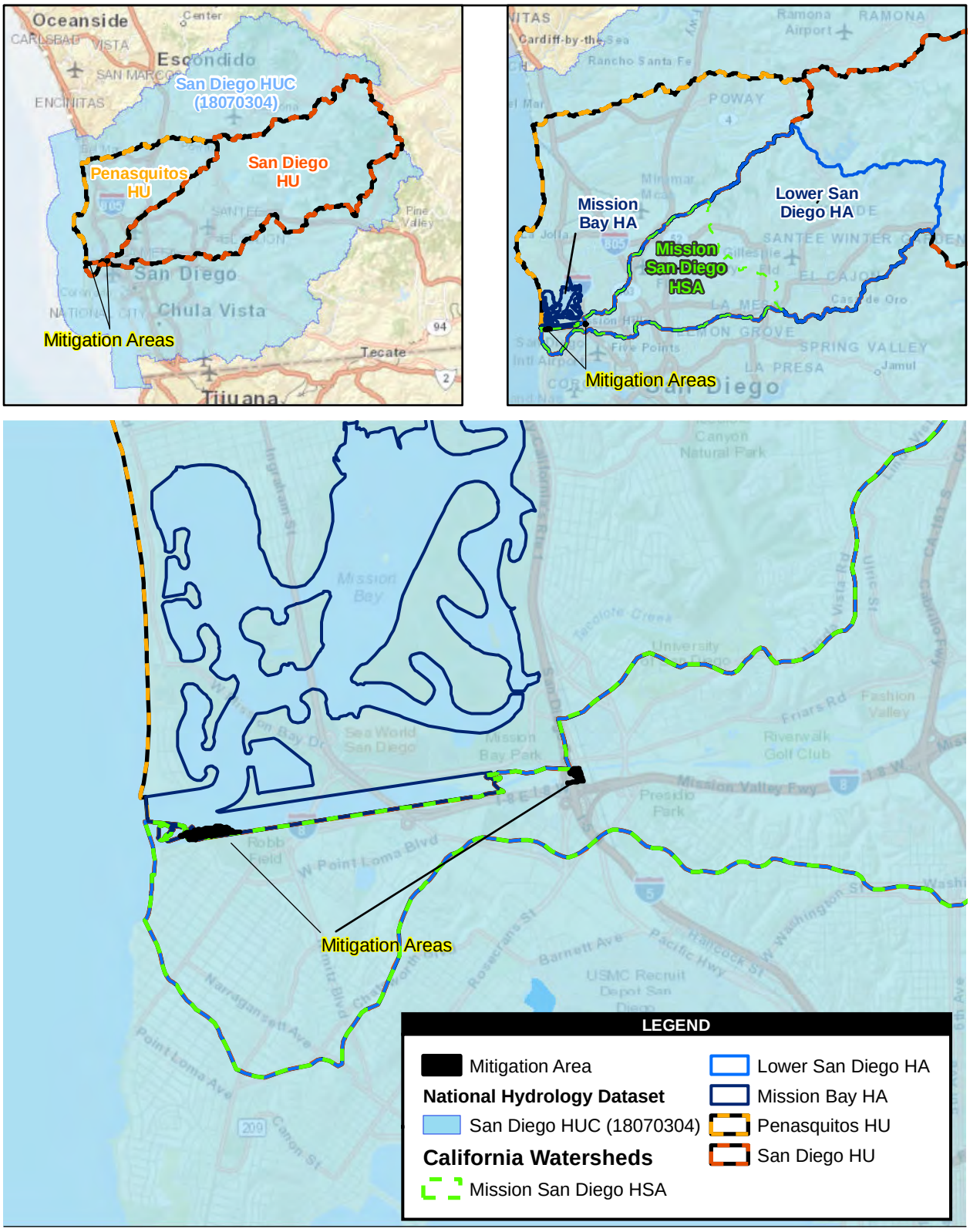


Source: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013; AECOM 2014; NHD 2014; CalWater 2014

1 0.5 0 1 Miles

Scale 1:611,761; 1 in = 1 miles

Figure 6
Watersheds

within them, which are often used as a measure for determining the amount of stress a watershed is experiencing. The major receiving waters, Los Peñasquitos Lagoon and Mission Bay, are both fragile systems that support diverse native fauna and flora. Both water bodies are especially sensitive to the effects of pollutants due to restricted or intermittent tidal flushing (Project Clean Water 2014).

Within the east site, the San Diego River is constrained at the north and south by earthen levees and rip-rap. This channelized portion of the San Diego River is considered the San Diego River Floodway and functions as a flood control channel. This flood control channel currently drains directly into the Pacific Ocean. However, the flood control channel can also enter Mission Bay through a weir located at the entrance of Mission Bay.

2.5.5 Wetland Hydrology

The San Diego River drains east to west until it outlets in the Pacific Ocean directly downstream of the western mitigation site. Within the west mitigation site, the San Diego River supports tidal inputs and wetland waters of the U.S. and state, dominated by southern coastal salt marsh. The east mitigation site is approximately 2.6 miles upstream of the west site and is dominated by wetland waters of the U.S. and state, including freshwater riparian habitat.

The mitigation sites are within a mapped floodway and are designated by the Federal Emergency Management Agency (FEMA) as a Zone AE, which is a channel of stream in addition to its adjacent floodplain areas that must be kept free of encroachment to ensure a 100-year flood can flow without substantial increases in flood heights (FEMA 2014).

Hydrologic indicators observed within the mitigation sites include the following primary indicators: high water table, surface soil cracks, saturation, and aquatic invertebrates as well as these secondary indicators: sediment deposits drift deposits, and the facultative plant neutral (FAC-neutral) test.

2.5.6 Vegetation, Cover Types, and Jurisdictional Status

2.5.6.1 Vegetation and Cover Types

The west mitigation site is currently dominated by southern coastal salt marsh (high/transitional and mid-marsh) and adjacent coastal dunes and disturbed coastal sage scrub, while the east site is dominated by disturbed southern willow scrub with nonnative common reed (*Phragmites australi*s) and some patches of exotic trees, arundo, and southern willow scrub. Both mitigation

areas include a wetland and/or riparian floodplain along the San Diego River. Representative photographs of the two mitigation sites are included in Figures 7 and 8.

2.5.6.2 Jurisdictional Status

The existing habitats and jurisdictional status of the mitigation sites are summarized in Table 2 of Section 1.2 in accordance with the results presented in the Jurisdictional Delineation Report (AECOM 2014). All 10.6 acres of the west site are waters of the U.S. and state. For the 1.51-acre east site, 1.13 acres are waters of the U.S. and state and 0.38 acre is waters of the state under the exclusive purview of CDFW. All of the mitigation acreage is considered wetlands by the City.

2.5.7 Sensitive Wildlife Species

Sensitive wildlife species with the potential to occur in the areas of the mitigation sites include the light-footed Ridgeway Rail, California least tern, and western snowy plover. Mitigation restoration and enhancement work will be conducted in a manner that avoids impacts to sensitive wildlife species. Implementation of the mitigation and the restoration and enhancement of native habitats is expected to contribute to the survival and recovery of the rail, tern, and plover.

The light-footed Ridgway's rail is a federally endangered species. Its historic range extended from coastal areas in Santa Barbara County through San Diego County to Baja California, Mexico. Its habitat consists of salt marshes mixed with tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Light-footed Ridgway's rail relies on one or both of these two species of vegetation for nesting and cover. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water (Zeiner et al. 1990, p. 174). Breeding season for the light-footed Ridgeway's rail extends from March 15 to July 31 (this end date has potential flexibility as approved by the USFWS [see Section 7 Consultation FWS SDG 09B0224 13IO118]). The light-footed Ridgway's rail is an omnivorous and opportunistic forager, which relies mostly on salt marsh invertebrates such as beetles (*Coleoptera*), garden snails (*Helix* ssp.), California horn snails, salt marsh snails (*Melampus olivaceus*), fiddler and hermit crabs (including *Pachygraspus crassipes*, *Hemigraspus oregonensis*, and probably *Uca crenulata*), crayfish, isopods, and decapods (USFWS 1985, p. 9).

The California least tern is a federally endangered species. The species is migratory in California and breeds from San Francisco Bay south to Baja California. In San Diego County, it is a fairly common summer resident from early April to the end of September (Unitt 2004), and its nesting season extends from April through September 15. Significant nesting sites in San Diego County include Mission Bay, Aliso Creek, Batiquitos Lagoon, Tijuana River mouth, Chula Vista, North Island Naval Air Station, San Elijo Lagoon, and Lindbergh Field. Wintering areas are thought to

be along the Pacific coast of South America. The species historically nested colonially on beaches that are undisturbed, sparsely vegetated, flat areas with loose, sandy substrate. Few beach nesting areas remain and least terns are now found in varied habitats ranging from mudflats to airports. Adults roost primarily on the ground. They typically forage in areas with water less than 60 feet in depth (Atwood and Minsky 1983).

The western snowy plover is a federally threatened species. The species is migratory in California and known to range from southern Washington to southern Baja California, Mexico, with the largest number of breeding birds occurring from south San Francisco Bay to southern Baja California (USFWS 2001). The western snowy plover is among San Diego County's scarcest and most threatened breeding birds. The western snowy plover occurs year-round in San Diego County but has two primary breeding areas in the county: Marine Corps Base Camp Pendleton and the Silver Strand (Unitt 2004). The western snowy plover is highly migratory throughout the year and may move great distances during the breeding season (Unitt 2004). Some western snowy plovers remain in their coastal breeding areas year-round while others migrate south or north for winter. The species nests colonially on sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries (USFWS 2001). Peak nesting is from mid-April to mid-June with a breeding season of March 1 – September 15 according to City Biology Guidelines. Hatching lasts from early April through mid-August, with chicks reaching fledging approximately 1 month after hatching (Unitt 2007). When not breeding, the western snowy plover ranges throughout San Diego's coast line. In addition to the direct loss of habitat, primary threats to this species are human disturbance of the remaining habitat and a high level of predation from encroaching urbanization. As such, disturbance and nest predation are constant problems for this species. As with all ground-nesting birds, the western snowy plover retreats from urbanization, but no other species has retreated more in San Diego County (Unitt 2007).

Dense Area of Nonnative European sea lavender *(Limonium duriusculum)*
Out-competing Native Marsh Rosemary *(Limonium californicum)*

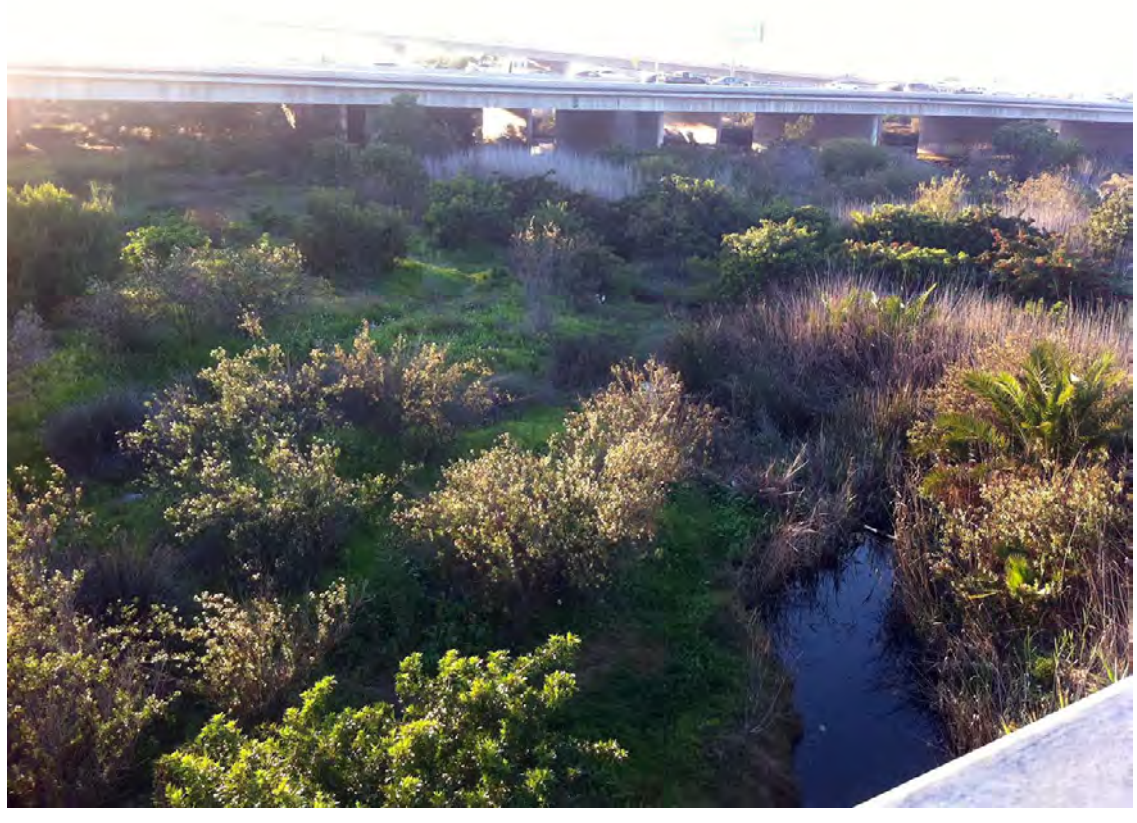
Overview of High/Transitional Southern Coastal Salt Marsh – Facing East

Overview of Mid-Southern Coastal Salt Marsh – Facing East.

Figure 7
Representative Photographs
of Southern Coastal Salt Marsh Western Mitigation Area in February 2015

San Diego River Channel, Disturbed Southern Willow Scrub and Pacific Highway Bridge – Facing Northeast

Disturbed Southern Willow Scrub and Pacific Highway Bridge (foreground) – Facing Southeast



Disturbed Southern Willow Scrub, View from Pacific Highway Bridge – Facing West-Northwest

Figure 8
Representative Photographs of Southern Willow Scrub Eastern Mitigation Area in February 2015

West Mission Bay Drive Bridge Wetland Mitigation Plan
P:\2007\07080207 W Mission Bay Dr Bridge\6Graphics\Figures\Mitigation\X_rep photos1.ai (dbrady) 3/4/15

CHAPTER 3.0
GOAL OF MITIGATION

3.1 TYPES OF HABITAT TO BE RESTORED

No landform alteration or grading is planned as part of this mitigation. Rehabilitation restoration will primarily include removal of invasive exotics and other nonnative species, container planting and seeding of native species with temporary manual irrigation provided, and implementation of a post-installation 5-year maintenance and monitoring period that verify restored native habitat is established and self-sustaining, and that performance standards have been achieved. Enhancement will include removal of invasive exotics and other nonnative species, potential planting of native species depending on the degree of natural recruitment, and a 5-year maintenance and monitoring period.

The 10.6-acre west site will undergo enhancement and rehabilitation restoration via removal of nonnative invasive exotic species and native habitat revegetation via a combination of native plant natural recruitment and planting (transplants and container plants) in locations where natural recruitment may be insufficient. In the east site a total of 1.51 acres of predominately disturbed southern willow scrub intermixed with exotic trees, Arundo-dominated riparian habitat, and southern willow scrub will be restored to native southern willow habitat scrub habitat. Container plant palettes and a seed mix are included in Section in 4.8.

3.2 FUNCTIONS AND SERVICES TO BE RESTORED

Wetland (aquatic and riparian) functions are defined as the normal or characteristic activities that take place in wetland and riparian ecosystems. Wetland and riparian areas perform a wide variety of functions in a hierarchy from simple to complex as a result of their physical, chemical, and biological attributes. At the highest level of this hierarchy is the maintenance of ecological integrity, the function that encompasses all of the structural components and processes in a wetland ecosystem (Smith et al. 1995).

Enhancement and rehabilitation restoration and conversion of the degraded resource areas within the two mitigation sites to native southern coastal salt marsh and southern willow scrub will provide biological, chemical, hydrologic, and water quality benefits. Because much of the 12.11 acres within the two mitigation sites is degraded and will require an active planting, seeding, and maintenance program to revegetate and establish native plant habitats, the majority of the mitigation approach is “rehabilitation” restoration, as defined by the Compensatory Mitigation

Final Rule (73 Federal Register, April 10, 2008, 33 CFR pt. 325) and focuses on improving all the primary resource functions within the site. Rehabilitation restoration results in a gain of resource functions but not area. The other mitigation method utilized is enhancement within portions of the western mitigation area where only removal of scattered invasive exotics (i.e., European sea lavender) is needed and native habitat revegetation is expected to occur via native plant recruitment, which will focus on improving function(s) of the existing southern coastal salt marsh habitat.

A brief review of the CRAM post-restoration maximum obtainable scores presented in Table 4 for the four attributes is provided here. Additional discussion is provided in the CRAM survey letter report (Appendix B).

- No change is expected in the Buffer and Landscape Context Attribute as the mitigation restoration effort will not change the larger landscape context of the sites or surrounding buffer area.
- No change is expected in the Hydrology Attribute as the mitigation restoration effort will not change the source of the water or the tidal influence.
- No change is expected in the Physical Structure Attribute as no grading or other similar activities are planned as part of the mitigation restoration effort.
- Several metrics and submetrics in the Biotic Structure Attribute are expected to increase as a result of the mitigation restoration effort. With the removal of exotics and planting/seeding of natives, the percent invasion submetric score is expected to increase as well as horizontal and vertical biotic structure metrics. A temporary decrease in the submetric for number of plant layers is expected at the eastern site due to the removal of exotics comprising the "very tall" layer. Native species will replace this very tall layer, but it may take longer than the five year monitoring period for the native trees to reach the height required (greater than 3 meters) to count as a "very tall" layer.

3.3 RATIONALE FOR EXPECTING SUCCESS

Hydrology is generally considered the most important variable driving wetland development (Mitsch and Gosselink 2000). Since the mitigation sites currently support a combination of native and exotic wetland and riparian hydrophytic species and transitional riparian species, there is a high confidence that the site hydrology and biotic and abiotic conditions within the 10.6-acre and 1.51-acre sites will successfully support the restoration and conversion of disturbed habitat to native southern coastal salt marsh and southern willow scrub habitats using plant species currently found on-site. Because site conditions currently support wetland species at both

Table 4. CRAM Metric, Submetric, and Attributes for Each Assessment Area (AA) and Projected Post-Restoration Scores

		Western Mitigation Site (SCSM)[1]				Eastern Mitigation Site (SWS)[2]	
Attributes	**CRAM Metrics and Submetrics**	**AA1**	**AA2**	**AA3**	**Projected Post-Restoration**	**AA3**	**Projected Post-Restoration**
Buffer and Landscape Context	Aquatic Area Abundance	C (6)	C (6)	C (6)	C (6)	A (12)	A (12)
	Percent of Assessment Area with Buffer	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	Average Buffer Width	B (9)	B (9)	A (12)	B (9)	C (6)	C (6)
	Buffer Condition	C (6)	C (6)	C (6)	C (6)	C (6)	C (6)
	Attribute Score (Raw/Final)*	**14/60%**	**14/60%**	**14/60%**	**14/60%**	**19/78%**	**19/78%**
Hydrology	Water Source	C (6)	C (6)	C (6)	C (6)	C (6)	C (6)
	Hydroperiod	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	Hydrologic Connectivity	B (9)	B (9)	B (9)	B (9)	A (12)	A (12)
	Attribute Score (Raw/Final)*	**27/75%**	**27/75%**	**27/75%**	**27/75%**	**27/75%**	**27/75%**
Physical Structure	Structural Patch Richness	C (6)	C (6)	C (6)	C (6)	B (9)	B (9)
	Topographic Complexity	C (6)	C (6)	C (6)	C (6)	B (9)	B (9)
	Attribute Score (Raw/Final)*	**12/50%**	**12/50%**	**12/50%**	**12/50%**	**18/75%**	**18/75%**

		Western Mitigation Site (SCSM)[1]				Eastern Mitigation Site (SWS)[2]	
Biotic Structure	Plant Community (PC): Number of Plant Layers	B (9)	B (9)	B (9)	B (9)	A (12)	B (9)
	PC: Number of Codominant Species	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	PC: Percent Invasion	B (9)	B (9)	B (9)	A (12)	D (3)	A (12)
	Plant Community Submetric Score	**10**	**10**	**10**	**11**	**8**	**10**
	Horizontal Interspersion	D (3)	D (3)	C (6)	C (6)	B (9)	B (9)
	Vertical Biotic Structure	D (3)	D (3)	D (3)	D (3)	D (3)	B (9)
	Attribute Score (Raw/Final)*	**16/44%**	**16/44%**	**19/53%**	**19/53%**	**20/56%**	**28/78%**
	Overall AA Score**	**57**	**57**	**60**	**59**	**71**	**76**

[1] Southern coastal salt marsh (SCSM)
[2] Southern willow scrub (SWS)
* The raw attribute score is the sum of the numeric scores for the Hydrology, Physical Structure, and Biotic Structure attributes, and is a weighted average for the Buffer and Landscape Context attribute. The final attribute score is a percentage of the total possible raw score for that attribute and ranges from 25% to 100%.
** The overall score is a percentage of the total possible CRAM score and is calculated as follows: sum of attribute scores/120 x 100. It ranges from 25% to 100%.
Note: CRAM alphanumeric scores have a corresponding numeric score used to calculate submetric, attribute, and final CRAM scores.
A = 12; B = 9; C = 6; D = 3

mitigation sites, no grading or landform modifications are planned as part of the mitigation approach. Rainfall, periodic surface water flows, and groundwater in combination will support the species currently found on-site, newly planted and seeded wetland species, and sustain native habitats. Based on the site conditions, temporary irrigation will be needed for the plant establishment phase for the east mitigation site. Once the plants are established, temporary watering would be permanently discontinued.

3.4 TIME LAPSE

The planned mitigation implementation and maintenance and monitoring establishment phase for the southern coastal salt marsh and southern willow scrub habitats will take place over a 5-year period, following the completion of nonnative plant removal and native plant and seed installation. The performance standards presented in Section 6.8 are intended to be met at the end of the 5-year establishment period. Establishment of mature vegetation and development of multiple plant layers (strata) in aquatic and riparian habitats will likely take longer than 5 years. Specifically, tree species such as willows and cottonwood that will be planted in the eastern mitigation site can take 10 to 15 years to mature, depending on environmental factors such as water availability and soil conditions. Therefore, the 5-year success standard represents an intermediate stage in the long-term development of the restored habitats. After the 5-year establishment phase, the restored and enhanced habitats within the two mitigation sites will continue to mature and develop during the long-term maintenance and monitoring portion of the project.

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CHAPTER 4.0
MITIGATION WORK PLAN

Provided below is a review of responsible parties, protection of plants and sensitive wildlife species, access and staging area information, implementation steps and schedule, nonnative species removal, site preparation, temporary irrigation, the planting and seeding plan, and documentation of final as-built conditions.

4.1 RESPONSIBLE PARTIES

Project Proponent – The City of San Diego is responsible for financing the installation, maintenance, and monitoring; adaptive management; and long-term preservation and management of the mitigation sites in accordance with this mitigation plan to successfully complete the mitigation project. The City of San Diego project manager will be responsible for coordinating project progress and ensuring that the details in this plan are successfully carried out.

Restoration Ecologist – Overall supervision of the installation, maintenance, and monitoring of this mitigation project during the 5-year establishment phase will be the responsibility of a qualified restoration ecologist. A restoration ecologist will also be involved with the long-term site management. The restoration ecologist will be an individual or team of individuals with a degree in botany, ecology, or related field, and a minimum of 5 years of successful experience in Southern California with wetland and riparian restoration. The restoration ecologist will educate all participants in regard to mitigation goals and requirements, and will oversee protection of existing biological resources; nonnative plant removal; site preparation; planting and seeding; and maintenance, monitoring, and reporting. The restoration ecologist will lead preparation of the mitigation construction documents, if determined necessary by the City of San Diego. It is believed there is sufficient detail in the plan herein to direct successful nonnative plant removal and planting and seeding without supplemental construction documents. Since an automated irrigation system is not planned in this mitigation plan, the need for preparation of irrigation construction plans is not expected.

Landscape Installation Contractor and Maintenance Contractor – The City of San Diego will retain a qualified landscape installation contractor with demonstrated experience in successfully installing and maintaining wetland and riparian mitigation projects. The contractor will be responsible for implementing and initially maintaining the mitigation effort. The contractor will be a firm (or firms) holding a California C-27 contractor's license and will have on staff a Qualified Applicator licensed by the California Department of Pesticide Regulations. The

responsibility of the contractor is complete when the restoration ecologist and the City project manager agree that the implementation and initial maintenance phases of work are complete. As determined by the City, the installation landscape contractor may continue after installation to maintain the mitigation sites for 5 years, or the City may retain a separate qualified landscape contractor to perform the 5-year post-installation maintenance period.

4.2 PROTECTION OF NATIVE PLANTS AND WILDLIFE SPECIES

Implementation measures have been designed to protect native flora and fauna and not jeopardize the presence of the light-footed Ridgway's rail, California least tern, western snowy plover and salt marsh bird's-beak (*Cordylanthus maritimus*) on-site during the project implementation, maintenance, monitoring, and reporting period. Although short-duration, temporary effects could occur from implementation, maintenance, and some monitoring activities at the mitigation sites, the restoration and enhancement of native habitat would ultimately enhance the suitable habitat available for the light-footed Ridgway's rail, California least tern, and western snowy plover. Conservation and protection measures for these species are provided below.

4.2.1 Implementation Measures to Protect Native Flora and Fauna

- Ingress and egress for personnel performing exotic plant removal and herbicide application, planting, seeding, irrigation and personnel monitoring for this mitigation project will only be on foot.
- The project's restoration ecologist will identify native and nonnative vegetation on-site for the project's landscape contractor and will oversee removal of the exotic plants to verify native plants are protected (e.g., by flagging).
- Physical removal of invasive exotics will be performed with hand-tools (i.e., saws and pruners, shovels and/or trowels) and all nonnative plant debris will be hand-carried off the site and properly disposed of. No vehicular equipment shall be permitted within the mitigation sites.
- Application of herbicides shall be strictly controlled by using herbicides currently approved by USEPA for wetlands; no herbicide shall be applied to native vegetation.
- Herbicide shall be applied with backpack sprayers with nozzles in good working order. Spray shall be directed downward below the waist, and spraying shall be limited to nonwindy days in order to limit overspray onto any adjacent native vegetation. Herbicide shall be tinted with a biodegradable green dye to facilitate visual control of spray.

- During the project mitigation implementation and maintenance, monitoring and reporting periods, the landscape contractor shall perform equipment refueling and/or herbicide mixing only within a designated upland area off-site. No fuels, herbicides, or other potential pollutants shall be prepared, mixed, or transferred within jurisdictional habitat areas.

- All the MHPA adjacency guidelines will be enforced by the restoration ecologist.

- In accordance with the Project's Section 7 Consultation, if restoration/enhancement activities in an area potentially occupied by rails, terns, or plovers, are necessary between March 15 and September 15, a biologist with knowledge of rail, tern, and plover biology and ecology and approved by the Carlsbad Fish and Wildlife Office (CFWO) will survey for rails, terns, and plovers within the restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by restoration/enhancement site maintenance. Surveys will consist of three visits separated by two weeks starting March 1 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if rails, terns, and/or plovers are found during any of the visits, the Project will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the rail, ten, and plover (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

- A CFWO-approved biologist familiar with salt marsh bird's-beak will conduct training sessions for each employee conducting restoration/enhancement activities within habitat occupied by the species. The training will include the following topics: identification of the species (including photographs), the species general ecology and host plants, and appropriate avoidance measures.

- As detailed in the Mitigated Negative Declaration (City of San Diego 2012), additional pre-implementation surveys will be performed for California horned lark, Belding's savannah sparrow, and the Northern Harrier during their breeding seasons. If nesting birds are discovered, noise mitigation measures will be implemented.

- Before any ground disturbance or vegetation clearing between February 1 and September 15, a Migratory Bird Treaty Act nest survey will be performed to avoid impacts to any migratory avian species.

4.3 ACCESS AND STAGING

The contractor will choose the access and staging area. Prior to the commencement of the mitigation activities, the work limits will be approved by the restoration ecologist and site boundaries flagged before the contractor begins work.

Access to the west site to perform the implementation and maintenance is possible from the bike path adjacent to the Dog Beach Parking Lot located at the intersection of West Point Loma Boulevard and Voltaire Street. Access to the east site is possible from Pacific Highway, the bikepath that parallels the San Diego River beneath the on-ramp for Interstate 5, and the Public Utilities access road to the manholes. With permission from the City, landscape installation and maintenance personnel could be allowed temporary access to drive small trucks (pick-up and flatbed trucks) on the bikepath and maintenance roads.

4.4 IMPLEMENTATION STEPS AND SCHEDULE

Implementation of mitigation will include confirmation (demarcation as needed) of the mitigation limits and staging areas; removal and disposal of existing nonnative vegetation; and installation of container planting and seeding. The estimated project schedule is provided in Table 5.

Table 5. Estimated Project Schedule[1]

Task	Anticipated Completion Date
Preparation of Mitigation Documents	Completed
Initiation of Container Plant and Seed Acquisition	March 2018
Confirmation of Mitigation Limits and Staging Areas	August 2018
Initial Removal of Nonnative Exotic Plants	October 2018
Mitigation Site Planting and Seeding	November/December 2018
Start 5-Year Maintenance and Monitoring Period	January 2019
Complete 5-Year Maintenance and Monitoring Period	December 2023
Start of Long-Term Management and Maintenance	January 2024

[1] This is a conservative implementation schedule that may occur within a shorter time frame.

4.5 NONNATIVE PLANT REMOVAL

This section provides guidance and recommendations on invasive exotic ("noxious") species removal methods within the mitigation sites. For this plan, exotics are those species recognized by California Invasive Pest Council (Cal-IPC) Lists A and B (Cal-IPC 2006), and those recognized as occurring on-site that can become problematic in inhibiting the establishment and development of native plant species. The primary requirements of this work include avoiding impacts to existing native plants and wildlife species, and performing the exotics removal in a safe and professional manner. Exotic plants will be hand-pulled and/or cut and treated with herbicide. For removal of nonnative species, no mechanical or motorized equipment is planned.

The San Diego River Park Foundation has been conducting trials, including within the west site, for the control of European sea lavender. Tarping and covering European sea lavender as a control method has provided positive results. It is expected that even if tarping is used on some scale to control European sea lavender, removal by hand and/or herbicide application will also be conducted.

Some exotic species may be cut or hand-pulled (e.g., when they are small and the entire root system and/or stolons can be removed), but many exotic species require herbicide application, sometimes in conjunction with cutting, to be eradicated. Common reed, which is a prevalent exotic at the east site, is an example of a species that requires herbicide application as part of the control process to eradicate it. If herbicides are used judiciously in accordance with label instructions and in compliance with state and federal laws, they should pose no harm to water quality, biological resources, or people. If weed ecology information indicates herbicide application is necessary to eradicate certain species, then direct application is primarily recommended.

Prior to removal of nonnative species, the restoration ecologist will clearly identify (including flagging if needed) native plants to be protected and will meet on-site with the landscape contractor to review the species and their locations. If any native plants are damaged, as determined by the restoration ecologist, the contractor will be responsible for replacing the plants within the mitigation areas.

Table 6 lists exotic species and potentially troublesome nonnative species that have been recorded within the mitigation sites or vicinity, along with potential removal and control methods. Information on life form, growth habitat, reproduction, and removal/eradication methods is provided from Invasive Plants of California's Wildlands (Bossard et al. 2000), Cal-IPC (2006), and the University of California Statewide Integrated Pest Management Project. Within these sources, information on physical, biological (e.g., insects and fungi), and chemical/herbicide control methods was reviewed. The following potential control methods are only presented here to help illustrate possible methods within this plan. It is a project requirement that all exotic plants be removed. However, the contractor has the discretion to choose the methods as long as they are acceptable to the project's restoration ecologist and performed in accordance with protective measures included in Section 5.0 of this plan. The contractor retains discretion to select preferred removal/eradication methods for nonnative species as long as the work is performed in compliance with this mitigation plan and all applicable state and federal laws. All exotic plant debris shall be removed and properly disposed of off-site.

Table 6. Review of Exotic Species Occurring or Potentially Occurring at the Mitigation Sites and Potential Control Methods[1]

Species	Life Form	Growth Habitat	Reproduction	Potential Control Methods
Southern Coastal Salt Marsh – West Mitigation Site				
European Limonium (*Limonium duriusculum)*	Perennial herb	Erect, 20–30 centimeters	Seed and vegetatively	Cover with a tarp, hand-pull or spray treatment of aquatic safe Roundup Custom™ before flowering.
Disturbed Southern Willow Scrub – East Mitigation Site				
Arundo (*Arundo donax*)	Perennial grass	Erect, greater than 20 feet tall (rhizomatous)	Roots and rhizomes	Spray or apply direct treatment of glyphosate to uncut or cut stems between late spring and fall.
Bermuda grass (*Cynodon dactylon*)	Perennial grass	Prostrate, less than 1 foot high	Seed and vegetatively	Apply post-emergent herbicide to leaves and stems when they are growing vigorously from spring to late summer.
Black mustard (*Brassica nigra*)	Annual herb	Erect, 1 to 2 feet tall	Seed	Hand-pull when feasible, or apply herbicide before it flowers.
Brazilian pepper tree (*Schinus terebinthifolius*)	Deciduous tree	Shrub or small tree to 40 feet tall	Seed or trunk resprouts	Physically remove smaller specimens if the entire root system can be removed, or apply triclopyr using the frill-cut method or to cut stumps, or use basal spot applications of fromacil and hexazionone.
Bromes (*Bromus* spp.)	Annual grass	Erect or ascending culms to 16 inches.	Seed	Hand-pull when feasible, or apply herbicide before it flowers.
Clover (*Melilotus* spp.)	Annual herb	Erect 2 to 5 feet tall	Seed	Hand-pull when feasible, or apply herbicide before it flowers.
Common reed (*Phragmites australis*)	Perennial grass	Erect, up to 15 feet tall	Rhizome, seed, stolons	Spray or apply direct treatment of glyphosate to uncut or cut stems between late spring and fall.
Crown daisy (*Glebionus* spp.)	Annual herb	Erect, up to 6 feet tall	Seed	Hand-pull when feasible, or apply herbicide before it flowers.
Fennel (Foe*niculum vulgare*)	Perennial herb	Erect, 4 to 10 feet tall	Seed or root crown	Apply amine and ester formulations of triclopyr or glyphosate in spring.
Milk thistle (*Silybum marianum*)	Biennial	Erect 3 to 6 feet tall	Seed	Control with cutting at base before plants flower, or apply herbicide in fall or spring before flowering.
Oxalis (*Oxalis* sp.)	Perennial herb	Up to 6 inches	Seed	Hand-pull when feasible, or apply herbicide before it flowers.

Species	Life Form	Growth Habitat	Reproduction	Potential Control Methods
Pampas grass (*Cortaderia* sp.)	Perennial grass	Erect 6 to 8 feet tall	Seed (root crown resprouts)	Bag seed heads, Physically remove, ensuring the entire crown and top sections of roots are removed, or treat with a post-emergent application of glyphosate at about a 2% solution with surfactant.
Poison hemlock (*Conium maculatum*)	Biennial	Erect 2 to 10 feet tall	Seed	Hand-pulling is effective, especially prior to seed set, or post-emergent herbicides can be applied in the late spring.
Radish (*Raphanus sativa*)	Annual, biennial	Erect, up to 3 feet tall	Seed	Hand-pull when feasible, or apply herbicide before it flowers.
Tocalote (*Centaurea melitensis*)	Annual herb	Erect, 2 to 3 feet tall	Seed	Apply herbicide in spring or fall.
Tree tobacco (*Nicotiana glauca*)	Perennial shrub	Erect 6 to 15 feet tall	Seed	Hand-pull if the root system can be removed, or cut and apply triclopyr or glyphosate.

[1] The contractor is responsible for removal and eradication of additional exotics that may be identified within the mitigation sites by the project's restoration ecologist. Any exotics recognized by the Cal-IPC and/or the University of California Statewide Integrated Pest Management Project that may be subsequently identified (e.g., *Lepidium latifolium*, *Delairea odorata*, *Washingtonia filifera*, etc.) must be removed wherever they occur within the mitigation sites. Additional, less problematic nonnative species that may be subsequently identified will be controlled when it is determined by the restoration ecologist that they are inhibiting the establishment and development of native plant species.

4.6 SITE PREPARATION

Site preparation after initial nonnative plant removal within the two mitigation sites will include removal of any remaining debris (trash, etc.), installation of erosion control materials if needed, and eradication and removal of any nonnative species that resprouted in the mitigation areas. Erosion control materials (straw wattles, natural fiber matting, etc.) will be installed as appropriate in areas of the sites as determined by the restoration ecologist and City project manager.

Once the restoration ecologist and City project manager confirm that site preparation is complete, installation of native container plants and seed can proceed during the appropriate time of the year (e.g., between November and February).

4.7 TEMPORARY IRRIGATION

Based on hydrologic conditions in the west site, including tidal events that periodically inundate portions of this mitigation area, the need for temporary irrigation is not expected for transplants or container plants after the initial installation period. It may be beneficial to water transplants and container plants upon installation, but the need for follow-up watering is not expected.

Native plants and seed that will be installed in the east site are expected to need temporary irrigation for up to 3 years of the 5-year post-installation maintenance and monitoring program. A goal of the mitigation is to have the restored habitat areas persist and be self-sustaining without temporary irrigation for at least 2 years before the mitigation establishment period is considered complete. Because of possible vandalism in the eastern mitigation area and periodic flood events in the San Diego River, an automated irrigation system with laterals and sprinkler heads is not planned. Instead, a water truck will be utilized. Under this approach, a water truck will park near the site (e.g., temporarily on the paved bike trail south of the site) and a hose will be extended to water container plants and spray seeded areas to assist with germination and plant establishment. Although an automated system is not planned, it is recommended that the maintenance contractor who is retained by the City be given the discretion to determine the means and methods to provide temporary irrigation to ensure that success standards are achieved on schedule.

4.8 PLANTING AND SEEDING

Planting will be accomplished utilizing a plant palette for the western site including potential transplants and container plants. Also, planting and seeding will be accomplished utilizing a container plant palette and seed mix for the eastern site. The primary goal of the rehabilitation restoration planting at both sites (and seeding within the eastern mitigation site) is to revegetate and establish native vegetation within a 5-year period that is ecologically appropriate for the sites and will result in healthy self-sustaining habitats that are resilient to a natural range of disturbances (e.g., flood, extended drought, and fire). Native plant volunteers are also expected to occur in rehabilitation restoration and enhancement areas once invasive nonnative plants are removed and more sunlight, moisture, and nutrients become available. Since no grading is necessary and predominately native soil occurs within the two mitigation sites, the existing soil is considered appropriate for planting and seeding and no soil testing is considered necessary. At the east site, container planting will be followed with seed application by hydroseeding with a fiber mulch amendment. Since native plant volunteers are expected to mostly fill in gaps after nonnative plants are removed in the west site, the restoration ecologist will decide whether planting or seeding will be required at this site. If native volunteer density is insufficient (e.g., open areas of 3.0 square meters or greater), transplants, container plants, and/or plugs will be installed utilizing appropriate

species that occur in particular areas of the salt marsh. If transplanting is conducted, the restoration ecologist, resident engineer, and contractor will coordinate to identify appropriate collection (donation) locations and establish criteria (e.g., not collecting over 5% of the specimens within a given population area) to ensure habitat in collection areas is not adversely affected.

After removal of invasive nonnative plants, planting and seeding of native species will occur at an appropriate time of the year (e.g., between November and February) within the 1.51 acres of the east site. The plant species selections are based on native plant species observed or known to occur within the vicinity of the site.

The restoration ecologist will determine in the field the most appropriate areas to install species included in the southern willow scrub plant palette and seed mix. The determination will be based on subtle differences in the field and container plants will be installed in a manner that mimics natural plant distribution (e.g., random and/or aggregate distributions rather than uniform rows).

Provided below are the west site transplant and container plant palette (Tables 7 and 8), and the east site container plant palette and seed mix (Tables 9 and 10, respectively).

Table 7. High/Transitional Southern Coastal Salt Marsh (West Site) 5.1 Acre Transplants and Container Plant Palette

Species[1/2/3/4/5]	Common Name	Container Size	Number per Acre	Number for 5.1-Acre Mitigation Area
Distichlis littoralis (*Monanthochloe littoralis*)	shoregrass	4-inch plugs	200	1,020
Distichlis spicata	saltgrass	4-inch plugs	200	1,020
Frankenia salina	alkali-heath	4-inch plugs or 1-gallon	200	1,020
Limonium californicum	marsh rosemary	1 gallon	396	2,020
Salicornia subterminalis (*Arthrocnemum subterminale*)	Parish's pickleweed	4-inch plugs or 1-gallon	200	1,020
Suaeda esteroa	estuary seablite	4-inch plugs or 1-gallon	200	1,020
		Total	**1,396**	**7,120**

[1] Plants will be transplants from the southern coastal salt marsh habitat on-site within the mitigation area, or container plant material propagated (from cuttings or seed) from material within the mitigation site or San Diego River.
[2] Plants will be certified as free of exotic pests (e.g., Argentine ants) prior to delivery on-site.
[3] Any potential substitutions must be approved by the restoration ecologist.
[4] The restoration ecologist will lay out the species for installation within appropriate ecological locations within high/transitional and mid-southern coastal salt marsh habitats in the mitigation area.
[5] The 1,396 plant-per-acre average equals approximate spacing of 6-foot on center.

Table 8. Mid-Southern Coastal Salt Marsh (West Site) 5.5 Acre Transplants and Container Plant Palette

Species[1/2/3/4/5]	Common Name	Container Size	Number per Acre	Number for 5.1-Acre Mitigation Area
Distichlis littoralis (*Monanthochloe littoralis*)	shoregrass	4-inch plugs	190	1,045
Frankenia salina	alkali-heath	4-inch plugs or 1-gallon	190	1,045
Jaumea carnosa	marsh jaumea	4-inch plugs or 1-gallon	190	1,045
Limonium californicum	marsh rosemary	1 gallon	256	1,408
Salicornia pacifica (*Sarcocornia pacifica*)	Pacific pickleweed	4-inch plugs or 1-gallon	190	1,045
Salicornia subterminalis (*Arthrocnemum subterminale*)	Parish's pickleweed	4-inch plugs or 1-gallon	190	1,045
Suaeda esteroa	estuary seablite	4-inch plugs or 1-gallon	190	1,045
		Total	**1,396**	**7,678**

[1] Plants will be transplants from the southern coastal salt marsh habitat on-site within the mitigation area, or container plant material propagated (from cuttings or seed) from material within the mitigation site or San Diego River.
[2] Plants will be certified as free of exotic pests (e.g., Argentine ants) prior to delivery on-site.
[3] Any potential substitutions must be approved by the restoration ecologist.
[4] The restoration ecologist will lay out the species for installation within appropriate ecological locations within high/transitional and mid-southern coastal salt marsh habitats in the mitigation area.
[5] The 1,396 plant-per-acre average equals approximate spacing of 6-foot on center.

4.8.1 Container Plant Specifications

The contractor will obtain container plants from a qualified nursery. Plants will be propagated from propagules gathered within a 20-mile radius within the San Diego watershed to the extent feasible.

The restoration ecologist will confirm that plants are delivered to the site in a healthy and vigorous condition before they are installed. The restoration ecologist will inspect container plants and reject plants that are dead, root-bound, stunted, pest-infested, diseased, or unacceptable for other reasons. Larger container sizes are acceptable if approved by the restoration ecologist. The restoration ecologist will also direct plant layout before installation.

Table 9. Southern Willow Scrub (East Site) Container Plant Palette

Species[1/2/3]	Common Name	Container Size	Approximate Spacing (feet on center) from Like Species[4]	Number per Acre[5]	Number for 1.51-Acre Mitigation Area
Shrubs					
Anemopsis californica	yerba mansa	1-gallon	4	50	75
Baccharis salicifolia	mulefat	1-gallon	15	192	290
Isocoma menziesii var. *vernonioides*	coastal goldenbush	1-gallon	20	110	165
Juncus acutus spp. *leopoldii*	spiny rush	1-gallon	50	16	25
Sambucus nigra ssp. *caerulea*	blue elderberry	5-gallon	50	20	30
Trees					
Platanus racemosa	western sycamore		70	10	15
Populus fremontii ssp. *fremontii*	western cottonwood	5-gallon	50	20	30
Salix gooddingii	black willow	1-gallon	30	50	75
Salix lasiolepis	arroyo willow	1-gallon	25	70	105
			Total	**538**	**810**

[1] Plants will be propagated (cuttings or seed) from material from the San Diego River watershed or within 20 miles of the mitigation site. Plants that cannot be provided from the immediate vicinity will be provided from the closest commercially available sources.
[2] Plants will be certified as free of exotic pests (e.g., Argentine ants) prior to delivery on-site.
[3] Any potential substitutions must be approved by the restoration ecologist.
[4] The restoration ecologist will lay out the species and provide appropriate composition layouts within different ecological settings (within range of moisture gradients) within the southern willow scrub habitat.
[5] The 538 plant-per-acre average equals approximate spacing of 9-foot on center.

4.8.2 Container Plant Installation Methods

- Dig a hole twice as deep and three times as wide as the container. Break up soil clods and avoid a smooth-sided "bathtub" effect in the hole. Fill the planting hole with water and allow water to drain completely into the soil.
- Partially backfill the hole with native soil to allow planting at the proper depth. Moisten and gently tamp the backfill into place. Remove the plant from its container and place on top of the moistened backfill so the plant collar is approximately 1 inch above finish grade. Then backfill the remaining hole with native soil.
- Create a planting basin berm, roughly 2 feet in diameter around the plant, and apply 1 to 2 inches of coarse, organic, weed-free mulch inside the berm. Then thoroughly water and allow the basin to drain.

Specified planting and seeding will be considered complete when approved by the restoration ecologist and the City project manager.

Table 10. Southern Willow Scrub (East Site) Seed Mix

Species	Common Name	Pounds per Acre	Minimum Percent Purity/ Germination	Pounds of Pure Live Seed (PLS) per Acre[4]
SEED MIX[1/2/3]				
Ambrosia psilostachya	western ragweed	3	80/30	0.72
Artemisia douglasiana	Douglas' mugwort	9	10/50	0.45
Distichlis spicata	saltgrass	5	70/50	1.75
Eleocharis macrostachya	pale spikesedge	2	70/70	0.98
Juncus arcticus var. *mexicanus*	Mexican rush	6	80/30	1.44
Oenothera elata ssp. *hookeri*[4]	evening primrose	4	98/75	2.94
Urtica dioica ssp. *Holosericea*	stinging nettle	3	50/60	0.90
	Total	**32**		**9.18**

[1] Seed will be applied by hydroseed in a slurry with fiber mulch, fertilizer, and tackifier.
[2] Seeds will be collected within the San Diego River watershed or within 20 miles of the site. Seeds that cannot be collected from the immediate vicinity will be provided from the closest commercially available sources.
[3] Any potential substitutions must be approved by the restoration ecologist.
[4] The pounds per acre of PLS in this table for bare ground areas have been rounded. The pounds per acre of seed will be adjusted to achieve the specified pounds per acre of PLS when actual percent purity and germination rates are calculated.

4.8.3 Seed Specifications

The contractor will obtain seed from a qualified supplier. Seed will be collected within a 20-mile radius within the San Diego watershed to the extent feasible. All seed must be delivered to the site in sealed and labeled packaging, along with a California State Agricultural Code seed certification including the supplier's name, geographic location, and collection date, and the tested purity and germination percentage rates. The seeds will be ordered and delivered in separate, original containers by species and inspected by the restoration ecologist. Seed must be labeled with the species, purity, germination, percent live seed (PLS), and quantity of seed in pounds. If the delivered seed differs from specified purity and germination rates, then the application rates will be adjusted accordingly to achieve the equivalent amount of PLS. The restoration ecologist will inspect the seed prior to mixing with other species in the seed mix and application, and will reject seed lacking certified tags or not substantially conforming to specifications.

4.8.4 Seed Application Methods

- Seed application rates are provided in Table 10. If the delivered seed differs from specified purity and germination rates, the total pounds per acre rates will be adjusted accordingly to achieve the specified PLS.
- Seed will be applied by hydroseed application. Application steps include the following:
    - Hydroseed equipment shall have a built-in agitation system and operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of seed, organic mulching amendments, and fertilizer.
    - Virgin wood fiber mulch: apply at a minimum rate of 2,000 pounds per acre (lbs./acre).
    - Organic tackifier: Gura Tack or approved equal applied at a rate of 100 lbs./acre.
    - Spray areas with a uniform visible coat, using the dark color of the wood fiber mulch as a visual guide. The slurry will be applied in a downward drilling motion via a fan stream nozzle to form a blotter-like ground cover impregnated uniformly with seeds and which, after application, will allow absorption of moisture and rainfall to percolate to underlying soil.

The restoration ecologist and City project manager will determine when the planting and seeding phase is successfully completed in the site. Completion of this phase will mark the beginning of the 120-day plant establishment period (PEP) within post-installation Year 1.

4.9 FINAL LANDSCAPE CONSTRUCTION PLANS AND AS-BUILT CONDITIONS

Once the installation phase is complete, the contractor will prepare a set of as-built construction plans within 30 days that will detail any changes in the 10.6-acre west site and/or 1.51-acre east site mitigation limits or planting or seeding (i.e., species and quantities) as compared to the planting and seeding specifications in this plan. The contractor will submit the as-built plans electronically to the City of San Diego. The restoration ecologist and the City will review the as-built plans and determine if the contractor needs to make any revisions before the plans are finalized.

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CHAPTER 5.0
MAINTENANCE

The contractor will be responsible for maintenance during the installation period (i.e., after initial removal of invasive nonnative species, and the first phases of planting and seeding of the mitigation areas) and after completion of the installation within the 10.6-acre and 1.51-acre sites for the first 120 days of Year 1. After the initial 120-day maintenance period, a contractor (which may be the same firm as the installation contractor or a separate firm) will take over responsibility for the remainder of the scheduled 5-year maintenance period.

The contractor will perform maintenance visits and activities in accordance with the mitigation goals presented in this plan. The number of maintenance visits will vary depending on the amount of work necessary for the mitigation areas to meet success standards on schedule. The intensity of maintenance over the 5-year period is expected to subside each year as native plants recolonize and become established in mitigation areas and competition from nonnative plants is reduced through removal of these species. As a guideline, the contractor is expected to perform maintenance approximately once a month during the first 4 months (i.e., 120-day PEP). The contractor is also expected to perform maintenance approximately monthly during the next 8 months of year 1; every 2 months during year 2; and quarterly during years 3, 4, and 5. Maintenance may be needed more frequently, for example, to perform remedial measures (e.g., replanting). The contractor will coordinate with the resident engineer and restoration ecologist on a regular basis to determine priority maintenance activities during different periods of the project.

The primary maintenance obligations are described below.

5.1 SITE PROTECTION AND EROSION CONTROL

Vandalism is not expected to occur within the west site but is foreseen as a possibility within the east site. If vandalism or unauthorized access (e.g., off-highway vehicles) does occur, site protection measures will be evaluated to determine the best approach to protect the site(s). If needed, it is expected initial site protection measures would include signage to indicate habitat restoration is in progress and unauthorized access is not permitted. If this is not sufficient, temporary fencing or other measures would be considered and implemented as appropriate.

During the maintenance period, the site will be evaluated on a regular basis to determine if erosion control materials need to be added or repaired/maintained. Erosion control materials can include, but are not limited to, silt fence, straw wattles, and natural fiber matting.

5.2 WEED CONTROL

Nonnative plant species can be divided between those that are rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory and all other exotic/weed species. All "High" and "Moderate" rated species will be eradicated wherever they occur within the mitigation sites. Less problematic weeds will be controlled when they proliferate beyond acceptable levels and are inhibiting the development of native plants. Nonnative plant species will also be removed from container plant basins until the plants are established.

Nonnative plants will be removed before they become 12 inches high or they set seed. Nonnative plants, including invasive exotics, will be hand-pulled, cut, and treated with herbicide, or just treated with herbicide. If root systems of particular nonnative plants that are in a young/small stage cannot be feasibly removed with hand-pulling, herbicides may be applied by a California Department of Pesticide Regulations licensed applicator. Weed debris will be properly disposed of off-site.

Some nonnative species will be cut or hand-pulled when they are small and the entire root system and/or stolons can be removed. Many nonnative species, particularly perennials, may require herbicide application, sometimes in conjunction with cutting, to be eradicated. Arundo, Brazilian pepper, and fennel, which are invasive exotics, are examples of species that require herbicide application to eradicate them.

5.3 TRASH REMOVAL

Trash and debris will be removed from the mitigation sites during regular maintenance visits and properly disposed of off-site. Organic debris such as dead limbs provides habitat value for wildlife and may be left in place.

5.4 PLANT CARE AND SUPPLEMENTAL PLANTING SEEDING

Container plant care will be performed as necessary to assist with plant survival and establishment in the mitigation areas. Plant care includes controlling competing weeds within plant basins, hand-watering, and replacing any diseased or dead plants as needed. Plant care will also be provided for native species that are seeded and volunteer on-site by removing competing nonnative species.

5.5 IRRIGATION

The contractor, resident engineer, and restoration ecologist will coordinate to agree on a watering schedule during different times of the year. The watering schedule will be adjusted accordingly during the maintenance period depending on factors such as plant size and health, and weather conditions. It is the intent of this plan that irrigation be used judiciously and only when needed. Minimal use of irrigation will promote the establishment of hearty plants with well-developed root systems. In general, infrequent deep watering will be performed to promote deeper root development, as compared to frequent surface watering.

Temporary irrigation will be used during the installation period to support the survival and growth of newly planted and seeded areas. Based on site conditions, it is expected that temporary irrigation may be used periodically in the eastern mitigation site for up to 3 years of the scheduled 5-year post-installation establishment period. Because of the tidal influence in the western mitigation site the need for temporary irrigation is not expected for transplants or container plants in this area. A goal of the mitigation project is to have the restored habitat areas persist and be self-sustaining without temporary irrigation for at least 2 years before the 5-year mitigation establishment period is considered complete.

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CHAPTER 6.0
MONITORING AND PERFORMANCE STANDARDS

The restoration ecologist will perform monitoring during the installation phase for the mitigation sites and for 5 years after installation (or until performance standards have been met) to verify that nonnative and invasive nonnative species have been eradicated, and functioning, self-sustaining native habitats are established. The restoration ecologist will perform both post-installation qualitative (horticultural) and quantitative (botanical) monitoring to track the progress of the mitigation areas relative to performance standards, and to determine in a timely manner whether remedial measures are needed.

The quantitative monitoring will include annual container plant survival counts, point-intercept transects, and diversity belt transects. The monitoring program will include an ecological functional assessment utilizing CRAM to compare development of the mitigation sites with the projected post-restoration maximum CRAM scores. These data allow for a quantitative assessment of the species composition, percent cover of native and nonnative species, diversity index, ecological functions, and an evaluation of the project success compared to established performance standards.

6.1 IMPLEMENTATION MONITORING

The restoration ecologist will monitor the implementation phase to verify that initial removal of nonnative and invasive nonnative species, site preparation, and native planting and seeding are performed in accordance with this plan. Once installation has been successfully completed, as determined by the restoration ecologist and the City, the restoration ecologist will write an installation documentation letter report that will be provided to the City and resource agencies. This installation documentation letter report will detail any changes in the mitigation limits or planting or seeding (i.e., species and quantities) as compared to the planting and seeding specifications in this plan.

6.2 HORTICULTURAL MONITORING

Qualitative horticultural monitoring will focus on container plant health, seed germination rates, presence of native and nonnative species, any significant disease or pest problems, and any erosion problems. After planting and seeding, horticultural monitoring will be performed monthly during the first 120 days and every 2 months for the remainder of year 1; and quarterly during years 2, 3, 4, and 5. An important feature of this monitoring is to coordinate with the

resident engineer, restoration ecologist, and contractor to exchange information, provide feedback, and agree on priority maintenance items and remedial measures, if needed, during different stages of the mitigation program.

6.3 BOTANICAL MONITORING

The quantitative monitoring will include annual container plant survival counts, point-intercept transects, and diversity belt transects. Container plant survival counts will be performed once a year in the late spring/early summer (May/June), so any necessary replacement planting can be organized and implemented in the fall. All container plants will be inspected and a list of dead plants will be provided to the maintenance contractor and the City project manager. Based on a determination by the restoration ecologist, dead container plants do not need replacement if adjacent volunteer native plants (within approximately 2 meters) are providing equivalent biological value.

Twelve (12) permanent, 50-meter point-intercept transects will be used to determine native and nonnative cover within the mitigation sites (i.e., eight transects in the west mitigation site and four within the east mitigation site). These transects will be monitored annually during the 5-year maintenance and monitoring program. This sampling method is based on the field sampling protocol designed by the California Native Plant Society (Sawyer and Keeler-Wolf 1995). At 0.5-meter intervals along each transect, every plant species intercepted is recorded. The transects should be installed during year 1 and data collected each year during late spring/early summer (May/June). The transects should be placed at random starting locations across each of the mitigation sites. A list of additional species occurring within a 5-meter belt along each 50-meter transect will also be recorded to measure species richness and diversity using the Simpson's Diversity Index (SDI). Additionally, one end of each vegetation transect will be used as a permanent photo-documentation station to visually record the progress of the restoration over the 5-year maintenance and monitoring period. Since similar desired habitat does not occur in the immediate vicinity of the site and the CRAM analysis for the site includes maximum projected post-restoration CRAM scores, data collection for comparison from a reference site is not planned.

A baseline (pre-implementation) sample size and power analysis was performed to determine existing native and nonnative cover and the number of transects appropriate to sample during post-installation monitoring period. Based on this analysis, 12 transects would be sufficient for post-implementation monitoring. After year 2, power analyses will be conducted using paired (permanent) data from the transect data collected from the two mitigation sites to ensure 90% power is being achieved with a sample size of 12 (eight transects at west site and four at the east site), alpha of 0.1, and a minimum detectable change of 15% native cover. If 90% power is not

being achieved, additional transects may be added. If greater than 90% power is being achieved, transects may be dropped to allow for more efficient monitoring. Additionally, 90% confidence intervals will be calculated each year around native and nonnative cover of the mitigation sites. For native cover, the entire confidence interval must be above the success standard for success to be achieved. For nonnative cover, the entire confidence interval must be below the success standard for success to be achieved.

The SDI will be used to calculate a numerical value representing the native plant diversity within the mitigation sites. The SDI is a measure of diversity that takes into account both species richness (number of species) and evenness (relative abundance of difference species). The transect data will be used to calculate the SDI (D – 1) using the following equation for D:

$$D = [\sum n (n - 1)] / [N (N - 1)]$$

Where "n" equals the total number of organisms of a particular species and "N" equals the total number of organisms of all species. The larger the value of the SDI, the greater the sample diversity.

6.4 FUNCTIONAL ASSESSMENT (CRAM)

CRAM will be used to assess the ecological condition of each of the two mitigation sites during the 5-year maintenance and monitoring establishment period and track the progress of the mitigation areas toward attainment of the projected maximum post-restoration CRAM scores (Table 4).

The CRAM survey conducted in February 2015 and updated in June 2016 for the eastern mitigation site (Appendix B) provides the baseline condition prior to mitigation implementation. In the case of this project, CRAM assessments will be conducted within four AAs, (three at the west site and one at the east site), consistent with the 2015 and 2016 pre-restoration CRAM surveys (Appendix B), and conducted at the mitigation sites at the end of post-installation Years 1, 3, and 5. It is not necessary to conduct CRAM at a higher frequency as yearly change in site conditions is not expected to be detectable with CRAM. CRAM will be used for monitoring the progress of the restoration sites toward meeting specific habitat, hydrology, and physical and biotic structure projected maximum scores, as well as to direct management strategies (including potential remedial measures) during the 5-year post-installation period.

See Appendix B for a detailed description of each of the variables and associated metrics and the anticipated relationships between the CRAM attributes and metrics, and various ecological

services expected from conceptual models of wetland form and function. The progress of the restoration sites relative to the CRAM scores is evaluated in Section 6.8.

6.5 PHOTO DOCUMENTATION

Progress of the project area will be documented with photographs. Permanent photographic viewpoints will be established during implementation with eight viewpoints, four in each mitigation area. Photographs from the same viewpoints will be taken each year in the early summer, concurrent with botanical monitoring. Additional permanent photographs will also be taken from the ends of the transects each year.

6.6 ADAPTIVE MANAGEMENT

Adaptive management, also known as adaptive resource management, is a structured, iterative process of optimal decision making in the face of uncertainty, with an aim of reducing uncertainty over time via site monitoring. As part of this process, it is important to anticipate potential (unforeseen or unpredictable) problems and also utilize formal and informal monitoring information to learn and adapt in order to tailor maintenance (remedial measures) and management decisions to address specific site conditions. This form of management will allow the mitigation program to respond to unforeseen or unpredictable problems early and maintain progress toward the required performance standards for resource agency sign-off of the 5-year establishment period. For example, an anticipated solution to a problem in Year 2 of the mitigation project may be adjusted or replaced with another solution in Year 4 as monitoring results provide new insight into the root causes of the problem. Provided below is a review of potential problems and solutions that may be implemented during the maintenance and monitoring period. Although potential solutions are listed below, monitoring results and an evolving understanding of the sites during site monitoring will be the basis of how solutions are identified and implemented. The actual problems encountered, when relevant, and the adaptive management approach taken will be discussed in each annual monitoring report.

- Potential Problem: Poor native seed germination and establishment
- Potential Solutions: Apply additional or alternative native seed, alter irrigation approach, etc.
- Potential Problem: Poor native plant survival, growth, and establishment
- Potential Solutions: Adjust species planting based on soil moisture conditions, install additional or alternative native plants, etc.
- Potential Problem: Herbivory

- Potential Solutions: Allow herbivory to continue for certain species if it will not result in plant mortality, provide temporary cages around species that are being grazed, etc.
- Potential Problem: Invasion of invasive nonnative species from the project vicinity or species new to the vicinity
- Potential Solutions: Increase invasive nonnative plant control on-site, improve native plant cover on-site to lessen invasive nonnative plant invasion locations, address to the extent feasible off-site invasive plant population(s), etc.
- Potential Problem: Extended drought
- Potential Solutions: Temporarily increase irrigation watering frequency and/or amount, adjust native species composition, etc.
- Potential Problem: Flood Impacts
- Potential Solutions: Address significant erosion problems, monitor degree of natural plant recruitment (which is typically positive after flood events), conduct supplemental native planting and seeding if needed, etc.

6.7 REPORTING

The restoration ecologist will prepare annual monitoring reports that will review horticultural and botanical monitoring results, CRAM functional assessment scores (during Years 1, 3, and 5), progress of the mitigation sites relative to the performance standards, and any recommended remedial measures or adaptive management measures. The annual reports will also include photographs from permanent viewpoints. Reports will be submitted to the City of San Diego Mitigation and Monitoring Coordination (MMC) staff (a section of the Development Services Department [DSD] Land Development Review [LDR] Division) and the resource agencies (USACE, RWQCB, CDFW, and CCC). Annual reports will be submitted to the agencies by March of each year.

6.8 PERFORMANCE STANDARDS AND REMEDIAL MEASURES

Performance standards are provided to verify the project achieves desirable native aquatic and riparian habitat characteristics within 5 years. The performance standards are based on the ecological conditions of the sites, intended compositions of native aquatic and riparian habitats, experience on other similar projects, and reasonable expectations regarding the condition of restored habitats after 5 years. Attainment of the final performance standards is expected to result in the establishment of healthy and self-sustaining native habitats within the mitigation sites. Yearly performance standards are provided as milestones to help determine if the mitigation sites

are on an adequate trajectory, and if planting and/or seeding or other remedial measures are necessary to meet final performance standards. A combination of horticultural and botanical monitoring results and wetland condition CRAM survey results will determine if performance standards are being met and if measures need to be adjusted or implemented to meet those final standards.

Performance standards are presented in Table 11. Although the habitat types are different, the native cover goals and nonnative plant thresholds are similar for the two mitigation sites, and therefore the performance standards below apply to both the east and west mitigation sites. The container plant survival standard will be 100% just for the 120-day PEP and then 80% of the initial planting for the first 5 years. All dead plants will be replaced to maintain survival standards unless their function has been replaced by natural recruitment. Based on ecological conditions within the mitigation sites and reasonable expectations for native cover development, the final year 5 native absolute cover performance standard is 80% or greater. Performance standards for nonnative species set 0% coverage for species that are rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory, and no more than 10% coverage for other nonnative weed species.

CRAM surveys will be conducted in Years 1, 3, and 5 and the resulting scores will be compared to the pre-restoration baseline scores from 2015 as well as the projected maximum post-restoration scores. After 5 years, the mitigation sites are expected to be on a trajectory toward mature native habitats (and the mature maximum projected post-restoration scores), and 5-year success standards represent an intermediate stage in the long-term recovery of the restored habitats. As a result, success standards for the mitigation sites after 5 years are to:

1. Exhibit a positive increase and trend in CRAM scores for the mitigation sites during the 5-year monitoring period; and
2. Attain CRAM assessment scores for the mitigation sites equal to or approximately 90% of the maximum projected post-restoration maximum, and/or a determination that the sites are on track to meet the maximum projected post-restoration attribute and overall CRAM scores.

Depending on the condition of a particular area of the mitigation project, different remedial measures or a combination of measures will be implemented. Appropriate measures will be determined by the restoration ecologist in consultation with the maintenance contractor, and reviewed by the City of San Diego project manager. Potential remedial measures may include replacement planting, additional seeding, increased treatment of nonnative species, adjustments to the irrigation approach and schedule, erosion repair, measures to prevent unauthorized access, and removal of trash.

Table 11. Primary Success Criteria[1]

Milestone	Container Plant Survival	Native Cover (absolute)	Nonnative Cover (absolute)	CRAM[2]	Native Species Diversity (Simpson's Diversity Index)
120-Day Plant Establishment Period (first 4 months of year 1)	100%	n/a	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	n/a	n/a
Year 1	80%	15% absolute native cover (from planted, seeded, and volunteer plants)	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	Same or higher CRAM Biotic Structure Attribute score than pre-restoration	Baseline
Year 2	80%	30% absolute native cover (from planted, seeded, and volunteer plants)	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	n/a	SDI ≥ year 1
Year 3	80%	50% absolute native cover (from planted, seeded, and volunteer plants)	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	Same or higher CRAM Biotic Structure Attribute score than year 1	SDI ≥ year 2
Year 4	80%	70% absolute native cover (from planted, seeded, and volunteer plants)	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	n/a	SDI ≥ year 3
Year 5	80%	80% absolute native cover (from planted, seeded, and volunteer plants)	<10% overall, 0% species rated "High" and "Moderate" on the Cal-IPC Invasive Plant Inventory	Same or higher CRAM Biotic Structure Attribute score than year 3, approaching maximum projected scores	SDI ≥ year 4

n/a = not applicable

[1] If drought conditions are significantly affecting attainment of performance standards, the project will coordinate with the resource agencies about the condition of the sites and any recommended remedial actions.

[2] Projected post-restoration maximum CRAM scores are included in Table 4.

If the restoration ecologist, City project manager, and resource agencies (i.e., USACE, RWQCB, CDFW, CCC, and City DSD MMC) concur the mitigation areas have met their performance standards ahead of schedule, the maintenance and monitoring program may be discontinued prior to 5 years. Conversely, if performance standards have not been met after 5 years, maintenance and monitoring may be extended beyond 5 years, or until the standards are met. If the final performance standards are not met on schedule, the restoration ecologist will prepare an analysis of the cause(s), and, if determined necessary by the City and the resources agencies, propose remedial actions for review and approval.

CHAPTER 7.0
COMPLETION OF INSTALLATION AND ESTABLISHMENT PHASE

Once the mitigation sites have met their final performance standards (as documented in the final report for this project) and the restoration ecologist, the City DSD MMC, and the resource agencies concur with this determination (in writing via e-mail or letter), the scheduled 5-year maintenance and monitoring phase will be discontinued, and long-term maintenance and monitoring will commence.

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CHAPTER 8.0
LONG-TERM MANAGEMENT

8.1 LONG-TERM MANAGEMENT

The two mitigation areas, which total 12.11 acres, will remain in ownership of the City of San Diego. Long-term monitoring and management of the mitigation sites will be in accordance with conditions outlined in the MSCP and MSCP Implementing Agreement (1997) (see section 2.4 for details). Tasks required under the Implementing Agreement include habitat monitoring and reporting, non-native vegetation control, trash removal, sign and fence installation, intrusion control, encroachment enforcement, and remediation of habitat loss. The City's Park and Recreation as well as the Police Department staff routinely patrol the MHPA lands space as part of their regular duties and are uniquely trained and qualified for maintaining them. The Park and Recreation Department has several staff biologists who can monitor mitigation sites and suggest remedial measures to comply with mitigation permit conditions, if needed. Park and Recreation Department also has crews who maintain mitigation sites located in the MHPA. These specific tasks are described in further detail below.

City of San Diego Long-Term Management:

Patrolling: The City's Park and Recreation Department Rangers and City Police Department officers patrol the San Diego River on a regular basis to assess trespassing, dumping, and vandalism. They are authorized to fine and remove violators.

Biological Monitoring: The City's Park and Recreation Department biologists and maintenance crews are responsible for conducting biological monitoring efforts and remedial measures in the MHPA. City staff will make periodic visits to the sites to assess the condition of the sites and evaluate possible impacts from stressors such as: trash, invasive species presence, erosion, flooding, and other environmental and anthropogenic stressors which may negatively affect the site's status as coastal marsh and Southern willow scrub. Remedial and management actions will be consistent with the mitigation plan. These two mitigation sites have the added benefits of not only City staff as monitors, but staff and volunteers of the San Diego River Park Foundation routinely monitor the park for signs of habitat degradation. Audubon Society conducts regular field visits to these sites to bird watch. The Open Space Advisory Committee meets regularly with Park and Recreation Department to report issues. These community groups act as additional citizen monitors who can report problems to the Park and Recreation Department.

Trash: Anthropogenic trash, as well as non-native plant species biomass shall be removed from the sites, and disposed of in a legal and appropriate manor. Biomass originating from native plant species shall remain on the sites for carbon cycling, and is not considered "trash." Potential sources of anthropogenic trash are mainly projected to come from storm flow, but small amounts may result from illegal trespass.

Non-Native Vegetation Control: Non-native plant species, particularly perennial species which have historically shown to be highly invasive, shall be controlled. Control may involve hand pulling prior to seed-set (for species where the entire root mass may be removed), herbicide application, cutting, mechanical removal, or a combination thereof. Any herbicide use shall be conducted following the manufactures recommendations, and applied in a manor compatible with applicable federal, state, and local regulations, consistent with MSCP management guidelines. Biomass from non-native vegetation shall be removed from the sites, and disposed of in a legal and appropriate manor. Care will be taken to avoid spreading root, shoot or seed material around the site or in the stream which may provide opportunity for dissemination or additional colonization. Treatment and/or removal of non-native vegetation will be evaluated for absence/presence prior to engaging the control methods, particularly during the general avian breeding season (February 1 through September 15). All federal, state and local work restrictions for sensitive wildlife habitat shall be followed.

Trespassing: No public access to the sites will be permitted, and Police will be called to remove trespassers. If evidence is observed that the sites are being regularly accessed, the City shall evaluate the nature of the trespassing, and develop remedial measures to mitigate the impact, and further discourage site access by the public. Remedial actions may include increasing frequency of Police and Ranger patrols and monitoring, additional signage and/or addition of fencing as appropriate.

Other Potential Environmental Stressors: Other stressors which have the potential to negatively affect the habitat quality of the sites include, but are not limited to: fire, flood, excessive erosion or aggradation, significant streambed migration, or effects from adjacent or upstream land uses. Should effects from environmental stressors or events be observed, the City shall perform an analysis to identify the effects off the stressor(s), and formulate remedial action(s) intended to support dynamic habitat equilibrium and wildlife use of the sites. Depending on the nature of the stressor, consultation with regulatory agencies and/or specialists may be warranted. Any adaptive management, remedial action or regular management activity performed shall be implemented in accordance with applicable regulatory guidelines.

Regional Biological Monitoring and Reporting: These mitigation sites are included in long-term monitoring efforts. The City developed a Biological Monitoring Plan (Ogden 1996) and has

implemented ongoing biological monitoring and preserve management in accordance with these documents. More recently, the City has partnered with other regional agencies responsible for management of lands in accordance with several Natural Communities Conservation Plans and Habitat Conservation Plans and has developed a plan for more efficient management at a regional scale: Management Strategic Plan for Conserved Lands in Western San Diego County (SDMMP 2013). Annual reports to the resource agencies on MHPA gains, losses, and condition are required under the MSCP Implementing Agreement and will include reports on any changes to these sites.

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CHAPTER 9.0
FINANCIAL ASSURANCES

9.1 SHORT TERM

The West Mission Bay Dr. Bridge Replacement Project Capital Improvement Project fund will have budget items for implementation and maintenance and monitoring of the mitigation plan for the first five years. These funds are assured because City Council approval is required to allocate funding and enter into a contract for implementation of the bridge replacement project, which includes the mitigation sites. Additionally, the City's purchasing and contracting process requires additional assurances that all work under the project is bonded and insured to ensure that all contracts are completed successfully. The City will not approve the release of the construction bonds to the contractor if the project is not completed successfully. The Corps recognizes the inherently more reliable nature of government permittees in their 2011 Guidance to Corps Districts titled "Implementing Financial Assurance for Mitigation Project Success": "*...agencies that routinely seek permits for transportation projects and that have track records of successful completion of compensatory mitigation for those projects, they have not typically been required to post financial assurances*." The City would fall into this category.

9.2 LONG TERM

The mitigation sites are located in the MHPA preserve and subject to terms in the MSCP Implementing Agreement (1997) (see section 2.4 for details). Therefore, the sites have government-committed financial assurance for maintenance into perpetuity. The Corps' 2008 Mitigation Rule preamble states "§ 332.7(d) – Long-term management funding….In cases where compensatory mitigation project sites are owned by public entities, it may not be necessary to include provisions for the financing of any required long-term management if, for example, a formal, documented commitment from a government agency is provided (i.e., stewardship commitment)" (pg. 15). The MSCP Implementing Agreement is that formal commitment.

The City currently provides funds to comply with the Agreement through annual budget requests from the Park and Recreation and Police Departments. Cost estimates for labor and materials were obtained from the City's Park and Recreation Department for Fiscal Year 2016. The maximum anticipated budget needs for the 12.11 acres of wetlands including and surrounding the mitigation sites are in Table 12.

Table 12. Annual budget for Long-term Monitoring and Maintenance

Activity*	Labor Type (average cost/frequency)	Annual Cost
Patrolling	Ranger or Police ($65/hr) – 36 hrs/yr	$2,340
Trash Removal	Crew ($200/hr) – 24 hrs/2 yrs	$2,400
	Dump Fee – $500/2 yrs	$250
Non-native Vegetation Control	Biologist ($65/hr) – 12 hrs/2 yrs	$390
	Crew ($200/hr) – 24 hrs/2 yrs	$2,400
	Dump Fee – $500/2 yrs	$250
Remedial Action/Repair	Biologist ($65/hr) – 240 hrs/10 yrs	$1,560
	Crew ($200/hr) – 240 hrs/10 yrs	$4,800
	Materials – $30,000/10 yrs.	$3,000
Wildlife Monitoring	Biologist ($65/hr) – 48 hrs/4 yrs	$780
Administration (reporting, coordination, management)	Manager ($65/hr) – 24 hrs/yr	$1,560
Contingency (20%)		$3,946
Total		$23,676

*Note this maximum anticipated budget assumes each of the 12.11 acre would require trash removal, non-native vegetation control, and remedial action annually, which is unlikely.

Park and Recreation Department's annual budget in Fiscal Year 2018 will be $6.9M for management of MHPA lands. The Park and Recreation Department budget alone more than covers the cost of the proposed mitigation sites as it would only require 0.34% of the budget. It is very unlikely that budget items relating to City mitigation requirements would not be approved in the Departments' annual budgets. Pursuant to Council Policy 000-02 (December 17, 2014) City Department annual budget request items pertaining to regulatory compliance are prioritized above other projects to ensure the City is in compliance with all Federal and State mandates such as the MSCP Implementing Agreement and individual compensatory mitigation permits. Park and Recreation Department prioritizes maintenance and monitoring efforts similarly by prioritizing areas with permit requirements.

CHAPTER 10.0
REFERENCES

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APPENDIX A

USACE SOUTH PACIFIC DIVISION MITIGATION RATIO-SETTING CHECKLIST (MARCH 2015)

Attachment 12501.6 - SPD Mitigation Ratio Setting Checklist (See 12501-SPD for Revisions Sheet)

1	Date: March 3, 2015	Corps File No.:	SPL-2013-NNN	Project Manager:						
	Impact Site Name:	West Mission Bay Drive Bridge	ORM Resource Type:	Tidal Wetland			Hydrology:	permanently flooded		
	Impact Cowardin or HGM type:	Estuarine	Impact area :	5.47	acres	Impact distance:			linear feet	
		Column A		**Column B**			**Column C**			
		Mitigation Site Name:	Western Mitigation Site	Mitigation Site Name:	Eastern Mitigation Site		Mitigation Site Name:			
		Mitigation Type:		Mitigation Type:			Mitigation Type:			
		ORM Resource Type:	Tidal Wetland	ORM Resource Type:	River/stream		ORM Resource Type:			
		Cowardin/HGM type:	Estuarine	Cowardin/HGM type:	Riverine		Cowardin/HGM type:			
		Hydrology:	permanently flooded	Hydrology:	Perennial		Hydrology:			
2	**Qualitative impact-mitigation comparison**:	Starting ratio:	**1.0 : 1.0**	Starting ratio:	**1.0 : 1.0**		Starting ratio:	**1.0 : 1.0**		
		Ratio adjustment:	**-1.1**	Ratio adjustment:	**-1.1**		Ratio adjustment:			
		Baseline ratio:	**1.00 : 2.10**	Baseline ratio:	**1.00 : 2.10**		Baseline ratio:	**1.00 : 1.00**		
		PM justification:	see tab 2	PM justification:	see tab 2		PM justification:	see tab 2		
3	**Quantitative impact-mitigation comparison**:	Ratio adjustment from BAMI procedure (attached):	**#DIV/0! : #DIV/0!**	Ratio adjustment from BAMI procedure (attached):	**#DIV/0! : #DIV/0!**		Ratio adjustment from BAMI procedure (attached):	**#DIV/0! : #DIV/0!**		
4	**Mitigation site location**:	Ratio adjustment:	**0**	Ratio adjustment:	**0**		Ratio adjustment:			
		PM justification: Mitigation site is located in same watershed as impact site		PM justification:Mitigation site is located in same watershed as impact site			PM justification:			
5	**Net loss of aquatic resource surface area**:	Ratio adjustment:	**1**	Ratio adjustment:	**1**		Ratio adjustment:			
		PM justification: Mitigation will be a combination of enhancement and preservatior		PM justification: Mitigation will be a combination of enhancement and preservatior			PM justification:			
6	**Type conversion:**	Ratio adjustment:	**-3**	Ratio adjustment:	**-2**		Ratio adjustment:			
		PM justification: Temporary and shading impacts to salt marsh, tidal mudflats and open water will be mitigated through enhancement and preservation of salt marsh habitat, a regionally significant habitat type.		PM justification: Temporary and shading impacts to tidal mudflats and open water will be mitigated through enhancement and preservation of higher quality Southern willow scrub			PM justification:			
7	**Risk and uncertainty**:	Ratio adjustment:	**0.1**	Ratio adjustment:	**0.1**		Ratio adjustment:			
		PM justification: Inherent risk from permittee responsible mitigation		PM justification: Inherent risk from permittee responsible mitigation			PM justification:			
8	**Temporal loss**:	Ratio adjustment:	**3**	Ratio adjustment:	**2**		Ratio adjustment:			
		PM justification: Temporal loss for establishing salt marsh		PM justification: Temporal loss for establishing southern willow scrub.			PM justification:			
9	**Final mitigation ratio(s):**	Baseline ratio from 2 or 3:	1.00 : 2.10	Baseline ratio from 2 or 3:	1.00 : 2.10		Baseline ratio from 2 or 3:	#DIV/0! : #DIV/0!		
		Total adjustments (4-8):	1.1	Total adjustments (4-8):	1.1		Total adjustments (4-8):	0		
		Final ratio:	**2.10 : 2.10**	Final ratio:	**2.10 : 2.10**		Final ratio:	**#DIV/0! : #DIV/0!**		
		Proposed impact (total):	5.47 acres	Remaining impact:	2.50 acres		Remaining impact (acres):	0.00	acres	
			0 linear feet		0 linear feet		Remaining impact (linear feet):	0	linear feet	
		to Resource type:	0	to Resource type:	0		to Resource type:	0		
		Cowardin or HGM:	Estuarine	Cowardin or HGM:	Estuarine		Cowardin or HGM:	Estuarine		
		Hydrology:	permanently flooded	Hydrology:	permanentl y flooded		Hydrology:	permanently flooded		
		Required Mitigation*:	5.47 acres	Required Mitigation*:	2.50 acres		Required Mitigation:	#DIV/0!	acres	
			0 linear feet		0.0 linear feet			#DIV/0!	linear feet	
		of Resource type:	Tidal Wetland	of Resource type:	River/stream		of Resource type:	0		
		Cowardin or HGM:	Estuarine	Cowardin or HGM:	Riverine		Cowardin or HGM:	0		
		Hydrology:	permanently flooded	Hydrology:	Perennial		Hydrology:	0		
		Proposed Mitigation**:	2.97 acres	Proposed Mitigation**:	2.50 acres		Proposed Mitigation**:		acres	
			linear feet		linear feet				linear feet	
		Impact Unmitigated:	46 %	Impact Unmitigated:	0 %		Impact Unmitigated:		%	
			2.50 acres		0.00 acres				acres	
		Additional PM comments:		Additional PM comments:			Additional PM comments:			
10	**Final compensatory mitigation**	Final requirement is for								

*At PM's discretion, if applicant's proposed mitigation is less than checklist requirement and additional mitigation type(s) proposed, complete additional columns as needed.
**Only enter proposed mitigation into spreadsheet if accepting applicant's lower (than required ratio) proposal.

Step 2: Qualitative comparison of functions (functional loss vs. gain)

Functions (Column A)	Impact site	Mitigation site
Short- or long-term surface water storage	temp. small loss	provided by sites
Subsurface water storage	no loss	provided by sites
Moderation of groundwater flow or discharge	no loss	provided by sites
Dissipation of energy	temp. small loss	provided by sites
Cycling of nutrients	small loss	improved by habitat
Removal of elements and compounds	temp. small loss	provided by sites
Retention of particulates	no loss	provided by sites
Export of organic carbon	small loss	improved by habitat
Maintenance of plant and animal communities	small loss	improved by habitat

Adjustment: -1.1

PM Justification: Although permanent shading would occur at the impact site, no jurisdictional resources would be permanently removed or lost. In addition, jurisdictional resources would be temporarily impacted by construction berms (for approx. 11.5 months) but the berms would be removed after construction and grades restored to preconstruction conditons to reestablish tidal mudflat/open water. The two mitigation sites currently provide a range of positive functions. Mitigation activities to restore native habitat would improve particular functions, and preservation and long-term management of the mitigation sites would ensure functions would be maintained.

Function (Column B)	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		
Maintenance of plant and animal communities		

Adjustment:

PM Justification:

Function (Column C)	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		
Maintenance of plant and animal communities		

Adjustment:

PM Justification:

Instructions:

1. Describe amount of functional loss (impact) and gain (mitigation) in each respective column. Gain and loss can be described in text (for example, small loss, moderate loss, large loss, no loss, etc.) or symbolically (for example, +, ++, +++, 0, ---, --, -).
2. Note: alternate lists of functions may be used.
3. Note: a single adjustment should be used to account for all functions combined (see example 7 in attachment 12501.3)

APPENDIX B

CRAM LETTER REPORT
(APRIL 2015, UPDATED JUNE 2016)

June 9, 2016

Carrie Purcell
City of San Diego
525 B Street
San Diego, California 92101

RE: CRAM Analysis of Potential Mitigation Areas for the West Mission Bay Drive Bridge Replacement Project (Revised)

Dear Ms. Purcell:

This memorandum summarizes the wetland condition assessment of the potential mitigation area for the West Mission Bay Drive Bridge Replacement Project (Figure 1). Two potential mitigation areas (Western Mitigation Area and Eastern Mitigation Area; Figure 2) were evaluated using the California Rapid Assessment Method (CRAM) to describe current wetland conditions on-site and predict the potential improvements following implementation of restoration activities. This letter is a revision to our original submittal in March 2015, and presents a reassessment of the CRAM scoring for the eastern mitigation area, which was reduced in size due to a reduction in the project's need for mitigation acreage.

CRAM Overview

The overall goal of CRAM is to "provide rapid, scientifically defensible, standardized, cost-effective assessments of the status and trends in the condition of wetlands and related policies, programs, and projects throughout California" (CWMW 2013a). CRAM is a rapid assessment method that requires collecting Level 2 data (coarse data) for monitoring wetland conditions. It is expected to become the chosen functional assessment method for future permitted projects throughout California and is currently included in the U.S. Army Corps of Engineers mitigation ratio checklist.

One of the benefits of CRAM is that it does not require an intensive watershed-level assessment to calibrate variable scores. Instead, CRAM has been calibrated throughout California and in various wetland types. CRAM is an ambient monitoring and assessment tool that can be performed on different scales, ranging from an individual wetland to across a watershed or larger region. CRAM is designed to collect a coarse assessment of a site's ambient conditions, but it can also be used to measure progress toward meeting success criteria established for wetland function/condition, and can be repeated over the long term if necessary or desired. Level 3 (fine scale) data are not necessary to complete a CRAM assessment but are useful when determining many of the CRAM attribute scores and interpreting the final CRAM scores. CRAM is being used for the West Mission Bay Drive Bridge Replacement Project to provide baseline CRAM scores for comparison as the habitat restoration effort proceeds. CRAM may be used in the future for final alternative analysis and to monitor improvements to wetland conditions associated with the habitat restoration.

Methodology

On February 17, 2015, AECOM restoration ecologists and CRAM practitioners Linnea Spears-Lebrun and Jim Prine conducted a CRAM evaluation of the Western and Eastern Mitigation Areas. The Eastern Mitigation Area was reassessed in the field on June 2, 2016, by CRAM practitioner Julie Stout due to a reduction in the mitigation area boundaries. The evaluation of the Western Mitigation Area was performed using the CRAM Perennial Estuarine Module, as outlined in the 2013 CRAM User's Manual v. 6.1 (CWMW 2013a) and 2013 Perennial Estuarine Wetlands Field Book, v. 6.1 (CWMW 2013b). The evaluation of the Eastern Mitigation Area was performed using the CRAM Riverine Module, as outlined in the User's Manual and 2013 Riverine Wetlands Field Book (CWMW 2013c). In addition to determining current wetland conditions within the Western and Eastern Mitigation Areas, maximum scores post-restoration were projected.

AECOM CRAM practitioners conducted an assessment at three assessment areas (AAs) in the Western Mitigation Area (Figures 2 through 4) and one AA in the Eastern Mitigation Area (Figure 5). In the Western Mitigation Area, circular AAs were used at the recommended size of 1 hectare (56-meter radius) for estuarine wetlands (CWMW 2013b) and were refined in the field to exclude open water. In the Eastern Mitigation Area, a double-sided AA was used along a 100-meter portion of the river channel as recommended for wetlands within wadeable riverine systems (CWMW 2013c). The CRAM practitioners walked the AAs and documented information used to score each metric. In addition, photographs were collected for each AA (Attachment 1). After recording observations within the AA, the CRAM practitioners scored each CRAM metric/submetric and calculated the attribute scores and a final overall CRAM score (see Results section below) (CWMW 2013b).

The final CRAM score for each AA is composed of four main attribute scores (buffer and landscape context, hydrology, physical structure, and biotic structure), which are based on the metric and submetric scores (a measurable component of an attribute) (Table 1). The anticipated relationships between the CRAM attributes and metrics, and various ecological services expected from conceptual models of wetland form and function are presented in Table 2. The CRAM practitioners assign a letter rating (A–D) for each metric/submetric based on a defined set of condition brackets ranging from an "A" as the theoretical best case achievable for the wetland class across California, to a "D," the worst case achievable. Each metric condition level (A–D) has a fixed numerical value (A=12, B=9, C=6, D=3), which, when combined with the other metrics, results in a score for each attribute. Each metric/submetric condition level (letter rating) has a fixed numerical value, which, when combined with the other metrics, results in a raw score for each attribute. That number is then converted to a percentage of the maximum score achievable for each attribute and represents the final attribute score, ranging from 25% to 100%. The final overall CRAM score is the sum of the four final attribute scores, ranging from 25% to 100%.

Table 1
CRAM Attributes and Metrics

Attributes		Metrics and Submetrics
Buffer and Landscape Context		Aquatic Area Abundance
		Buffer:
		– Percent of Assessment Area with Buffer
		– Average Buffer Width
		– Buffer Condition
Hydrology		Water Source
		Hydroperiod
		Hydrologic Connectivity
Structure	Physical	Structural Patch Richness
		Topographic Complexity
	Biotic	Plant Community Composition:
		– Number of Plant Layers
		– Number of Codominant Species
		– Percent Invasion
		Horizontal Interspersion and Zonation
		Vertical Biotic Structure

Table 2
Expected Relationship among CRAM Attributes, Metrics, and Key Services

Attributes		Buffer and Landscape Context	Hydrology			Physical Structure		Biotic Structure				
Metrics or Submetrics		Buffer and Landscape Connectivity Metrics	Water Source	Hydroperiod	Hydrologic Connectivity	Structural Patch Richness	Topographic Complexity	Number of Plant Layers	Number of Codominant Species	Percent Invasion	Horizontal Interspersion	Vertical Biotic Structure
KEY SERVICES	Short- or long-term surface water storage	√		√	√	√	√				√	√
	Subsurface water storage		√	√	√		√					
	Moderation of groundwater flow or discharge	√	√									
	Dissipation of energy					√	√	√			√	√
	Cycling of nutrients	√		√	√	√	√	√	√	√		√
	Removal of elements and compounds	√		√	√		√	√			√	
	Retention of particulates			√	√	√	√	√	√		√	
	Export of organic carbon			√	√			√		√	√	√
	Maintenance of plant and animal communities	√		√	√	√	√	√	√	√	√	√

In addition to determining the current wetland condition of the two restoration sites, the CRAM practitioners used their knowledge of the area and their experience in similar systems to project maximum obtainable scores for each metric/submetric after restoration and recovery of the site. A positive trajectory toward these scores is an appropriate measure of success, as many of these scores may take longer to achieve than the 5-year monitoring period. Ultimately, the improvement to wetland conditions, as measured by CRAM, is the difference between existing conditions and the projected maximum CRAM score after restoration.

Results

The results below represent the assessment of CRAM metrics and submetrics based on ambient conditions observed during the field visits in February 2015 for the Western Mitigation Area and in June 2016 for the Eastern Mitigation Area (Table 3). Following is a discussion of the current conditions of each AA relative to each metric, and maximum expected scores post-restoration. Note that the overall CRAM score is often less informative than the metric and attribute scores when interpreting site conditions and when considering potential for improvement from restoration. The completed CRAM datasheets are included as Attachment 2.

As described above, the metric condition level ranges from “A” to “D,” with “A” representing the best case achievable for estuarine systems throughout California and “D” representing the worst-case scenario. Each metric condition level (letter rating) has a fixed numerical value, which, when combined with the other metrics, results in a score for each attribute (Table 3). The final CRAM score is the sum of the four attribute scores, which is then converted to the percentage of the maximum score achievable for an estuarine system, ranging from 25% to 100%. Note that preexisting conditions (i.e., existing development) may constrain the improvement of certain metrics, resulting in a lower maximum score obtainable after restoration. In addition, a metric score of A is not achievable for every wetland (even undisturbed systems), due to the natural constraints associated with each system. The logic used to determine the current and projected scores is discussed below.

Table 3
Current and Projected Scores for CRAM Metrics, Submetrics, and Attributes

		Western Mitigation Area (Salt Marsh)				Eastern Mitigation Area (SDR)	
Attributes	**CRAM Metrics and Submetrics**	**AA1**	**AA2**	**AA3**	**Projected Post-Restoration**	**AA3**	**Projected Post-Restoration**
Buffer and Landscape Context	Aquatic Area Abundance/ Stream Corridor Continuity	C (6)	C (6)	C (6)	C (6)	A (12)	A (12)
	Percent of Assessment Area with Buffer	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	Average Buffer Width	B (9)	B (9)	A (12)	B (9)	C (6)	C (6)
	Buffer Condition	C (6)	C (6)	C (6)	C (6)	C (6)	C (6)
	Attribute Score* (Raw/Final)	**14/60%**	**14/60%**	**14/60%**	**14/60%**	**19/78%**	**19/78%**
Hydrology	Water Source	C (6)	C (6)	C (6)	C (6)	C (6)	C (6)
	Channel Stability	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	Hydrologic Connectivity	B (9)	B (9)	B (9)	B (9)	A (12)	A (12)
	Attribute Score (Raw/Final)	**27/75%**	**27/75%**	**27/75%**	**27/75%**	**27/75%**	**27/75%**
Physical Structure	Structural Patch Richness	C (6)	C (6)	C (6)	C (6)	B (9)	B (9)
	Topographic Complexity	C (6)	C (6)	C (6)	C (6)	B (9)	B (9)
	Attribute Score (Raw/Final)	**12/50%**	**12/50%**	**12/50%**	**12/50%**	**18/75%**	**18/75%**

		Western Mitigation Area (Salt Marsh)				Eastern Mitigation Area (SDR)	
Attributes	**CRAM Metrics and Submetrics**	**AA1**	**AA2**	**AA3**	**Projected Post-Restoration**	**AA3**	**Projected Post-Restoration**
Biotic Structure	Plant Community (PC): Number of Plant Layers	B (9)	B (9)	B (9)	B (9)	A (12)	B (9)
	PC: Number of Codominant Species	A (12)	A (12)	A (12)	A (12)	B (9)	B (9)
	PC: Percent Invasion	B (9)	B (9)	B (9)	A (12)	D (3)	A (12)
	Plant Community Submetric Score	**10**	**10**	**10**	**11**	**8**	**10**
	Horizontal Interspersion	D (3)	D (3)	C (6)	C (6)	B (9)	B (9)
	Vertical Biotic Structure	D (3)	D (3)	D (3)	D (3)	D (3)	B (9)
	Attribute Score (Raw/Final)	**16/44%**	**16/44%**	**19/53%**	**19/53%**	**20/56%**	**28/78%**
	Overall AA Score**	**57**	**57**	**60**	**59**	**71**	**76**

* The raw attribute score is the sum of the numeric scores for the Hydrology, Physical Structure, and Biotic Structure attributes, and is a weighted average for the Buffer and Landscape Context attribute. The final attribute score is a percentage of the total possible raw score for that attribute and ranges from 25% to 100%.

** The overall score is a percentage of the total possible CRAM score and is calculated as follows: sum of attribute scores/120 x 100. It ranges from 25% to 100%.

Note: CRAM alphanumeric scores have a corresponding numeric score used to calculate submetric, attribute, and final CRAM scores.
A = 12; B = 9; C = 6; D = 3

Metric/Submetric Scores

Attribute 1: Buffer and Landscape Context

Metric 1: Aquatic Area Abundance-Western Mitigation Area (estuarine)
For an estuarine wetland, the AA's aquatic area abundance within a landscape is assessed in terms of its spatial association with other areas of aquatic resources, such as other wetlands, lakes, and streams. Wetlands close to each other have a greater potential to interact ecologically and hydrologically, and such interactions are generally beneficial. The aquatic area abundance metric score is influenced by other wetlands within 500 meters to the north, south, east, and west of the AA. Specifically, four lines are extended in the cardinal directions from the center of the AA, and the percentage of each line that intersects another aquatic resource is recorded (Figures 2 through 4). All three AAs in the Western Mitigation Area received a C for this metric with approximately one third (30–33%) of the transects passing through an aquatic feature of some kind.

This metric is not expected to change after restoration as the restoration effort cannot change the surrounding landscape of the Western Mitigation Area. Therefore, the projected score for the Western Mitigation Area remains a C.

Metric 1: Stream Corridor Continuity-Eastern Mitigation Area (riverine)
For a riverine wetland, the AA's stream corridor continuity is assessed in terms of its spatial association with other areas of aquatic resources. For riverine wetlands, aquatic area abundance is assessed as the continuity of the stream corridor over a distance of 500 meters upstream and 500 meters downstream of the AA. While the stream corridor upstream and downstream generally reflects the overall health of the riverine system, of special concern for this metric is the ability of wildlife to enter the stream corridor from outside of it at any place within 500 meters of the AA, and to move easily through adequate cover along the stream corridor through the AA from upstream and downstream. The AA in the Eastern Mitigation Area received an A for this metric as no interruptions to the stream corridor occur within 500 meters upstream or downstream (Figure 5).

This metric is not expected to change after restoration as the restoration effort will not change the surrounding landscape of the Eastern Mitigation Area. Therefore, the projected score for the Eastern Mitigation Area remains an A.

Metric 2: Buffer
The buffer is the area adjoining the AA that is in a natural or seminatural state and is not dedicated to anthropogenic uses that would severely detract from its ability to entrap contaminants, its ability to discourage entry into the AA by people and nonnative predators, or its ability to otherwise protect the AA from adjacent stress and disturbance. This metric is composed of three submetrics that assess various elements of the buffer habitat: presence, width, and condition (see below). The scoring for these submetrics is combined with the landscape connectivity metric score (above) in a simple algorithm that results in the overall buffer and landscape attribute score.

Percent of Assessment Area with Buffer: This submetric is based on the relationship between the extent of the buffer and the function it provides to aquatic areas. The percentage of buffer surrounding the AA is obtained by calculating the percentage of the area adjoining the AA that is in a natural or seminatural state and is at least 5 meters wide. All three estuarine AAs in the western site received an A for this submetric, as all these AAs are surrounded by 100% buffer (Figures 2 through 4). The riverine AA(3) in the eastern site scored a B for this submetric due to the presence of Friars Road on the north side of the AA separated from the flood plain by only 5 meters of upland bank.

Following restoration, is it projected that all AAs will continue to be surrounded the same percentage of buffer and will score the same for this submetric.

Average Buffer Width: The average width of contiguous buffer adjoining the AAs was estimated, with a maximum width of 250 meters. This submetric is assessed using eight straight lines extending out from the AA boundary at regular intervals, including the four cardinal directions for the Western Mitigation Area (estuarine) and with four regularly spaced lines extending from the lateral extent of the AA in the Eastern Mitigation Area (riverine). The lines are placed in the area already determined to be buffer habitat in the previous submetric and are extended from the AA boundary until they hit nonbuffer land cover (e.g., urban development, parking, large road) or until they reach the maximum evaluation length of 250 meters. The AAs in the Western Mitigation Area received A or B for this submetric, with average buffer widths of 175–190 meters (Figures 2 through 4). The AA in the Eastern Mitigation Area received a C, with an average buffer width of 85 meters (Figure 5).

This metric is not expected to change after restoration as the restoration effort will not change the surrounding landscape of either mitigation area. Therefore, the projected score for buffer width at the Western Mitigation Area is a B and for the Eastern Mitigation Area is a C.

Buffer Condition: The condition of the buffer area is determined by the quality of its vegetation cover (native versus nonnative species), the overall condition of its substrate (disturbed or undisturbed soils), and intensity of human use. For this metric, only the area determined to be a buffer in the previous two buffer submetrics is evaluated, and any area deemed nonbuffer is excluded. The AAs across both sites received a C for buffer condition due to the presence of an intermediate mix of native and nonnative vegetation (25–75%) within the buffers, and high visitation by humans.

Following restoration, the buffer condition is not expected to change and is projected at a C for both mitigation areas.

Attribute 2: Hydrology

Metric 1: Water Source

Freshwater sources directly affect the extent, duration, and frequency of the hydrological dynamics within an AA. This metric is assessed based on water sources that affect the dry-season hydrology of the AA and based on additional artificial direct inputs (e.g., urban runoff) and diversions (dams and drop structures). Natural sources of water for estuarine wetlands include precipitation, groundwater, and riverine flows. Unnatural sources include storm drains that empty into the AA or into the watershed upstream, or irrigation runoff from agriculture. This metric is scored using aerial imagery and other information about water sources within a 2-kilometer area upstream of the AA.

All AAs across both mitigation areas scored a C for this metric because freshwater sources that affect the dry-season condition of the AA are primarily unnatural, as they are dominated by urban runoff conveyed to the San Diego River and adjacent storm drains and ditches. Indications of this include the excessive development of the adjacent watershed, which is greater than 20% of the immediate drainage basin (defined as an area 2 kilometers upstream). Much of the immediate drainage basin upstream of the AA consists of residential development and commercial lands, although open space areas occur as well. The developed lands contribute urban freshwater to the AAs throughout the year, including during the dry season.

Adjacent land uses are not expected to change following restoration; therefore, the water source metric scores for the AAs are projected as C.

Metric 2: Hydroperiod-Western Mitigation Area (estuarine)

Hydroperiod is the characteristic frequency and duration of inundation or saturation of a wetland during a typical year. The natural hydroperiod for estuarine wetlands is governed by the tides. The volume of water that flows into and from an estuarine wetland due to the changing stage of the tide is termed the “tidal prism.” The tidal prism consists of inputs from tidal and nontidal sources. The tidal prism is not muted at the Western Mitigation Area; therefore, all AAs at this site received a score of A for hydroperiod.

The restoration effort will not affect the tidal prism; therefore, the Western Mitigation Area is expected to maintain a score of A for hydroperiod.

Metric 2: Channel Stability-Eastern Mitigation Area (riverine)

Large and persistent changes in either the flow regime or the sediment regime tend to destabilize a river channel and change its form. Such regime changes can be associated with upstream land use changes, alterations to the drainage network of which the channel of interest is a part, and climatic changes, among other causes. A riverine channel is an almost infinitely adjustable complex of interrelations among flow, width, depth, bed resistance, sediment transport, and vegetation. Change in any of these factors will be countered by adjustments in the others. Channel stability is assessed as the degree of channel aggradation (i.e., net accumulation of sediment on the channel bed causing it to rise over time), or degradation (i.e., net loss of sediment from the bed causing it to be lower over

time). The degree of channel stability can be assessed based on field indicators. The AA in the Eastern Mitigation Area received a score of B for channel stability indicating it is experiencing some aggradation or degradation, but neither is severe.

The restoration efforts are not expected to change the factors affecting channel stability; therefore, a score of B has been projected for this AA.

Metric 3: Hydrologic Connectivity-Western Mitigation Area (estuarine)
Hydrologic connectivity describes the ability of water to flow into or out of a wetland, or to accommodate rising floodwaters without dramatic changes in water level that can result in stress to wetland plants and animals. This metric is scored by assessing the degree to which the lateral movement of rising tides or floodwaters is restricted by unnatural features in the AA, its encompassing wetland, and the associated upland transition zone.

For the Western Mitigation Area, the jetty directly north of the site as well as the bike path and development directly south of the site interfere with the lateral movement of water in the immediate wetland area but not substantially (less than 50% of the wetland in which the AA is contained). Therefore, all the AAs at the Western Mitigation Area receive a score of B.

The hydrologic connectivity metric scores for the Western Mitigation Area will remain a B as the unnatural features affecting hydrologic connectivity are outside the limits of the restoration efforts.

Metric 3: Hydrologic Connectivity-Eastern Mitigation Area (riverine)
For riverine wetlands, the Hydrologic Connectivity metric is assessed based on the degree of channel entrenchment. Entrenchment is a field measurement calculated as the flood-prone width divided by the bankfull width. The concept of bankfull flow is integral to this metric. Assessing hydrologic connectivity requires measuring the ability of flows to leave the channel and flood the surrounding landscape. In the absence of a site-specific flow duration curve, the best estimate of this process is the entrenchment ratio. The entrenchment ratio for the Eastern Mitigation Area AA was calculated at 6.5, which equates to a score of A.

The restoration effort is not expected to change the entrenchment ratio for the Eastern Mitigation Area; therefore, the hydrologic connectivity score is projected to remain an A.

Attribute 3: Physical Structure

Metric 1: Structural Patch Richness-Western Mitigation Area (estuarine)
Patch richness is the number of different obvious types of physical surfaces or features (i.e., patch types) that may provide habitat for aquatic, wetland, or riparian species. An estuarine wetland may support up to 16 patch types within the context of CRAM. Between three and five patch types were observed in the AAs of the Western Mitigation Area, which yields a score of C.

The restoration efforts are not expected to affect the number of physical patch types present at the site; therefore, a score of C has been projected for the Western Mitigation Area.

Metric 1: Structural Patch Richness-Eastern Mitigation Area (riverine)
A riverine wetland may support up to 17 patch types within the context of CRAM. Ten patches were observed in the AA at the Eastern Mitigation Area, which receives a score of B.

The restoration efforts are not expected to affect the number of physical patch types present at the site; therefore, the Eastern Mitigation Area has also received a projected score of B.

Metric 2: Topographic Complexity-Western Mitigation Area (estuarine)
Topographic complexity refers to the micro- and macrotopographic relief and variety of elevations within a wetland due to physical features and elevation gradients that affect moisture gradients or that influence the path of flowing water. For estuarine systems, topographic complexity can have profound effects on the delivery of water, the associated vegetation community, and the overall wetland condition of a site. All the AAs within the Western Mitigation Area received a score of C for this metric. The AAs have a variety of micro-topographic features but lack well-formed tidal channels that are well drained during ebb tide conditions.

The restoration efforts will not involve dredging or grading; therefore, the topographic complexity of the site is not expected to change. A score of C has been projected for topographic complexity.

Metric 2: Topographic Complexity-Eastern Mitigation Area (riverine)
For riverine systems, the number of benches and micro- and macrotopography determine the complexity of the AA. The AA within the Eastern Mitigation Area had one distinct bench with overall abundant microtopographic complexity and therefore received a score of B.

The restoration efforts are not expected to affect the topographic complexity of the site; therefore, a score of B has been projected for the Eastern Mitigation Area.

Attribute 4: Biotic Structure

The biotic structure attribute is composed of three metrics, one of which (plant community composition) is further divided into three submetrics.

Metric 1: Plant Community Composition
The plant community composition metric is composed of three submetrics. The scoring for these submetrics is averaged for an overall metric score that is combined with the other biotic structure metric scores to get an overall attribute score.

> Number of Plant Layers: To be counted in CRAM, a layer must cover at least 5% of the portion of the AA that is suitable for the layer. For a complete definition of each layer, refer to the CRAM Perennial Estuarine or Riverine Wetlands Field Book (CWMW 2013b, 2013c). All three AAs in the Western Mitigation Area had two layers,

which equates to a score of B for estuarine wetlands. The AA within the Eastern Mitigation Area had four layers, which equates to a score of A for riverine wetlands.

The number of plant layers is not expected to change at the western site. After restoration, a temporary decrease in the submetric score for number of plant layers is expected at the eastern site due to the removal of exotics comprising the "very tall" layer. Native species will replace this very tall layer, but it may take longer than the five year monitoring period for the native trees to reach the height required (greater than 3 meters) to count as a "very tall" layer. Therefore, the projected score is B for the western site and B for the eastern site.

Number of Codominant Species: The number of codominant species for the AA is measured as all living plant species that compose at least 10% relative cover within each plant layer present within the AA (as decided in the previous submetric). Although species may and often do occur as dominant species in multiple layers, an individual species is only counted once for the total number of codominants in the AA. All three AAs within the Western Mitigation Area had five codominant species; however, the composition of codominant species at each site differed. Five codominants equates to a score of A in estuarine wetlands. The Eastern Mitigation Area had eleven codominant species present in the AA, which is a B for non-confined riverine wetlands.

Restoration efforts will remove nonnatives and increase native diversity at the site by replacing nonnative codominants with native species. However, the restoration is not expected to increase the overall number of co-dominants at either site. As the Western Mitigation Area has already achieved an A, the projected score for this submetric remains an A. In the Eastern Mitigation Area, the score is projected to remain at a B.

Percent Invasion: The number of invasive codominant species for all plant layers combined is assessed as a percentage of the total number of codominants in the AA. All three AAs within the Western Mitigation Area had one invasive codominant species giving 20% invasion or a score of B. The Eastern Mitigation Area had seven invasive codominants out of eleven, equaling 66% invasion or a score of D.

This is the submetric that is expected to have the greatest change following restoration. Both sites are expected to have a score of A, or less than 15% invasion after nonnative removal and maintenance occur.

Metric 2: Horizontal Interspersion

This metric is a measure of horizontal biotic structure, which refers to the variety and interspersion of plant "zones." Plant zones are often plant monocultures or obvious multispecies associations that are arrayed along gradients of elevation, moisture, or other environmental factors that seem to affect the plant community organization in a two-dimensional plan view. Interspersion is essentially a measure of the number of distinct plant zones and the amount of edge between them. The Western Mitigation Area scored C or D

for this metric indicating there were few distinct zones or there was not a lot of edge (mixing) between them. The Eastern Mitigation Area scored a B for this metric as there were more distinct plant zones found in its AA.

This metric is expected to increase slightly at the Western Mitigation Area (score of C) after restoration efforts remove the large patches of Algerian sea lavender (*Limonium ramosissimum*) and allow for the development of more plant zones. While the types of plant zones are expected to change at the Eastern Mitigation Area (more native versus the current nonnative zones), the interspersion of the zones is not projected to exceed a score of B.

Metric 3: Vertical Biotic Structure-Western Mitigation Area (estuarine)
The vertical component of biotic structure consists of the interspersion and complexity of plant layers. For estuarine wetlands, this metric is assessed as the amount of living vegetation, entrained litter, or detritus across the marsh plain, and the amount of space beneath it. All the AAs within the Western Mitigation Area received a score of D for this metric as most of the AAs lacked the ceiling of detritus or entrained litter.

This is not expected to change after restoration and a score of D is projected for this metric.

Metric 3: Vertical Biotic Structure-Eastern Mitigation Area (riverine)
For riverine wetlands, this metric is assessed by the degree of overlap among plant layers. The Eastern Mitigation Area had four layers but less than 25 percent of the vegetated AA supported moderate overlap between those layers resulting in a score of D for this metric.

The restoration efforts are expected to increase diversity in species composition as well as overlap of shrubs, trees, and herbs. A score of B is projected for this metric following restoration in the Eastern Mitigation Area.

Summary

A slight increase in CRAM scores is expected in the Biotic Structure attribute at both mitigation areas resulting in slight improvement in overall CRAM score following restoration (Table 3).

CRAM is a coarse assessment that may not have the resolution required to capture all of the improvements associated with restoration efforts. Additional monitoring tools, such as vegetation transects and sensitive wildlife surveys, will also provide valuable information in quantifying restoration success and in guiding adaptive management decisions.

Please contact me if you have any questions or comments at linnea.spears-lebrun@aecom.com.

Sincerely,

Linnea Spears-Lebrun
Senior Ecologist

Attachments:

Figure 1. Project Vicinity
Figure 2. Western Mitigation Area, AA1
Figure 3. Western Mitigation Area, AA2
Figure 4. Western Mitigation Area, AA3
Figure 5. Eastern Mitigation Area, AA3
Attachment 1. CRAM Assessment Area Photos
Attachment 2. CRAM Datasheets

References

California Wetlands Monitoring Workgroup (CWMW)

2013a California Rapid Assessment Method (CRAM) for Wetlands, User's Manual, Version 6.1 pp. 67.

2013b California Rapid Assessment Method (CRAM) for Wetlands, Perennial Estuarine Wetlands Field Book, Version 6.1 pp. 38.

2013c California Rapid Assessment Method (CRAM) for Wetlands, Riverine Wetlands Field Book, Version 6.1 pp.45.

FIGURES

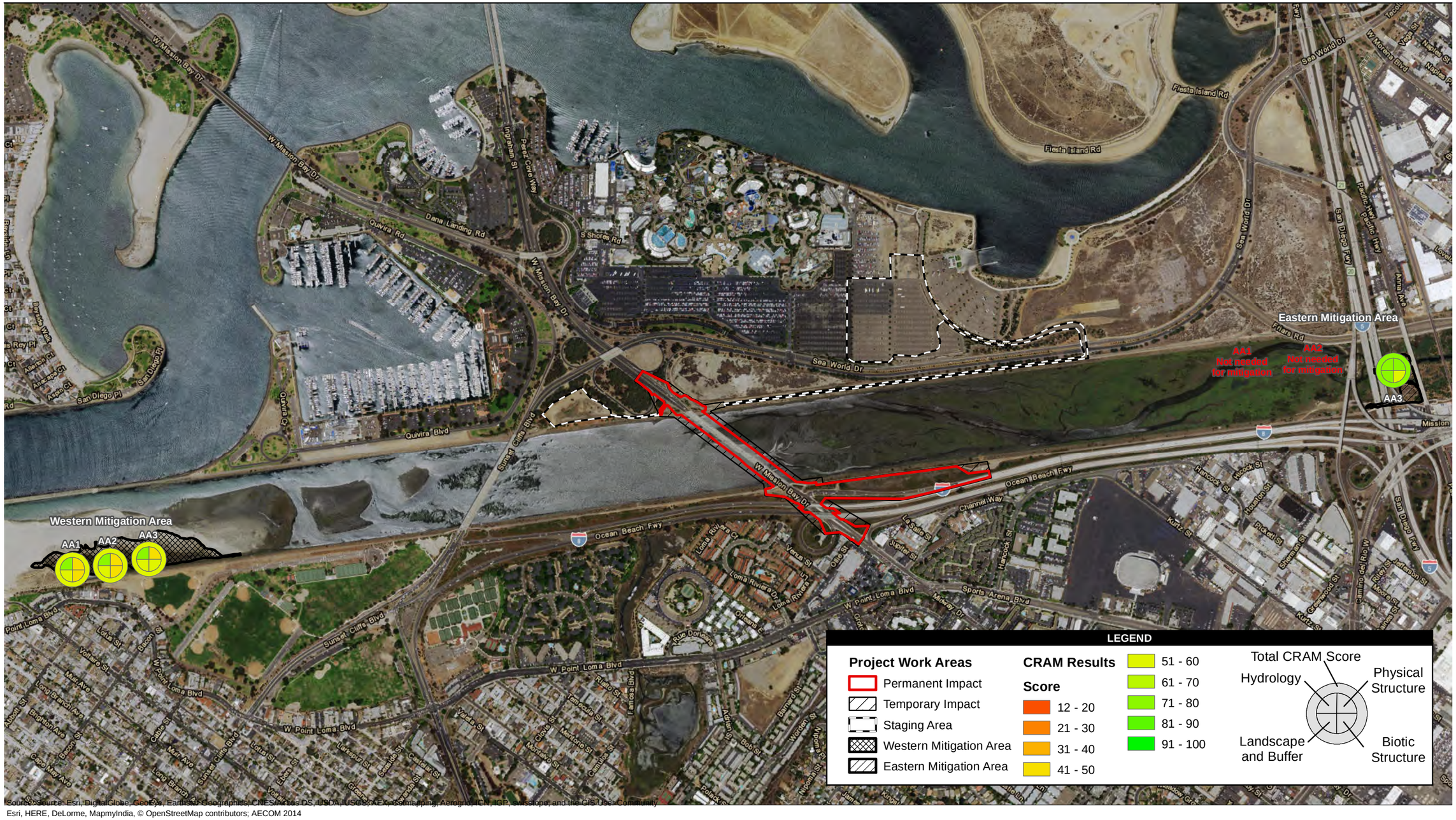


Figure 1
Project Vicinity

Buffer	Length m
AA1	175
A	250
B	250
C	250
D	41
E	30
F	82
G	250
H	250

	Aquatic	Non Aquatic	%Aquatic
AA1	607	1393	30%
East	122	378	24%
North	357	143	71%
South		500	0%
West	128	372	26%

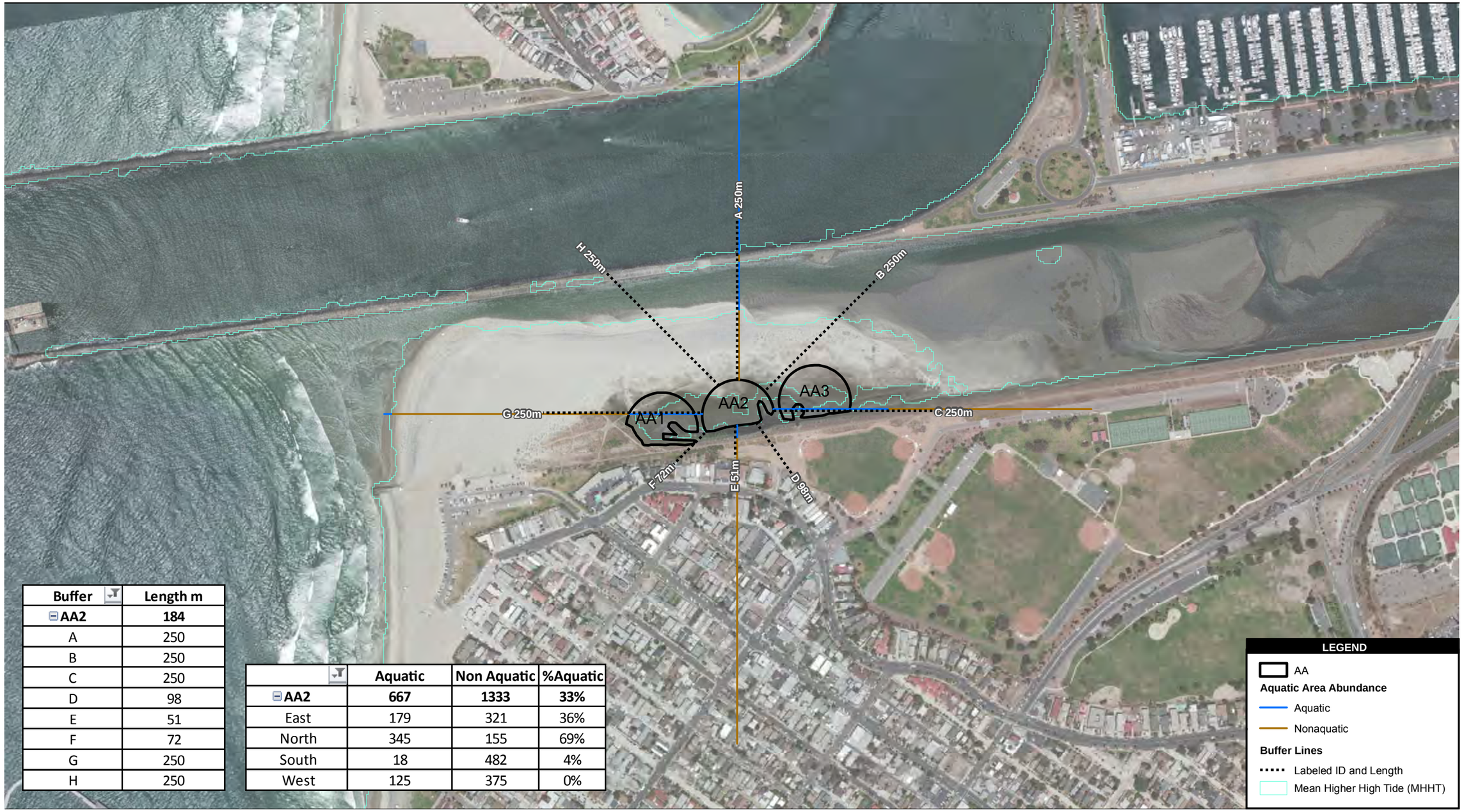
Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; PacificInstitute; AECOM 2015

500 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 2
Western Mitigation Area
AA1

Path: P:\2007\07080207 W Mission Bay Dr Bridge\5GIS\MXD\CRAM\FieldResults_CRAM.mxd, 3/16/2015, steinb



Buffer	Length m
AA2	184
A	250
B	250
C	250
D	98
E	51
F	72
G	250
H	250

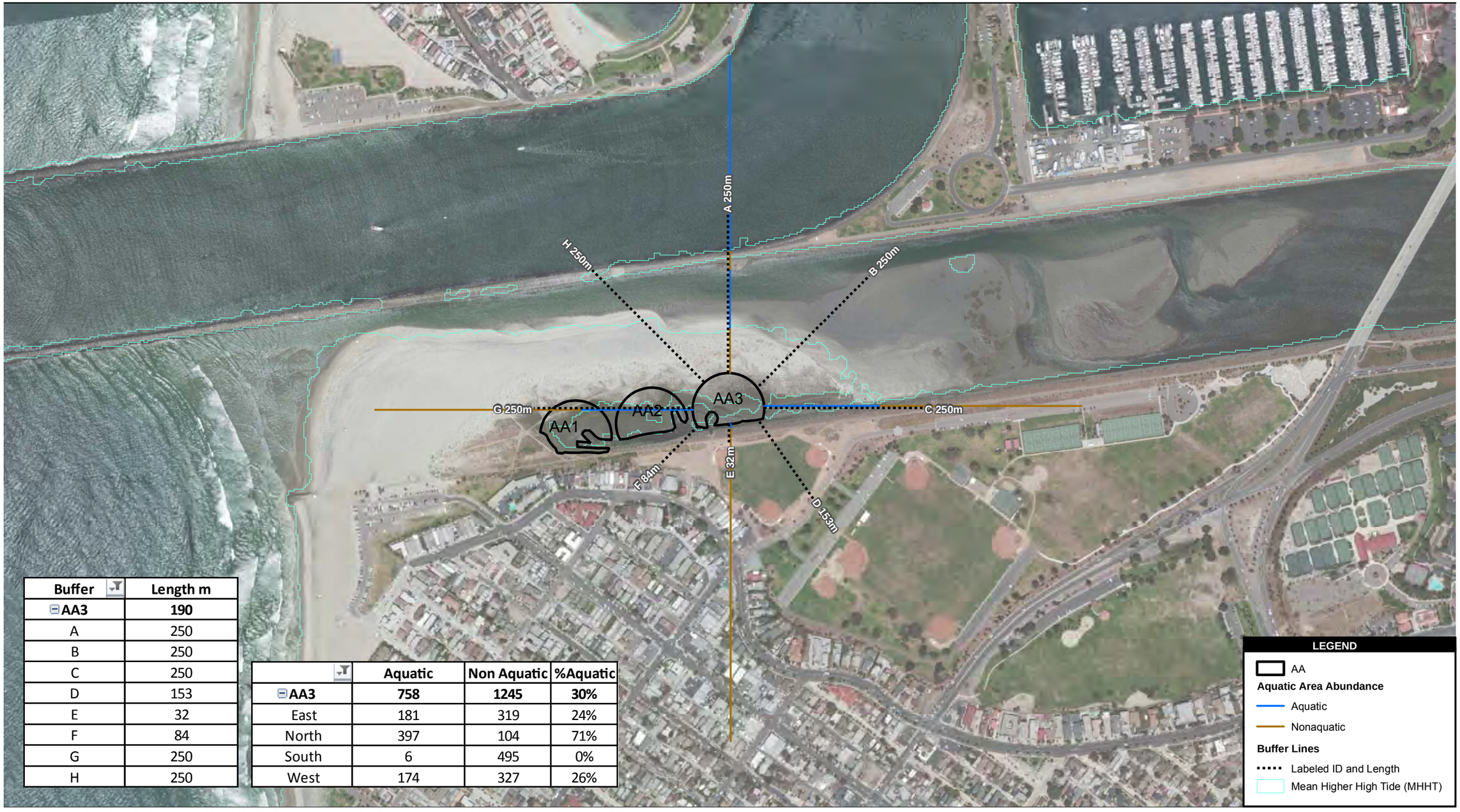
	Aquatic	Non Aquatic	%Aquatic
AA2	667	1333	33%
East	179	321	36%
North	345	155	69%
South	18	482	4%
West	125	375	0%

Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; PacificInstitute; AECOM 2015

500 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 3
Western Mitigation Area
AA2



Buffer	Length m
AA3	190
A	250
B	250
C	250
D	153
E	32
F	84
G	250
H	250

	Aquatic	Non Aquatic	%Aquatic
AA3	758	1245	30%
East	181	319	24%
North	397	104	71%
South	6	495	0%
West	174	327	26%

Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; PacificInstitute; AECOM 2015

500 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 4
Western Mitigation Area
AA3

Buffer	Length m
AA3	682
A	77
B	80
C	84
D	86
E	82
F	82
G	88
H	103

Stream Corridor Continuity	Length m
AA3	1000
Downstream Buffer	500
Upstream Buffer	500

Source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community; PacificInstitute; AECOM 2015

500 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 5
Eastern Mitigation Site
AA3

West Mission Bay Drive Bridge Replacement Project Mitigation Sites CRAM Letter Report

Path: \\ussdg1fp001.na.aecomnet.com\data\projects\2007\07080207 W Mission Bay Dr Bridge\5GIS\MXD\CRAM\FieldResults_CRAM_20160606.mxd, 6/6/2016, sorensenj

ATTACHMENT 1

CRAM ASSESSMENT AREA PHOTOS

Photo 1. Looking west into AA1 at the Western Mitigation Site.

Photo 2. Looking west into AA2 at the Western Mitigation Site.

Photo 3. Looking west into AA3 at the Western Mitigation Site.

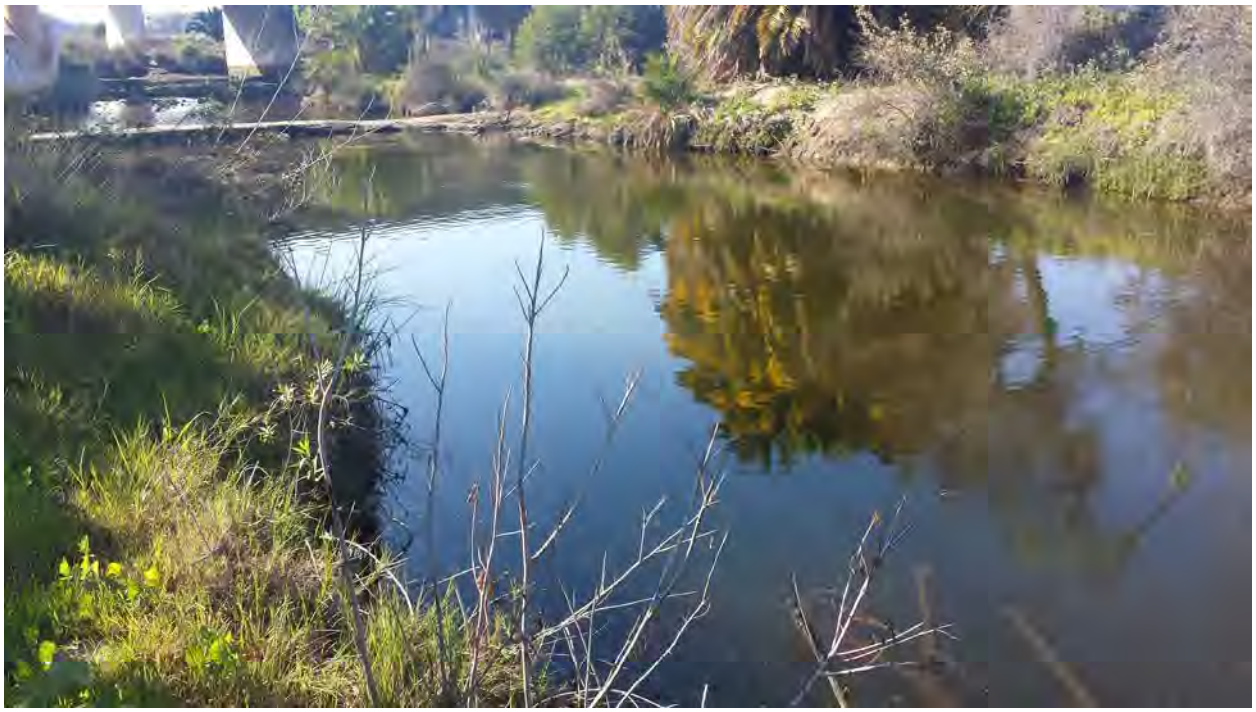


Photo 4. Looking downstream (west) into AA3 at the Eastern Mitigation Site.

ATTACHMENT 2

CRAM DATASHEETS

SUBMIT FORM

Basic Information Sheet: Perennial Estuarine Wetlands

Assessment Area Name: West Mitigation Site	
Project Name: West Mission Bay Drive	
Assessment Area ID #: AA1	
Project ID #:	**Date:** 2-17-15

Assessment Team Members for This AA:

LSL, JPR, JHO

Center of AA:

Latitude: **Longitude:** **Datum:**

Wetland Sub-type:

☑ Perennial Saline ☐ Perennial Non-saline

AA Category:

☐ Restoration ☑ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training

☐ Other:

What best describes the tidal stage over the course of the time spent in the field?

Note: It is recommended that the assessment be conducted during low tide.

☐ high tide ☑ low tide

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1		North			
2		South			
3		East			
4		West			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Perennial Estuarine Wetlands

AA Name: AA1				**Date:** 2-17-15	
Attribute 1: Buffer and Landscape Context (pp. 8-14)				**Comments**	
Aquatic Area Abundance (D)		Alpha. C	Numeric 6	30% aquatic area abundance	
Buffer (based on sub-metrics A-C)					
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12		100% w buffer	
Buffer submetric B: Average Buffer Width	B	9		175m	
Buffer submetric C: Buffer Condition	C	6		human visitation	
Raw Attribute Score = D+[C x (A x B)½]½			14	**Final Attribute Score = (Raw Score/24) x 100**	57.90%
Attribute 2: Hydrology (pp. 15-19)				**Comments**	
Water Source		Alpha. C	Numeric 6		
Hydroperiod		A	12		
Hydrologic Connectivity		B	9		
Raw Attribute Score = sum of numeric scores			27	**Final Attribute Score = (Raw Score/36) x 100**	75.00%
Attribute 3: Physical Structure (pp. 20-25)				**Comments**	
Structural Patch Richness		Alpha. C	Numeric 6	5 patch types	
Topographic Complexity		C	6		
Raw Attribute Score = sum of numeric scores			12	**Final Attribute Score = (Raw Score/24) x 100**	50.00%
Attribute 4: Biotic Structure Attribute (pp. 26-34)				**Comments**	
Plant Community Composition (based on sub-metrics A-C)					
Plant Community submetric A: Number of plant layers	Alpha. B	Numeric 9		2 plant layers	
Plant Community submetric B: Number of Co-dominant species	A	12		5 codominants	
Plant Community submetric C: Percent Invasion	B	9		20% invasion	
Plant Community Composition *(numeric average of submetrics A-C)*			10		
Horizontal Interspersion		D	3		
Vertical Biotic Structure		D	3		
Raw Attribute Score = sum of numeric scores			16	**Final Attribute Score = (Raw Score/36) x 100**	44.44%
Overall AA Score (average of four final Attribute Scores)				56.84%	

Worksheet for Aquatic Area Abundance Metric for Estuarine Wetlands

Percentage of Transect Lines that Contains an Aquatic Feature of Any Kind	
Segment Direction	Percentage of Transect Length That is an Aquatic Feature
North	0.71
South	0.00
East	0.24
West	0.26
Average Percentage of Transect Length that is an Aquatic Feature	30.00%

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

Percent of AA with Buffer: 100.00 **%**

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	250
B	250
C	250
D	41
E	30
F	82
G	250
H	250
Average Buffer Width ***Round to the nearest integer***	175

Structural Patch Type Worksheet for Estuarine Wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in the worksheet below.

STRUCTURAL PATCH TYPE (circle for presence)	**Estuarine**
Minimum Patch Size	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	☑
Animal mounds and burrows	☑
Bank slumps or undercut banks in channels or along shoreline	☐
Debris jams	☐
Filamentous macroalgae or algal mats	☑
Large Woody Debris	☐
Non-vegetated flats or bare ground (sandflats, mudflats, gravel flats, etc.)	☐
Pannes or pools on floodplain	☑
Plant hummocks and/or sediment mounds	☐
Point bars and in-channel bars	☐
Pools or depressions in channels (wet or dry channels)	☐
Secondary channels	☑
Shellfish beds (living)	☐
Soil cracks	☐
Standing snags (at least 3 m tall)	☐
Submerged vegetation	☐
Total Possible	**16**
No. Observed Patch Types (enter here and use in Table 14 below)	5

Worksheet for AA Topographic Complexity

At two locations in theAt two locations in the AA, make a sketch of the profile from the AA boundary to AA boundary. Try to capture the major channels, slopes and intervening micro-topographic relief. Based on these sketches and the profiles in Figure 8, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

North to South
East to West

Plant Community Metric Worksheet: Co-dominant species richness
(A dominant species represents ≥10% *relative* cover)

Special Note:

* *Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming	Invasive?	Short (<0.3 m)	Invasive?
	☐	Frankenia salina	☐
	☐	Limonium californicum	☐
	☐	Limonium ramosissimum	✓
	☐	Triglochin maritima	☐
	☐		☐
	☐		☐
	☐		☐
Medium (0.3 – 0.75 m)	**Invasive?**	**Tall (0.75 – 1.5 m)**	**Invasive?**
Arthrocnemum subterminale	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Very Tall (>1.5 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	5
	☐		
	☐		
	☐	**Percent Invasion *Round to the nearest whole number (integer)* (enter here and use in Table 18)**	20
	☐		
	☐		

Horizontal Interspersion Complexity Worksheet

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Each zone should comprise at least 5% of the AA. Based on the sketch, choose a single profile from Figure 10 that best represents the AA overall.

	Assigned zones: **1)** **2)** **3)** **4)** **5)** **6)**

Table 21: Wetland Disturbances and Conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)	☐	☐
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	☐	☐
Flow diversions or unnatural inflows	☐	☐
Dams (reservoirs, detention basins, recharge basins)	☐	☐
Flow obstructions (culverts, paved stream crossings)	☐	☐
Weir/drop structure, tide gates	☐	☐
Dredged inlet/channel	☐	☐
Engineered channel (riprap, armored channel bank, bed)	☐	☐
Dike/levees	☐	☐
Groundwater extraction	☐	☐
Ditches (borrow, agricultural drainage, mosquito control, etc.)	☐	☐
Actively managed hydrology	☐	☐
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**	☐	☐
Grading/ compaction **(N/A for restoration areas)**	☐	☐
Plowing/Discing **(N/A for restoration areas)**	☐	☐
Resource extraction (sediment, gravel, oil and/or gas)	☐	☐
Vegetation management	☐	☐
Excessive sediment or organic debris from watershed	☐	☐
Excessive runoff from watershed	☐	☐
Nutrient impaired (PS or Non-PS pollution)	☐	☐
Heavy metal impaired (PS or Non-PS pollution)	☐	☐
Pesticides or trace organics impaired (PS or Non-PS pollution)	☐	☐
Bacteria and pathogens impaired (PS or Non-PS pollution)	☐	☐
Trash or refuse	☐	☐
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)	☐	☐
Excessive human visitation	☐	☐
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	☐	☐
Tree cutting/sapling removal	☐	☐
Removal of woody debris	☐	☐
Treatment of non-native and nuisance plant species	☐	☐
Pesticide application or vector control	☐	☐
Biological resource extraction or stocking (fisheries, aquaculture)	☐	☐
Excessive organic debris in matrix (for vernal pools)	☐	☐
Lack of vegetation management to conserve natural resources	☐	☐
Lack of treatment of invasive plants adjacent to AA or buffer	☐	☐
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	☐	☐
Industrial/commercial	☐	☐
Military training/Air traffic	☐	☐
Dams (or other major flow regulation or disruption)	☐	☐
Dryland farming	☐	☐
Intensive row-crop agriculture	☐	☐
Orchards/nurseries	☐	☐
Commercial feedlots	☐	☐
Dairies	☐	☐
Ranching (enclosed livestock grazing or horse paddock or feedlot)	☐	☐
Transportation corridor	☐	☐
Rangeland (livestock rangeland also managed for native vegetation)	☐	☐
Sports fields and urban parklands (golf courses, soccer fields, etc.)	☐	☐
Passive recreation (bird-watching, hiking, etc.)	☐	☐
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	☐	☐
Physical resource extraction (rock, sediment, oil/gas)	☐	☐
Biological resource extraction (aquaculture, commercial fisheries)	☐	☐
Comments		

SUBMIT FORM

Basic Information Sheet: Perennial Estuarine Wetlands

Assessment Area Name: West Mitigation Site	
Project Name: West Mission Bay Drive	
Assessment Area ID #: AA2	
Project ID #:	**Date:** 2-17-15

Assessment Team Members for This AA:

LSL, JPR, JHO

Center of AA:

Latitude: **Longitude:** **Datum:**

Wetland Sub-type:

☑ Perennial Saline ☐ Perennial Non-saline

AA Category:

☐ Restoration ☑ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training

☐ Other:

What best describes the tidal stage over the course of the time spent in the field?

Note: It is recommended that the assessment be conducted during low tide.

☐ high tide ☑ low tide

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1		North			
2		South			
3		East			
4		West			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Perennial Estuarine Wetlands

AA Name: AA2				**Date:** 2-17-15	
Attribute 1: Buffer and Landscape Context (pp. 8-14)				**Comments**	
Aquatic Area Abundance (D)		Alpha. C	Numeric 6	33% aquatic area abundance	
Buffer (based on sub-metrics A-C)					
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12		100% w buffer	
Buffer submetric B: Average Buffer Width	B	9		184m	
Buffer submetric C: Buffer Condition	C	6		human visitation	
Raw Attribute Score = D+[C x (A x B)½]½			14	**Final Attribute Score = (Raw Score/24) x 100**	57.90%
Attribute 2: Hydrology (pp. 15-19)				**Comments**	
Water Source		Alpha. C	Numeric 6		
Hydroperiod		A	12		
Hydrologic Connectivity		B	9		
Raw Attribute Score = sum of numeric scores			27	**Final Attribute Score = (Raw Score/36) x 100**	75.00%
Attribute 3: Physical Structure (pp. 20-25)				**Comments**	
Structural Patch Richness		Alpha. C	Numeric 6	4 patch types	
Topographic Complexity		C	6		
Raw Attribute Score = sum of numeric scores			12	**Final Attribute Score = (Raw Score/24) x 100**	50.00%
Attribute 4: Biotic Structure Attribute (pp. 26-34)				**Comments**	
Plant Community Composition (based on sub-metrics A-C)					
Plant Community submetric A: Number of plant layers	Alpha. B	Numeric 9		2 plant layers	
Plant Community submetric B: Number of Co-dominant species	A	12		5 codominants	
Plant Community submetric C: Percent Invasion	B	9		20% invasion	
Plant Community Composition *(numeric average of submetrics A-C)*			10		
Horizontal Interspersion		D	3		
Vertical Biotic Structure		D	3		
Raw Attribute Score = sum of numeric scores			16	**Final Attribute Score = (Raw Score/36) x 100**	44.44%
Overall AA Score (average of four final Attribute Scores)				56.84%	

Worksheet for Aquatic Area Abundance Metric for Estuarine Wetlands

Percentage of Transect Lines that Contains an Aquatic Feature of Any Kind	
Segment Direction	Percentage of Transect Length That is an Aquatic Feature
North	0.69
South	0.04
East	0.36
West	0.25
Average Percentage of Transect Length that is an Aquatic Feature	33.00%

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

Percent of AA with Buffer: 100.00 **%**

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	250
B	250
C	250
D	98
E	51
F	72
G	250
H	250
Average Buffer Width ***Round to the nearest integer***	184

Structural Patch Type Worksheet for Estuarine Wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in the worksheet below.

STRUCTURAL PATCH TYPE (circle for presence)	**Estuarine**
Minimum Patch Size	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	☐
Animal mounds and burrows	☑
Bank slumps or undercut banks in channels or along shoreline	☐
Debris jams	☐
Filamentous macroalgae or algal mats	☑
Large Woody Debris	☐
Non-vegetated flats or bare ground (sandflats, mudflats, gravel flats, etc.)	☐
Pannes or pools on floodplain	☑
Plant hummocks and/or sediment mounds	☐
Point bars and in-channel bars	☐
Pools or depressions in channels (wet or dry channels)	☐
Secondary channels	☑
Shellfish beds (living)	☐
Soil cracks	☐
Standing snags (at least 3 m tall)	☐
Submerged vegetation	☐
Total Possible	**16**
No. Observed Patch Types (enter here and use in Table 14 below)	4

Worksheet for AA Topographic Complexity

At two locations in theAt two locations in the AA, make a sketch of the profile from the AA boundary to AA boundary. Try to capture the major channels, slopes and intervening micro-topographic relief. Based on these sketches and the profiles in Figure 8, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

North to South
East to West

Plant Community Metric Worksheet: Co-dominant species richness
(A dominant species represents ≥10% *relative* cover)

Special Note:

* *Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming	Invasive?	Short (<0.3 m)	Invasive?
	☐	Batis maritima	☐
	☐	Frankenia salina (alkali heath)	☐
	☐	Limonium ramosissimum	✓
	☐	Limonium californicum	☐
	☐		☐
	☐		☐
	☐		☐
Medium (0.3 – 0.75 m)	**Invasive?**	**Tall (0.75 – 1.5 m)**	**Invasive?**
Arthrocnemum subterminale	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Very Tall (>1.5 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	5
	☐		
	☐		
	☐	**Percent Invasion *Round to the nearest whole number (integer)* (enter here and use in Table 18)**	20
	☐		
	☐		

Horizontal Interspersion Complexity Worksheet

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Each zone should comprise at least 5% of the AA. Based on the sketch, choose a single profile from Figure 10 that best represents the AA overall.

	Assigned zones: **1)** **2)** **3)** **4)** **5)** **6)**

Table 21: Wetland Disturbances and Conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)	☐	☐
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	☐	☐
Flow diversions or unnatural inflows	☐	☐
Dams (reservoirs, detention basins, recharge basins)	☐	☐
Flow obstructions (culverts, paved stream crossings)	☐	☐
Weir/drop structure, tide gates	☐	☐
Dredged inlet/channel	☐	☐
Engineered channel (riprap, armored channel bank, bed)	☐	☐
Dike/levees	☐	☐
Groundwater extraction	☐	☐
Ditches (borrow, agricultural drainage, mosquito control, etc.)	☐	☐
Actively managed hydrology	☐	☐
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**	☐	☐
Grading/ compaction **(N/A for restoration areas)**	☐	☐
Plowing/Discing **(N/A for restoration areas)**	☐	☐
Resource extraction (sediment, gravel, oil and/or gas)	☐	☐
Vegetation management	☐	☐
Excessive sediment or organic debris from watershed	☐	☐
Excessive runoff from watershed	☐	☐
Nutrient impaired (PS or Non-PS pollution)	☐	☐
Heavy metal impaired (PS or Non-PS pollution)	☐	☐
Pesticides or trace organics impaired (PS or Non-PS pollution)	☐	☐
Bacteria and pathogens impaired (PS or Non-PS pollution)	☐	☐
Trash or refuse	☐	☐
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)	☐	☐
Excessive human visitation	☐	☐
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	☐	☐
Tree cutting/sapling removal	☐	☐
Removal of woody debris	☐	☐
Treatment of non-native and nuisance plant species	☐	☐
Pesticide application or vector control	☐	☐
Biological resource extraction or stocking (fisheries, aquaculture)	☐	☐
Excessive organic debris in matrix (for vernal pools)	☐	☐
Lack of vegetation management to conserve natural resources	☐	☐
Lack of treatment of invasive plants adjacent to AA or buffer	☐	☐
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	☐	☐
Industrial/commercial	☐	☐
Military training/Air traffic	☐	☐
Dams (or other major flow regulation or disruption)	☐	☐
Dryland farming	☐	☐
Intensive row-crop agriculture	☐	☐
Orchards/nurseries	☐	☐
Commercial feedlots	☐	☐
Dairies	☐	☐
Ranching (enclosed livestock grazing or horse paddock or feedlot)	☐	☐
Transportation corridor	☐	☐
Rangeland (livestock rangeland also managed for native vegetation)	☐	☐
Sports fields and urban parklands (golf courses, soccer fields, etc.)	☐	☐
Passive recreation (bird-watching, hiking, etc.)	☐	☐
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	☐	☐
Physical resource extraction (rock, sediment, oil/gas)	☐	☐
Biological resource extraction (aquaculture, commercial fisheries)	☐	☐
Comments		

SUBMIT FORM

Basic Information Sheet: Perennial Estuarine Wetlands

Assessment Area Name: West Mitigation Site	
Project Name: West Mission Bay Drive	
Assessment Area ID #: AA3	
Project ID #:	**Date:** 2-17-15

Assessment Team Members for This AA:

LSL, JPR, JHO

Center of AA:

Latitude: **Longitude:** **Datum:**

Wetland Sub-type:

☑ Perennial Saline ☐ Perennial Non-saline

AA Category:

☐ Restoration ☑ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training

☐ Other:

What best describes the tidal stage over the course of the time spent in the field?

Note: It is recommended that the assessment be conducted during low tide.

☐ high tide ☑ low tide

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1		North			
2		South			
3		East			
4		West			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Perennial Estuarine Wetlands

AA Name: AA3				**Date:** 2-17-15	
Attribute 1: Buffer and Landscape Context (pp. 8-14)				**Comments**	
Aquatic Area Abundance (D)		Alpha. C	Numeric 6	30% aquatic area abundance	
Buffer (based on sub-metrics A-C)					
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12		100% w buffer	
Buffer submetric B: Average Buffer Width	A	12		190m	
Buffer submetric C: Buffer Condition	C	6		human visitation	
Raw Attribute Score = D+[C x (A x B)½]½			14	**Final Attribute Score = (Raw Score/24) x 100**	60.36%
Attribute 2: Hydrology (pp. 15-19)				**Comments**	
Water Source		Alpha. C	Numeric 6		
Hydroperiod		A	12		
Hydrologic Connectivity		B	9		
Raw Attribute Score = sum of numeric scores			27	**Final Attribute Score = (Raw Score/36) x 100**	75.00%
Attribute 3: Physical Structure (pp. 20-25)				**Comments**	
Structural Patch Richness		Alpha. C	Numeric 6	3 patch types	
Topographic Complexity		C	6		
Raw Attribute Score = sum of numeric scores			12	**Final Attribute Score = (Raw Score/24) x 100**	50.00%
Attribute 4: Biotic Structure Attribute (pp. 26-34)				**Comments**	
Plant Community Composition (based on sub-metrics A-C)					
Plant Community submetric A: Number of plant layers	Alpha. B	Numeric 9		2 plant layers	
Plant Community submetric B: Number of Co-dominant species	A	12		5 codominants	
Plant Community submetric C: Percent Invasion	B	9		20% invasion	
Plant Community Composition *(numeric average of submetrics A-C)*			10		
Horizontal Interspersion		C	6		
Vertical Biotic Structure		D	3		
Raw Attribute Score = sum of numeric scores			19	**Final Attribute Score = (Raw Score/36) x 100**	52.78%
Overall AA Score (average of four final Attribute Scores)				59.53%	

Worksheet for Aquatic Area Abundance Metric for Estuarine Wetlands

Percentage of Transect Lines that Contains an Aquatic Feature of Any Kind	
Segment Direction	Percentage of Transect Length That is an Aquatic Feature
North	0.71
South	0.00
East	0.24
West	0.26
Average Percentage of Transect Length that is an Aquatic Feature	30.00%

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

Percent of AA with Buffer: 100.00 **%**

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	250
B	250
C	250
D	153
E	32
F	84
G	250
H	250
Average Buffer Width ***Round to the nearest integer***	190

Structural Patch Type Worksheet for Estuarine Wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in the worksheet below.

STRUCTURAL PATCH TYPE (circle for presence)	**Estuarine**
Minimum Patch Size	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	☐
Animal mounds and burrows	☐
Bank slumps or undercut banks in channels or along shoreline	☐
Debris jams	☐
Filamentous macroalgae or algal mats	☐
Large Woody Debris	☐
Non-vegetated flats or bare ground (sandflats, mudflats, gravel flats, etc.)	☐
Pannes or pools on floodplain	☑
Plant hummocks and/or sediment mounds	☐
Point bars and in-channel bars	☐
Pools or depressions in channels (wet or dry channels)	☑
Secondary channels	☑
Shellfish beds (living)	☐
Soil cracks	☐
Standing snags (at least 3 m tall)	☐
Submerged vegetation	☐
Total Possible	**16**
No. Observed Patch Types (enter here and use in Table 14 below)	3

Worksheet for AA Topographic Complexity

At two locations in theAt two locations in the AA, make a sketch of the profile from the AA boundary to AA boundary. Try to capture the major channels, slopes and intervening micro-topographic relief. Based on these sketches and the profiles in Figure 8, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

North to South
East to West

Plant Community Metric Worksheet: Co-dominant species richness
(A dominant species represents ≥10% *relative* cover)

Special Note:

* *Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming	Invasive?	Short (<0.3 m)	Invasive?
	☐	Distichlis spicata	☐
	☐	Frankenia salina (alkali heath)	☐
	☐	Limonium ramosissimum	☑
	☐	Distichlis littoralis	☐
	☐		☐
	☐		☐
	☐		☐
Medium (0.3 – 0.75 m)	**Invasive?**	**Tall (0.75 – 1.5 m)**	**Invasive?**
Arthrocnemum subterminale	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Very Tall (>1.5 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	5
	☐		
	☐		
	☐	**Percent Invasion *Round to the nearest whole number (integer)* (enter here and use in Table 18)**	20
	☐		
	☐		

Horizontal Interspersion Complexity Worksheet

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Each zone should comprise at least 5% of the AA. Based on the sketch, choose a single profile from Figure 10 that best represents the AA overall.

	Assigned zones: **1)** **2)** **3)** **4)** **5)** **6)**

Table 21: Wetland Disturbances and Conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)	☐	☐
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	☐	☐
Flow diversions or unnatural inflows	☐	☐
Dams (reservoirs, detention basins, recharge basins)	☐	☐
Flow obstructions (culverts, paved stream crossings)	☐	☐
Weir/drop structure, tide gates	☐	☐
Dredged inlet/channel	☐	☐
Engineered channel (riprap, armored channel bank, bed)	☐	☐
Dike/levees	☐	☐
Groundwater extraction	☐	☐
Ditches (borrow, agricultural drainage, mosquito control, etc.)	☐	☐
Actively managed hydrology	☐	☐
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**	☐	☐
Grading/ compaction **(N/A for restoration areas)**	☐	☐
Plowing/Discing **(N/A for restoration areas)**	☐	☐
Resource extraction (sediment, gravel, oil and/or gas)	☐	☐
Vegetation management	☐	☐
Excessive sediment or organic debris from watershed	☐	☐
Excessive runoff from watershed	☐	☐
Nutrient impaired (PS or Non-PS pollution)	☐	☐
Heavy metal impaired (PS or Non-PS pollution)	☐	☐
Pesticides or trace organics impaired (PS or Non-PS pollution)	☐	☐
Bacteria and pathogens impaired (PS or Non-PS pollution)	☐	☐
Trash or refuse	☐	☐
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)	☐	☐
Excessive human visitation	☐	☐
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	☐	☐
Tree cutting/sapling removal	☐	☐
Removal of woody debris	☐	☐
Treatment of non-native and nuisance plant species	☐	☐
Pesticide application or vector control	☐	☐
Biological resource extraction or stocking (fisheries, aquaculture)	☐	☐
Excessive organic debris in matrix (for vernal pools)	☐	☐
Lack of vegetation management to conserve natural resources	☐	☐
Lack of treatment of invasive plants adjacent to AA or buffer	☐	☐
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	☐	☐
Industrial/commercial	☐	☐
Military training/Air traffic	☐	☐
Dams (or other major flow regulation or disruption)	☐	☐
Dryland farming	☐	☐
Intensive row-crop agriculture	☐	☐
Orchards/nurseries	☐	☐
Commercial feedlots	☐	☐
Dairies	☐	☐
Ranching (enclosed livestock grazing or horse paddock or feedlot)	☐	☐
Transportation corridor	☐	☐
Rangeland (livestock rangeland also managed for native vegetation)	☐	☐
Sports fields and urban parklands (golf courses, soccer fields, etc.)	☐	☐
Passive recreation (bird-watching, hiking, etc.)	☐	☐
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	☐	☐
Physical resource extraction (rock, sediment, oil/gas)	☐	☐
Biological resource extraction (aquaculture, commercial fisheries)	☐	☐
Comments		

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: East Mitigation Site	
Project Name: West Mission Bay Drive	
Assessment Area ID #: AA3	
Project ID #:	**Date:** 6/2/2016

Assessment Team Members for This AA:

Julie Stout, Alex Hardy

Average Bankfull Width: 20m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m)**:** 100m

Upstream Point Latitude: 32.761355 **Longitude:** -117.203170

Downstream Point Latitude: 33.761330 **Longitude:** -117.204223

Wetland Sub-type:

☐ Confined ☑ Non-confined

AA Category:

☐ Restoration ☑ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☑ yes ☐ no

What is the apparent hydrologic flow regime of the reach you are assessing?

The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.

☑ perennial ☐ intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	4010	Upstream			
2	4012	Middle Left			
3		Middle Right			
4	4011	Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Riverine Wetlands

AA Name: AA3					**Date:** 6/2/2016	
Attribute 1: Buffer and Landscape Context (pp. 11-19)					**Comments**	
Stream Corridor Continuity (D)			Alpha. A	Numeric 12	500m up and down, no breaks	
Buffer:						
Buffer submetric A: Percent of AA with Buffer	Alpha. B	Numeric 9			Friars Road on N side of AA	
Buffer submetric B: Average Buffer Width	C	6			Average of 85 meters	
Buffer submetric C: Buffer Condition	C	6			Human visitation and nonnnatives	
Raw Attribute Score = D+[C x (A x B)½]½				19	**Final Attribute Score = (Raw Score/24) x 100**	77.67%
Attribute 2: Hydrology (pp. 20-26)						
Water Source			Alpha. C	Numeric 6		
Channel Stability			B	9		
Hydrologic Connectivity			A	12		
Raw Attribute Score = sum of numeric scores				27	**Final Attribute Score = (Raw Score/36) x 100**	75.00%
Attribute 3: Physical Structure (pp. 27-33)						
Structural Patch Richness			Alpha. B	Numeric 9	9 patch types	
Topographic Complexity			B	9	1 bench with abundant microtopo	
Raw Attribute Score = sum of numeric scores				18	**Final Attribute Score = (Raw Score/24) x 100**	75.00%
Attribute 4: Biotic Structure (pp. 34-41)						
Plant Community Composition (based on sub-metrics A-C)						
Plant Community submetric A: Number of plant layers	Alpha. A	Numeric 12			4 layers	
Plant Community submetric B: Number of Co-dominant species	B	9			11 codominants	
Plant Community submetric C: Percent Invasion	D	3			66%	
Plant Community Composition Metric *(numeric average of submetrics A-C)*				8		
Horizontal Interspersion			B	9		
Vertical Biotic Structure			D	3		
Raw Attribute Score = sum of numeric scores				20	**Final Attribute Score = (Raw Score/36) x 100**	55.56%
Overall AA Score (average of four final Attribute Scores)					70.81%	

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA			Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA		
Segment No.	Length (m)		Segment No.	Length (m)	
	1-side	2-side		1-side	2-side
1			1		
2			2		
3			3		
4			4		
5			5		
Upstream Total Length	0		Downstream Total Length	0	

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

The riverine AA(3) in the eastern site scored a B for this submetric due to the presence of Friars Road on the north side of the AA separated from the flood plain by only 5 meters of upland bank.

Percent of AA with Buffer: 50 **%**

Worksheet for calculating average buffer width of AA

☑ Two Sided AA	
Line	Buffer Width (m)
A	77
B	80
C	84
D	86
E	82
F	82
G	88
H	103
Average Buffer Width*	85

*Round to the nearest integer

☐ One Sided AA	
Line	Buffer Width (m)
A	
B	
C	
D	
Average Buffer Width*	0

*Round to the nearest integer

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium	☑ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☑ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☑ There is little or no active undercutting or burial of riparian vegetation. ☐ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☐ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☐ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☐ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☑ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☑ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☑ **Equilibrium** ☐ **Degradation** ☐ **Aggradation**

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.				
Steps	**Replicate Cross-sections** ⟶	**TOP**	**MID**	**BOT**
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	20.00	10.00	20.00
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	1.00	0.50	0.50
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	2.00	1.00	1.00
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	40.00	100.00	75.00
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	2.00	10.00	3.75
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			5.25

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

****Please refer to the CRAM Photo Dictionary at** *www.cramwetlands.org* **for photos of each of the following patch types.***

STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**
Minimum Patch Size	**3 m^2**	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain	☐	☐
Bank slumps or undercut banks in channels or along shoreline	☐	☐
Cobbles and/or Boulders	☑	☐
Debris jams	☐	☐
Filamentous macroalgae or algal mats	☑	☐
Large woody debris	☑	☐
Pannes or pools on floodplain	☑	**N/A**
Plant hummocks and/or sediment mounds	☐	☐
Point bars and in-channel bars	☐	☐
Pools or depressions in channels (wet or dry channels)	☐	☐
Riffles or rapids (wet or dry channels)	☑	☐
Secondary channels on floodplains or along shorelines	☑	**N/A**
Standing snags (at least 3 m tall)	☑	☐
Submerged vegetation	☐	**N/A**
Swales on floodplain or along shoreline	☑	**N/A**
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	☑	☐
Vegetated islands (mostly above high-water)	☐	**N/A**
Total Possible	**17**	**12**
No. Observed Patch Types (enter here and use in Table 14 below)	9	0

Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.\

Profile 1
Profile 2
Profile 3

Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands
(A dominant species represents ≥10% *relative* cover)

Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
	☐	Distichlis spicata	☐
	☐	Cynodon dactylon	✓
	☐	Anemopsis californica	☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Juncus acutus	☐	Schinus terebinthifolius	✓
Pennisetum setaceum	✓	Phragmites australis	✓
	☐	Acacia longifolia	✓
	☐	Melilotus indicus	✓
	☐	Baccharis salicifolia	☐
	☐		☐
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	11
Phoenix canariensis	✓		
	☐		
	☐	**Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)**	66
	☐		
	☐		

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.

	Assigned zones: **1)** Fringe wetland **2)** Salt mash **3)** Open upland areas **4)** Patches of large dense shrubs **5)** Juncus acutus **6)** Cobble/ponds and muddy open flood zone

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No-X		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)	☐	☐
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	✓	✓
Flow diversions or unnatural inflows	☐	☐
Dams (reservoirs, detention basins, recharge basins)	☐	☐
Flow obstructions (culverts, paved stream crossings)	✓	☐
Weir/drop structure, tide gates	☐	☐
Dredged inlet/channel	☐	☐
Engineered channel (riprap, armored channel bank, bed)	☐	☐
Dike/levees	☐	☐
Groundwater extraction	☐	☐
Ditches (borrow, agricultural drainage, mosquito control, etc.)	☐	☐
Actively managed hydrology	☐	☐
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**	☐	☐
Grading/ compaction **(N/A for restoration areas)**	☐	☐
Plowing/Discing **(N/A for restoration areas)**	☐	☐
Resource extraction (sediment, gravel, oil and/or gas)	☐	☐
Vegetation management	☐	☐
Excessive sediment or organic debris from watershed	☐	☐
Excessive runoff from watershed	☐	☐
Nutrient impaired (PS or Non-PS pollution)	✓	✓
Heavy metal impaired (PS or Non-PS pollution)	✓	☐
Pesticides or trace organics impaired (PS or Non-PS pollution)	✓	☐
Bacteria and pathogens impaired (PS or Non-PS pollution)	✓	☐
Trash or refuse	✓	☐
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)	☐	☐
Excessive human visitation	☐	☐
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	✓	☐
Tree cutting/sapling removal	☐	☐
Removal of woody debris	☐	☐
Treatment of non-native and nuisance plant species	☐	☐
Pesticide application or vector control	☐	☐
Biological resource extraction or stocking (fisheries, aquaculture)	☐	☐
Excessive organic debris in matrix (for vernal pools)	☐	☐
Lack of vegetation management to conserve natural resources	✓	✓
Lack of treatment of invasive plants adjacent to AA or buffer	✓	✓
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	✓	☐
Industrial/commercial	✓	☐
Military training/Air traffic	☐	☐
Dams (or other major flow regulation or disruption)	☐	☐
Dryland farming	☐	☐
Intensive row-crop agriculture	☐	☐
Orchards/nurseries	☐	☐
Commercial feedlots	☐	☐
Dairies	☐	☐
Ranching (enclosed livestock grazing or horse paddock or feedlot)	☐	☐
Transportation corridor	✓	☐
Rangeland (livestock rangeland also managed for native vegetation)	☐	☐
Sports fields and urban parklands (golf courses, soccer fields, etc.)	✓	☐
Passive recreation (bird-watching, hiking, etc.)	✓	☐
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	✓	☐
Physical resource extraction (rock, sediment, oil/gas)	☐	☐
Biological resource extraction (aquaculture, commercial fisheries)	☐	☐
Comments		

APPENDIX C

EXISTING CONDITIONS TRANSECT SUMMARY DATA AND PHOTOGRAPHS

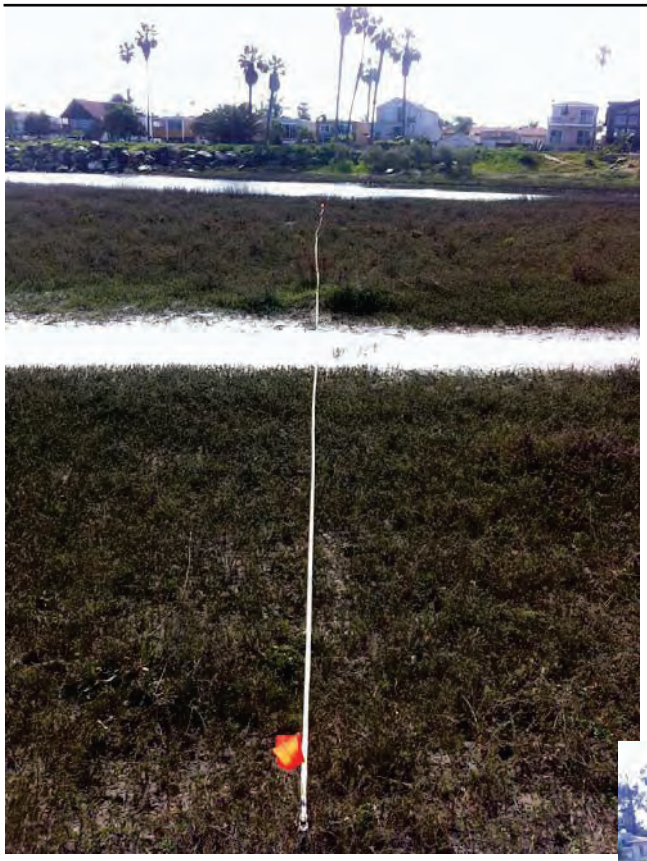
Southern Coastal Salt Marsh (Western Mitigation Area) Transect Data
February 2015

	% Native Cover	%Non-Native Cover	% Bare
T1[1]	63.33	8.33	28.33
T2[1]	85.00	6.67	8.33
T3[1]	43.33	30.00	26.67
T4[2]	10.00	63.33	26.67
T5[2]	26.67	30.00	43.33
T6[3]	68.33	0.00	31.67
Average	**49.44**	**23.05**	**27.50**

[1] T1-T3 traverse through high/transitional and mid-southern coastal salt marsh.
[2] T4 and T5 are located in high/transitional southern coastal salt marsh.
[3] T6 is located in mid-southern coastal salt marsh.

Disturbed Southern Willow Scrub (Eastern Mitigation Area) Transect Data
February 2015

	% Native Cover	%Non-Native Cover	% Bare
T1	15.00	121.67	0.00



Transect #2 – Facing South

Appendix C
Western Mitigation Area Existing Condition Transect Photographs, February 2015

Transect #4 – Facing East

Appendix C
Western Mitigation Area Existing Condition Transect Photographs, February 2015

Transect #6 – Facing Southeast

Appendix C
Western Mitigation Area Existing Condition Transect Photographs, February 2015

Appendix C
Eastern Mitigation Area Existing Condition Transect Photograph, February 2015

APPENDIX D

PERMITS
(Site Development Permit)

RECORDING REQUESTED BY
CITY OF SAN DIEGO
DEVELOPMENT SERVICES
PERMIT INTAKE, MAIL STATION 501

WHEN RECORDED MAIL TO
CITY CLERK
MAIL STATION 2A

THE ORIGINAL OF THIS DOCUMENT
WAS RECORDED ON DEC 27, 2012
DOCUMENT NUMBER 2012-0817694
Ernest J. Dronenburg, Jr., COUNTY RECORDER
SAN DIEGO COUNTY RECORDER'S OFFICE
TIME: 1:16 PM

SPACE ABOVE THIS LINE FOR RECORDER'S USE

INTERNAL ORDER NUMBER: WBS-S-00871.02.06

SITE DEVELOPMENT PERMIT NO. 721993
WEST MISSION BAY DRIVE BRIDGE PROJECT NO. 203403 [MMRP]

This Site Development Permit No. 721993 is granted by the Planning Commission of the City of San Diego to the City of San Diego, Engineering and Capital Projects Department, Owner and Permittee pursuant to San Diego Municipal Code [SDMC] section 126.0502. The West Mission Bay Drive Bridge site is located approximately 1.25 miles west of the I-5/I-8 interchange within the City of San Diego on West Mission Bay Drive between (I-8) and Sea World Drive. in the Coastal Overlay zone(s) of the Peninsula and Mission Bay Park Community Plan.
Requirements

Subject to the terms and conditions set forth in this Permit, permission is granted to the Engineering and Capital Projects Department, Owner and Permittee to replace the West Mission Bay Drive Bridge with two new parallel bridge structures each containing three lanes described and identified by size, dimension, quantity, type, and location on the approved exhibits [Exhibit "A"] dated November 15, 2012, on file in the Development Services Department.

The project shall include:

a. Removal and replacement of the West Mission Bay Drive Bridge with two new parallel bridge structures each containing three lanes and a Class I Bike path. Adjacent road and infrastructure improvements as needed and shown on exhibit; and

STANDARD REQUIREMENTS:

1. This permit must be utilized within thirty-six (36) months after the date on which all rights of appeal have expired. If this permit is not utilized in accordance with Chapter 12, Article 6, Division1 of the SDMC within the 36 month period, this permit shall be void unless an Extension of Time has been granted. Any such Extension of Time must meet all SDMC requirements and applicable guidelines in effect at the time the extension is considered by the appropriate decision maker.

ORIGINAL

2. A Coastal Development Permit from the California Coastal Commission shall be required in conjunction with this Site Development Permit.

3. No permit for the construction, occupancy, or operation of any facility or improvement described herein shall be granted, nor shall any activity authorized by this Permit be conducted on the premises until:

a. The Owner/Permittee signs and returns the Permit to the Development Services Department; and

b. The Permit is recorded in the Office of the San Diego County Recorder.

4. While this Permit is in effect, the subject property shall be used only for the purposes and under the terms and conditions set forth in this Permit unless otherwise authorized by the appropriate City decision maker.

5. This Permit is a covenant running with the subject property and all of the requirements and conditions of this Permit and related documents shall be binding upon the Owner/Permittee and any successor(s) in interest.

6. The continued use of this Permit shall be subject to the regulations of this and any other applicable governmental agency.

7. Issuance of this Permit by the City of San Diego does not authorize the Owner/Permittee for this Permit to violate any Federal, State or City laws, ordinances, regulations or policies including, but not limited to, the Endangered Species Act of 1973 [ESA] and any amendments thereto (16 U.S.C. § 1531 et seq.).

8. Construction plans shall be in substantial conformity to Exhibit "A." Changes, modifications, or alterations to the construction plans are prohibited unless appropriate application(s) or amendment(s) to this Permit have been granted.

9. All of the conditions contained in this Permit have been considered and were determined-necessary to make the findings required for approval of this Permit. The Permit holder is required to comply with each and every condition in order to maintain the entitlements that are granted by this Permit.

If any condition of this Permit, on a legal challenge by the Owner/Permittee of this Permit, is found or held by a court of competent jurisdiction to be invalid, unenforceable, or unreasonable, this Permit shall be void. However, in such an event, the Owner/Permittee shall have the right, by paying applicable processing fees, to bring a request for a new permit without the "invalid" conditions(s) back to the discretionary body which approved the Permit for a determination by that body as to whether all of the findings necessary for the issuance of the proposed permit can still be made in the absence of the "invalid" condition(s). Such hearing shall be a hearing de novo, and the discretionary body shall have the absolute right to approve, disapprove, or modify the proposed permit and the condition(s) contained therein.

ORIGINAL

ENVIRONMENTAL/MITIGATION REQUIREMENTS:

10. Mitigation requirements in the Mitigation, Monitoring, and Reporting Program [MMRP] shall apply to this Permit. These MMRP conditions are hereby incorporated into this Permit by reference.

11. The mitigation measures specified in the MMRP and outlined in **Mitigated Negative Declaration MND NO. 203403/ SCH No. 2012021017**, shall be noted on the construction plans and specifications under the heading ENVIRONMENTAL MITIGATION REQUIREMENTS.

12. The Owner/Permittee shall comply with the MMRP as specified in MITIGATED NEGATIVE DECLARATION NO. 203403/ SCH No. 2012021017, to the satisfaction of the Development Services Department and the City Engineer. Prior to the issuance of the "Notice to Proceed" with construction, all conditions of the MMRP shall be adhered to, to the satisfaction of the City Engineer. All mitigation measures described in the MMRP shall be implemented for the following issue areas: **Biological Resources & Land Use.**

ENGINEERING

13. Current City Standard Street Lights shall be installed as part of the Civil PS&E package that will be prepared after completion of the environmental phase per the City of San Diego Street Design Manual-Street Light Standards, and Council Policy 200-18, to the satisfaction of the City Engineer.

14. The final Drainage and WQTR studies will be prepared as part of the Civil PS&E package that will be prepared after completion of the environmental phase to the satisfaction of the City Engineer.

GEOLOGY

15. The Owner/Permittee shall submit a geotechnical investigation report or update letter that specifically addresses the proposed construction plans. The geotechnical investigation report or update letter shall be reviewed for adequacy by the Geology Section of the Development Services Department prior to issuance of any construction permits.

PARK AND RECREATION

16. The developer shall ensure that the Class I bikeway proposed as part of this project connects to the existing adjoining bike paths.

17. The developer shall provide signage identifying the San Diego River Park and directional signs to the SD River Path at both the northern and southern trail connections.

ORIGINAL

18. The developer shall secure a waiver from the Park & Recreation Director for any work within City parkland that must be done during the Memorial Day through Labor Day Construction Moratorium.

19. The Park & Recreation Department must review and approve construction plans prior to the issuance of a Right of Entry Permit from the Park & Recreation Dept.

INFORMATION ONLY:

- The issuance of this discretionary use permit alone does not allow the immediate commencement or continued operation of the proposed use on site. The operation allowed by this discretionary use permit may only begin or recommence after all conditions listed on this permit are fully completed and all required ministerial permits have been issued and received final inspection.

- Any party on whom fees, dedications, reservations, or other exactions have been imposed as conditions of approval of this Permit, may protest the imposition within ninety days of the approval of this development permit by filing a written protest with the City Clerk pursuant to California Government Code-section 66020.

- This development may be subject to impact fees at the time of construction permit issuance.

APPROVED by the Planning Commission of the City of San Diego on November 15, 2012 and Resolution No. 4853-PC

ORIGINAL

AUTHENTICATED BY THE CITY OF SAN DIEGO DEVELOPMENT SERVICES DEPARTMENT

Helene Deisher
Development Project Manager

NOTE: Notary acknowledgment must be attached per Civil Code section 1189 et seq.

The undersigned Owner/Permittee, by execution hereof, agrees to each and every condition of this Permit and promises to perform each and every obligation of Owner/Permittee hereunder.

City of San Diego
Engineering and Capital Projects

By NITSUH XBERRA

NOTE: Notary acknowledgments must be attached per Civil Code section 1189 et seq.

ORIGINAL

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California
County of San Diego

On December 18, 2012 (Date) before me, Georgette Ocariza Manela, Notary Public (Here Insert Name and Title of the Officer)

personally appeared Nitsuh Aberra (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

GEORGETTE OCARIZA MANELA
Commission # 1964791
Notary Public - California
San Diego County
My Comm. Expires Dec 24, 2015

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: J Manela (Signature of Notary Public)

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: West Mission Bay Drive Bridge – PTS#: 203403 [MMRP]

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name:	Signer's Name:
☐ Corporate Officer — Title(s):	☐ Corporate Officer — Title(s):
☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☑ Partner — ☐ Limited ☐ General
☐ Attorney in Fact	☐ Attorney in Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing:	Signer Is Representing:
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

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CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California
County of San Diego

On December 20, 2012 (Date) before me, Georgette Ocariza Manela, Notary Public (Here Insert Name and Title of the Officer)

personally appeared ------ Helene Deisher ---------- (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to ~~me that he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

GEORGETTE OCARIZA MANELA
Commission # 1964791
Notary Public - California
San Diego County
My Comm. Expires Dec 24, 2015

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____ (Signature of Notary Public)

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

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Document Date: _____ Number of Pages: _____

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☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact	☐ Attorney in Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing:	Signer Is Representing:
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

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RESOLUTION NUMBER 4853-PC

ADOPTED ON November 15, 2012

WHEREAS, on February 5, 2010, the City of San Diego, Publics Works Department- Engineering and Capital Projects submitted an application to Development Services Department for a Site Development Permit The West Mission Bay Drive Bridge Project (Project); and

WHEREAS, the matter was set for a public hearing to be conducted by the Planning Commission of the City of San Diego; and

WHEREAS, the issue was heard by the Planning Commission on November 15, 2012 and

WHEREAS, under Charter section 280(a)(2) this resolution is not subject to veto by the Mayor because this matter requires the Planning Commission to act as a quasi-judicial body, a public hearing is required by law implicating due process rights of individuals affected by the decision, and the Council is required by law to consider evidence at the hearing and to make legal findings based on the evidence presented; and

WHEREAS, the Planning Commission considered the issues discussed in Mitigation Negative Declaration No. 203403(Declaration) prepared for this Project; NOW THEREFORE,

BE IT RESOLVED, by the Planning Commission that it is certified that the Declaration has been completed in compliance with the California Environmental Quality Act of 1970 (CEQA) (Public Resources Code Section 21000 et seq.), as amended, and the State CEQA Guidelines thereto (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.), that the Declaration reflects the independent judgment of the City of San Diego as Lead Agency and that the information contained in said Declaration, together with any comments received during the public review process, has been reviewed and considered by the Planning Commission in connection with the approval of the Project.

BE IT FURTHER RESOLVED, that the Planning Commission finds on the basis of the entire record that project revisions now mitigate potentially significant effects on the environment previously identified in the Initial Study, that there is no substantial evidence that the Project will have a significant effect on the environment, and therefore, that said Declaration is hereby adopted.

BE IT FURTHER RESOLVED, that pursuant to CEQA Section 21081.6, the Planning Commission hereby adopts the Mitigation Monitoring and Reporting Program, or alterations to implement the changes to the Project as required by this Planning Commission in order to mitigate or avoid significant effects on the environment, which is attached hereto as Exhibit A.

BE IT FURTHER RESOLVED, that the Declaration and other documents constituting the record of proceedings upon which the approval is based are available to the public at the office of the DEVELOPMENT SERVICES DEPARTMENT, 1222 FIRST AVENUE, SAN DIEGO, CA 92101 or CITY CLERK, 202 C STREET, SAN DIEGO, CA 92101.

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BE IT FURTHER RESOLVED, that DEVELOPMENT SERVICES STAFF is directed to file a Notice of Determination with the Clerk of the Board of Supervisors for the County of San Diego regarding the Project.

APPROVED:

By: _____
Helene Deisher, Development Project Manager

ATTACHMENT(S): Exhibit A, Mitigation Monitoring and Reporting Program

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EXHIBIT A

MITIGATION MONITORING AND REPORTING PROGRAM

Site Development Permit No 721993

PROJECT NO. 203403

This Mitigation Monitoring and Reporting Program is designed to ensure compliance with Public Resources Code Section 21081.6 during implementation of mitigation measures. This program identifies at a minimum: the department responsible for the monitoring, what is to be monitored, how the monitoring shall be accomplished, the monitoring and reporting schedule, and completion requirements. A record of the Mitigation Monitoring and Reporting Program will be maintained at the offices of the Entitlements Division, 1222 First Avenue, Fifth Floor, San Diego, CA, 92101. All mitigation measures contained in the Mitigated Negative Declaration No.203403 shall be made conditions of the Site Development Permit as further described below.

I. MITIGATION, MONITORING AND REPORTING PROGRAM (MMRP):

A. GENERAL REQUIREMENTS – PART I
Plan Check Phase (prior to permit issuance)

1. Prior to Bid Opening/Bid Award or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD) (plans, specification, details, etc.) to ensure the MMRP requirements have been incorporated.

2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of this project are included VERBATIM, under the heading, "**ENVIRONMENTAL/MITIGATION REQUIREMENTS.**"

3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

   http://www.sandiego.gov/development-services/industry/standtemp.shtml

4. The **TITLE INDEX SHEET** must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.

B. GENERAL REQUIREMENTS – PART II
Post Plan Check (After permit issuance/Prior to start of construction)

1. **PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent and the following consultants:

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Biologist

Note: Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.

CONTACT INFORMATION:
a) The PRIMARY POINT OF CONTACT is the **RE** at the **Field Engineering Division 858-627-3200**
b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call **RE and MMC at 858-627-3360**

2. **MMRP COMPLIANCE:** This Project, Project Tracking System (PTS) No. 203403, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's ED, MMC and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc

   Note:
   Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.

3. **OTHER AGENCY REQUIREMENTS:** Evidence that any other agency requirements or permits have been obtained or are in process shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.
   California Department of Fish and Game (CDFG) –Streambed Alteration Permit

   Regional Water Quality Control Board (RWQCB) - 401 Water Quality Certificate,

   Army Corps of Engineers (ACOE) - preconstruction notification.

4. **MONITORING EXHIBITS:** All consultants are required to submit, to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the **LIMIT OF WORK**, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

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5. **OTHER SUBMITTALS AND INSPECTIONS:** The Permit Holder/Owner's representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

Document Submittal/Inspection Checklist

Issue Area	*Document submittal*	*Associated Inspection/Approvals/Note*
General	Consultant Qualification Letters	Prior to Pre-construction meeting
General	Consultant Const. Monitoring	Prior to or at the Pre-Construction meeting
Biology	Biology Reports	Limit of Work Verification
Final MMRP		Final MMRP Inspection

SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS:

A. BIOLOGICAL RESOURCES

I. A. Entitlements Plan Check

The applicant shall submit the following items to the DSD Prior to Permit Issuance or Bid Opening/Bid Award for any permits which affect on-site wetlands and uplands. Evidence shall include either copies of permits issued, letters of resolutions issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the City Manager: Evidence of compliance with Sections 401 and 404 of the Federal Clean Water Act, and Section 1601/1603 of the State of California Fish & Game Code.

II. A. Prior to Permit Issuance or Bid Opening/Bid Award

1. The Applicant shall provide detailed revegetation/restoration plans and specifications, satisfactory to the City Manager to mitigate for impacts to 0.03 acres of coastal brackish marsh and 0.004 acres of southern coastal salt marsh. Specifications must be found to be in conformance with the conceptual restoration plan in the *Conceptual Habitat Mitigation Plan West Mission Bay Drive Bridge Project* (*AECOM* Environmental, October 2011)

   a. Mitigation Goal Compensatory mitigation is proposed through recontouring the area back to the original grade of the tidal mudflat. The temporal loss of wetlands resulting in the conversion of nonnative invasive wetland community (coastal brackish marsh) to mudflat (which previously occupied the area where the marsh established itself) would be considered a temporary impact as the conversion would remain an aquatic feature and not be converted to upland.

   b. Responsibilities The Contractor shall be responsible for all

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grading and contouring, clearing and grubbing, and any necessary maintenance activities or remedial actions required during the implementation of the mitigation plan. Standard Best Management Practices shall be implemented to insure that sensitive biological resources would not be impacted by water run off.

c. Biological Monitoring Requirements All biological monitoring in or adjacent to wetlands shall be conducted by a qualified wetland biologist. The biologist shall conduct construction monitoring during all phases of the project. Orange flagging shall be used to protect sensitive habitat. Construction related activity shall be limited to the construction corridor areas as identified on the construction plans. Both a detailed Performance Criteria plan and all the maintenance requirements are found in the conceptual revegetation plans.

d. Notification of Completion: At the end of the fifth year, a final report shall be submitted to Mitigation Monitoring Coordination (MMC) section evaluating the success of the mitigation. The report shall make a determination of whether the requirements of the mitigation plan have been achieved. If the final report indicates that the mitigation has been in part, or whole, unsuccessful, the Applicant shall be required to submit a revised or supplemental mitigation program to compensate for those portions of the original mitigation program which were not successful. At such time, the Applicant must consult with the Development Services Department. The Applicant understands that agreed upon remedial measures may result in extensions to the long-term maintenance and monitoring.

III. Prior to the Preconstruction Meeting

A. Letters of Qualification Have Been Submitted to the Assistant Deputy Director

1. The applicant shall submit, for approval, a letter verifying the qualifications of the biological professional to MMC. This letter shall identify the Principal Qualified Biologist (PQB) and Qualified Biological Monitor (QBM) and the names of all other persons involved in the implementation of the biological monitoring program, as they are defined in the City of San Diego Biological Review References. Resumes and the biology worksheet should be updated annually.

3. MMC will provide a letter to the applicant confirming the qualifications of the PQB /QBM and all City Approved persons involved in the biological monitoring of the project.

4. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the biological monitoring of the project.

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5. PBQ must also submit evidence to MMC that the PQB/QBM has completed Storm Water Pollution Prevention Prevention Program (SWPPP) training.

IV. Prior to Start of Construction

A. PQB Shall Attend Preconstruction (Precon) Meetings

1. Prior to beginning any work that requires monitoring:
   a. The owner/permittee or their authorized representative shall arrange and perform a Precon Meeting that shall include the PQB, Construction Manager (CM) and/or Grading Contractor (GC), Landscape Architect (LA), Revegetation Installation Contractor (RIC), Revegetation Maintenance Contractor (RMC), Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC.
   b. The PQB shall also attend any other grading/excavation related Precon Meetings to make comments and/or suggestions concerning the biological monitoring program.
   c. If the PQB is unable to attend the Precon Meeting, the owner shall schedule a focused Precon Meeting with MMC, PQB, CM, BI, LA, RIC, RMC, RE and/or BI, if appropriate, prior to the start of any work associated with the revegetation/ restoration phase of the project, including site grading preparation.
2. When Biological Monitoring Will Occur
   a. Prior to the start of any work, the PQB shall also submit a monitoring procedures schedule to MMC and the RE indicating when and where biological monitoring and related activities will occur.
3. PQB Shall Contact MMC to Request Modification
   a. The PQB may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information (such as other sensitive species not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA) which may reduce or increase the potential for biological resources to be present.

4. Prior to the Start of any Work
   a. The PQB shall survey 100 percent of the precise "limits of disturbance" (including ingress, egress, and all staging areas) for narrow endemic plant species and other special status plants, and other species known to occur or with potential to occur in harm's way. If identified during the survey, the PBQ shall coordinate with the Resident Engineer who has the authority to temporarily halt or redirect construction activities to less environmentally sensitive areas along the pipeline corridor so that appropriate mitigation measures are implemented, as approved by the City, to avoid direct or indirect impacts to special status species.

V. During Construction

A. PQB or QBM Present During Construction/Grading/Planting

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1. The PQB or QBM shall be present full-time during construction activities including but not limited to, site preparation, cleaning, grading, and excavation, in association with the construction of the project which could result in impacts to sensitive biological resources as identified in the LCD and on the RRME. **The QBM is responsible for notifying the PQB of changes to any approved construction plans, procedures, and/or activities. The PQB is responsible to notify MMC of the changes.**
2. The PQB or QBM shall document field activity via the Consultant Site Visit Record Forms (CSVR). The CSVR's shall be faxed by the CM the first day of monitoring, the last day of monitoring, monthly, and in the event that there is a deviation from conditions identified within the LCD and/or biological monitoring program. The RE shall forward copies to MMC.
3. The PQB or QBM shall be responsible for maintaining and submitting the CSVR at the time that CM responsibilities end (i.e., upon the completion of construction activity other than that of associated with biology).
4. All construction activities (including staging areas) shall be restricted to the development areas. The PQB or QBM staff shall monitor construction activities as needed, with MMC concurrence on method and schedule. This is to ensure that construction activities do not encroach into biologically sensitive areas beyond the limits of disturbance.
5. The PQB or QBM shall supervise the placement of orange construction fencing or City approved equivalent, along the limits of potential disturbance adjacent to (or at the edge of) all sensitive habitats.
6. The PBQ shall provide a letter to MMC that limits of potential disturbance has been surveyed, staked and that the construction fencing is installed properly
7. The PQB or QBM shall oversee implementation of BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to ensure prevention of any significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary construction BMP's upon completion of construction activities. Removal of temporary construction BMP's shall be verified in writing on the final construction phase CSVR.
8. PQB shall verify in writing on the CSVR's that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking or other construction related activities shall occur adjacent to sensitive habitat. These activities shall occur only within the designated staging area located outside the area defined as biological sensitive area.
9. The project would implement protection measures such as orange construction fencing for areas of impact, as well as sensitive access with hand –carried or machine tools, etc where required for manhole abandonment. In addition, the project biologist will monitor all construction through the end of revegetation to ensure project scope compliance, and to minimize impacts to sensitive resources where feasible based on the biological assessment and in-field conditions.

B. Disturbance/Discovery Notification Process
   1. If unauthorized disturbances occurs or sensitive biological resources are discovered that were not previously identified, the PQB or QBM shall direct

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the contractor to temporarily divert construction in the area of disturbance or discovery and immediately notify the RE or BI, as appropriate.

2. The PQB shall also immediately notify MMC by telephone of the disturbance and report the nature and extent of the disturbance and recommend the method of additional protection, such as fencing and appropriate Best Management Practices (BMP's). After obtaining concurrence with MMC and the RE, PQB and CM shall install the approved protection and agreement on BMP's.
3. The PQB shall also submit written documentation of the disturbance to MMC within 24 hours by fax or email with photos of the resource in context (e.g., show adjacent vegetation).

C. Determination of Significance

1. The PQB shall evaluate the significance of disturbance and/or discovered biological resource and provide a detailed analysis and recommendation in a letter report with the appropriate photo documentation to MMC to obtain concurrence and formulate a plan of action which can include fines, fees, and supplemental mitigation costs.
2. MMC shall review this letter report and provide the RE with MMC's recommendations and procedures.

VI. Wildlife Mitigation

a. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **Belding's savannah sparrow** (April through July). If no nesting sparrows are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project must either implement noise-reduction measures to reduce construction noise levels to acceptable levels (discussed below), or discontinue work until the young have fledged.

b. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **light-footed clapper rail** (March through July). The survey shall be conducted in accordance with USFWS methodology (USFWS 2000). All potentially suitable habitat areas within the BSA shall be surveyed for presence of the species. If nesting rails are detected during the surveys, all nests must be avoided by construction equipment and personnel, and noise-reduction measures, described in the following paragraphs, shall be implemented to reduce construction noise levels to acceptable levels, or work shall be discontinued until the young have fledged.

c. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **California horned lark** (March through June). If no nesting horned larks are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged.

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d. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **California least tern** (April through June). If they are detected, all nests shall be avoided by construction equipment and personnel, and noise-reduction measures must be implemented to reduce construction noise levels to acceptable levels at the nest site (below 60 dB/hour), or work shall be discontinued until the young have fledged. A non-disturbance buffer zone of 500 feet around the nest site shall be established, and daily biological monitoring shall occur to confirm that the nest is being avoided and adults and/or chicks are not disturbed.

e. Pre-construction surveys shall be conducted if construction is scheduled to occur during the breeding season of the **northern harrier** (April through September). If no nesting harriers are detected during the surveys, no further avoidance and minimization efforts are necessary for this species. If they are detected, the project shall either implement noise-reduction measures to reduce construction noise levels to acceptable levels, or discontinue work until the young have fledged.

f. To avoid potential direct effects on **green sea turtles** during installation of the temporary construction berms and during subsequent construction activities, a pre-construction survey for sea turtles shall be conducted for in-channel work occurring May through September, if water is present. Regular biological monitoring of in-channel work would also occur during this time period. Contractor education regarding sea turtles shall also be conducted. If work is conducted during low tide when water is absent, or behind a cofferdam/berm, and absence is confirmed, a biological monitor would not be necessary.

g. To avoid and minimize potential direct impacts during installation of the temporary construction berms and subsequent construction, a pre-construction survey and/or construction monitoring for **harbor seals** shall be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent or behind a cofferdam and absence is confirmed, a biological monitor would not be necessary.

h. To avoid and minimize potential direct impacts during installation of the temporary construction berms and subsequent construction, a pre-construction survey and/or construction monitoring for **sea lions** shall be conducted for in-channel work when water is present. If work is conducted during low tide when water is absent, or behind a cofferdam and absence confirmed, a biological monitor would not be necessary.

i. Exclusionary devices shall be installed underneath the bridge to prevent birds and bats from nesting during construction. Installation of these devices shall be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist shall inspect the area prior to installation for nests and evidence of breeding activity. If breeding activity is not detected, inactive nests shall be destroyed to prevent birds from establishing breeding. If breeding activity is confirmed, exclusionary devices shall be installed in all other areas lacking active nests. Active nests shall be monitored by the

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biologist until breeding is complete. Once breeding is complete, exclusionary devices shall be installed in these areas.

B. Land Use (MHPA)

I. Prior to Permit Issuance

A. Prior to issuance of any construction permit, the DSD Environmental Designee (ED) shall verify the Applicant has accurately represented the project's design in the Construction Documents (CDs) that are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multiple Species Conservation Program (MSCP) Land Use Adjacency Guidelines for the Multi-Habitat Planning Area (MHPA), including identifying adjacency as the potential for direct/indirect impacts where applicable. In addition, all CDs where applicable shall show the following:

1. **Land Development / Grading / Boundaries** –MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. The ED shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA..
2. **Drainage / Toxins** –All new and proposed parking lots and developed area in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA, All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.
3. **Staging/storage, equipment maintenance, and trash** –All areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction related activities are within the development footprint. Provide a note on the plans that states: *"All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative to ensure there is no impact to the MHPA."*
4. **Barriers** –All new development within or adjacent to the MHPA shall provide fencing or other City approved barriers along the MHPA boundaries to direct public access to appropriate locations, to reduce domestic animal predation, and to direct wildlife to appropriate corridor crossing. Permanent barriers may include, but are not limited to, fencing (6-foot black vinyl coated chain link or equivalent), walls, rocks/boulders, vegetated buffers, and signage for access, litter, and educational purposes.
5. **Lighting** – All building, site, and landscape lighting adjacent to the MHPA shall be directed away from the preserve using proper placement and adequate shielding to protect sensitive habitat. Where necessary, light from traffic or other incompatible uses, shall be shielded from the MHPA through the utilization of including, but not limited to, earth berms, fences, and/or plant material.
6. **Invasive Plants** – Plant species within 100 feet of the MHPA shall comply with the Landscape Regulations (LDC Section 142.0400 and per table 142-04F, Revegetation and Irrigation Requirements) and be non invasive. Landscape plans shall include a note that states: *"The ongoing maintenance requirements of the*

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property owner shall prohibit the use of any planting that are invasive, per City Regulations, Standards, guidelines, etc., within 100 feet of the MHPA."

In addition, the following are general avoidance and minimization measures that shall be implemented to minimize impacts to natural communities of special concern, special-status plants, and special-status wildlife:

1. The contractor(s) shall be informed, prior to the bidding process, regarding the biological constraints of this project. The project limits shall be clearly marked on project maps provided to the contractor(s) and areas outside of the project limits shall be designated as "no construction" zones. A construction manager shall be present during all construction activities to ensure that work is limited to designated project limits.

2. Temporary fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) to prevent habitat impacts and prevent the spread of silt from the construction zone into adjacent habitats. The fencing shall be installed in a manner that does not impact habitats to be avoided. The applicant shall submit to USFWS for approval, at least 30 days prior to initiating project impacts, the final plans for initial clearing and grubbing of habitat and project construction These final plans shall include photographs that show the fenced limits of impact and all areas to be impacted or avoided.

Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced construction limits, staging areas, and routes between the construction limits and staging areas. Temporary construction fencing will be removed upon project completion.

3. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will occur in designated areas outside of jurisdictional wetlands or waters and within the fenced project limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering jurisdictional wetlands or waters, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. "No-fueling" zones shall be designated on construction plans.

4. In areas that do not require excavation or grading, vegetation shall be trampled instead of completely removed.

5. The project site shall be kept as clean of debris as possible to avoid attracting predators of sensitive wildlife. All food-related trash items will be enclosed in sealed containers and regularly removed from the site.

6. Pets of project personnel shall not be allowed on the project site.

7. Disposal or temporary placement of excess fill, brush, or other debris shall not be allowed in waters of the U.S. or their banks.

8. The majority of construction is expected to be undertaken during daylight; however, when nighttime construction is necessary, lighting shall be of the lowest illumination necessary for

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human safety, will be diverted away from any native vegetation communities, and shall consist of low-sodium or similar lighting equipped with shields to focus light downward onto the appropriate subject area.

9. Exclusionary devices shall be installed underneath the bridge to prevent birds and bats from nesting during construction. Installation of these devices shall be completed prior to February 1 (beginning of bird breeding season) and remain until construction is completed. A qualified biologist shall inspect the area prior to installation for nests and evidence of breeding activity. If breeding activity is not detected, inactive nests shall be destroyed to prevent birds from establishing breeding. If breeding activity is confirmed, exclusionary devices shall be installed in all other areas lacking active nests. Active nests will be monitored by the biologist until breeding is complete. Once breeding is complete, exclusionary devices shall be installed in these areas.

II. Post Construction

A. Preparation and Submittal of Monitoring Report

The Qualified Biologist/Owners Representative shall submit a final biological monitoring report to the RE/MMC within 30 days of the completion of construction that requires monitoring. The report shall incorporate the results of the MMRP/MSCP requirements per the construction documents and the BME to the satisfaction of RE/MMC.

The above mitigation monitoring and reporting program will require additional fees and/or deposits to be collected prior to the issuance of building permits, certificates of occupancy and/or final maps to ensure the successful completion of the monitoring program.

ORIGINAL

PLANNING COMMISSION RESOLUTION NO. 4853-PC
SITE DEVELOPMENT PERMIT No. 721993
WEST MISSION BAY DRIVE PROJECT NO. 203403-[MMRP]

WHEREAS, City of San Diego/Engineering and Capital Projects Department, Owner/Permittee, filed an application with the City of San Diego for a permit to replace the existing West Mission Bay Drive Bridge with two new parallel bridge structures each containing three lanes and Class I Bike Lane (as described in and by reference to the approved Exhibits "A" and corresponding conditions of approval for the associated Permit No. 721993.

WHEREAS, the project site is located at within the Peninsula, Mission Bay Park, Midway-Pacific Highway Community Plan areas Community Plan area, in the Coastal Overlay Zone [Deferred Certification Area, State Jurisdiction] and FEMA Floodway and Floodplains [100 and 500 year] zone;

WHEREAS, on November 15, 2012, the Planning Commission of the City of San Diego considered Site Development Permit No. 721993 pursuant to the Land Development Code of the City of San Diego;

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of San Diego as follows:

That the Planning Commission adopts the following written Findings, dated November 15, 2012:

SITE DEVELOPMENT PERMIT – Section 126.0504

A. Findings for all Site Development Permits

1. The proposed development will not adversely affect the applicable land use plan. The proposed project is located within the southern portion of Mission Bay Park and adjacent to the Peninsula and Midway/Pacific Highway Corridor Community Plans. The proposed project crosses the San Diego River flood control channel within the park. The Project is consistent with these applicable community plans. Per the Mission Bay Park Plan, West Mission Bay Drive Bridge is considered one of the "gateways" to Mission Bay Park. The bridge would improve this "gateway" by reducing traffic congestion and improving traffic circulation into and out of the park and by replacing the bridge structure to address the structural and seismic deficiencies of the current bridge. Additionally, the replacement structure is visually consistent with a minimal impact to the views of the park. The lane expansion will accommodate both the current vehicular traffic volumes and the projected traffic volume increase, and improve vehicular traffic operations via additional lanes to accommodate traffic flow from both sides of the bridge. The project would improve traffic circulation by providing an efficient road network that balances regional travel needs with the travel requirements and preferences of local communities and provide adequate capacity to reasonably accommodate both planned land uses and regional traffic patterns, thereby reducing congestion. The Project would therefore be consistent with the Circulation Element of the Midway Community Plan and the Transportation and Shoreline Access Element of the Peninsula Community Plan.

ORIGINAL

Additionally, the bridge would include a Class I bike facility (bike path) and would be consistent with the San Diego Bike Master Plan, which classified the bridge to have a Class I bike facility. The inclusion of the Class I bike facility on the bridge would provide connectivity to the existing Class I facilities on the north and south side of the San Diego River. Further to minimize disruption to bicyclists and other recreational users during construction the existing recreation trails located below the existing bridge on either side of the San Diego River would remain open during construction.

The Project is consistent with the applicable planning documents, as well as with existing and planned land uses in the vicinity. The construction of a bridge with shared Class I bike lanes and pedestrian walkways would implement these General/Community Plan goals and objectives by providing more capacity for Peninsula residents on the West Mission Bay Drive Bridge to access commercial, employment and regional activity centers, including SeaWorld and Mission Bay Park within the Mission Bay Park Master Plan area. Therefore the proposed project will not adversely affect the applicable land use plan.

2. The proposed development will not be detrimental to the public health, safety, and welfare. The Project will provide for the health, safety and welfare of the residents San Diego by replacing the existing bridge, which has been evaluated and classified by Caltrans as functionally obsolete and structurally deficient, expanding the bridge from four to six lanes, improving the northern and southern ends of the bridge to improve existing traffic levels of service (LOS) and future traffic demand, while also adding a Class I bike facility and sidewalk to the bridge. The Project design and implementation process would meet all pertinent federal and local requirements for floodplain encroachment. The resulting structure would have substantially less encroachment into the floodplain. Since the Project would improve traffic flows, emissions associated with idling due to traffic congestion ultimately would be reduced, resulting in a beneficial effect with regard to air quality. In addition, emergency services (including police and fire protection) would benefit because traffic would be less congested. Accordingly, the Project will not be detrimental to the public health, safety and welfare, but, rather, will be beneficial.

3. The proposed development will comply with the applicable regulations of the Land Development Code. The proposed improvements in all respects comply with the Land Development Code, as applicable, except that an Environmentally Sensitive Lands deviation is required for impacts to Environmentally Sensitive Lands (biological resources and the 100-year floodplain).

B. Supplemental Findings – Environmentally Sensitive Lands

1. The site is physically suitable for the design and siting of the proposed development and the development will result in minimum disturbance to environmentally sensitive lands. The project proposes to replace the existing four lane bridge (West Mission Bay Bridge) with two new parallel bridge structures each containing three lanes and a Class I bike lane. The Project is designed in such a way as to minimize impacts to sensitive habitats and the City Multi-Habitat Planning Area (MHPA). The existing bridge is currently within and adjacent to the San Diego River flood control channel and within the MHPA. The resulting footprint of the replacement bridge will reduce the permanent physical encroachment into the San Diego River and MHPA. Temporary impacts from demolition of existing and construction of the new bridge would occur to mostly non-vegetated channel/tidal mud flats and rip rap, which would be restored to existing conditions. Approximately .002 acres of coastal brackish marsh consisting of an invasive wetland species plant (*Phragmites australis*) would be restored to tidal mud flat. The Project will be required to implement biological monitoring and noise monitoring during bird

ORIGINAL

breeding season and implement water quality protection measures during construction and provides permanent water quality measures as well. Impacts have been minimized to the level feasible and would result in no permanent impacts to the MHPA and the San Diego River. Therefore, the design and siting of the new bridge will result in the minimum disturbance to environmentally sensitive lands.

2. **The proposed development will minimize the alteration of natural land forms and will not result in undue risk from geologic and erosional forces, flood hazards, or fire hazards.** The Project would result in a reduction in the permanent footprint in the San Diego River flood control channel and would minimize erosion, flood and fire hazards. The reduction in the number of bridge piles and the vertical freeboard (area between the river and the bottom of the bridge structure) would improve flood control conditions in the channel. Temporary construction measures in the flood control channel would minimize temporary impacts to flood hazards. Because the current bridge is considered structurally deficient, the new bridge would be designed in conformance with current seismic standards and with implementation of the measures that will minimize geologic risks. Similarly, measures will be implemented to minimize effects related to erosion. The Project would not be prone to fire hazards as it includes roadway improvements and no permanent flammable structures will be erected as part of the Project. Accordingly, the Project will minimize the alternations of natural landforms and will not result in undue risk from geologic and erosional forces, flood hazards or fire hazards.

3. **The proposed development will be sited and designed to prevent adverse impacts on any adjacent environmentally sensitive lands.** The Project site is located within the MHPA and San Diego River. The Project would replace the existing bridge which is located within the MHPA and San Diego River with a new bridge. The current bridge is both structurally deficient and functionally obsolete and requires additional lanes per existing and future traffic conditions. However, the Project would result in a reduction in the number of piles in the river and less encroachment into the floodway than the current bridge. The Project is required to construct in such a way as to minimize impacts to sensitive habitats and the City Multi-Habitat Planning Area (MHPA). Therefore, the new bridge would be less intrusive with respect to footprint and it is designed to prevent impacts to adjacent environmentally sensitive lands.

4. **The proposed development will be consistent with the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan.** The Project is located within the MHPA. The MSCP Subarea Plan specifically notes (City 1997a: 45, 46) that existing roads are considered compatible uses within the MHPA, and that where locating new roads outside of the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat, with bridges being the preferred construction method. With regard to the Project, the need for the new lanes is directly related to addressing the existing and future traffic demands. The Project alignment minimizes impacts to sensitive habitat adjacent to the project area and reduces the permanent encroachment into the MHPA in comparison to the current bridge. The Project minimizes both construction and operational impacts to the extent possible in terms of bridge construction measures, alignment, and permanent BMPs incorporated into the new bridge. The Project impacts non-vegetated channel/tidal mudflat/open water and rip rap that is subject to both tidal influence and upstream freshwater influence and would be restored to existing channel condition upon completion of the project. The .002 acre of coastal brackish marsh consisting of monotypic stand of an invasive wetland plant (*Phragmites australis*) would be mitigated by returning this .002 acre to mudflat and monitoring for up to five years subject to resource agency permitting and approval. No permanent direct impacts to wetlands and waters would occur. A net gain of wetland habitat will result upon project completion because the permanent footprint of the proposed bridge pier columns (0.04 acres) is less than the permanent footprint of the existing bridge pier walls.

ORIGINAL

The Project will comply with the City's MHPA Land Use Adjacency Guidelines regarding drainage, toxics, lighting, noise, barriers and invasive species. Noise impacts during construction to sensitive avian species would be significant; however, with implementation of mitigation, impacts would be reduced to below a level of significance. Therefore, the Project would be consistent with the City's MSCP Subarea Plan.

5. **The proposed development will not contribute to the erosion of public beaches or adversely impact local shoreline sand supply.** The Project site is located near the mouth of the San Diego River and Mission Bay. This Project proposes the replacement of an existing bridge in the same approximant location and will also reduce the number of piers within the river. Therefore, the new bridge will not contribute to erosion of public beaches or adversely affect shoreline sand supply because the Project will reduce the footprint of the current bridge crossing the San Diego River. Additionally, implementation of erosion and sediment control measures during construction are designed to avoid any impacts from construction to downstream sedimentation or erosion. Therefore, the proposed development will not contribute to the erosion of public beaches or adversely impact local shoreline sand supply.

6. **The nature and extent of mitigation required as a condition of the permit is reasonably related to, and calculated to alleviate, negative impacts created by the proposed development.** Project design and mitigation measures formulated to alleviate all impacts identified as potentially adverse and significant to sensitive biological resources and the 100-year floodplain are contained throughout the Project Mitigated Negative Declaration (MND). In addition, all mitigation measures identified in the MND that are associated with the Project have been adopted and will be incorporated into the Site Development Permit. Thus, all mitigation reasonably related to and calculated to alleviate negative impacts created by the Project has been or will be incorporated in the conditions of the development permit.

C. **Supplemental Findings – Environmentally Sensitive Lands Deviations**

1. **There are no feasible measures that can further minimize the potential adverse effects on environmentally sensitive lands.** The Project has incorporated design and construction avoidance and minimization measures to the most extent practicable and does not propose any potential adverse effects to environmentally sensitive lands. It is not possible to avoid the 100 year flood plain as the existing bridge crosses the San Diego River and the project is replacing the existing bridge in the current location and also by design is decreasing the direct encroachment into the flood plain.

In general, the Project's right-of-way and grading will be narrowed to the maximum extent possible to minimize the potential adverse effects on Environmentally Sensitive Lands. There are no feasible measures that can further minimize the potential adverse effects from the Project on Environmentally Sensitive Lands.

ORIGINAL

2. The proposed deviation is the minimum necessary to afford relief from special circumstances or conditions of the land, not of the applicant's making.
The existing bridge has been evaluated and classified by Caltrans as functionally obsolete and structurally deficient making it a priority to replace for the benefit of the public. The bridge spans over the San Diego River which contains a variety of environmentally sensitive lands including wetlands. The Project incorporates the City of San Diego's Street Design Manual and Caltrans requirements while endeavoring to minimize impacts to environmentally sensitive biological resources and the 100-year floodplain. In so doing, disturbance of environmentally sensitive biological resources and the 100-year floodplain is unavoidable. The Project will reduce the number of piers which decreases the direct encroachment into the flood channel. The request for a deviation to disturb environmentally sensitive biological resources and the 100-year floodplain is the minimum necessary to replace the bridge. The impacted areas cannot be avoided and the deviation to work within the area is the minimum necessary to afford relief from special circumstances and conditions of the land, not of the applicant's making.

BE IT FURTHER RESOLVED that, based on the findings hereinbefore adopted by the Planning Commission Site Development Permit No. 721993 is hereby GRANTED by the Planning Commission to the referenced Owner/Permittee, in the form, exhibits, terms and conditions as set forth in Permit No. 721993 a copy of which is attached hereto and made a part hereof.

Helene Deisher
Development Project Manager
Development Services

Adopted on: November 15, 2012

WBS No. S-00871.02.06

ORIGINAL

APPENDIX E

LOCATION MAPS

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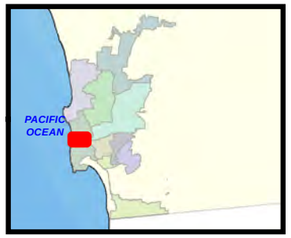


The City of SAN DIEGO Public Works

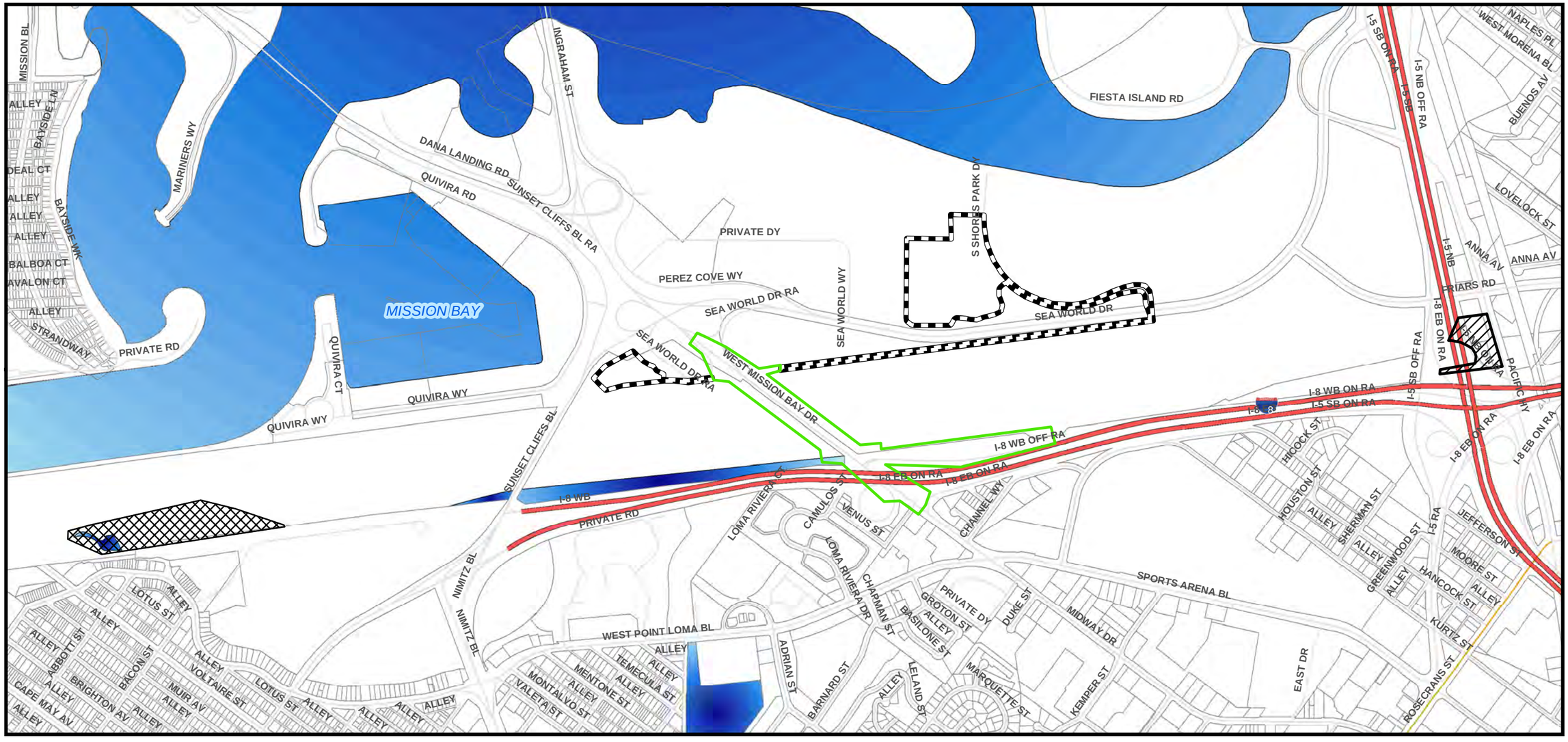
WEST MISSION BAY DRIVE BRIDGE OVER SAN DIEGO RIVER

SENIOR ENGINEER
DANIEL NUTTER
(619) 533-7492

PROJECT MANAGER
JESUS GARCIA
(619) 533-5410

PROJECT ENGINEER
HEIDI LEON
(619) 533-7531

FOR QUESTIONS ABOUT THIS PROJECT
Call: (619) 533-4207
Email: *engineering@sandiego.gov*



Legend

- Eastern Mitigation Area
- Western Mitigation Area
- Project Limits
- Staging Area Limits

COMMUNITY NAME: MISSION BAY PARK
Date: December 13, 2016

West Mission Bay Bridge
Appendix E - Location Maps (Rev. Dec. 2016)
Federal Aid Project No. BHLS-5004(049)

COUNCIL DISTRICT: 2

SAP ID: S00871

SanGIS

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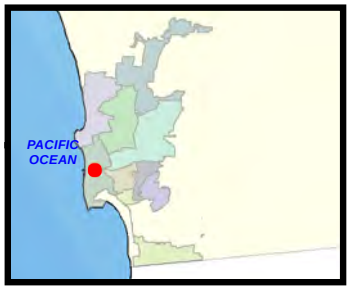

The City of SAN DIEGO Public Works

Caltrans Pacific Beach PPL Central - Sewer

SENIOR ENGINEER
DANIEL NUTTER
(619) 533-7492

PROJECT MANAGER
JESUS GARCIA
(619) 533-5410

PROJECT ENGINEER
HEIDI LEON
(619) 533-7531

FOR QUESTIONS ABOUT THIS PROJECT
Call: (619) 533-4207
Email: engineering@sandiego.gov

Legend

- Existing Sewer Pipeline To Be Replaced
- Proposed New Sewer Pipeline
- Existing Sewer Pipeline To Be Abandoned

N W E S

COMMUNITY NAME: MISSION BAY PARK COUNCIL DISTRICT: 2

SAP ID: B12097 (S)

Date: December 13, 2016

West Mission Bay Bridge
Appendix E - Location Maps (Rev. Dec. 2016)
Federal Aid Project No. BHLS-5004(049)

SanGIS

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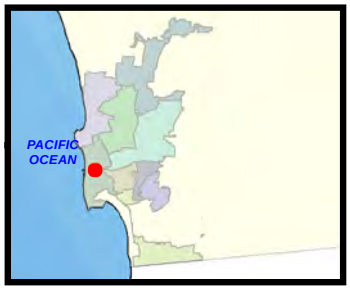

The City of SAN DIEGO Public Works

Caltrans Pacific Beach PPL Central - Water

SENIOR ENGINEER
DANIEL NUTTER
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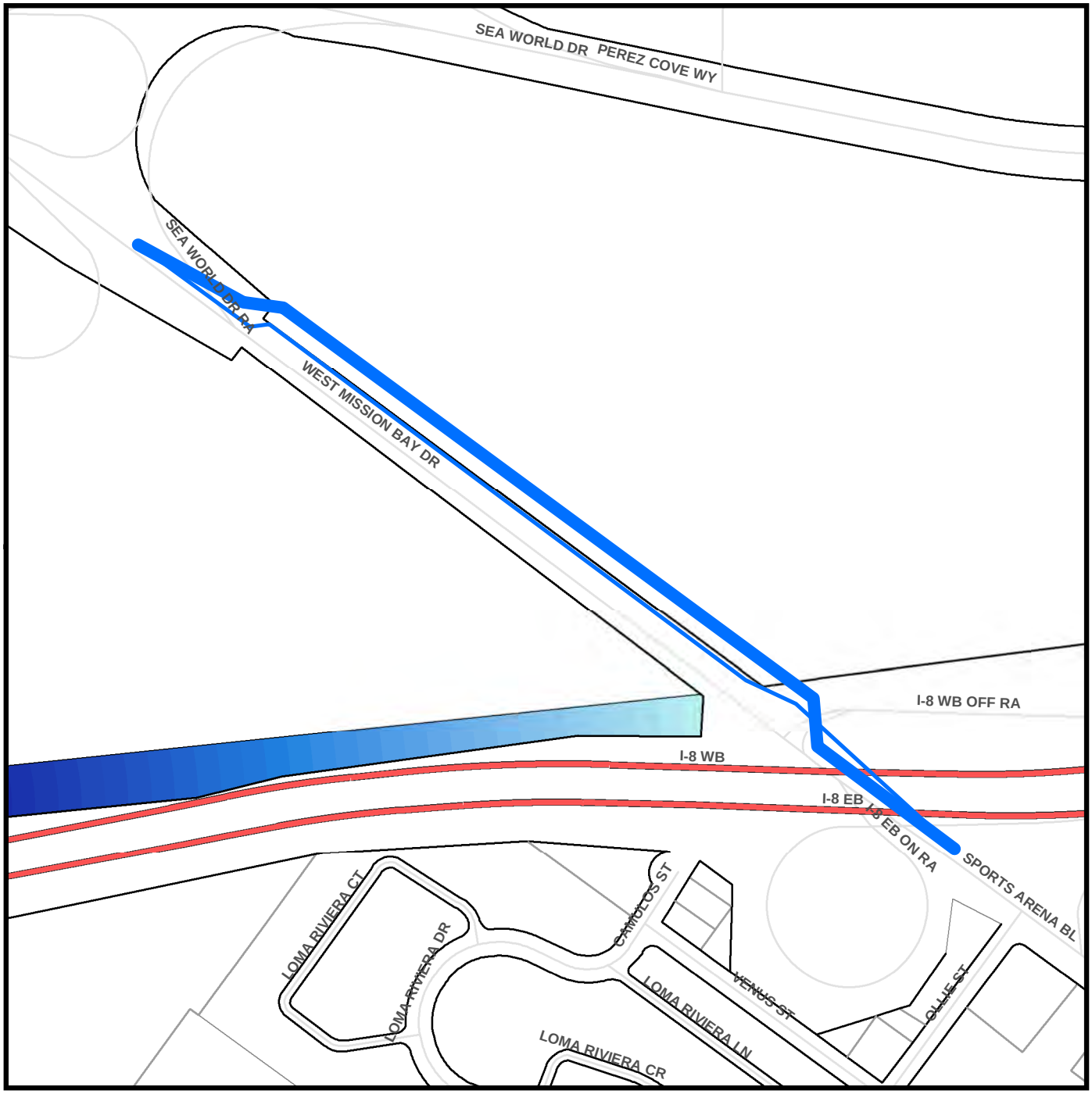
PROJECT MANAGER
JESUS GARCIA
(619) 533-5410

PROJECT ENGINEER
HEIDI LEON
(619) 533-7531

FOR QUESTIONS ABOUT THIS PROJECT
Call: (619) 533-4207
Email: engineering@sandiego.gov



Legend

Existing Water Pipeline To Be Removed

Proposed New Water Pipeline

COMMUNITY NAME: MISSION BAY PARK COUNCIL DISTRICT: 2

SAP ID: B12110 (W)

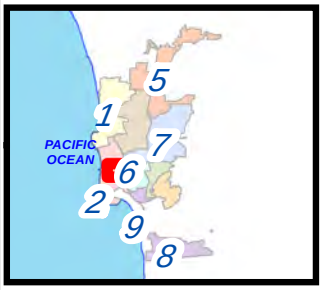
Date: December 13, 2016

West Mission Bay Bridge
Appendix E - Location Maps (Rev. Dec. 2016)
Federal Aid Project No. BHLS-5004(049)

SanGIS

APPENDIX F

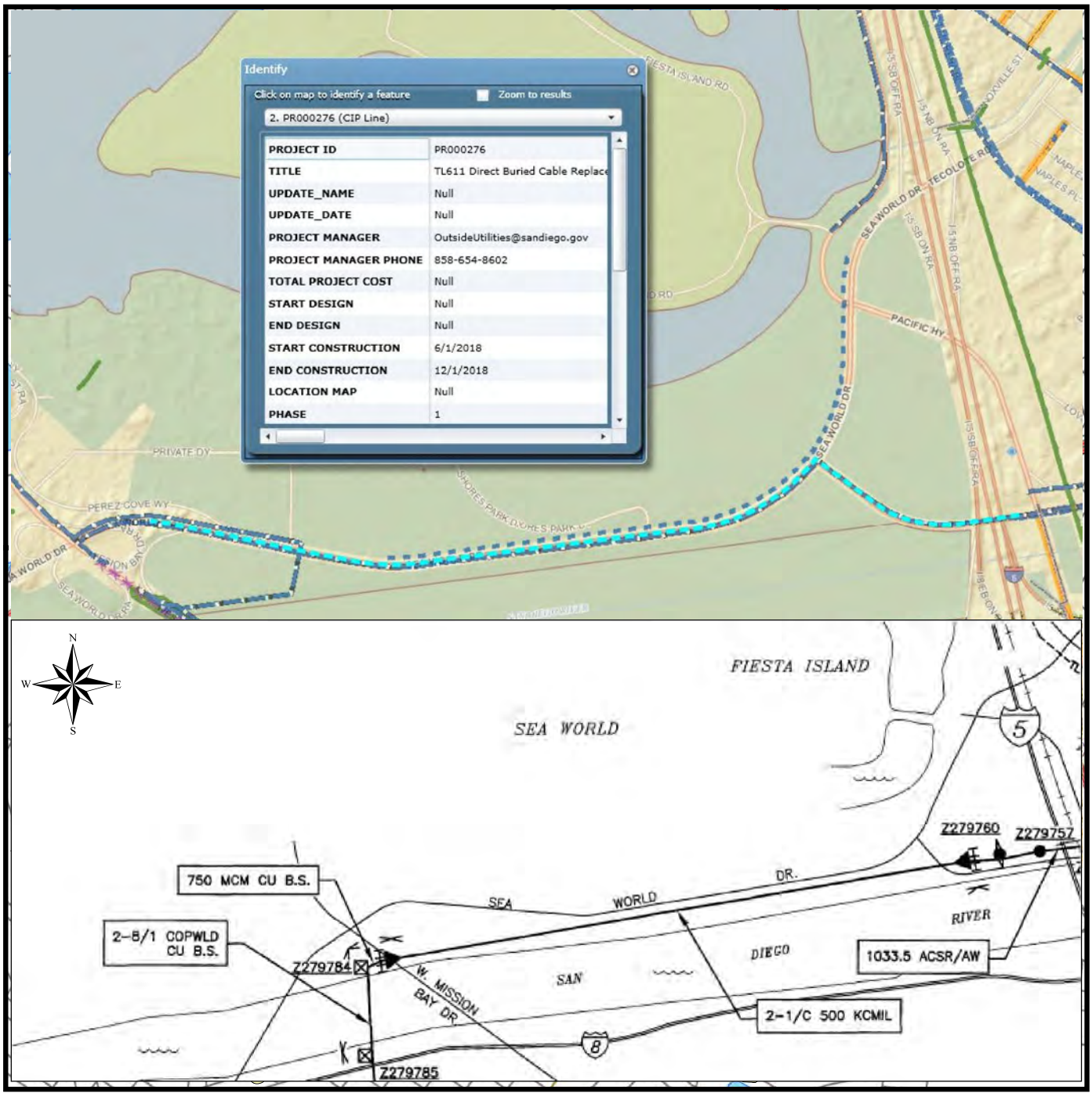
ADJACENT PROJECTS



TL611 Direct Buried Cable Replacement
Project ID: PR000276

FOR QUESTIONS ABOUT THIS PROJECT
Call: 858-654-8602

Email: *OutsideUtilities@sandiego.gov*



APPENDIX G

SAMPLE OF PUBLIC NOTICE

FOR SAMPLE REFERENCE ONLY

The City of SAN DIEGO

CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
- Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
- This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
- Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
- Parking restrictions will exist because of the presence of construction equipment and materials.
- "No Parking" signs will be displayed 72 hours in advance of the work.
- Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:
Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:
Company Name, XXX-XXX-XXXX

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

This information is available in alternative formats upon request.

The City of SAN DIEGO

CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
- Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
- This work is anticipated to be complete in your community by December 2016.

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- Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
- Parking restrictions will exist because of the presence of construction equipment and materials.
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- Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:
Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:
Company Name, XXX-XXX-XXXX

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

This information is available in alternative formats upon request.

APPENDIX H

SAMPLE CITY INVOICE AND SPEND CURVE

City of San Diego, CM&FS Div., 9753 Chesapeake Drive, SD CA 92123

Project Name:

Work Order No or Job Order No.

City Purchase Order No.

Resident Engineer (RE):

RE Phone#: Fax#:

Contractor's Name:

Contractor's Address:

Contractor's Phone #:

Contractor's fax #:

Contact Name:

Invoice No.

Invoice Date:

Billing Period: (To)

Item #	Item Description	Contract Authorization				Previous Totals To Date		This Estimate		Totals to Date	
		Unit	Price	Qty	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1					$ -		$ -		$ -	0.00	$ -
2					$ -		$ -		$ -	0.00%	$ -
3					$ -		$ -		$ -	0.00%	$ -
4					$ -		$ -		$ -	0.00%	$ -
5					$ -		$ -		$ -	0.00%	$ -
6					$ -		$ -		$ -	0.00%	$ -
7					$ -		$ -		$ -	0.00%	$ -
8					$ -		$ -		$ -	0.00%	$ -
5					$ -		$ -		$ -	0.00%	$ -
6					$ -		$ -		$ -	0.00%	$ -
7					$ -		$ -		$ -	0.00%	$ -
8					$ -		$ -		$ -	0.00%	$ -
9					$ -		$ -		$ -	0.00%	$ -
10					$ -		$ -		$ -	0.00%	$ -
11					$ -		$ -		$ -	0.00%	$ -
12					$ -		$ -		$ -	0.00%	$ -
13					$ -		$ -		$ -	0.00%	$ -
14					$ -		$ -		$ -	0.00%	$ -
15					$ -		$ -		$ -	0.00%	$ -
16					$ -		$ -		$ -	0.00%	$ -
17	**Field Orders**				$ -		$ -		$ -	0.00%	$ -
					$ -		$ -		$ -	0.00%	$ -
	CHANGE ORDER No.				$ -		$ -		$ -	0.00%	$ -
					$ -		$ -		$ -	0.00%	$ -
	Total Authorized Amount (including approved Change Order)				**$ -**		**$ -**		$ -	**Total Billed**	$ -

SUMMARY

A. Original Contract Amount	$	-
B. Approved Change Order #00 Thru #00	$	-
C. Total Authorized Amount (A+B)	$	-
D. Total Billed to Date	$	-
E. Less Total Retention (5% of D)	$	-
F. Less Total Previous Payments	$	-
G. Payment Due Less Retention		**$0.00**
H. Remaining Authorized Amount		$0.00

I certify that the materials have been received by me in the quality and quantity specified

_____

Resident Engineer

_____

Construction Engineer

Retention and/or Escrow Payment Schedule

Total Retention Required as of this billing (Item E)	$0.00
Previous Retention Withheld in PO or in Escrow	$0.00
Add'l Amt to Withhold in PO/Transfer in Escrow:	***$0.00***
Amt to Release to Contractor from PO/Escrow:	

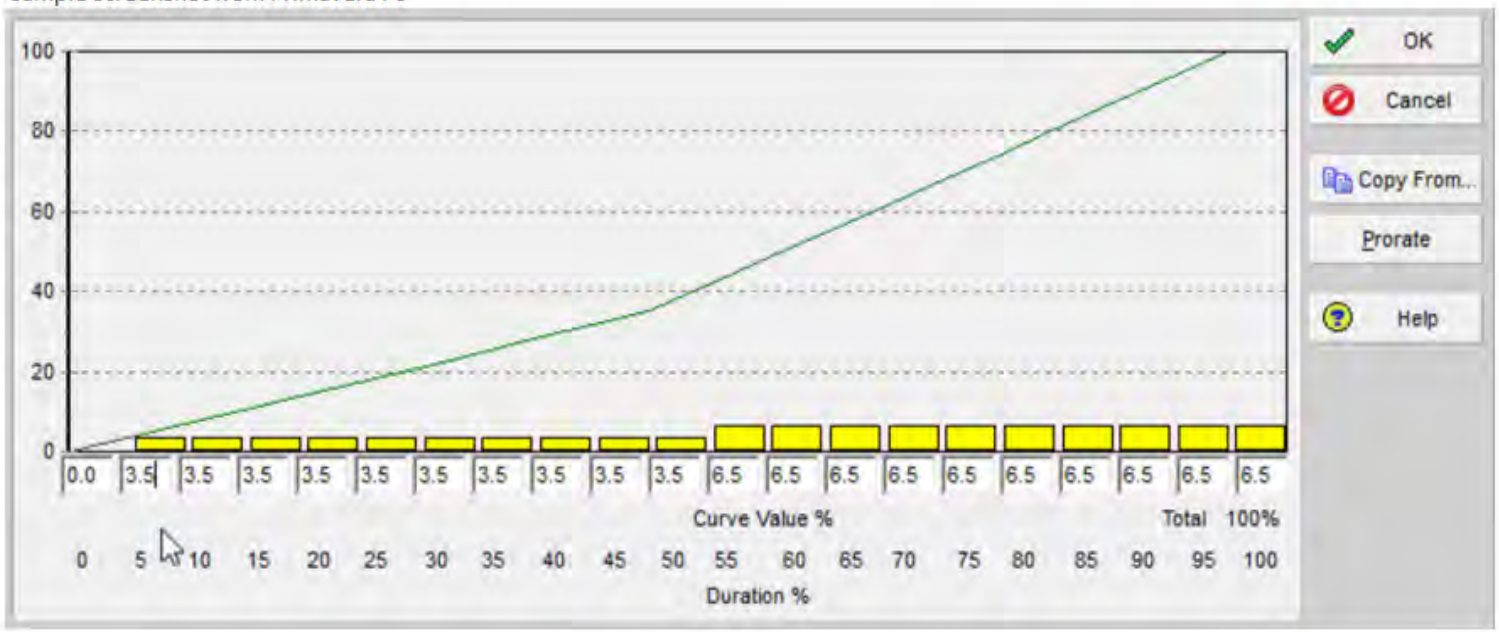
Contractor Signature and Date: _____

Sample Project Spend Curve

Sample Date Entries Required

Incremental Curve Value	0.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Duration % Increment	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%

Sample Screenshot from Primavera P6



APPENDIX I

SAMPLE ARCHAEOLOGY INVOICE

(FOR ARCHAEOLOGY ONLY)
Company Name

Address, telephone, fax

Date: Insert Date

To: Name of Resident Engineer
City of San Diego
Field Engineering Division
9485 Aero Drive
San Diego, CA 92123-1801

Project Name: Insert Project Name

SAP Number (WBS/IO/CC): Insert SAP Number

Drawing Number: Insert Drawing Number

Invoice period: Insert Date to Insert Date

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Monitoring Bid item. See Note 1 below.

Summary of charges:

Description of Services	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist	Joe Smith	8/29/2011	9/2/2011	40	$84	$3,360
Laboratory Assistant	Jane Doe	8/29/2011	9/2/2011	2	$30	$60
Subtotal						$3,420

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Curation/Discovery Bid item. See Note 2 below.

Summary of charges:

Description of Services	Where work occurred (onsite vs offsite/lab)	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist		Joe Smith	8/29/2011	9/2/2011	40	$84	$3,360
Laboratory Assistant		Jane Doe	8/29/2011	9/2/2011	2	$30	$60
Subtotal							$3,420

Total this invoice: $_____

Total invoiced to date: $_____

Note 1:

For monitoring related bid items or work please include summary of construction work that was monitored from Station to Station, Native American monitors present, MMC coordination, status and nature of monitoring and if any discoveries were made.

Note 2:

For curation/discovery related bid items or work completed as part of a discovery and curation process, the PI must provide a response to the following questions along with the invoice:

1. Preliminary results of testing including tentative recommendations regarding eligibility for listing in the California Register of Historical Resources (California Register).

    a. Please briefly describe your application (consideration) of all four California Register criteria.

    b. If the resource is eligible under Criterion D, please define the important information that may be present.

    c. Were specialized studies performed? How many personnel were required? How many Native American monitors were present?

    d. What is the age of the resource?

    e. Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the San Diego Archaeological Center (SDAC). How many personnel were required? How many Native American monitors were present?

2. Preliminary results of data recovery and a definition of the size of the representative sample.

    a. Were specialized studies performed? Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the SDAC. How many personnel were required? How many Native American monitors were present?

3. What resources were discovered during monitoring?

4. What is the landform context and what is the integrity of the resources?

5. What additional studies are necessary?

6. Based on application of the California Register criteria, what is the significance of the resources?

    a. If the resource is eligible for the California Register, can the resource be avoided by construction?

    b. If not, what treatment (mitigation) measures are proposed? Please define data to be recovered (if necessary) and what material will be submitted to the SDAC for curation. Are any specialized studies proposed?

(After the first invoice, not all the above information needs to be re-stated, just revise as applicable).

APPENDIX J

HYDROSTATIC DISCHARGE FORM

Hydrostatic Discharge Requirements Certification (Discharge Events ≥ 325,850 gpd)

All discharge activities related to this project comply with the Regional Water Quality Control Board (RWQCB) Order No. R9-2010-0003, General Permit for Discharges of Hydrostatic Test Water and Potable Water to Surface Water and Storm Drains as referenced by (http://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2010/R9-2010-0003.pdf), and as follows:

Discharged water has been dechlorinated to below **0.1** *(mg/l)* level; and effluent has been maintained between **6** and **9** *(pH)* based on:

Event #	Discharge Date	Item Tested	Duration	Amount (gpd)	Description of the Proposed Discharge	Method and Test Result	*Is Discharge Within Limits?*		Comment/Action Taken
							YES	*NO*	
		Chlorine							
		pH							
		Chlorine							
		pH							
		Chlorine							
		pH							
		Chlorine							
		pH							

Qualified Personnel Conducting Tests (Print Name):	***SAP No.(s):***
***Signed:**	**Project Name:**

* By signing, I hereby certify and affirm under penalty of perjury that all of the statements and conditions for hydrostatic discharge events are correct.

Have any thresholds been exceeded? Per Order No. R9-2010-0003, would this be a reportable discharge and must be reported **within 24 hours** of the event? [Reportable discharge would include violation of maximum gallons per day, any upset which exceeds any effluent limit]

APPENDIX K

DISCHARGE POINTS AND FLOW DATA

CITY OF SAN DIEGO
M E M O R A N D U M

DATE: March 13, 2017

TO: Jesus Garcia, Associate Civil Engineer, Public Works Department

FROM: Alexander Ottens, Assistant Civil Engineer, Engineering and Program Management Division, Public Utilities Department

SUBJECT: Pre-Approval Discharge Flow Rate for West Mission Bay Dr. Bridge

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The hydraulic modeling analysis for West Mission Bay Dr. Bridge main flushing discharge has been completed. Discharge is proposed to manhole D18S5. The maximum allowable discharge to manhole D18S5 without significant impact to downstream facilities is 100 GPM. This is the allowable discharge to the existing sewer configuration under dry weather flow conditions only. No flow can be discharged under wet weather conditions.

This is only a pre-approval for capacity. Before discharge begins Industrial Waste needs to approve the discharge, and the capacity will be re-evaluated at that time. For water main flushes secondary approval from Wastewater Collections is required.

Alex Ottens

Alexander Ottens

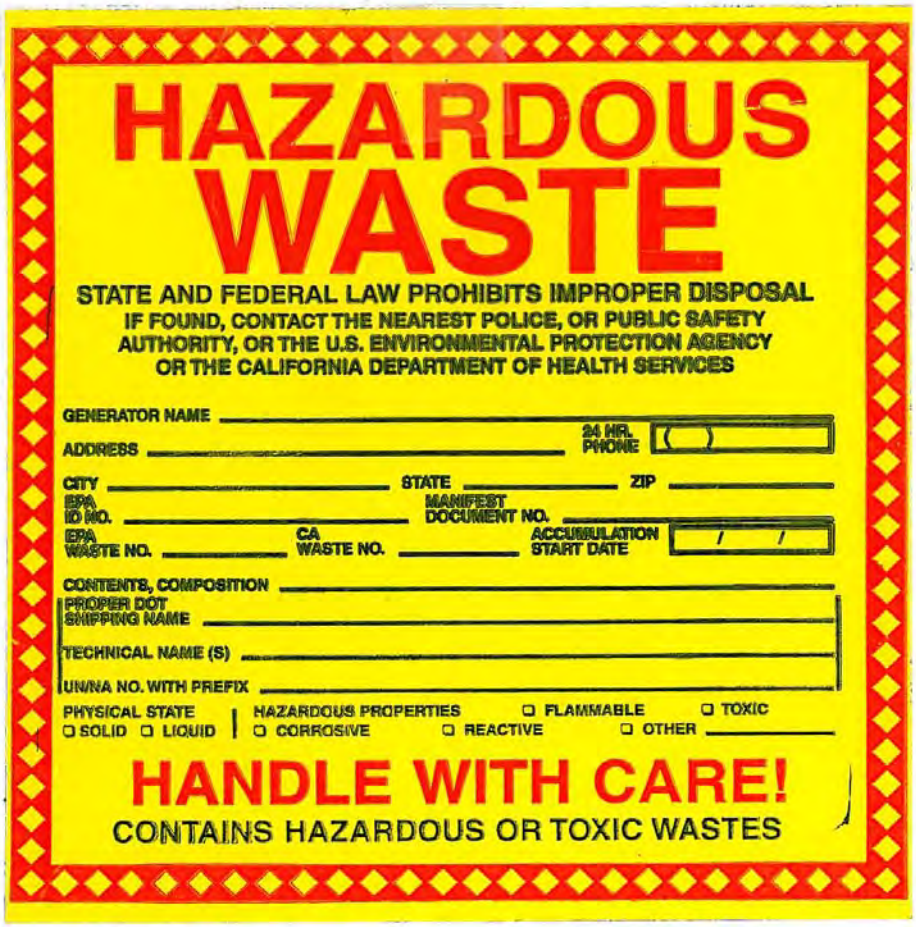
Cc: Matt Wedeking

Attachments: Location Map

Location Map

APPENDIX L

HAZARDOUS LABEL/FORMS


HAZARDOUS
WASTE
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES
GENERATOR NAME
ADDRESS
24 HR. PHONE
CITY
STATE
ZIP
EPA ID NO.
MANIFEST DOCUMENT NO.
EPA WASTE NO.
CA WASTE NO.
ACCUMULATION START DATE
CONTENTS, COMPOSITION
PROPER DOT SHIPPING NAME
TECHNICAL NAME (S)
UN/NA NO. WITH PREFIX
PHYSICAL STATE
SOLID LIQUID
HAZARDOUS PROPERTIES
CORROSIVE
FLAMMABLE
REACTIVE
TOXIC
OTHER
HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

INCIDENT/RELEASE ASSESSMENT FORM [1]

If you have an emergency, Call 911

Handlers of hazardous materials are required to report releases. The following is a tool to be used for assessing if a release is reportable. Additionally, a non-reportable release incident form is provided to document why a release is not reported (see back).

Questions for Incident Assessment:	YES	NO
1. Was anyone killed or injured, or did they require medical care or admitted to a hospital for observation?	❒	❒
2. Did anyone, other than employees in the immediate area of the release, evacuate?	❒	❒
3. Did the release cause off-site damage to public or private property?	❒	❒
4. Is the release greater than or equal to a reportable quantity (RQ)?	❒	❒
5. Was there an uncontrolled or unpermitted release to the air?	❒	❒
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	❒	❒
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	❒	❒
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	❒	❒
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	❒	❒
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	❒	❒

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

Call 911 in an emergency

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a "no" response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

[1] This document is a guide for accessing when hazardous materials release reporting is required by Chapter 6.95 of the California Health and Safety Code. It does not replace good judgment, Chapter 6.95, or other state or federal release reporting requirements.

NON REPORTABLE RELEASE INCIDENT FORM

1. RELEASE AND RESPONSE DESCRIPTION Incident #_____

Date/Time Discovered	Date/Time Discharge	Discharge Stopped ☐ Yes ☐ No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: ☐Yes ☐No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone:
Contact Person:	Phone:

3. CHEMICAL INFORMATION

Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Clean-Up Procedures & Timeline:	
Completed By:	Phone:
Print Name:	Title:

EMERGENCY RELEASE FOLLOW - UP NOTICE REPORTING FORM

A

BUSINESS NAME	FACILITY EMERGENCY CONTACT & PHONE NUMBER ( ) -

B

INCIDENT DATE MO DAY YR	TIME OES NOTIFIED (use 24 hr time)	OES CONTROL NO.

C

INCIDENT ADDRESS LOCATION	CITY / COMMUNITY	COUNTY ZIP

D

CHEMICAL OR TRADE NAME (print or type)	CAS Number

CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A ☐	CHECK IF RELEASE REQUIRES NOTIFI - CATION UNDER 42 U.S.C. Section 9603 (a) ☐

PHYSICAL STATE CONTAINED ☐ SOLID ☐ LIQUID ☐ GAS	PHYSICAL STATE RELEASED ☐ SOLID ☐ LIQUID ☐ GAS	QUANTITY RELEASED

ENVIRONMENTAL CONTAMINATION ☐ AIR ☐ WATER ☐ GROUND ☐ OTHER	TIME OF RELEASE	DURATION OF RELEASE ___DAYS ___HOURS ___MINUTES

E

ACTIONS TAKEN

F

KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information)

☐ ACUTE OR IMMEDIATE (explain) _____

☐ CHRONIC OR DELAYED (explain) _____

☐ NOTKNOWN (explain)

G

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

H

COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)

I

CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete.

REPORTING FACILITY REPRESENTATIVE (print or type) _____

SIGNATURE OF REPORTING FACILITY REPRESENTATIVE _____ DATE: _____

EMERGENCY RELEASE FOLLOW-UP NOTICE
REPORTING FORM INSTRUCTIONS

GENERAL INFORMATION:

Chapter 6.95 of Division 20 of the California Health and Safety Code requires that written emergency release follow-up notices prepared pursuant to 42 U.S.C. § 11004, be submitted using this reporting form. Non-permitted releases of reportable quantities of Extremely Hazardous Substances (listed in 40 CFR 355, appendix A) or of chemicals that require release reporting under section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. § 9603(a)] must be reported on the form, as soon as practicable, but no later than 30 days, following a release. The written follow-up report is required in addition to the verbal notification.

BASIC INSTRUCTIONS:

- The form, when filled out, reports follow-up information required by 42 U.S.C § 11004. Ensure that all information requested by the form is provided as completely as possible.
- If the incident involves reportable releases of more than one chemical, prepare one report form for each chemical released.
- If the incident involves a series of separate releases of chemical(s) at different times, the releases should be reported on separate reporting forms.

SPECIFIC INSTRUCTIONS:

Block A: Enter the name of the business and the name and phone number of a contact person who can provide detailed facility information concerning the release.

Block B: Enter the date of the incident and the time that verbal notification was made to OES. The OES control number is provided to the caller by OES at the time verbal notification is made. Enter this control number in the space provided.

Block C: Provide information pertaining to the location where the release occurred. Include the street address, the city or community, the county and the zip code.

Block D: Provide information concerning the specific chemical that was released. Include the chemical or trade name and the Chemical Abstract Service (CAS) number. Check all categories that apply. Provide best available information on quantity, time and duration of the release.

Block E: Indicate all actions taken to respond to and contain the release as specified in 42 U.S.C. § 11004(c).

Block F: Check the categories that apply to the health effects that occurred or could result from the release. Provide an explanation or description of the effects in the space provided. Use Block H for additional comments/information if necessary to meet requirements specified in 42 U.S.C. § 11004(c).

Block G: Include information on the type of medical attention required for exposure to the chemical released. Indicate when and how this information was made available to individuals exposed and to medical personnel, if appropriate for the incident, as specified in 42 U.S.C. § 11004(c).

Block H: List any additional pertinent information.

Block I: Print or type the name of the facility representative submitting the report. Include the official signature and the date that the form was prepared.

MAIL THE COMPLETED REPORT TO:

State Emergency Response Commission (SERC)
Attn: Section 304 Reports
Hazardous Materials Unit
3650 Schriever Avenue
Mather, CA 95655

NOTE: Authority cited: Sections 25503, 25503.1 and 25507.1, Health and Safety Code. Reference: Sections 25503(b)(4), 25503.1, 25507.1, 25518 and 25520, Health and Safety Code.

APPENDIX M

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

Materials Typically Accepted by Certificate of Compliance

1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX N

FIRE HYDRANT METER PROGRAM

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	**NUMBER** **DI** 55.27	**DEPARTMENT** Water Department
SUBJECT **FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)**	**PAGE** 1**OF** 10	**EFFECTIVE DATE** October 15, 2002
	SUPERSEDES **DI** 55.27	**DATED** April 21, 2000

1. **PURPOSE**

1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

2.1 All authorities and references shall be current versions and revisions.

2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15

2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986

2.4 California Code of Regulations, Titles 17 and 22

2.5 California State Penal Code, Section 498B.0

2.6 State of California Water Code, Section 110, 500-6, and 520-23

2.7 Water Department Director

Reference

2.8 State of California Guidance Manual for Cross Connection Programs

2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention

2.10 American Water Works Association Standards for Water Meters

2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.

3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

4. POLICY

4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.

4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.

4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:

a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.

b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:

1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.

3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).

4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).

5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).

6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.

7. All private fire hydrant meters shall have backflow devices attached when installed.

8. The customer must maintain and repair their own private meters and private backflows.

9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.

10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.

12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.

13. The outlet shall have a 2 ½ "National Standards Tested (NST) fire hydrant male coupling.

14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).

4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.

4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.

4.6 **Conditions and Processes for Issuance of a Fire Hydrant Meter**

Process for Issuance

a. Fire hydrant meters shall only be used for the following purposes:

1. Temporary irrigation purposes not to exceed one year.

2. Construction and maintenance related activities (see Tab 2).

b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.

c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.

d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.

e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.

f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.

g. After the fees have been paid and an account has been created, the

meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

4.7 **Relocation of Existing Fire Hydrant Meters**

a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as "Hotline"), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter's relocation.

b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.

c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

4.8 **Disconnection of Fire Hydrant Meter**

a. After ten (10) months a "Notice of Discontinuation of Service" (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.

b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

for removal of the meter.

c. Meter Section staff will remove the meter and backflow prevention assembly and return it to the Meter Shop. Once returned to the Meter Shop the meter and backflow will be tested for accuracy and functionality.

d. Meter Section Staff will contact and notify Customer Services of the final read and any charges resulting from damages to the meter and backflow or its appurtenance. These charges will be added on the customer's final bill and will be sent to the address of record. Any customer who has an outstanding balance will not receive additional meters.

e. Outstanding balances due may be deducted from deposits and any balances refunded to the customer. Any outstanding balances will be turned over to the City Treasurer for collection. Outstanding balances may also be transferred to any other existing accounts.

5. EXCEPTIONS

5.1 Any request for exceptions to this policy shall be presented, in writing, to the Customer Support Deputy Director, or his/her designee for consideration.

6. MOBILE METER

6.1 Mobile meters will be allowed on a case by case basis. All mobile meters will be protected by an approved backflow assembly and the minimum requirement will be a Reduced Pressure Principal Assembly. The two types of Mobile Meters are vehicle mounted and floating meters. Each style of meters has separate guidelines that shall be followed for the customer to retain service and are described below:

a) **Vehicle Mounted Meters**: Customer applies for and receives a City owned Fire Hydrant Meter from the Meter Shop. The customer mounts the meter on the vehicle and brings it to the Meter Shop for

inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

b) **Floating Meters**: Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

    1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.

    2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

7. FEE AND DEPOSIT SCHEDULES

7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. Theses deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. UNAUTHORIZED USE OF WATER FROM A HYDRANT

8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.

8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.

8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.

8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

8.5 If damage occurs to Water Department property (i.e. fire hydrant meter, backflow, various appurtenances), the cost of repairs or replacements will be charged to the customer of record (applicant).

Larry Gardner
Water Department Director

Tabs: 1. Fire Hydrant Meter Application
2. Construction & Maintenance Related Activities With No Return To Sewer
3. Notice of Discontinuation of Service

APPENDIX

Administering Division: Customer Support Division

Subject Index:
Construction Meters
Fire Hydrant
Fire Hydrant Meter Program
Meters, Floating or Vehicle Mounted
Mobile Meter
Program, Fire Hydrant Meter

Distribution: DI Manual Holders

Application for Fire Hydrant Meter (EXHIBIT A)

City of San Diego PUBLIC UTILITIES Water & Wastewater

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

Application Date	Requested Install Date:

Meter Information

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) Zip:	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, If so , explain:		
Estimated Duration of Meter Use: ☐ Check Box if Reclaimed Water		

Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ( )
*Business license#	*Contractor license#		
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: (PERSON IN ACCOUNTS PAYABLE)			Phone: ( )
Site Contact Name and Title:			Phone: ( )
Responsible Party Name:			Title:
Cal ID#			Phone: ( )
Signature:		Date:	

Guarantees Payment of all Charges Resulting from the use of this Meter. Insures that employees of this Organization understand the proper use of Fire Hydrant Meter

☐ Fire Hydrant Meter Removal Request	Requested Removal Date:	
Provide Current Meter Location if Different from Above:		
Signature:	Title:	Date:
Phone: ( )	Pager: ( )	

☐ City Meter	☐ Private Meter		
Contract Acct #:	Deposit Amount: $ 936.00	Fees Amount: $ 62.00	
Meter Serial #	Meter Size: 05	Meter Make and Style: 6-7	
Backflow #	Backflow Size:	Backflow Make and Style:	
Name:	Signature:	Date:	

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

Auto Detailing
Backfilling
Combination Cleaners (Vactors)
Compaction
Concrete Cutters
Construction Trailers
Cross Connection Testing
Dust Control
Flushing Water Mains
Hydro Blasting
Hydro Seeing
Irrigation (for establishing irrigation only; not continuing irrigation)
Mixing Concrete
Mobile Car Washing
Special Events
Street Sweeping
Water Tanks
Water Trucks
Window Washing

Note:

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party
Company Name and Address
Account Number:_____

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter #_____, located at *(Meter Location Address)* ends in 60 days and will be removed on or after *(Date Authorization Expires)*. Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego
Water Department
Attention: Meter Services
2797 Caminito Chollas
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619)_____-_____.

Sincerely,

Water Department

APPENDIX O

ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 5-2, "Protection", of the 2015 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

A. Endpoints, see Photo 1:

Photo 1

B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:

Photo 2

Network Devices, see Photo 3:

Photo 3

AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

Photo 4

The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document
Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

Photo 5

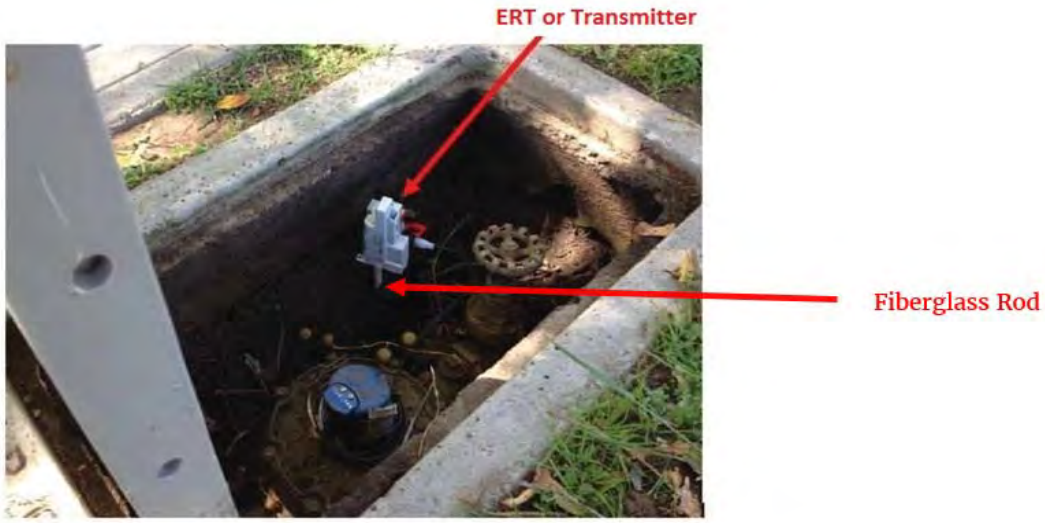


Photo 6 below is an example of disturbance that shall be avoided:

Photo 6

You are responsible when working in and around meter boxes. If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

Photo 7

Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify AMI Project Manager Arwa Sayed at (619) 362-0121 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

Photo 8

Photo 9

If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact the AMI Project Manager, Arwa Sayed, at (619) 362-0121.

APPENDIX P

LONG-TERM MAINTENANCE AND MONITORING AGREEMENT 1

(Project Work Site)

LONG-TERM MAINTENANCE AND MONITORING AGREEMENT 1

This **25-Month Long-Term Maintenance & Monitoring Agreement (LTMMA)** is made and entered into by and between the City of San Diego (City), a municipal corporation, and Flatiron West, Inc. (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."

RECITALS

A. Concurrent with execution of this LTMMA, the Parties entered into a general contract (Construction Contract) for the construction of **West Mission Bay Drive Bridge** (Project), SAP WBS No. **S-00871, B-12110, B-12097**, Bid No. **K-18-1472-DBB-3**.

B. In accordance with the Construction Contract, the Contractor shall enter into this contract with the City for the purpose of implementing and fulfilling long-term revegetation maintenance and monitoring requirements in accordance with the City of San Diego Municipal Code and the Contract Documents for the specified elopement(s) of **West Mission Bay Drive Bridge** (Maintenance Requirements). The performance of the terms of this LTMMA shall commence immediately upon completion of performance of the Construction Contract.

C. The Contractor is ready and willing to fulfill its maintenance requirements in accordance with the terms of this LTMMA.

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

INTRODUCTORY PROVISIONS

A. **Recitals Incorporated.** The above referenced Recitals are true and correct and are incorporated into this LTMMA by this reference.

B. **Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTMMA are incorporated into this LTMMA by this reference.

C. **Contract Term.** This LTMMA shall be effective upon completion of the Plant Establishment Period as described in **Section 6-1.1** of **Attachment E** and **Section 802** of the Construction Contract, and it shall be effective until completion of the Work, described in Section 1.1 below.

D. **Terms and Conditions.** This LTMMA is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK (**Part 1, Part 8, and Part 10**) except as otherwise stated in this LTMMA.

E. Partial Release of Payment Bond and Performance Bond

1. Performance of Contract in Two Phases. There are two separate phases of work to be performed by the Contractor under this Contract. The first phase covers the work involved in the original agreement as described in this agreement ("Phase 1 Work"). The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation Area after Phase 1 Work has been completed ("Phase 2 Work").

2. Bond Handling for Contract Phases. The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work, however the value of each bond may be reduced as follows:

2.1 Completion by the Contractor of all Phase 1 Work shall be evidenced solely by the City Engineer affirming in writing that to the best of their knowledge that all Phase 1 Work has been completed by the Contractor in strict conformity with all City-approved plans and revisions, and that the Phase 1 Work completed by the Contractor meets all applicable standards ("Notice of Completion").

2.2 Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment Bond for this Project, and the Performance Bond for this Project, may be partially released, and thereby reduced for the work performed under Phase1. The remaining payment and performance bond will cover the full cost of Phase 2 Work on this Project, which will be the amount specified in Section 4.1 of this LTMMA.

3. No Partial Release Upon Default. No Partial Performance Bond Release and Reduction shall be given to the Contractor if the Performance Bond and/or this Agreement is in default on Phase 1.

SECTION 1: MAINTENANCE CONTRACT SUMMARY

1.1. General. The Contractor shall fulfill the Project's remaining Plant Establishment Period and Maintenance Requirements (Work) as identified in the scope of work attached as **Exhibit A** in a manner satisfactory to the City.

The Contractor shall provide all equipment, labor, and materials necessary to perform the **Work** as described in **Exhibit A**, at the direction of the City.

1.2. Work Schedule. After receiving notification from the City, the Contractor shall create a comprehensive Schedule of Work (Schedule) for performance of this LTMMA for the City's approval. The Schedule shall include routine work and inspection and infrequent operations such as repairs, fertilization, aerification, watering, and pruning.

The City will approve the Schedule prior to the commencement of the Work. The City may require the Contractor to revise the Schedule. The Contractor shall not revise the Schedule unless the revisions have received the prior written approval of the City.

1.3. Commencement of Work & Maintenance Period. This LTMMA shall commence when the City approves 90 days of the 1-Year Plant Establishment Period and sends notice of the approval to the Contractor in accordance with **Part 8, Section 802** of the Construction Contract and shall continue for **34** months, of which 9 months is for Plant Establishment Work and 25 for Maintenance and Monitoring. A copy of the approval form is attached as **Exhibit B**.

1.4. Performance of Work. The Work shall be performed in accordance with the manufacturer's **recommendations** for each piece of equipment used in performance by the Contractor of this LTMMA.

1.5. License. The Contractor shall hold the following licenses in good standing:

1.5.1 **C-27** State Contractor's License.

1.5.1.1 Alternatively, the Contractor shall retain the services of a Subcontractor with a C-27 State Contractor's License.

1.5.2 Pest Control Advisor's License.

1.5.2.1 Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.

1.5.3 Registration with the County Agriculture Commission.

1.5.4 Qualified Applicator's Certificate for Category B. This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.

1.5.5 City of San Diego Business License.

Prior to performing the Work, the Contractor shall complete and submit to the City the License Data Sheet. See **Exhibit C.**

1.6. Hours of Performance. The Contractor shall perform the Work between the hours of 6:00 a.m. and 6:00 p.m., Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to the Contractor to perform Work during non-Working Hours. Maintenance functions that generate excess noise, (operations of power equipment which would cause annoyance to area residents for example), shall not begin before 7:00 a.m.

SECTION 2: ADMINISTRATION

2.1 Contract Administrator. The City of San **Diego Public Works Department-Engineering Branch – Construction Management and Field Services Division** is the Contract Administrator for the LTMMA. The Contractor shall perform the Work under the direction of a designated representative of the Public Works Department. The City will communicate with the Contractor on all matters related to the administration of this LTMMA and the Contractor's performance of the Work rendered hereunder. When this LTMMA refers to communications to or with City, those communications shall be with the City, unless the City or this LTMMA specifies otherwise. Further, when this LTMMA requires an act or approval by City, that act or approval will be performed by the City.

2.2 Local Office. The Contractor shall maintain a local office with a company representative who is authorized to discuss matters pertaining to this LTMMA with the City and shall promptly respond and be available during Normal Working Hours. A local office is one located in San Diego County that can be reached by telephone and facsimile. An answering service in conjunction with a company email address for the designated company representative would fulfill this requirement. A mobile telephone shall not fulfill the requirement for a local office. All calls to the Contractor from the City shall be returned within a 1-hour period.

2.3 Emergency Calls. The Contractor shall have the capability to receive and to respond immediately to calls of an emergency nature. The City shall refer emergency calls to the Contractor for immediate disposition. The Contractor shall provide the City with a 24 hour emergency telephone number for this purpose.

2.4 Staffing. The Contractor shall furnish supervisory and working personnel capable of promptly accomplishing all Work required under this LTMMA on schedule, and to the satisfaction of City.

2.5 Contractor Inspections. The Contractor shall perform inspections of the Work site and shall prepare and submit to the City a Punchlist and dates of correction. The Punchlist shall include a comprehensive report of Work performed at the Work site to ensure 100% cover.

SECTION 3: WORK SITE MAINTENANCE

3.1 Use of Chemicals. The Contractor shall submit to City for approval sample labels and MSDS for all chemical herbicides, rodenticides and pesticides proposed for use under this LTMMA. Materials included shall be limited to chemicals approved by the State of California Department of Agriculture.

The use of any chemical shall be based on the recommendations of a licensed pest control advisor. Annual PCA Pesticide Recommendations are required for each pesticide proposed to be used for the Work site covered by this LTMMA. The use of chemicals shall conform to the current San Diego County Department of Agriculture regulations.

No chemical herbicide, rodenticide, or pesticide shall be applied until its use is approved, in writing, by City as appropriate for the purpose and area proposed.

The Contractor shall submit a monthly pesticide use report to City along with Contractor's invoices for payment. This report shall include a statement of all applications of herbicides, rodenticides, and pesticides, detailing the chemical used, undiluted quantity, rate of application, applicator's name, and the date and purpose of the application. For months in which no pesticides are applied, state "No Pesticide Used" on the report.

3.2 Irrigation Water. The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall turn off irrigation systems, if any, during periods of rainfall and at such other times when suspension of irrigation is desirable to conserve water and to remain within the guidelines of good horticultural landscape maintenance practices in accordance with the instructions from the Project Biologist. The Contractor's failure to properly manage and conserve water may result in deductions from the monthly payment to be made to the Contractor or other penalties under this LTMMA.

If the Contractor causes excessive use or waste of irrigation water, the estimated cost of that water shall be deducted from the monthly payment. Further, any monetary fines or other damages assessed to City for the Contractor's failure to follow water conservation regulations imposed by the City, the Public Utilities Department of the City of San Diego, and, where appropriate, the State of California, the County Water Authority, or other legal entities shall be solely the responsibility of the Contractor, and may be deducted from the monthly payment to be made to the Contractor under this LTMMA.

3.3 Payment for Water. The Contractor shall pay for the water used in the maintenance of the Work site and this cost is included in the price of this LTMMA.

3.4 Satisfactory Progression. If the Revegetation Area is not progressing towards the required 100% Cover, as defined in the Scope of Work, in accordance with the Work Schedule, as determined by City, the City may adjust monthly payments to Contractor accordingly.

SECTION 4: COMPENSATION

4.1 **Maximum Compensation.** The compensation for this LTMMA shall not exceed $**CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM MAINTENANCE AND MONITORING CONTRACT – TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE 2015 WHITEBOOK, SECTION 802.** (Contract Price).

4.2 **Prevailing Wage Requirements.** The Prevailing Wages requirements in accordance with **Attachment D** of this Construction Contract are hereby incorporated by this reference

4.3 **Method of Payment and Reports.** The payments will be made monthly in direct proportion that each month bears to the total value of the Contract Price. As conditions precedent to payment, the Contractor shall submit a detailed invoice and report of maintenance Work performed every month. The Contractor's failure to submit the required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding payment by the City.

4.4 **Final Payment.** The Contractor shall not receive final payment until the following conditions have been completed to the City's satisfaction:

4.4.1. The item(s) of the Work subject to this maintenance coverage as specified in **Exhibit A** (Maintenance Items) have been determined to be in compliance with the Construction Contract and this LTMMA.

4.4.2. The Contractor has provided to the City a signed and notarized Affidavit of Disposal, a copy of which is attached to the Construction Contract, stating that all brush, trash, debris, and surplus materials resulting from the Work have been disposed of in a legal manner.

4.4.3. The Contractor has provided to the City a final work summary report.

4.4.4. The Contractor has performed comprehensive and successful testing and checks of the Maintenance Items.

SECTION 5: BONDS AND INSURANCE

5.1 **Contract Bonds.** Prior to the commencement of Work, the Contractor, at its sole cost and expense, shall provide the following bonds issued by a surety authorized to issue bonds in California satisfactory to the City:

5.1.1. A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price for this Bid Item, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Payment Bond shall be maintained by the Contractor in full force and effect until the Work is accepted by

City and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

5.1.2. A Performance Bond in an amount not less than the Contract Price to guarantee the faithful performance of all Work, within the time prescribed, in a manner satisfactory to the City, and to guarantee all materials and workmanship will be free from original or developed defects. The Performance Bond shall remain in full force and effect until performance of the Work is completed as set forth in this LTMMA.

5.2 **Insurance.** The Contractor shall maintain insurance coverage as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE" of the Construction Contract at all times during the term of this LTMMA.

The Contractor shall not begin the Work under this LTMMA until they have complied with the following:

5.2.1 Obtain insurance certificates reflecting evidence of insurance as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE" for:

1. Commercial General Liability
2. Commercial Automobile Liability
3. Worker's Compensation

5.2.2 Confirm that all policies contain the specific provisions required in Section 7-3, "LIABILITY INSURANCE."

The Contractor shall submit copies of any policy upon request by the City.

The Contractor shall not modify any policy or endorsement thereto which increases the City's exposure to loss for the duration of this LTMMA.

SECTION 6: MISCELLANOUS

6.1 Illness and Injury Prevention Program. The Contractor shall comply with all the mandates of Senate Bill 198 and shall specifically have a written Injury Prevention Program on file with the City in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file prior to the performance of any Work.

6.2 City Standard Provisions. This LTMMA is subject to the following standard provisions:

6.2.1. WHITEBOOK, Section 7-13.3, Drug-Free Workplace (As adopted pursuant to City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace).

6.2.2. WHITEBOOK, Section 7-13.2, Americans with Disabilities (As adopted pursuant to City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

6.2.3. WHITEBOOK, Section7-13.4, Contractor Standards and Pledge of Compliance (As adopted pursuant to City of San Diego Municipal Code §22.3224 as amended 11/24/08 by ordinance O-19808 for Pledge of Compliance).

6.2.4. WHITEBOOK, Section 7-13.6.1, Notice of Labor Compliance Program Approval (As adopted pursuant to the City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776 (Stats. 1978, Ch. 1249)).

6.2.5. WHITEBOOK, Section, 7-13.8, Apprentices on Public Works (As adopted pursuant to Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.

6.2.6. WHITEBOOK, Section 7-13.5, Equal Benefits (As adopted pursuant to the City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code.

6.2.7. WHITEBOOK, Section 2-17, Information Security Policy (As adopted pursuant to the City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

6.3 Taxpayer Identification Number. I.R.S. regulations require the City to have the correct name, address, and Taxpayer Identification Number (TIN) or Social Security Number (SSN) on file for businesses or persons who provide services or products to the City. This information is necessary to complete Form 1099 at the end of each tax year. As such, the Contractor shall provide the City with a Form W-9 upon execution of this LTMMA.

6.4 Assignment. The Contractor shall not assign the obligations under this LTMMA, whether by express assignment or by sale of the company, nor any monies due or to become due, without the City's prior written approval. Any assignment in violation of this section shall constitute a Default and is grounds for immediate termination of this LTMMA, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between the City and any putative assignee.

6.5 Independent Contractors. The Contractor and any Subcontractors employed by Contractor shall be independent contractors and not agents of the City. Any provisions of this LTMMA that may appear to give the City any right to direct the Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that the Contractor shall follow the direction of the City concerning the end results of the performance.

6.6 Covenants and Conditions. All provisions of this LTMMA expressed as either covenants or conditions on the part of the City or the Contractor shall be deemed to be both covenants and conditions.

6.7 Prevailing Wage Requirements. The Prevailing wages requirements per Attachment D for this Construction Contract are hereby incorporated by this reference

6.8 Successors in Interest. This LTMMA and all rights and obligations created by it shall be in force and effect whether or not any Parties to this LTMMA have been succeeded by another entity, and all rights and obligations created by this LTMMA shall be vested and binding on any Party's successor in interest.

6.9 Integration. This LTMMA and the exhibits, attachments, and references incorporated into this LTMMA fully express all understandings of the Parties concerning the matters covered in this LTMMA. No change, alteration, or modification of the terms or conditions of this LTMMA, and no verbal understanding of the Parties, their officers, agents, or employees shall be valid unless made in the form of a written change agreed to in writing by both Parties or by an amendment to this LTMMA agreed to by both Parties. All prior negotiations and agreements shall be merged into this LTMMA.

6.10 Counterparts. This LTMMA may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.

6.11 No Waiver. No failure of either the City or the Contractor to insist upon the strict performance by the other of any covenant, term or condition of this LTMMA, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this LTMMA, shall constitute a waiver of any such breach or of such covenant, term or condition. No waiver of any breach shall affect or alter this LTMMA, and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.

6.12 Severability. The unenforceability, invalidity, or illegality of any provision of this LTMMA shall not render any other provision of this LTMMA unenforceable, invalid, or illegal.

6.13 Signing Authority. The representative for each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that authority has been obtained to sign on behalf of the corporation, partnership, joint venture, or entity and agrees to hold the other Party or Parties hereto harmless if it is later determined that such authority does not exist.

IN WITNESS WHEREOF, this Contract is executed by the City of San Diego, acting by and through its Public Works Department Director in accordance with Municipal Code 22.3102, and by Contractor.

Dated this 5 day of April, 2018.

THE CITY OF SAN DIEGO

By: _____

Stacey LoMedico
Assistant Chief Operating Officer
City of San Diego

I HEREBY CERTIFY I can legally bind **Flatiron West, Inc.** and that I have read this entire contract, this 4th day of April, 2018.

By: _____

Printed Name: Dale A. Nelson

Title: Vice President

I HEREBY APPROVE the form of the foregoing Contract this 11th day of April of 2018.

Mara W. Elliott, City Attorney

By: _____

Printed Name: RYAN P. GERRITY

Deputy City Attorney

EXHIBIT A

SCOPE OF WORK

I. Location of Work. The location of the Work to be performed (Revegetation Area) is shown on those Specifications and Drawings numbered **39475-83-D** through **39475-101-D** (Specifications), which are incorporated into this contract by this reference as though fully set forth herein.

II. Description of Work. The LTMMA includes 9 months of the 1-Year Plant Establishment Period. After notification from the City, Contractor shall continue to maintain and monitor the Revegetation Area during the 25-month Monitoring Program in accordance with this contract and the Specifications such that the Revegetation Area meets the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule. The Work includes complete landscape maintenance consisting of irrigation, pruning, shaping and training of trees, shrubs, and ground cover plants; fertilization; weed control; control of all plant diseases and pests; and trash removal, and all other maintenance listed in this contract and as required to maintain the Revegetation Area in a useable condition and to maintain the plant material in a healthy and viable state.

The Project Biologist will provide the biological monitoring of the Revegetation Area according to the schedule and methods specified in the Revegetation Plan. The work included in this agreement includes all reporting tasks specified in the Revegetation plan and specifications.

III. Method of Performing Work.

A. Irrigation. Irrigation shall be applied to container and salvaged plants in accordance with instructions from the Project Biologist. Irrigation delivery techniques and schedules will vary depending on the availability of a sprinkler irrigation system and weather patterns. Failure of an existing irrigation system to provide full and proper irrigation shall not relieve Contractor of the responsibility to provide adequate irrigation with full and proper coverage of all areas subject to this LTMMA.

1. In areas where an automatic sprinkler system is installed, Contractor shall periodically inspect the operation of the system for any malfunction. The maximum interval between inspections shall not exceed 7 days. The Contractor shall maintain all sprinkler systems in such a way as to guarantee proper coverage and full working capability, and shall make whatever adjustments may be necessary to prevent excessive run-off into streets, rights-of-way, or other areas not meant to be irrigated. The cost of wasted water may be charged to Contractor.

2. All areas not adequately covered by a sprinkler system shall be irrigated by a portable irrigation method in accordance with instructions from the Project Biologist**.** The Contractor shall furnish all hoses, nozzles, sprinklers, etc. necessary to accomplish this supplementary irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.

3. Irrigation shall be accomplished as follows:

   a) Turf (if any) shall be irrigated Monday through Friday, as required, to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Additional irrigation shall be performed in the event of unusually hot/dry weather conditions (as are present during Santa Ana conditions, or other times of low humidity or high winds, or during a prolonged high temperature period during summer months).

   b) Landscaped improved banks and slopes (if any) shall be irrigated Monday through Friday as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.

   c) Shrub beds (if any) shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Shrub areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of shrub types, seasons and weather conditions.

   d) Planted and seeded areas shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Planted and seeded areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of plant types, seasons and weather conditions.

4. Maintenance of Irrigation System. The Contractor shall keep controller and valve boxes (if any) clear of soil and debris and shall maintain the irrigation system at no additional cost to City, including replacement, repair, adjustment, raising or lowering, straightening and any other operation required for the continued proper operation of the system from the "cold" side of the water meter throughout the Revegetation Area. The Contractor shall also be responsible for maintaining the painted surfaces of irrigation and lighting controller cabinets as well as the corresponding automatic irrigation battery numbers on the lids of the automatic control valve boxes (if any). The Contractor shall be responsible for light bulb replacements in controller cabinets as necessary.

a) Repair or replacement includes: sprinkler system laterals (piping), sprinkler mains (pressure lines), vacuum breakers, sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids (including electrical pull boxes and lids), valve sleeves and lids, quick coupler valves and hose bibs. Any replacement shall conform to the type and kind of existing system. Any deviation shall be approved in writing by City.

b) Contractor shall repair irrigation systems which are damaged or altered in any way, including by acts of God, vandalism, vehicular damage, or theft.

5. Operation of Automatic Irrigation Controllers. Where the operation of automatic irrigation controllers is required as part of this LTMMA, Contractor shall:

a) Not duplicate any coded City key furnished by City for access and operation of the controller;

b) Surrender all keys furnished by City, promptly at the end of the term of this LTMMA, or at any time deemed necessary by City to prevent serious loss to City;

c) Protect the security of City's property by keeping controller cabinet and building doors locked at all times; and

d) Refrain from using premises behind locked doors for storage of materials, supplies, or tools except as approved by City.

B. Pruning Shrubs and Ground Cover Plants. The Contractor shall prune all shrubs and ground cover plants growing in the Revegetation Area as required to:

1) Maintain plant growth viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.

2) Prevent encroachment of passage ways, walks, streets, or view of signs; and

3) Prevent encroachment in any manner deemed objectionable by City.

The Contractor shall remove dead or damaged limbs with sharp pruning tools, with no stubs remaining. The Contractor shall seal any pruning cut which exceeds 2" in diameter with an approved pruning paint when required by City. The Contractor shall perform pruning to permit plants to grow naturally in accordance with their normal growth characteristics except where box hedging is required by City. The Contractor shall not shear, hedge, or severely prune plants, unless authorized by City. The Contractor shall not use growth regulators.

C. Tree Maintenance. Contractor shall maintain all trees and container plants in the revegetation area in accordance with instructions from the Project Biologist. The Contractor shall perform pruning to promote the best growth habits, appearance, and health of all trees and container plants, and to prevent encroachment which is in any manner deemed undesirable by City, in accordance with instructions from the Project Biologist. The Contractor is responsible for tree pruning that can be accomplished with a 12' pole saw by a worker standing on the ground. The Contractor shall not top trees.

1) Potential Hazards. The Contractor shall notify City within 24 hours of any tree that shows signs of root heaving or leaning, or is in any manner a potential safety hazard. The Contractor shall immediately reestablish trees and shrubs that are uprooted due to storms, if possible. If trees or shrubs cannot be reestablished, Contractor shall remove them immediately (including roots) and fill the holes until replacement planting is complete.

2) Replacement. The Contractor shall completely remove and replace trees lost due to Contractor's faulty maintenance or negligence, as determined by City. The Contractor shall replace trees in kind and size as determined by City. If there is a difference in value between the tree lost and the replacement tree, City will deduct the difference from payment to be made under this LTMMA. The City shall determine the value of the tree lost using the latest International Society of Arboriculture (I.S.A.) guidelines for value determination.

3) Staking. The Contractor shall securely stake any newly planted trees and other trees needing support with 2 "lodge pole" type stakes placed on opposite sides of the tree outside the root ball and secured to the tree with at least two flexible rubber tree ties. The Contractor shall regularly inspect tree ties and stakes and reposition them as necessary to ensure against girdling and abrasion.

D. Fertilization. Contractor shall fertilize the Revegetation Area as necessary in accordance with instructions from the Project Biologist to meet the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule Prior to any fertilization, Contractor shall submit to City Material Safety Data Sheets and a schedule of application showing the site, date, and approximate time of fertilizer application (Fertilizer Schedule). The Fertilization Schedule, regardless of its intensity, timing, or the number of sites covered daily or weekly, shall not excuse Contractor from performing any other Work regularly required under this LTMMA. All fertilization shall first be approved by the Project Biologist.

1) Contractor shall notify City at least 48 hours before beginning any fertilization. Fertilizer shall be delivered to the site only in the original unopened containers bearing the manufacturer's guaranteed analysis. Damaged packages shall not be accepted. The Contractor shall furnish City with duplicate signed, legible

copies of all certificates and invoices for all fertilizer to be used for this LTMMA. The invoices shall state the grade, amount and quantity received. Both the copy to be retained by City and Contractor's copy shall be signed by City, on site, before any fertilizer may be used.

2) Fertilizers, if necessary, shall be applied at the direction of the Project Biologist and according to manufacturer's product specifications.

3) If deemed necessary by City to achieve required results, Contractor shall apply other materials as directed by City, including:

a) iron chelate;

b) soil sulfur;

c) gypsum; or

d) surfactant enzymes such as Sarvon or Naiad.

4) Contractor shall adequately irrigate the fertilized area(s) immediately following the application of fertilizers and/or amendments to force fertilizer material to rest directly on the soil surface. Drip irrigated areas shall be adequately hand watered using quick coupler valves and hoses to dissolve fertilizer.

E. Weed Removal. Contractor shall completely remove weeds from the Revegetation Area, including all turf grass areas, shrub and ground cover areas, planters, tree wells, and cracks in paved areas, including sidewalks, parking lot, gutters and curbs, as shown on the Work Schedule. For the purposes of this Section, "Weed" means any undesirable or misplaced plant. The Contractor shall control Weeds by manual, mechanical, or chemical methods. The City or Project Biologist may restrict the use of chemical weed control in certain areas.

F. Disease and Pest Control. The Contractor shall regularly inspect the Revegetation Area for the presence of disease and insect or rodent infestation. The Contractor shall notify City within 4 days if disease or insect or rodent infestation is discovered. In its notice to City, Contractor shall identify the disease, insect, or rodent and specify the control measures to be taken. Upon approval of City, Contractor shall implement the approved control measures, exercising extreme caution in the application of all sprays, dusts, or other materials utilized. The Contractor shall continue the approved control measures until the disease, insect, or rodent is controlled to the satisfaction of City.

1) All individuals who supervise the mixing and application of herbicides, pesticides, and rodenticides on behalf of Contractor shall possess valid Qualified Applicators Certificate for Category B issued to them by the State Department of Food and Agriculture.

2) Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of Contractor, in accordance with current standard practices accepted by the State of California Department of Food and Agriculture. If Contractor is unable to control the pest or disease, a pest control company will be hired and the cost shall be deducted from Contractor's monthly payment.

G. Plant Replacement. Except as provided in Section H below, Contractor shall notify City within 4 days of the loss of plant material due to any cause.

1) Contractor shall at no cost to City replace any tree, shrub, ground cover, or other plant which is damaged or lost as a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City.

2) If so directed by City, Contractor shall replace any plant damaged or lost that is not a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City. The City will pay for materials and labor.

3) City may determine that certain plants should be replaced in order to ensure maximum ecological health and overall aesthetic appearance of planting in the Revegetation Area. When City determines such replacement should occur, Contractor shall replace the plants as directed by City. City will pay for materials and labor.

H. Damage Reports. The Contractor shall notify City within 24 hours of any damage to the Work Area caused by accident, vandalism or theft.

I. Litter. The Contractor shall promptly dispose of all trash and debris at an appropriate City disposal site. The Contractor shall pay any and all fees associated with the disposal of debris or trash accumulated under the terms of this LTMMA. The Contractor understands that disposal of refuse at City landfills is subject to a fee and that the Refuse Disposal Division can be contacted at (619) 573-1418 for fee information.

1) Contractor Generated Litter. The Contractor shall promptly remove all debris generated by Contractor's pruning, trimming, weeding, edging and other Work required by this LTMMA. Immediately after working in streets, park walks, gutters, driveways, and paved areas, Contractor shall clean them in accordance with all applicable laws.

2) Third Party Generated Litter. Upon discovery Contractor shall remove all litter, including bottles, glass, cans, paper, cardboard, fecal matter, leaves, branches, metallic items, and other debris, from the Work site.

J. Monitoring: The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the revegetation area according to the schedule and methods described in the Revegetation Plan. The Project Biologist will be responsible for preparing and submitting monitoring reports according to the schedule and instructions in the Revegetation Plan. The Project Biologist will be an individual or team of individuals with 4-year degree(s) in botany, ecology, landscape architecture or a related field, and demonstrated experience in upland and riparian community restoration.

EXHIBIT B

INSERT A COPY OF THE ENGINEER'S FIELD NOTIFICATION WHICH ESTABLISHES THE COMMENCEMENT DATE OF THE MONITORING PROGRAM, SEE the WHITEBOOK, SECTION 802.

EXHIBIT C

LICENSE DATA SHEET

State Contractor License Classification and Number: Class A - #772589; C-27 - #576183

Name of License Holder: Flatiron West, Inc. (#772589); Diversified Landscape Co. (#576183)

Expiration Date: 12/31/2019 (#772589); 02/29/2020 (#576183)

Pest Control Applicator's Name: Edward Davis

License Number: QAL - #118334

Expiration Date: 12/31/2018

Pest Control Advisor's Name: William Blackman

License Number: PCA - #073705

Expiration Date: 12/31/2018

City of San Diego Business License Number: Flatiron West, Inc. - 1992002921

Expiration Date: Expiration - 06/30/2018

APPENDIX Q

LONG-TERM MAINTENANCE AND MONITORING AGREEMENT 2

(Wetland Mitigation Sites)

LONG-TERM MAINTENANCE & MONITORING AGREEMENT 2

This **56-Month Long-Term Maintenance & Monitoring Agreement (LTMMA)** is made and entered into by and between the City of San Diego (City), a municipal corporation, and Flatiron West, Inc. (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."

RECITALS

A. Concurrent with execution of this LTMMA, the Parties entered into a general contract (Construction Contract) for the construction of **West Mission Bay Drive Bridge** (Project), SAP WBS No. **S-00871, B-12110, B-12097**, Bid No. **K-18-1472-DBB-3**.

B. In accordance with the Construction Contract, the Contractor shall enter into this LTMMA with the City for the purpose of implementing and fulfilling long-term revegetation maintenance and monitoring requirements in accordance with the City of San Diego Municipal Code and the Contract Documents for the specified elopement(s) of **West Mission Bay Drive Bridge** (Maintenance Requirements). The performance of the terms of this LTMMA shall commence immediately upon completion of performance of the Construction Contract.

C. The Contractor is ready and willing to fulfill its maintenance requirements in accordance with the terms of this LTMMA.

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

INTRODUCTORY PROVISIONS

A. **Recitals Incorporated.** The above referenced Recitals are true and correct and are incorporated into this LTMMA by this reference.

B. **Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTMMA are incorporated into this LTMMA by this reference.

C. **Contract Term.** This LTMMA shall be effective upon completion of the Plant Establishment Period as described in **Section 6-1.1 of Attachment E** and **Section 802** of the Construction Contract, and it shall be effective until completion of the Work, described in Section 1.1 below.

D. **Terms and Conditions.** This LTMMA is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK (**Part 1, Part 8, Appendix R and Part 10** except as otherwise stated in this LTMMA.

E. Partial Release of Payment Bond and Performance Bond

1. Performance of Contract in Two Phases. There are two separate phases of work to be performed by the Contractor under this Contract. The first phase covers the work involved in the original agreement as described in this agreement ("Phase 1 Work"). The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation Area after Phase 1 Work has been completed ("Phase 2 Work").

2. Bond Handling for Contract Phases. The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work, however the value of each bond may be reduced as follows:

2.1 Completion by the Contractor of all Phase 1 Work shall be evidenced solely by the City Engineer affirming in writing that to the best of their knowledge that all Phase 1 Work has been completed by the Contractor in strict conformity with all City-approved plans and revisions, and that the Phase 1 Work completed by the Contractor meets all applicable standards ("Notice of Completion").

2.2 Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment Bond for this Project, and the Performance Bond for this Project, may be partially released, and thereby reduced for the work performed under Phase1. The remaining payment and performance bond will cover the full cost of Phase 2 Work on this Project, which will be the amount specified in Section 4.1 of this LTMMA.

3. No Partial Release Upon Default. No Partial Performance Bond Release and Reduction shall be given to the Contractor if the Performance Bond and/or this Agreement is in default on Phase 1.

SECTION 1: MAINTENANCE CONTRACT SUMMARY

1.1. General. The Contractor shall fulfill the Project's Maintenance Requirements (Work) as identified in the scope of work attached as Exhibit A in a manner satisfactory to the City.

The Contractor shall provide all equipment, labor, and materials necessary to perform the **Work** as described in Exhibit A, at the direction of the City.

1.2. Work Schedule. After receiving notification from the City, the Contractor shall create a comprehensive Schedule of Work (Schedule) for performance of this LTMMA (Schedule) for the City's approval. The Schedule shall include routine work and inspection and infrequent operations such as repairs, fertilization, aerification, watering, and pruning.

The City will approve the Schedule prior to the commencement of the Work. The City may require the Contractor to revise the Schedule. The Contractor shall not revise the Schedule unless the revisions have received the prior written approval of the City.

1.3. **Commencement of Work & Maintenance Period.** This LTMMA shall commence when the City approves of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with **Part 8, Section 802** of the Construction Contract and shall continue for **56** months. A copy of the approval form is attached as **Exhibit B**.

1.4. Performance of Work. The Work shall be performed in accordance with the manufacturer's **recommendations** for each piece of equipment used in performance by the Contractor of this LTMMA.

1.5. **License.** The Contractor shall hold the following licenses in good standing:

1.5.6 **C-27** State Contractor's License.

1.5.6.1 Alternatively, the Contractor shall retain the services of a Subcontractor with a C-27 State Contractor's License.

1.5.7 Pest Control Advisor's License.

1.5.7.1 Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.

1.5.8 Registration with the County Agriculture Commission.

1.5.9 Qualified Applicator's Certificate for Category B. This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.

1.5.10 City of San Diego Business License.

Prior to performing the Work, the Contractor shall complete and submit to the City the License Data Sheet. See **Exhibit C.**

1.6. **Hours of Performance.** The Contractor shall perform the Work between the hours of 6:00 a.m. and 6:00 p.m., Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to the Contractor to perform Work during non-Working Hours. Maintenance functions that generate excess noise, (operations of power equipment which would cause annoyance to area residents for example), shall not begin before 7:00 a.m.

SECTION 2: ADMINISTRATION

2.1 **Contract Administrator.** The City of San Diego Public Works Department-Engineering Branch – Construction Management and Field Services Division is the Contract Administrator for the LTMMA. The Contractor shall perform the Work under the direction of a designated representative of the Public Works Department. The City will communicate with the Contractor on all matters related to the administration of this LTMMA and the Contractor's performance of the Work rendered hereunder. When this

LTMMA refers to communications to or with City, those communications shall be with the City, unless the City or this LTMMA specifies otherwise. Further, when this LTMMA requires an act or approval by City, that act or approval will be performed by the City.

2.2 Local Office. The Contractor shall maintain a local office with a company representative who is authorized to discuss matters pertaining to this LTMMA with the City and shall promptly respond and be available during Normal Working Hours. A local office is one located in San Diego County that can be reached by telephone and facsimile. An answering service in conjunction with a company email address for the designated company representative would fulfill this requirement. A mobile telephone shall not fulfill the requirement for a local office. All calls to the Contractor from the City shall be returned within a 1-hour period.

2.3 Emergency Calls. The Contractor shall have the capability to receive and to respond immediately to calls of an emergency nature. The City shall refer emergency calls to the Contractor for immediate disposition. The Contractor shall provide City with a 24 hour emergency telephone number for this purpose.

2.4 Staffing. The Contractor shall furnish supervisory and working personnel capable of promptly accomplishing all Work required under this LTMMA on schedule, and to the satisfaction of the City.

2.5 Contractor Inspections. The Contractor shall perform inspections of the Work site and shall prepare and submit to the City a Punchlist and dates of correction. The Punchlist shall include a comprehensive report of Work performed at the Work site to ensure 100% cover.

SECTION 3: WORK SITE MAINTENANCE

3.1 Use of Chemicals. The Contractor shall submit to City for approval sample labels and MSDS for all chemical herbicides, rodenticides and pesticides proposed for use under this LTMMA. Materials included shall be limited to chemicals approved by the State of California Department of Agriculture.

The use of any chemical shall be based on the recommendations of a licensed pest control advisor. Annual PCA Pesticide Recommendations are required for each pesticide proposed to be used for the Work site covered by this LTMMA. The use of chemicals shall conform to the current San Diego County Department of Agriculture regulations.

No chemical herbicide, rodenticide, or pesticide shall be applied until its use is approved, in writing, by City as appropriate for the purpose and area proposed.

The Contractor shall submit a monthly pesticide use report to City along with Contractor's invoices for payment. This report shall include a statement of all applications of herbicides, rodenticides, and pesticides, detailing the chemical used, undiluted quantity,

rate of application, applicator's name, and the date and purpose of the application. For months in which no pesticides are applied, state "No Pesticide Used" on the report.

3.2 **Irrigation Water**. The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall turn off irrigation systems, if any, during periods of rainfall and at such other times when suspension of irrigation is desirable to conserve water and to remain within the guidelines of good horticultural landscape maintenance practices in accordance with the instructions from the Project Biologist. The Contractor's failure to properly manage and conserve water may result in deductions from the monthly payment to be made to the Contractor or other penalties under this LTMMA.

If the Contractor causes excessive use or waste of irrigation water, the estimated cost of that water shall be deducted from the monthly payment. Further, any monetary fines or other damages assessed to City for the Contractor's failure to follow water conservation regulations imposed by the City, the Public Utilities Department of the City of San Diego, and where appropriate the State of California, the County Water Authority, or other legal entities shall be solely the responsibility of the Contractor, and may be deducted from the monthly payment to be made to the Contractor under this LTMMA.

3.3 **Payment for Water.** The Contractor shall pay for the water used in the maintenance of the Work site and this cost is included in the price of this LTMMA.

3.4 **Satisfactory Progression.** If the Revegetation Area is not progressing towards the required 100% Cover, as defined in the Scope of Work, in accordance with the Work Schedule, as determined by City, City may adjust monthly payments to Contractor accordingly.

SECTION 4: COMPENSATION

4.1 **Maximum Compensation.** The compensation for this LTMMA shall not exceed $**CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM REVEGETATION MAINTENANCE AND MONITORING CONTRACT – TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE 2015 WHITEBOOK, SECTION 802.** (Contract Price).

4.2 **Prevailing Wage Requirements.** The Prevailing Wages requirements in accordance with **Attachment D** of this Construction Contract are hereby incorporated by this reference.

4.3 **Method of Payment and Reports.** The payments will be made monthly in direct proportion that each month bears to the total value of the Contract Price. As conditions precedent to payment, the Contractor shall submit a detailed invoice and report of maintenance Work performed every month. The Contractor's failure to submit the required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding payment by the City

4.4 Final Payment. The Contractor shall not receive final payment until the following conditions have been completed to the City's satisfaction:

4.4.1. The item(s) of the Work subject to this maintenance coverage as specified in **Exhibit A** (Maintenance Items) have been determined to be in compliance with the Construction Contract and this LTMMA.

4.4.2. The Contractor has provided to the City a signed and notarized Affidavit of Disposal, a copy of which is attached to the Construction Contract, stating that all brush, trash, debris, and surplus materials resulting from the Work have been disposed of in a legal manner.

4.4.3. The Contractor has provided to the City a final work summary report.

4.4.4. The Contractor has performed comprehensive and successful testing and checks of the Maintenance Items.

SECTION 5: BONDS AND INSURANCE

5.1 Contract Bonds. Prior to the commencement of Work, the Contractor, at its sole cost and expense, shall provide the following bonds issued by a surety authorized to issue bonds in California satisfactory to the City:

5.1.1. A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price for this Bid Item, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Payment Bond shall be maintained by the Contractor in full force and effect until the Work is accepted by City and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

5.1.2. A Performance Bond in an amount not less than the Contract Price to guarantee the faithful performance of all Work, within the time prescribed, in a manner satisfactory to the City, and to guarantee all materials and workmanship will be free from original or developed defects. The Performance Bond shall remain in full force and effect until performance of the Work is completed as set forth in this LTMMA.

5.2 Insurance. The Contractor shall maintain insurance coverage as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE" of the Construction Contract at all times during the term of this LTMMA.

The Contractor shall not begin the Work under this LTMMA until they have complied with the following:

5.2.3 Obtain insurance certificates reflecting evidence of insurance as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE" for:

4. Commercial General Liability

5. Commercial Automobile Liability

6. Worker's Compensation

5.2.4 Confirm that all policies contain the specific provisions required in Section 7-3, "LIABILITY INSURANCE."

The Contractor shall submit copies of any policy upon request by the City.

The Contractor shall not modify any policy or endorsement thereto which increases the City's exposure to loss for the duration of this LTMMA.

SECTION 6: MISCELLANOUS

6.1 Illness and Injury Prevention Program. The Contractor shall comply with all the mandates of Senate Bill 198 and shall specifically have a written Injury Prevention Program on file with the City in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file prior to the performance of any Work.

6.2 City Standard Provisions. This LTMMA is subject to the following standard provisions:

6.2.1. WHITEBOOK, Section 7-13.3, Drug-Free Workplace (As adopted pursuant to City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace).

6.2.2. WHITEBOOK, Section 7-13.2, Americans with Disabilities (As adopted pursuant to City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

6.2.3. WHITEBOOK, Section7-13.4, Contractor Standards and Pledge of Compliance (As adopted pursuant to City of San Diego Municipal Code §22.3224 as amended 11/24/08 by ordinance O-19808 for Pledge of Compliance).

6.2.4. WHITEBOOK, Section 7-13.6.1, Notice of Labor Compliance Program Approval (As adopted pursuant to the City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776 (Stats. 1978, Ch. 1249)).

6.2.5. WHITEBOOK, Section, 7-13.8, Apprentices on Public Works (As adopted pursuant to Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.

6.2.6. WHITEBOOK, Section 7-13.5, Equal Benefits (As adopted pursuant to the City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code.

6.2.7. WHITEBOOK, Section 2-17, Information Security Policy (As adopted pursuant to the City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

6.3 Taxpayer Identification Number. I.R.S. regulations require the City to have the correct name, address, and Taxpayer Identification Number (TIN) or Social Security Number (SSN) on file for businesses or persons who provide services or products to the City. This information is necessary to complete Form 1099 at the end of each tax year. As such, the Contractor shall provide the City with a Form W-9 upon execution of this LTMMA.

6.4 Assignment. The Contractor shall not assign the obligations under this LTMMA, whether by express assignment or by sale of the company, nor any monies due or to become due, without the City's prior written approval. Any assignment in violation of this section shall constitute a Default and is grounds for immediate termination of this LTMMA, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between the City and any putative assignee.

6.5 Independent Contractors. The Contractor and any Subcontractors employed by Contractor shall be independent contractors and not agents of the City. Any provisions of this LTMMA that may appear to give the City any right to direct the Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that the Contractor shall follow the direction of the City concerning the end results of the performance.

6.6 Covenants and Conditions. All provisions of this LTMMA expressed as either covenants or conditions on the part of the City or the Contractor shall be deemed to be both covenants and conditions.

6.7 Prevailing Wage Requirements. The Prevailing wages requirements per Attachment D for this Construction Contract are hereby incorporated by this reference

6.8 Successors in Interest. This LTMMA and all rights and obligations created by it shall be in force and effect whether or not any Parties to this LTMMA have been succeeded by another entity, and all rights and obligations created by this LTMMA shall be vested and binding on any Party's successor in interest.

6.9 Integration. This LTMMA and the exhibits, attachments, and references incorporated into this LTMMA fully express all understandings of the Parties concerning the matters covered in this LTMMA. No change, alteration, or modification of the terms or conditions of this LTMMA, and no verbal understanding of the Parties, their officers, agents, or employees shall be valid unless made in the form of a written change agreed to in writing

by both Parties or by an amendment to this LTMMA agreed to by both Parties. All prior negotiations and agreements shall be merged into this LTMMA.

6.10 Counterparts. This LTMMA may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.

6.11 No Waiver. No failure of either the City or the Contractor to insist upon the strict performance by the other of any covenant, term or condition of this LTMMA, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this LTMMA, shall constitute a waiver of any such breach or of such covenant, term or condition. No waiver of any breach shall affect or alter this LTMMA, and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.

6.12 Severability. The unenforceability, invalidity, or illegality of any provision of this LTMMA shall not render any other provision of this LTMMA unenforceable, invalid, or illegal.

6.13 Signing Authority. The representative for each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that authority has been obtained to sign on behalf of the corporation, partnership, joint venture, or entity and agrees to hold the other Party or Parties hereto harmless if it is later determined that such authority does not exist.

IN WITNESS WHEREOF, this Contract is executed by the City of San Diego, acting by and through its Public Works Department Director in accordance with Municipal Code 22.3102, and by Contractor.

Dated this 5 day of April, **2018.**

THE CITY OF SAN DIEGO

By: _____

Stacey LoMedico
Assistant Chief Operating Officer
City of San Diego

I HEREBY CERTIFY I can legally bind **Flatiron West, Inc.** and that I have read this entire contract, this 4th day of April, **2018.**

By: _____

Printed Name: Dale A. Nelson

Title: Vice President

I HEREBY APPROVE the form of the foregoing Contract this 11th day of April of **2018.**

Mara W. Elliott, City Attorney

By: _____

Printed Name: RYAN P. GERRITY

Deputy City Attorney

EXHIBIT A

SCOPE OF WORK

I. Location of Work. The location of the Work to be performed (Revegetation Area) is shown on those Specifications and Drawings numbered **39475-275-D** through **39475-283-D** (Specifications), which are incorporated into this contract by this reference as though fully set forth herein.

II. Description of Work. The Contractor shall maintain and monitor the Revegetation Area during the Monitoring Program in accordance with this contract and the Specifications such that the Revegetation Area meets the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule. The Work includes complete landscape maintenance consisting of irrigation, pruning, shaping and training of trees, shrubs, and ground cover plants; fertilization; weed control; control of all plant diseases and pests; and trash removal, and all other maintenance listed in this contract and as required to maintain the Revegetation Area in a useable condition and to maintain the plant material in a healthy and viable state.

The Project Biologist will provide the biological monitoring of the Revegetation Area according to the schedule and methods specified in the Revegetation Plan. The work shall include in this agreement includes all reporting tasks specified in the Revegetation plan and specifications.

All maintenance and monitoring work shall comply with the requirements of the Wetland Mitigation and Monitoring Plan report in **Appendix C** of this Contract.

III. Method of Performing Work.

A. Irrigation. Irrigation shall be applied to container and salvaged plants in accordance with instructions from the Project Biologist. Irrigation delivery techniques and schedules will vary depending on the availability of a sprinkler irrigation system and weather patterns. Failure of an existing irrigation system to provide full and proper irrigation shall not relieve Contractor of the responsibility to provide adequate irrigation with full and proper coverage of all areas subject to this LTMMA.

1. In areas where an automatic sprinkler system is installed, Contractor shall periodically inspect the operation of the system for any malfunction. The maximum interval between inspections shall not exceed 7 days. The Contractor shall maintain all sprinkler systems in such a way as to guarantee proper coverage and full working capability, and shall make whatever adjustments may be necessary to prevent excessive run-off into streets, rights-of-way, or other areas not meant to be irrigated. The cost of wasted water may be charged to Contractor.

2. All areas not adequately covered by a sprinkler system shall be irrigated by a portable irrigation method in accordance with instructions from the Project Biologist**.** The Contractor shall furnish all hoses, nozzles, sprinklers, etc. necessary to accomplish this supplementary irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.

3. Irrigation shall be accomplished as follows:

    a) Turf (if any) shall be irrigated Monday through Friday, as required, to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Additional irrigation shall be performed in the event of unusually hot/dry weather conditions (as are present during Santa Ana conditions, or other times of low humidity or high winds, or during a prolonged high temperature period during summer months).

    b) Landscaped improved banks and slopes (if any) shall be irrigated Monday through Friday as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.

    c) Shrub beds (if any) shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Shrub areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of shrub types, seasons and weather conditions.

    d) Planted and seeded areas shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Planted and seeded areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of plant types, seasons and weather conditions.

4. Maintenance of Irrigation System. The Contractor shall keep controller and valve boxes (if any) clear of soil and debris and shall maintain the irrigation system at no additional cost to City, including replacement, repair, adjustment, raising or lowering, straightening and any other operation required for the continued proper operation of the system from the "cold" side of the water meter throughout the Revegetation Area. The Contractor shall also be responsible for maintaining the painted surfaces of irrigation and lighting controller cabinets as well as the corresponding automatic irrigation battery numbers on the lids of the automatic control valve boxes (if any). The Contractor shall be responsible for light bulb replacements in controller cabinets as necessary.

a) Repair or replacement includes: sprinkler system laterals (piping), sprinkler mains (pressure lines), vacuum breakers, sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids (including electrical pull boxes and lids), valve sleeves and lids, quick coupler valves and hose bibs. Any replacement shall conform to the type and kind of existing system. Any deviation shall be approved in writing by City.

b) Contractor shall repair irrigation systems which are damaged or altered in any way, including by acts of God, vandalism, vehicular damage, or theft.

5. Operation of Automatic Irrigation Controllers. Where the operation of automatic irrigation controllers is required as part of this LTMMA, Contractor shall:

a) Not duplicate any coded City key furnished by City for access and operation of the controller;

b) Surrender all keys furnished by City, promptly at the end of the term of this LTMMA, or at any time deemed necessary by City to prevent serious loss to City;

c) Protect the security of City's property by keeping controller cabinet and building doors locked at all times; and

d) Refrain from using premises behind locked doors for storage of materials, supplies, or tools except as approved by City.

B. Pruning Shrubs and Ground Cover Plants. The Contractor shall prune all shrubs and ground cover plants growing in the Revegetation Area as required to:

1) Maintain plant growth viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.

2) Prevent encroachment of passage ways, walks, streets, or view of signs; and

3) Prevent encroachment in any manner deemed objectionable by City.

The Contractor shall remove dead or damaged limbs with sharp pruning tools, with no stubs remaining. The Contractor shall seal any pruning cut which exceeds 2" in diameter with an approved pruning paint when required by City. The Contractor shall perform pruning to permit plants to grow naturally in accordance with their normal growth characteristics except where box hedging is required by City. The Contractor shall not shear, hedge, or severely prune plants, unless authorized by City. The Contractor shall not use growth regulators.

C. Tree Maintenance. Contractor shall maintain all trees and container plants in the revegetation area in accordance with instructions from the Project Biologist. The Contractor shall perform pruning to promote the best growth habits, appearance, and health of all trees and container plants, and to prevent encroachment which is in any

manner deemed undesirable by City, in accordance with instructions from the Project Biologist. The Contractor is responsible for tree pruning that can be accomplished with a 12' pole saw by a worker standing on the ground. The Contractor shall not top trees.

1) Potential Hazards. The Contractor shall notify City within 24 hours of any tree that shows signs of root heaving or leaning, or is in any manner a potential safety hazard. The Contractor shall immediately reestablish trees and shrubs that are uprooted due to storms, if possible. If trees or shrubs cannot be reestablished, Contractor shall remove them immediately (including roots) and fill the holes until replacement planting is complete.

2) Replacement. The Contractor shall completely remove and replace trees lost due to Contractor's faulty maintenance or negligence, as determined by City. The Contractor shall replace trees in kind and size as determined by City. If there is a difference in value between the tree lost and the replacement tree, City will deduct the difference from payment to be made under this LTMMA. The City shall determine the value of the tree lost using the latest International Society of Arboriculture (I.S.A.) guidelines for value determination.

3) Staking. The Contractor shall securely stake any newly planted trees and other trees needing support with 2 "lodge pole" type stakes placed on opposite sides of the tree outside the root ball and secured to the tree with at least two flexible rubber tree ties. The Contractor shall regularly inspect tree ties and stakes and reposition them as necessary to ensure against girdling and abrasion.

D. Fertilization. Contractor shall fertilize the Revegetation Area as necessary in accordance with instructions from the Project Biologist to meet the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule Prior to any fertilization, Contractor shall submit to City Material Safety Data Sheets and a schedule of application showing the site, date, and approximate time of fertilizer application (Fertilizer Schedule). The Fertilization Schedule, regardless of its intensity, timing, or the number of sites covered daily or weekly, shall not excuse Contractor from performing any other Work regularly required under this LTMMA. All fertilization shall first be approved by the Project Biologist.

1) Contractor shall notify City at least 48 hours before beginning any fertilization. Fertilizer shall be delivered to the site only in the original unopened containers bearing the manufacturer's guaranteed analysis. Damaged packages shall not be accepted. The Contractor shall furnish City with duplicate signed, legible copies of all certificates and invoices for all fertilizer to be used for this LTMMA. The invoices shall state the grade, amount and quantity received. Both the copy to be retained by City and Contractor's copy shall be signed by City, on site, before any fertilizer may be used.

2) Fertilizers, if necessary, shall be applied at the direction of the Project Biologist and according to manufacturer's product specifications.

3) If deemed necessary by City to achieve required results, Contractor shall apply other materials as directed by City, including:

a) iron chelate;

b) soil sulfur;

c) gypsum; or

d) surfactant enzymes such as Sarvon or Naiad.

4) Contractor shall adequately irrigate the fertilized area(s) immediately following the application of fertilizers and/or amendments to force fertilizer material to rest directly on the soil surface. Drip irrigated areas shall be adequately hand watered using quick coupler valves and hoses to dissolve fertilizer.

E. Weed Removal. Contractor shall completely remove weeds from the Revegetation Area, including all turf grass areas, shrub and ground cover areas, planters, tree wells, and cracks in paved areas, including sidewalks, parking lot, gutters and curbs, as shown on the Work Schedule. For the purposes of this Section, "Weed" means any undesirable or misplaced plant. The Contractor shall control Weeds by manual, mechanical, or chemical methods. The City or Project Biologist may restrict the use of chemical weed control in certain areas.

F. Disease and Pest Control. The Contractor shall regularly inspect the Revegetation Area for the presence of disease and insect or rodent infestation. The Contractor shall notify City within 4 days if disease or insect or rodent infestation is discovered. In its notice to City, Contractor shall identify the disease, insect, or rodent and specify the control measures to be taken. Upon approval of City, Contractor shall implement the approved control measures, exercising extreme caution in the application of all sprays, dusts, or other materials utilized. The Contractor shall continue the approved control measures until the disease, insect, or rodent is controlled to the satisfaction of City.

1) All individuals who supervise the mixing and application of herbicides, pesticides, and rodenticides on behalf of Contractor shall possess valid Qualified Applicators Certificate for Category B issued to them by the State Department of Food and Agriculture.

2) Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of Contractor, in accordance with current standard practices accepted by the State of California Department of Food and Agriculture. If Contractor is unable to control the pest or disease, a pest control company will be hired and the cost shall be deducted from Contractor's monthly payment.

G. Plant Replacement. Except as provided in Section H below, Contractor shall notify City within 4 days of the loss of plant material due to any cause.

1) Contractor shall at no cost to City replace any tree, shrub, ground cover, or other plant which is damaged or lost as a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City.

2) If so directed by City, Contractor shall replace any plant damaged or lost that is not a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City. The City will pay for materials and labor.

3) City may determine that certain plants should be replaced in order to ensure maximum ecological health and overall aesthetic appearance of planting in the Revegetation Area. When City determines such replacement should occur, Contractor shall replace the plants as directed by City. City will pay for materials and labor.

H. Damage Reports. The Contractor shall notify City within 24 hours of any damage to the Work Area caused by accident, vandalism or theft.

I. Litter. The Contractor shall promptly dispose of all trash and debris at an appropriate City disposal site. The Contractor shall pay any and all fees associated with the disposal of debris or trash accumulated under the terms of this LTMMA. The Contractor understands that disposal of refuse at City landfills is subject to a fee and that the Refuse Disposal Division can be contacted at (619) 573-1418 for fee information.

1) Contractor Generated Litter. The Contractor shall promptly remove all debris generated by Contractor's pruning, trimming, weeding, edging and other Work required by this LTMMA. Immediately after working in streets, park walks, gutters, driveways, and paved areas, Contractor shall clean them in accordance with all applicable laws.

2) Third Party Generated Litter. Upon discovery Contractor shall remove all litter, including bottles, glass, cans, paper, cardboard, fecal matter, leaves, branches, metallic items, and other debris, from the Work site.

J. Monitoring: The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the revegetation area according to the schedule and methods described in the Revegetation Plan. The Project Biologist will be responsible for preparing and submitting monitoring reports according to the schedule and instructions in the Revegetation Plan. The Project Biologist will be an individual or team of individuals with 4-year degree(s) in botany, ecology, landscape architecture or a related field, and demonstrated experience in upland and riparian community restoration.

EXHIBIT B

INSERT A COPY OF THE ENGINEER'S FIELD NOTIFICATION WHICH ESTABLISHES THE COMMENCEMENT DATE OF THE MONITORING PROGRAM, SEE the WHITEBOOK SECTION 802.

EXHIBIT C

LICENSE DATA SHEET

State Contractor License Classification and Number: Class A - #772589; C-27 - #576183

Name of License Holder: Flatiron West, Inc. (#772589); Diversified Landscape Co. (#576183)

Expiration Date: 12/31/2019 (#772589); 02/29/2020 (#576183)

Pest Control Applicator's Name: Edward Davis

License Number: QAL - #118334

Expiration Date: 12/31/2018

Pest Control Advisor's Name: William Blackman

License Number: PCA - #073705

Expiration Date: 12/31/2018

City of San Diego Business License Number: Flatiron West, Inc. - 1992002921

Expiration Date: Expiration - 06/30/2018

APPENDIX R

ADDITIONAL SUPPLEMENTARY SPECIAL PROVISIONS FOR WEST AND EAST MITIGATION AREAS

APPENDIX R

ADDITIONAL SUPPLEMENTARY SPECIAL PROVISIONS FOR WEST AND EAST MITIGATION AREAS

The following Supplementary Special Provisions (SSP) modifies the following documents:

1. **2015 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").

2. **2015 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:

   a) General Provisions (A) for all Contracts.

PART 1

GENERAL PROVISIONS

SECTION 7 – RESPONSABILITIES OF THE CONTRACTOR

7-8.4.1 **General.** To the "WHITEBOOK", ADD the following:

All access points, storage, and staging areas shall be located in a manner that has the least impact on vehicular and pedestrian activity. See Section 802-2.5 in this Appendix for Construction Access Routes**.** Prior to the commencement of the mitigation activities, storage and staging areas shall be approved by the Restoration Ecologist.

After the removal of all the construction materials and equipment, the construction staging areas shall be returned to the pre-project state.

7-8.6.3 **Storm Water Pollution Prevention Plan (SWPPP).** ADD the following:

The Contractor is to prepare a Storm Water Pollution Prevention Plan in accordance with the requirements of the California General Permit for Stormwater Discharges associated with construction activity**, NPDES Permit, Order No. R9-2013-0001** and amendments.

SECTION 300 - EARTHWORK

ADD:

300-1.5 **Nonnative Plant Removal.** Contractor shall implement an exotic plant removal program in accordance with the drawings and as described herein. All species that are not native to coastal environments in San Diego County and those species recognized by California Invasive Pest (Cal-IPC) Lists A and B (Cal-IPC 2006) shall be targeted by the program.

Exotic plant control shall be accomplished by physical removal of the above-ground and below-ground exotic plant biomass, which shall be properly disposed of offsite.

Contractor shall implement an exotic plant removal program on all unpaved areas within 10' of the Limit of Work. The program must begin immediately upon the initiation of the project and shall occur on a monthly basis during the life of the contract. All exotic plant species shall be hand-pulled and/or cut and treated with herbicide if needed for successful removal and to minimize re-colonization of revegetation areas. For removal of nonnative species, no mechanical or motorized equipment is proposed. The Contractor shall notify the project's Restoration Ecologist the chosen methods for exotic plant removal, as long as the selected methods are acceptable to the Restoration Ecologist and performed under recommendations provided by a licensed Pest Control Advisor and in accordance with all applicable state and federal laws. The Contractor and their Pest Control Advisor retain discretion to select preferred removal/eradication.

The Owner (in consultation with the Restoration Ecologist) retains the discretion to identify additional exotic plants which the Contractor shall be responsible to remove at no additional cost.

Remove all trash and debris, and properly dispose of these materials offsite. Organic debris such as dead limbs provides habitat value for wildlife and may be left in place.

When all weeds have perished and the active period of herbicide has expired all above ground portion of the weeds shall be removed. This should be accomplished without disturbing the soil surface.

Nonnative plant removal work for areas within the Limit of Work shall be included in the Clearing and Grubbing bid item.

Nonnative plant removal work for areas outside the Limit of Work shall be included in the lump sum Weed Eradication bid item.

SECTION 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE AND MONITORING

802-1.1 TERMS AND DEFINITIONS. To the "WHITEBOOK", ADD the following:

Restoration Ecologist – Responsible for overseeing the protection of existing biological resources; nonnative plant removal; site preparation; planting and seeding; and maintenance, monitoring, and reporting. The Restoration Ecologist may not be affiliated with the Installation Contractor or Maintenance Contractor.

The City will retain the services of a qualified Restoration Ecologist. The Restoration Ecologist shall be responsible for the following:

a) Supervision of all phases of restoration installation, including Contractor education, site protection, site preparation, planting installation, seeding, and final installation inspection and approvals.

b) The authority to stop work by the installation Contractor at any point where the provisions of the plans, specifications, and project permits are not being adhered to until such times as the inconsistency is resolved with Owner.

c) After installation, the Restoration Ecologist shall be responsible for monitoring and making remedial recommendations (regarding weeding, irrigation frequency, erosion control, etc.) for ongoing maintenance activities performed by the maintenance Contractor after Restoration Plan installation.

d) The Restoration Ecologist shall be responsible for carrying out the biological monitoring and reporting program for the project. The program shall include the following tasks: agency notification (as needed), qualitative and quantitative data collection as required to measure success progress, photo documentation, post-installation monitoring reports documenting project progress, and a final assessment of project success at the end of the 5-year monitoring period.

The Contractor shall coordinate its activities and Schedule with the activities and schedule of the Restoration Ecologist.

Landscape Installation Contractor and Maintenance Contractor (Contractor) – The Contractor shall be a qualified firm (or more than one firm) with successful experience in Southern California installing and maintaining wetland and mitigation projects. The Contractor shall be responsible for site protection, implementation and maintenance of the mitigation effort. The Contractor shall have a C-27 California Landscape Contractor's license, a license as a California Pest Control Advisor and a licensed applicator.

The responsibility of the Contractor is complete when the Restoration Ecologist and the city project manager agree that the implementation and initial maintenance phases of work are complete. As determined by the City, the installation landscape Contractor may continue after installation to maintain the mitigation sites for 5 years, or the City may retain a separate qualified landscape Contractor to perform the 5-year post-installation maintenance period.

802-2.3 Construction Fencing. To the "WHITEBOOK", ADD the following:

Used materials may be installed provided the used materials conform to these special provisions. Materials for temporary fence (Type ESA) shall conform to the following:

High visibility fabric shall be machine produced mesh manufactured from polypropylene or polyethylene and shall be orange in color. High visibility fabric may be virgin or recycled polymer materials, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that degrade the physical or chemical characteristics of the finished fabric. High visibility fabric shall be fully stabilized ultraviolet (UV) resistant. High visibility fabric shall be a minimum of 4 feet in width with a maximum mesh opening of 2 inches x 2 inches. High visibility fabric shall be furnished in one continuous width and shall not be spliced to conform to the specified width dimension.

Posts for temporary fence (Type ESA) shall be of one of the following:

a) Posts shall be fir or pine, a minimum of 1-1/2 inches x 2 inches in size, and a minimum 5 foot, 3 inches in length. One end of the post shall be pointed. Posts shall not be treated with wood preservative.

b) Posts shall be steel and have a "U", "T", "L" or other cross sectional shape that resists failure by lateral loads. Steel posts shall have a minimum mass per length of 0.74 Lbs. /ft. and a minimum length of 5 foot, 3 inches. One end of the steel post shall be pointed and the other end shall have a high visibility colored top.

Fasteners for attaching high visibility fabric to the posts shall be as follows:

a) The high visibility fabric shall be attached to wooden posts with commercial quality nails or staples, or as recommended by the manufacturer or supplier, as determined by the Engineer.

b) Tie wire or locking plastic fasteners shall be used for attaching the high visibility fabric to steel posts. Maximum spacing of tie wire or fasteners shall be 2 feet along the length of the steel post.

Temporary fence (Type ESA) shall be installed as follows:

a) Posts shall be driven into the soil a minimum of 1 foot, 4 inches. Posts shall be spaced at 6 foot, 7 inches centers minimum and shall at all times support the fence in a vertical, upright position.

b) Temporary fence (Type ESA) shall be constructed prior to any clearing and grubbing work and a sufficient distance from protected plants to enclose all of the foliage canopy and not encroach upon visible roots of the plants.

c) Temporary fence (Type ESA) shall be located to be unobstructed from view, as determined by the Engineer.

When no longer required for the work, as determined by the Engineer, temporary fence (Type ESA) shall be removed. Removed temporary fence (Type ESA) shall become the property of the Contractor and shall be removed from the site of the work, except when reused as provided in this section.

Holes caused by the removal of temporary fence (Type ESA) shall be backfilled in conformance with the provisions in Section 7-9, "Protection and Restoration of Existing Improvements," of the Standard Specifications.

Temporary fence (Type ESA) that is damaged during the progress of the work shall be repaired or replaced by the Contractor the same day the damage occurred.

Temporary gravel bags shall be measured and paid for by the linear foot.

802-2.4 Working in Unpaved Areas. To the "WHITEBOOK", ADD the following:

All construction personnel shall be instructed about the sensitive nature of the native vegetation and constraints within the vegetated areas identified on the plans. All construction-related activity outside of the public right-of-way of local roads including but not limited to equipment travel and access, clearing, grubbing and storage of materials, equipment and vehicles shall be limited exclusively to the "Limit of Work" area identified on the construction drawings and shown or described in environmental documents and permits.

The following restriction shall apply to all construction areas located within vegetated areas:

a) No construction personnel or associated vehicles shall enter vegetated areas that are outside the "Limit of Work" as identified on the plans and as defined by Restoration Ecologist and Resident Engineer.

b) Pets are prohibited on construction site(s) and within adjacent habitat areas.

c) Catering trucks are prohibited on the construction site(s).

d) No raw cement, concrete or washing thereof, asphalt, paint or other materials shall be allowed to accumulate within the construction area. Soils contaminated by such materials shall be removed from the site at the end of the work day and placed for proper disposal. Such materials shall not be integrated into the backfill materials for the project.

e) All litter, including tobacco debris, is prohibited on the construction site(s), either from construction or food packaging.

f) No hydrocarbon or antifreeze compounds shall be allowed to be deposited on the soil surface within the construction site(s). All equipment maintenance shall be accomplished outside of vegetated areas. If lubrication of machinery is required at the construction site (s) a 10 mil vinyl drop sheet shall be placed under the equipment to capture excess fluids or spillage.

g) Stationary equipment, such as motors, pumps, and generators shall be positioned over drip pans when located within the construction site(s).

h) Any spills of toxic materials shall be cleaned up immediately including removal and disposal of contaminated soils.

i) To reduce the possibility of fire, NO SMOKING shall be allowed within vegetated areas.

802-2.5 Construction Access Routes. To the "WHITEBOOK", ADD the following:

The Contractor shall choose the access and staging area. Prior to the commencement of the mitigation activities, the work limits shall be approved by the Restoration Ecologist and site boundaries flagged before the Contractor begins work.

Access to the west site to perform the implementation and maintenance is possible from the bike path adjacent to the Dog Beach Parking Lot located at the intersection of West Point Loma Boulevard and Voltaire Street. Access to the east site is possible from Pacific Highway, the bike path that parallels the San Diego River beneath the on-ramp for Interstate 5, and the Public Utilities access road to the manholes. With permission from the City, landscape installation and maintenance personnel could be allowed temporary access to drive small trucks (pick-up and flatbed trucks) on the bike path and maintenance roads.

ADD:

802-2.6 **Environmental Protection.** The Contractor shall comply with all applicable standards, orders, or requirements of the Environmental Protection Agency regulations (40 CFR, Part 15).

Before the commencement of any clearing, grubbing, or excavations in unpaved areas, the installation landscape Contractor and the lead field foreman shall meet at the site with the Restoration Ecologist to review all installation, scheduling, and resource protection measures specified in plans. The Restoration Ecologist shall review all aspects of the mitigation work, including site protection, inspections, landscape installation procedures, and guarantees. It shall be made clear at that time that the Restoration Ecologist shall have final review and acceptance over field installation. The Contractor shall ensure prior to any activity at the site that all laborers are aware of the limits of construction areas.

Prior to initiating any installation activities (including construction equipment placement or other non-ground-breaking activities), the Contractor and all personnel working under the direction of the Contractor shall attend an environmental training led by the Restoration Ecologist. The environmental training shall include the following:

a) Project regulatory overview and permit requirements

b) Environmental compliance procedures and protocols

c) Water quality requirements and proper construction best management practices (BMPs)

d) Sensitive environmental areas and no access areas

e) Sensitive species and nesting birds

f) Consequences of noncompliance

g) Emergency response protocols

The Contractor shall notify the Restoration Ecologist when new crew personnel shall be on-site, and an additional environmental training shall be scheduled before they are allowed to work.

ADD:

802-2.7 Protection of Biological Resources. The Contractor shall protect existing landscape, existing native vegetation and other biological resources within the limits of work, except as specifically authorized to the contrary by the plans or by state and federal resource agency permits, or other written notice from a person or agency possessing proper authority to grant such an exception.

The Contractor may remove or damage existing vegetation (native or ornamental) only within the Limit of Work or other areas identified in the drawings and specifications. The Restoration Ecologist shall approve (flagging) the "Limit of Work" in the field. If the Contractor damages areas outside the identified "Limit of Work", the Contractor shall mitigate, per the direction of the Restoration Ecologist and Resident Engineer, the areas at the Contractor's own costs. It is the intent of these contract documents that all ornamental landscape and existing native vegetation outside the limits of the work area and plant harvesting activities be fully and completely protected.

Additional vegetation protection, scheduling, noise abatement, and/or wildlife survey requirements may be imposed by local, state, and federal permits. The Restoration Ecologist shall flag or otherwise make known such areas and/or requirements and shall further coordinate work to comply with these requirements. It is the Contractor's responsibility to comply with all biological resource protection requirements. Any damages to biological resources given specific protection by these specifications, the drawings or by local, state, and federal permits must be mitigated per the direction of the Restoration Ecologist and Resident Engineer at the Contractor's own costs.

Contractor shall follow the following protection measures while working on the site:

1. Ingress and egress for personnel performing exotic plant removal and herbicide application, planting, seeding, irrigation and personnel monitoring for this mitigation project will only be on foot.
2. The project's restoration ecologist will identify native and nonnative vegetation on-site for the project's landscape contractor and will oversee removal of the exotic plants to verify native plants are protected (e.g., by flagging).
3. Physical removal of invasive exotics will be performed with hand-tools (i.e., saws and pruners, shovels and/or trowels) and all nonnative plant debris will be hand-carried off the site and properly disposed of. No vehicular equipment shall be permitted within the mitigation sites.
4. Application of herbicides shall be strictly controlled by using herbicides currently approved by USEPA for wetlands; no herbicide shall be applied to native vegetation.
5. Herbicide shall be applied with backpack sprayers with nozzles in good working order. Spray shall be directed downward below the waist, and spraying shall be limited to non-windy days in order to limit overspray onto any adjacent native vegetation. Herbicide shall be tinted with a biodegradable green dye to facilitate visual control of spray.

6. During the project mitigation implementation and maintenance, monitoring and reporting periods, the landscape contractor shall perform equipment refueling and/or herbicide mixing only within a designated upland area off-site. No fuels, herbicides, or other potential pollutants shall be prepared, mixed, or transferred within jurisdictional habitat areas.

7. All the MHPA adjacency guidelines will be enforced by the restoration ecologist.

8. In accordance with the Project's Section 7 Consultation, if restoration/enhancement activities in an area potentially occupied by rails, terns, or plovers, are necessary between March 15 and September 15, a biologist with knowledge of rail, tern, and plover biology and ecology and approved by the California Fish and Wildlife Office (CFWO) will survey for rails, terns, and plovers within the restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by restoration/enhancement site maintenance. Surveys will consist of three visits separated by two weeks starting March 1 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if rails, terns, and/or plovers are found during any of the visits, the Project Biologist will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the rail, ten, and plover (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

9. The CFWO-Approved Project Biologist familiar with salt marsh bird's-beak, will conduct training sessions for each employee conducting restoration/enhancement activities within habitat occupied by the species. The training will include the following topics: identification of the species (including photographs), the species general ecology and host plants, and appropriate avoidance measures.

10. As detailed in the Mitigated Negative Declaration (City of San Diego 2012, Appendix A), additional pre-implementation surveys will be performed for California horned lark, Belding's savannah sparrow, and the Northern Harrier during their breeding seasons. If nesting birds are discovered, noise mitigation measures will be implemented.

11. Before any ground disturbance or vegetation clearing between February 1 and September 15, a Migratory Bird Treaty Act nest survey will be performed to avoid impacts to any migratory avian species.

802-3.3 Mulch. To the "WHITEBOOK", DELETE in its entirety.

ADD:

802-3.3 Mulch.

802-3.3.1 Type 7 Mulch. Mulch shall be Type 7 in accordance with the requirements herein. Mulch shall be packaged in bales or bags unless the Engineer approves a bulk source in advance of delivery to the Work site.

Type 7 mulch shall be:

a) Mulch shall be shredded, organic, weed free and comprised of chipped or shredded bark and wood products not to exceed 3 inch in size.

b) Mulch shall be installed 2 inches thick in the planting basin berm, and shall be maintained 6 inches away from the plant stem.

c) Mulch shall be installed around all container plants (except for plants in the temporary impact areas near active water flow areas).

802-3.3.2 **Hydro-mulch.** Provide a wood fiber hydraulic mulch manufactured form 100% virgin wood chips, mulch shall be applied at a minimum rate recommended by the vendor.

The Hydraulic Mulch shall be any of the following products or approved equal:

1. Conwed Fibers Hydro Mulch 1000 with Triflo from Profile
2. Mat-Fiber from Mat.Inc
3. Tru Wood from Finn

Products shall conform to comparable property values listed in the table below, when uniformly applied at the recommended rate by the vendor,

Property	Test Method	Tested Value (English)	Tested Value (SI)
Physical			
Mass Per Unit Area	ASTM D6566[1]	9.9 oz/sq yd	336 g/sq m
Water Holding Capacity	ASTM D7367[1]	≥1,100%	≥ 1,100%
Color	Observed	Green	Green
Performance			
Cover Factor[2]	Large Scale Testing[4]	≤ 0.30	≤ 0.30
% Effectiveness[3]	Large Scale Testing[4]	≥ 70%	≥ 70%
Vegetation	ASTM D7322[1]	200%	200%
Functional Longevity[5]	ASTM D5338	≤ 3 months	≤ 3 months
Environmental			
Ecotoxicity	EPA 2021.0	48-hr LC_{50} > 100%	48-hr LC_{50} > 100%
Biodegradability	ASTM D5338	100%	100%

1. ASTM test methods developed for Rolled Erosion Control Products and have been modified to accommodate Hydraulically-Applied Erosion Control Products.
2. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface.
3. % Effectiveness = One minus Cover Factor multiplied by 100%.
4. Large scale testing conducted at Utah Water Research Laboratory. For specific testing information please contact a Profile technical service representative at 800-508-8681 (US and Canada) or +1-847-215-1144 (International).

Functional Longevity is the estimated time period, based upon ASTM D5338 testing and field observations, that a material can be anticipated to provide erosion control and agronomic benefits as influenced by composition, as well as site-specific conditions, including; but not limited to – temperature, moisture, light conditions, soils, biological activity, vegetative establishment and other environmental factors.

802-3.3.3 Organic Tackifier.

1. A nontoxic, biodegradable Tackifier shall be used at the minimum application rate per the manufacturer's recommendations. The Tackifier shall be a natural galactomannan based hydrocolloid treated with dispersant agents for easy field mixing. The dispersing agents shall be non-harmful to the environment. The product shall not contain antimony compounds. The Tackifier shall be used in conjunction with virgin wood fiber. Acceptable products include Super Tack or approved equal.

802-3.4.2 Topsoil Preparation and Conditioning Procedures. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

Topsoil shall be designated as Class A (imported), Class B (selected) or Class C (unclassified), as specified herein. All soils for this project shall be Class C soils consisting of the native Tidal Flats Series or Alluvium. Since no grading is necessary and predominately native soil occurs within the two mitigation sites, the existing soil is considered appropriate for planting and seeding and no soil testing is considered necessary.

The Restoration Ecologist and Engineer shall determine the suitability of topsoil prior to use. Topsoil shall be transported, when necessary, to its final position unless stockpiling is specified.

Planting areas shall be free of weeds and other extraneous materials to a depth of 12 inches (300mm) below finish grade before topsoil work.

Soil shall not be worked when it is so we or so dry as to cause excessive compaction or the forming of hard clods or dust.

Class C topsoil shall be deep ripped in a cross pattern to a depth of 460 mm (18 inches). Rocks 150 mm (6 inches) or greater in length shall be removed from the deep ripped area. The area shall be smooth and uniform before topsoil is placed."

802-3.4.2.1 Site preparation. Prior to site preparation activities (e.g., clearing of trash, concrete and debris, removal of weed species and weed debris, vegetation, and implementation of erosion control materials) the Contractor shall survey limits of the two mitigations sites based on legal description bearing/coordinate data. The Contractor shall delineate the surveyed limits with labeled lath stakes.

The Contractor shall coordinate with the Restoration Ecologist in the field to mark the limits of existing native plants to be protected in place. The Contractor shall be responsible for marking the limits of these areas (e.g., with lath stakes and flagging). The Contractor is responsible for revegetation of any existing native habitat damaged during execution of these plans at no additional cost to the Owner. The Contractor shall confirm with Restoration Ecologist and City project manager that the site preparation is ready before installation of native container plants and seed can proceed.

802-3.4.2.2 **Layout and Plant Location.** The Contractor shall lay out the plant material at the direction of the Restoration Ecologist. The Restoration Ecologist shall direct all planting and may flag, directly place containers, or direct the Contractor on the placement of plants. In general, container plants shall be installed in a manner that mimics natural plant distribution (e.g., random and/or aggregate distributions rather than uniform rows).

Since native plant volunteers are expected to mostly fill in gaps after nonnative plants are removed in the west site, the Restoration Ecologist shall decide whether planting or seeding shall be required at this site. If native volunteer density is insufficient (e.g., open areas of 3.0 square meters or greater), transplants, container plants, and/or plugs shall be installed utilizing appropriate species that occur in particular areas of the salt marsh. If transplanting is conducted, the Restoration Ecologist, Resident Engineer, and Contractor shall coordinate to identify appropriate collection (donation) locations and establish criteria (e.g., not collecting over 5% of the specimens within a given population area) to ensure habitat in collection areas is not adversely affected.

The Restoration Ecologist shall determine in the field the most appropriate areas to install species included in the southern shallow scrub plant palette and seed mix. The determination shall be based on subtle differences in the field and container plants shall be installed in a manner that mimics natural plant distribution (e.g., random and/or aggregate distributions rather than uniform rows).

802-3.5 **Seed.** To the "WHITEBOOK", ADD the following:

5. The Contractor shall obtain seed from a qualified supplier. Seed shall be collected within a 20-mile radius within the San Diego watershed to the extent feasible. All seed shall be delivered to the site in sealed and labeled packaging, along with a California State Agricultural Code seed certification including the supplier's name, geographic location, and collection date, and the tested purity and germination percentage rates. The seeds shall be ordered and delivered in separate, original containers by species and inspected by the Restoration Ecologist. Seed shall be labeled with the species, purity, germination, percent live seed (PLS), and quantity of seed in pounds. If the delivered seed differs from specified purity and germination rates, then the application rates shall be adjusted accordingly to achieve the equivalent amount of PLS. The Restoration Ecologist shall inspect the seed prior to mixing with other species in the seed mix and application, and shall reject seed lacking certified tags or not substantially conforming to specifications.

ADD:

802-3.5.1 **Seed Samples.** The Resident Engineer and Restoration Ecologist reserve the right to request and analyze samples of material for conformity to specifications at any time. Contractor shall furnish seed samples upon request. Samples of one half pound of each species or premixed seed mix, may be requested by Restoration Ecologist or Resident Engineer, to be drawn at time of delivery to project site.

802-3.6 Container Stock. To the "WHITEBOOK", ADD the following:

6. Plants used in the East side of the mitigation side shall be container plant material propagated (from cuttings or seed) from material within the mitigation site or San Diego River Watershed.

7. Planting shall be accomplished utilizing a plant palette for the western site including potential transplants and container plants.

8. The Contractor shall obtain container plants from a qualified nursery. Plants shall be propagated from propagules gathered within a 20-mile radius within the San Diego water shed to the extent feasible.

9. Revegetation Contractor shall notify Resident Engineer and Restoration Ecologist forty-eight (48) hours before each plant delivery so the plants can be inspected and approved prior to planting.

   a) Labeling: Each group of plant materials delivered on-site shall be labeled clearly as to species and variety. All patented plants (cultivars) required by the plant list shall be delivered with a property plant patent attached.

   b) Quality and Size: Plants shall be in accordance with the California State Department of Agriculture regulations for nursery inspections, rules and grading. Sizes shall conform to the dimensions indicated on the planting plan.

   c) The Restoration Ecologist/Resident Engineer is the sole judge as to acceptability of each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. The Restoration Ecologist shall confirm that plants are delivered to the site in a healthy and vigorous condition before they are installed. Plants shall not be installed that are root-bound, stunted, pest-infested, diseased, or unacceptable for other reasons. Plants shall be certified as being free of exotic pests (e.g. Argentine ants, etc.) prior to delivery on-site. The size of the plants shall correspond with that specified in the drawings. Plants larger in size than specified may be used with the approval of the Resident Engineer/Restoration Ecologist, but the use of larger plants shall not cause any change in contract price. If the use of larger plants is approved, the ball of earth and spread of roots for each plant shall be increased proportionately.

   d) Rejection of Substitution: No substitutions of specified plants shall be allowed, and container sizes shall not be changed unless approved in advance by the Restoration Ecologist. If the installation Contractor is unable to obtain the specified size or species at the time of planting, commencement of the 120-day plant establishment period shall be delayed until all specified plants are installed or until a suitable substitution is determined by the Restoration Ecologist. All plants not conforming to the

requirements herein specified, shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site and replaced with new plants by the Contractor, at the Contractor's expense.

e) Right to Changes: Only the Resident Engineer/Restoration Ecologist reserves the right to change the species, variety and/or sizes of plant material to be furnished, provided that the cost of such plant changes does not exceed the cost of plants in the original bid, and with the provision that the Contractor shall be notified, in writing, at least thirty (30) days before the planting operation has commenced.

802-3.7 Installation. To the "WHITEBOOK", ADD the following:

9. After removal of invasive nonnative plants, planting and seeding of native species shall occur at an appropriate time of the year (e.g., between November and February) on both mitigation sites. No fertilizers shall be used for any aspects of planting and seeding. The Restoration Ecologist may change this specification based on observed or tested soil conditions.

   a. Thoroughly water all plants in their containers before planting

   b. Dig a hole twice as deep and three times as wide as the container. Break up soil clods and roughen the side of the hole to avoid a smooth-sided "bathtub" effect. Fill the planting hole with water and allow water to drain completely into the soil; repeat twice.

   c. Partially backfill the hole with native soil to allow planting at the proper depth. The backfill mix shall contain only native soil with no rocks larger than 3/4-inch diameter. Moisten and gently tamp the backfill into place. Remove the plant from its container and place on top of the moistened backfill so the plant collar is approximately 1 inch above finish grade. Then backfill the remaining hole with native soil. The plant shall be at the center of the hole and plumb.

   d. For upland transitional plantings 1 gallon or larger, create a planting basin berm roughly 2 feet in diameter around the plant and apply 1 to 2 inches of coarse, organic, weed-free mulch inside the berm.

   e. No mulching or berms shall be used around container plantings within salt marsh habitat

   f. Thoroughly water and allow basin to drain.

   g. No plant shall be planted in areas of standing water or during tidal inundation.

   h. The area around plants shall be regraded to finish grade. The excess soil shall be disposed of by the Contractor or as directed by the Engineer.

   i. Dirt piles and open planting holes shall not be left overnight.

802-3.8. Hydro Seeding. To the "WHITEBOOK", ADD the following:

6. Contractor shall create a hydroseeding slurry consisting of the specified seed application rates shown on the drawings.

7. Spray all areas with a uniform, visible coat using the green color of the mulch as a guide. The slurry shall be applied in a sweeping motion, in an arched stream so as to fall like rain allowing the mulch fibers to build on each other until a good coat is achieved and the material is spread at the required rate per acre. The applicator shall use care not to drag spray hoses over existing plant material and shall attempt to spray from the edges of the planting areas whenever possible.

8. Any slurry mixture which has not been applied to the planting areas within for (4) hours after mixing shall be rejected and removed from the project at the Contractor's expense.

9. Any slurry spilled into areas outside the limits of work shall be cleaned up at the Contractor's expense to the satisfaction of the Restoration Ecologist and the Engineer.

10. It shall be the responsibility of the applicator to coordinate with the Restoration Ecologist to assure the site is properly prepared prior to hydroseeding.

11. The applicator shall be responsible for notifying the Contractor, Restoration Ecologist and Resident Engineer if he feels the site is not properly prepared. The hydroseed applicator shall be responsible for repairing all tire ruts created by the equipments, unless the Contractor has been notified of poor soil conditions (too wet, insufficient compaction, etc.) and is requested to continue.

12. Areas needing grading repair prior to hydroseeding shall be blended and floated to match surrounding grades.

802-3.9 Maintenance, Monitoring and Reporting During The 120 DAY PEP. To the "WHITEBOOK". DELETE in its entirety and SUBSTITUTE with the following:

The Contractor shall be responsible for implementing a PEP (Plant Establishment Period) following completion of the installation work in the project area for the first 120 days of Year 1. At the completion of installation planting, the installation Contractor shall request a pre-maintenance inspection by the Restoration Ecologist. The Restoration Ecologist shall prepare a "punchlist" of correction items for completion by the Contractor. The PEP shall begin upon receiving written notification from the Engineer certifying that all punchlist items are complete and accepting all aspects of the project installation. The PEP shall be extended by the Engineer until the PEP success criteria have been met.

During the plant establishment period, the Contractor shall provide regular maintenance of the restoration area, including trash removal, supplemental irrigation, erosion control, and nonnative treatment. The number of maintenance visits shall vary depending on the amount of work necessary for the mitigation area to meet its success standards on schedule. As a guideline, the Contractor is expected to perform maintenance approximately once a month during the first 4

months (i.e., 120-day PEP). The Contractor is also expected to perform maintenance approximately monthly during the next 8 months of year 1; every 2 months during year 2; and quarterly during years 3, 4, and 5. Maintenance may be needed more frequently, for example, to perform remedial measures (e.g., replanting). The Contractor shall coordinate with the resident engineer and Restoration Ecologist on a regular basis to determine priority maintenance activities during different periods of the project.

Treatment shall include all species identified by the Restoration Ecologist as target species. Herbicide application shall be in accordance with BMPs, manufacturers' recommendations, and agency regulations.

Maintenance of planted areas shall include, but not be limited to irrigation, replanting and re-seeding, erosion repair, cultivating, mulching, weed control, debris removal, and all other care necessary for proper growth and establishment of the plants.

The following activities shall be completed as a regular part of the PEP maintenance work:

a) Site Protection: Contractor shall maintain the signage identifying the site as a restoration area. Damaged signage shall be replaced at the Contractor's expense.

b) Erosion Control: Contractor shall report all potentially problematic erosion issues that occur within the restoration area to the Restoration Ecologist and shall take measures to prevent and/or repair erosion when directed to do so. If required, standard erosion control practices shall be used to stabilize eroding areas, including straw wattles, additional silt fencing, and additional planting. Damage resulting from gullies, washouts, or other erosion shall be repaired immediately by filling and tamping, refertilizing and reseeding or replanting by the Contractor at his expense if such damage occurs prior to acceptance of work under this contract.

c) Weed Control: Nonnative plants identified as targets by the Restoration Ecologist shall be eradicated wherever they occur within each of the restoration areas and within the 10 foot nonnative treatment buffer. All nonnative plant species shall be removed from container plant basins until the native plants are established. Targeted nonnative plants shall be removed either before they become 12 inches high or they set seed. Nonnative plants, including invasive exotics, shall be either hand-pulled, cut, and treated with herbicide, or just treated with herbicide. No mechanical methods or hand-tools (such as a shovel) shall be used to excavate nonnative species. If root systems of particular nonnative plants that are in a young/small stage cannot be feasibly removed with hand-pulling, herbicides may be applied under the supervision of a licensed Pest Control Advisor by a licensed applicator. Weed debris shall be properly disposed of off-site. If nonnative species reach maturity (indicating inadequate maintenance frequency) and have either flowered or set seed, they shall be cut and placed directly onto a tarp before being transported off-site.

d) Plant Care and Supplemental Planting/Seeding: Container plant care shall be performed as necessary to assist with plant survival and establishment. Plant care includes controlling competing weeds within plant basins, supplemental watering, and replacing diseased or dead plants, as needed. The maintenance Contractor shall replace dead and diseased plants that fall below project success standards. The Restoration Ecologist shall flag dead and diseased plants in the field and provide a list to the Contractor of replacement plant species and quantities. The Restoration Ecologist may also recommend additional species for planting as a remedial measure. All dead plants shall be replaced in kind (original size and species) unless otherwise specified by the Restoration Ecologist, and watered as needed to ensure their survival. If considered appropriate by the Restoration Ecologist, naturally occurring seedlings of planted species or native plant volunteers may be used as replacement plantings if they are in close proximity to dead or diseased plants and provide roughly equal ecological value.

e) Irrigation: Temporary irrigation shall be used during the installation period to support the survival and growth of newly planted and seeded areas. Based on site conditions, it is expected that temporary irrigation may be used periodically in the eastern mitigation site for up to 3 years of the scheduled 5-year post-installation establishment period. There shall not be expected irrigation for transplants or container plants in the western mitigation site. The Contractor, resident engineer, and Restoration Ecologist shall coordinate to agree on a watering schedule during different times of the year. The watering schedule shall be adjusted accordingly during the maintenance period depending on factors such as plant size and health, and weather conditions. It is the intent of this plan that irrigation be used judiciously and only when needed. Minimal use of irrigation shall promote the establishment of hearty plants with well-developed root systems. In general, infrequent deep watering shall be performed to promote deeper root development, as compared to frequent surface watering.

f) Trash Removal: The Contractor shall remove all trash and debris from the mitigation areas during regular maintenance visits, and properly dispose of it off-site. The Contractor shall exercise care so that trash removal activities minimize or avoid impacts to plantings in the restoration areas. Organic debris such as dead limbs provides habitat value for wildlife and may be left in place.

g) Pest Control: Constant diligence shall be maintained by the Contractor to avoid plant material disease, insects, and/or rodent infestations and proper preventative or control measures taken. During horticultural site visits, the Restoration Ecologist shall monitor for plant insects and diseases. Plants that are severely diseased shall be removed and replaced by the Contractor at the direction of the Restoration Ecologist. Pesticides shall not be used except if directed by the Restoration Ecologist. Rodent control, if necessary, shall be restricted to trapping or anti-coagulants with

no secondary poisoning effect. Any pest control measures that require pesticide use shall be recommended by a licensed pest control advisor and must be approved by the Restoration Ecologist.

ADD:

802-6 MONITORING AND PERFORMANCE STANDARDS.

802-6.1 Implementation Monitoring. Once installation has been successfully completed, as determined by the Restoration Ecologist and the City, the Contractor shall write an installation documentation letter report that shall be provided to the City and resource agencies. This installation documentation letter report shall detail any changes in the mitigation limits or planting or seeding (i.e., species and quantities) as compared to the planting and seeding specifications and drawings.

ATTACHMENT F

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ATTACHMENT G

CONTRACT AGREEMENT

ATTACHMENT G

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Flatiron West, Inc., herein called "Contractor" for construction of **West Mission Bay Drive Bridge**; Bid No. **K-18-1472-DBB-3**; in the amount of **One Hundred Ten Million Seven Hundred Forty-Two Thousand Nine Hundred Eighty-Five Dollars and Zero Cents ($110,742,985.00)**, which is comprised of the Base Bid plus Alternate A.

IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:
   (a) The attached Faithful Performance and Payment Bonds.
   (b) The attached Proposal included in the Bid documents by the Contractor.
   (c) Reference Standards listed in the Instruction to Bidders and the Supplementary Special Provisions (SSP).
   (d) Long Term Maintenance and Monitoring Contract (Agreement 1 and Agreement 2).
   (e) That certain documents entitled **West Mission Bay Drive Bridge**, on file in the office of the City Clerk as Document No. **S-00871, B-12110, B-12097,** as well as all matters referenced therein.
2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **West Mission Bay Drive Bridge**, Bid Number **K-18-1472-DBB-3,** San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement.

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code §22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

By _____

Print Name: Stacey LoMedico
Assistant Chief Operating Officer
City of San Diego

Date: 4-5-18

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By _____

Print Name: RYAN P. GERRITY
Deputy City Attorney

Date: 4/11/18

CONTRACTOR

Flatiron West, Inc.

By _____

Print Name: Dale A. Nelson

Title: Vice President

Date: February 9, 2018

City of San Diego License No.: B1992002921

State Contractor's License No.: 772589

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000003999

CERTIFICATIONS AND FORMS

The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certifications, forms and affidavits submitted as part of this bid are true and correct.

Bidder's General Information

To the City of San Diego:

Pursuant to "Notice Inviting Bids", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding Documents.

Caltrans funded contracts or Tasks, the Project shall be constructed in accordance with the Caltrans Special Provisions (including the payment of not less than the minimum wages set forth therein) and the Contract annexed hereto and in accordance with the Caltrans Standard Specifications dated May 2006, Standard Plans dated May 2006, Traffic Signal Control Equipment Specifications dated January, 1989, Labor Surcharge and Equipment Rental Rates in effect on the date the Work is accomplished, and General Prevailing Wage Rates of the State of California, Department of Transportation.

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID UNDER 23 UNITED STATES CODE 112 AND PUBLIC CONTRACT CODE 7106

State of California

County of San Diego

The bidder, being first duly sworn, deposes and says that he or she is authorized by the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 7-13.3, "Drug-Free Workplace", of the project specifications, and that;

This company has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

CONTRACTOR CERTIFICATION

AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the American With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 7-13.2, "American With Disabilities Act", of the project specifications, and that:

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, ("Contractor Standards"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors whose subcontracts are greater than $50,000 in value has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

CONTRACTOR CERTIFICATION

Equal Benefits Ordinance Certification

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

AFFIDAVIT OF DISPOSAL

(To be submitted upon completion of Construction pursuant to the contracts Certificate of Completion)

WHEREAS, on the _____ DAY OF _____, 2_____ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

_____

(Name of Project or Task)

as particularly described in said contract and identified as Bid No. _____; SAP No. (WBS/IO/CC)_____; and **WHEREAS**, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and **WHEREAS**, said contract has been completed and all surplus materials disposed of:

_____

_____

NOW, THEREFORE, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

_____

_____

and that they have been disposed of according to all applicable laws and regulations.

Dated this _____ DAY OF _____, _____.

By:_____
Contractor

ATTEST:

State of _____ County of _____

On this_____ DAY OF _____, 2_____, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared_____ known to me to be the _____ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

LIST OF SUBCONTRACTORS

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONL Y*** SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②	CHECK IF JOINT VENTURE PARTNERSHIP
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:							
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY *** SEE INSTRUCTIONS TO BIDDERS FOR FURTHER INFORMATION**

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:						
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:						

① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY *** SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

ADDITIVE/ DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
	Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							
	Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	State of California's Department of General Services	CADoGS
City of Los Angeles	LA	State of California	CA
U.S. Small Business Administration	SBA		

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

ELECTRONICALLY SUBMITTED FORMS

THE FOLLOWING FORMS MUST BE SUBMITTED IN PDF FORMAT WITH BID SUBMISSION

The following forms are to be completed by the bidder and submitted (uploaded) electronically with the bid in PlanetBids.

A. **BID BOND – See Instructions to Bidders, Bidders Guarantee of Good Faith (Bid Security) for further instructions**
B. **CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS**
C. **DEBARMENT AND SUSPENSION CERTIFICATION**
D. **CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS**
E. **PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE**
F. **NON-LOBBYING CERTIFICATION**
G. **LOBBY PROHIBITION, CERTIFICATION AND DISCLOSURE**

Bids will not be accepted until ALL forms are submitted as part of the bid submittal

Bond No. F011856

BID BOND

See Instructions to Bidders, Bidder Guarantee of Good Faith (Bid Security)

KNOW ALL MEN BY THESE PRESENTS,

That **Flatiron West, Inc.** as Principal, and

Liberty Mutual Insurance Company as Surety, are

held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled

West Mission Bay Drive Bridge - Bid No. K-18-1472-DBB-3

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this **13th** day of **November**, 20**17**

Flatiron West, Inc. (SEAL)

(Principal)

By: Dale A. Nelson, Vice President
(Signature)

Liberty Mutual Insurance Company (SEAL)

(Surety)

By: **Mary R. McKee, Attorney-In-Fact**
(Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego)

On November 16, 2017 before me, Jannette M. Carter, Notary Public
(insert name and title of the officer)

personally appeared Dale A. Nelson,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JANNETTE M. CARTER
Commission # 2047538
Notary Public - California
San Diego County
My Comm. Expires Nov 28, 2017

Signature Jannette M. [illegible] (Seal)

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 13th day of November, 2017, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that she/he resides in Saddle Brook, NJ that she/he is the Attorney-In-Fact of the Liberty Mutual Insurance Company the corporation described in and which executed the above instrument that she/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

(SEAL)

CHARO J. ROSEMOND
NOTARY PUBLIC OF NEW JERSEY
Comm. # 50062328
My Commission Expires 6/13/2022

Liberty Mutual. SURETY

LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT — DECEMBER 31, 2016

Assets

Cash and Bank Deposits	$1,092,914,837
*Bonds — U.S Government	1,406,763,970
*Other Bonds	11,379,916,523
*Stocks	10,349,761,988
Real Estate	290,265,760
Agents' Balances or Uncollected Premiums	4,709,977,463
Accrued Interest and Rents	112,757,395
Other Admitted Assets	14,659,523,751
Total Admitted Assets	**$44,001,881,687**

Liabilities

Unearned Premiums		$6,929,723,299
Reserve for Claims and Claims Expense		17,233,877,300
Funds Held Under Reinsurance Treaties		208,362,823
Reserve for Dividends to Policyholders		944,909
Additional Statutory Reserve		39,649,905
Reserve for Commissions, Taxes and Other Liabilities		3,061,117,958
Total		**$27,473,676,194**
Special Surplus Funds	$95,257,334	
Capital Stock	10,000,000	
Paid in Surplus	9,229,250,104	
Unassigned Surplus	7,193,698,055	
Surplus to Policyholders		**16,528,205,493**
Total Liabilities and Surplus		**$44,001,881,687**

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2016, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 23rd day of March, 2017.

T A Mikolajewski

Assistant Secretary

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7827297

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Elliott W. Wolffe; Lisa M. Scavetta; Maria L. Spadaccini; Mary R. McKee; Nicholas F. Walsh; Sherryanne M. DePirro; Vincent C. Miseo

all of the city of Paramus, state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 7th day of July, 2017.

The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 7th day of July, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 13th day of November, 2017.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

LMS_12873_022017

CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

CHECK ONE BOX ONLY.

☐ The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.

☑ The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

Date of Claim	Location	Description of Claim	Litigation (Y/N)	Status	Resolution/Remedial Action Taken
11/2010	Oakland, CA	Discrimination claim based on gender.	N	Closed	Settled
3/2014	San Francisco, CA	Discrimination claim based on race.	N	Closed	Settled
8/2014	San Francisco, CA	Discrimination claim based on sexual orientation.	N	Closed	Settled
1/2016	San Bernardino CA	Discrimination claim based on gender.	N	Closed	Settled
2/2016	Seattle, WA	Discrimination claim based on age.	N	Closed	Withdrawn
5/2016	Brawley, CA	Discrimination claim based on race.	N	Closed	Settled

Contractor Name: Flatiron West, Inc.

Certified By Dale A. Nelson Title Vice President

Name

Date November 16, 2017

Signature Dale A. Nelson, Vice President

USE ADDITIONAL FORMS AS NECESSARY

CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

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☐ The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.

☑ The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN
6/2016	Seattle, WA	Discrimination claim based on race.	N	Closed	Settled
6/2017	Seattle, WA	Discrimination claim based on details unspecified.	N	Closed	Dismissed

Contractor Name: Flatiron West, Inc.

Certified By Dale A. Nelson Title Vice President

Name

Date November 16, 2017

Signature Dale A. Nelson, Vice President

USE ADDITIONAL FORMS AS NECESSARY

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicated, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

_____

_____

_____

_____

_____

_____

_____

_____

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

NOTE: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Flatiron West, Inc.,

proposed Subcontractor _____

, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Flatiron West, Inc.

Company

By _____

Dale A. Nelson

Vice President

Title

Date: November 16, 2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Flatiron,
proposed Subcontractor Ace Fence Company
, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Ace Fence Company

Company

By America Tang

Vice President

Title

Date: 11/15/17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.S (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Alameda Construction Services, Inc.,

proposed Subcontractor _____

, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Alameda Construction Services, Inc.

Company

By Kevin Ramsey

Kevin Ramsey

President

Title

Date: November 16, 2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____,
proposed Subcontractor ATP General Engineering Contractors, LLC
, hereby certifies that he has _X_, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has _X_, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

ATP General Engineering Contractors, LLC
Company

By _____

Andrew Kriechbaumer, Operations Manager
Title

Date: November 16, 2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Flatiron West Inc,

proposed Subcontractor CNJ Enterprises Inc

, hereby certifies that he has_____, has not XX, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has _____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

CNJ Enterprises Inc

Company

By 

Carol Branning, Administrative Assistant

Title

Date: 11/15/2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

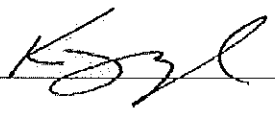
Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Flatiron West,
proposed Subcontractor Condon-Johnson & Associates, Inc.
, hereby certifies that he has X, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has X, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Condon-Johnson & Associates, Inc.
Company

By 

Keith Bizzack, Corporate Vice President
Title

Date: 11/15/17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Flatiron,
proposed Subcontractor Coral Construction Company,
hereby certifies that he has ✔, has not ____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has xx, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Coral Construction Company
Company

By _____
Marc Roberts

Sec./Treal
Title

Date: 11/15/17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____

proposed Subcontractor Diversified Landscape Co.

, hereby certifies that he has X, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has X, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Diversified Landscape Co.

Company

By _____

Vicki Moralez President

Title

Date: 11/15/17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder Dywidag Systems Intl., USA, Inc.

proposed Subcontractor _____

, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has X, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Dywidag Systems Intl., USA, Inc.

Company

By _____

Ron Giesel

V.P. / Unit Mgr.

Title

Date: 11/15/17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____,

proposed Subcontractor Integrity Rebar Placers

, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Integrity Rebar Placers

Company

By D Adams

Dolly Adams - Project Coordinator

Title

Date: Nov. 15, 2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

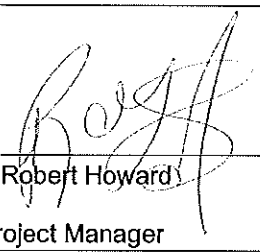
The Bidder_____,

proposed Subcontractor LA Steel Services, Inc.

, hereby certifies that he has ✓, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

LA Steel Services, Inc.

Company

By 

Robert Howard

Project Manager

Title

Date: 11/15/2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____,
proposed Subcontractor PAYCO SPECIALTIES INC.
, hereby certifies that he has X, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has ✓, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

PAYCO SPECIALTIES INC.

Company

By BILL TAYLOR

SR. ESTIMATOR

Title

Date: 11-15-17

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

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CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____,
proposed Subcontractor Select Electric, Inc.
, hereby certifies that he has X, has not_____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has √, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Select Electric, Inc.
Company

By
Brooks Roffey

President
Title

Date: 11/15/2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The Bidder_____

proposed Subcontractor Silverado Contractors, Inc.

, hereby certifies that he has X , has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has X, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Silverado Contractors, Inc.

Company

By Jimmy Saldivar

Sr. Estimator/Project Manager

Title

Date: November 14, 2017

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed Subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause as set forth in 41 CFR 601.5 (Generally only contracts or subcontracts of $10,000 or under are exempt).

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 601.7(b)(1) prevents the award of contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

YES _____ NO ✓

If the answer is yes, explain the circumstances in the following space:

PUBLIC CONTRACT SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the Contractor hereby states under penalty of perjury, that no more than one (1) final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two (2) year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder, hereby declares under penalty of perjury under the laws of the State of California that the bidder has ___, has not ✓, been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

NOTE: THE BIDDER MUST PLACE A CHECK MARK AFTER "HAS" OR "HAS NOT"

IN ONE OF THE BLANK SPACES PROVIDED.

THE ABOVE STATEMENTS ARE PART OF THE PROPOSAL. SIGNING THIS PROPOSAL ON THE SIGNATURE PORTION THEREOF SHALL ALSO CONSTITUTE SIGNATURE OF THESE STATEMENTS.

BIDDERS ARE CAUTIONED THAT MAKING A FALSE CERTIFICATION MAY SUBJECT THE CERTIFIER TO CRIMINAL PROSECUTION.

By my signature on this Proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this Proposal I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Title 23 United States Code, Section 112, Non-Collusion Affidavit," and the Title 49 Code of Federal Regulations, Part 29, "Debarment and Suspension Certification," are true and correct.

NON-LOBBYING CERTIFICATION

(FOR FEDERAL-AID CONTRACTS)

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities", in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontractors, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

LOBBY PROHIBITION, CERTIFICATION AND DISCLOSURE

In acknowledgment that funds received under this agreement have been provided pursuant to a Federal grant, recipient hereby recognizes the prohibitions against lobbying the Federal government with any of these funds. Recipient agrees that it shall comply with the laws set forth at 31 U.S.C. § 1352 (1989) and 24 C.F.R. part 87, to wit:

A. Conditions on use of funds

Recipient shall not expend any funds received pursuant to this agreement to pay any person to influence an officer or employee of Federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with any of the following Covered Federal actions:

(1) The awarding of any federal contract
(2) The making of any Federal grant
(3) The making of any Federal Loan
(4) The entering into of any cooperative agreement
(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

For purposes of defining the terms of this part of the agreement, the definitions set forth in 24 C.F.R. § 87.105 are hereby adopted and incorporated herein by reference.

B. Certification and Disclosure

Each recipient at every tier under this agreement shall file a certification regarding lobbying, and a Disclosure Form-LLL, where required by 24 C.F.R. § 87.110. The certification form and Disclosure Form-LLL are attached to this agreement.

C. Certifications must be filed:

(1) By any person upon each submission that initiates agency consideration for an award of a Federal contract, grant, or cooperative agreement exceeding $100,000, or a Federal loan or loan guarantee exceeding $150,000.
(2) Upon receipt by any person of a Federal contract, grant, or cooperative agreement exceeding $100,000, or upon receipt of a Federal loan or loan guarantee exceeding $150,000.
(3) By any person who requests or receives from a person referred to in subsections 1 and 2 of this paragraph:
    a. A subcontract exceeding $100,000 at any tier under a Federal contract;
    b. A subgrant, contract or subcontract exceeding $100,000 at any tier under a Federal grant;
    c. A contract or subcontract exceeding $100,000 at any tier under a Federal loan exceeding $150,000;
    d. A contract or subcontract exceeding $100,000 at any tier under a Federal cooperative agreement.

D. Disclosure Forms-LLL must be filed in every instance when a person applies for, requests, or receives Federal appropriations exceeding $100,000 pursuant to a contract, subcontract, grant, subgrant, loan, or cooperative agreement when such person has paid or expects to pay any sum, in cash or in kind, to influence or attempt to influence any officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress. Further, Disclosure Form-LLL must be filed by recipients at any tier at the end of each calendar quarter in which there occurs any event that requires disclosure or materially affects information submitted in prior disclosures. Such events include:

(1) 1. An increase of $25,000 in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action;
(2) 2. A change in the person(s) influencing or attempting to influence a covered action;
(3) 3. A change in the officer(s), employee(s), or member(s) contacted to influence a covered action.

All disclosure Forms-LLL, but not certifications, shall be forwarded from tier to tier until received by the principal recipient, which in turn will file them with the appropriate Federal agency.

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLLA Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing there port in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item4) to the lobbying entity (item10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLLA Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing datasources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

DISCLOSURE OF LOBBYING ACTIVITIES Approved by OMB

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352 0348-0046
(See reverse for public burden disclosure)

1. Type of Federal Action: ☐ a. Contract a. Grant b. Cooperative agreement c. Loan d. Loan guarantee e. Loan insurance	**2. Status of Federal Action:** ☐ a. bid/offer/application b. initial award c. post-award	**3. Report Type:** ☐ a. initial finding b. material change **For Material Change Only** year_____ quarter _____ date of last report_____

4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier _____, *if known:* Congressional District, *if known:*	**5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:** Congressional District, *if known:*
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, *if applicable:* _____
8. Federal Action Number, if known:	**9. Award Amount,** if known: $
10. a. Name and Address of Lobbying Entity (if individual, last name, first name, M)	**b. Individuals Performing Services** (including address if different from No. 10a) (last name, first name, MI):

(attach Continuation Sheet(s) SF-LLL4, *if necessary*)

11. Amount of Payment (check all that apply) $_____ ☐ **actual** ☐ **planned**	**13. Type of Payment** (check all that apply) ☐ a. retainer ☐ b. one-time lee ☐ c. commission ☐ d. contingent fee ☐ e. deferral ☐ f. other: specify:_____
12. Form of Payment (check all that apply) ☐ a, cash ☐ b. in-kind: specify: nature _____ Value_____	

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, Including officer(s), employee(s), or Member(s), contacted, for Payment indicated in item 11:

(attach Continuation Sheet(s) SF-LLLA, *if necessary*)

15. Continuation Sheet(s) SF-LLLA attached: ☐ Yes ☐ No

16.	Information requested through this for misauthorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure may be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Signature: _____ Print Name: _____ Title:_____ Telephone No.: _____ _____ Date: _____

Federal Use Only:

Authorized for Local Reproduction
Standard Form LLL (Rev. 7-07)

DISCLOSURE OF LOBBYING ACTIVITIES Approved by

CONTINUATION SHEET OMB0348-0046

Reporting Entity: _____ Page _____ of _____

Authorized for Local Reproduction
Standard Form - LLL-A

City of San Diego

CITY CONTACT: Antoinette Sanfilippo. Contract Specialist, **Email:** ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, **Fax No**. (619) 533-3633

ADDENDUM A

e - Bidding

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.: K-18-1472-DBB-3
SAP NO. (WBS/IO/CC): S-00871, B-12110, B-12097
CLIENT DEPARTMENT: 1714, 2000, 2116
COUNCIL DISTRICT: 2
PROJECT TYPE: GF, IB, JA
FEDERAL AID PROJECT NO.: BHLS-5004(049)

BID DUE DATE:

2:00 PM
NOVEMBER 2, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

1) Registered Engineer — 9/28/2017 Date — Seal:

2) For City Engineer — 9/28/2017 Date — Seal:

A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

B. BIDDER's QUESTIONS

Q1. Can the contractors use a DVBE in place of the DBE 6.7% goal, Why are the DVBE being DISCRIMINATED in this federal funded/city of S.D. bid?

A1. DVBE certifications are not the same as DBE certifications. This does not preclude a DVBE certified firm from participating on a City project, however, participation by a DVBE contractor cannot be counted towards meeting the DBE goal established on this project. The City encourages participation by all certified and noncertified firms on City contracts and does not participate in discriminatory practices.

Q2. Bidding documents Section 2-1.06B references the informational handout. Please provide this handout at your earliest convenience.

A2. No. Handout is available, revision to Section 2-1.06B is included in Addendum A.

Q3. Please confirm that the unit of measurement for Bid Item 253: Removal or Abandonment of Existing Water Facilities should be LF instead of LS. The quantity listed is 2380.

A3. Unit of measurement is LF not LS, revision to bid item is included in Addendum A.

Q4. Please confirm that the 8" DR14 PIPE CL 305 (20' No Joints) on Drawing Number 39475-41-D, Sheet C-37 from Station 3+70.40 to Station 3+90.40 on the 12" Pipe Profile should be 12" DR14 PIPE CL 305. Bid Item 257 Water Main (12-Inch, Class 305) refers to a 12 inch pipe with a length of 20 LF.

A4. Revision to Sheet C-37 is included in Addendum A.

Q5. Item 1 on Sheet C-36 states, "By Contractor Furnish and Install STA 13+60 Access MH w/ 1-2" AV/AR ASSY, See Details, Sheet S-55". Sheet S-55 does not include the detail referenced for the Access MH w/ 1-2" AV/AR ASSY. Please clarify.

A5. Referenced detail is S-59, revision to Sheet C-36 is included in Addendum A.

Q6. Bid Item No. 254 is "Handling and Disposal of Non-friable Asbestos Material" with a quantity of 360 LF. This item and quantity could not be located in the project plans. Please provide the location of the non-friable asbestos containing materials.

A6. The quantity is 210 linear feet (LF) which occurs on Sheet C-37 and Sheet C-47, revision to bid item is included in Addendum A.

Q7. Reference Section 49-3.02A(1). The referenced section requires the bottom of all CIDH Piling to be inspected with a Sid or Mini-SID. Please see attached technical data on an alternative shaft bottom inspection device. Please confirm the Shaft Quantitative Inspection Device (SQUID) can be used as an acceptable replacement.

A7. Bid per plan and specifications.

Q8. Reference Sheet S-29 "Test Pile Details". The referenced sheet calls for "4 x 2100 kip O-Cell Assembly". The maximum test load is never 100% of the load cell capacity, and typically is not recommended to exceed 90% of O-Cell capacity. What is the maximum test load?

A8. The maximum test load is 7,560 kips.

Q9. Reference Section 49-1.03. The referenced section states that "When constructing new pier piles, the contractor must follow the pile installation recommendations specified in the Bridge Foundation Report." Reference Bridge Foundation Report Section 8.4. The first sentence of the second paragraph of the referenced section states "…piles may be drilled…to the design depth using temporary casing." The first sentence of the third paragraph of the referenced section states "A temporary casing shall be used below the permanent casing…" Therefore, please confirm that temporary casing is required to extend the full length of the pile to the design pile tip elevation.

A9. The temporary casing must extend to the specified tip elevation.

Q10. Reference Section 49-1.03 and Section 8.4, Paragraph 4 of the Foundation Report by Grout Delta. These sections state that "an oscillator may not be able to advance a casing through the cobble zones. A high torque rotator may be required to extend the piles to tip elevation". The largest high torque casing rotator in the world can accommodate up to 3 Meter diameter casing. Therefore, please confirm it is acceptable to use 3 Meter (118") Casing in place of 120" Casing where specified.

A10. Three meter casing is an acceptable replacement for the ten-foot diameter casing.

Q11. On Sheet C-8, there are two notes on the planview that both state they are the beginning of "Remove Guardrail". They are "25.44 Rt "CL WMBD" 36+92.14 Beg REMOVE GUARDRAIL" and "36.50 Rt "CL WMBD" 36+15.42 Beg REMOVE GUARDRAIL". Please confirm that one of these two notes should be "End REMOVE GUARDRAIL".

A11. Revision to call-out in Sheet C-8 is included in Addendum A.

Q12. The overhead Sign Structures on sheets T-13, & T-15 indicate you want them to be Truss sign structures but then the sizes called out below for the mast arms are sized as if they are Lightweight sign structures (different design drawings). For example sign 2 calls for a I-S post 14" x ½" with 5" split which matches S9 of the 2015 Caltrans standards and is good but then the mast arms are called out as TS10x6x1/4" which is not possible as this is a lightweight callout and a truss that matches this post callout would be made from angles on sheet S11 (for example: based on the table a 74' span with the smallest sign height in the table would be angles L 6x4x1/2"). The same is true for signs 4 and 5 where they are calling out for TS 10x6x3/8" tube and they should be made from angles on the sheet S11 Table. Please review and revise the mast arm sizes so they match up with the truss post types.

A12. To be addressed in Addendum B.

Q13. It is unclear if you just want illumination only or the entire walkway system. Because California has gone to Class XI Reflective sheeting the majority of jobs bidding do not want any walkways or illumination. If you do want the walkways per the standards it needs to be called out with a dimensional length and if you want the entire walkway with grating, handrailing, cable etc… or if you just want the support with light channel for lighting only. Please let me know so I can bid accordingly.

A13. To be addressed in Addendum B.

Q14. The provided bid documents describe three construction methods options in constructing the bridge (temporary trestle and berms). A bid item of “Temporary Construction Trestle” is only listed. Can the Contractor utilize the other construction methods options in lieu of the temporary trestle?

A14. Temporary Trestle Construction required, clarification is included in Addendum A.

Q15. Can the existing piles remain in place if they do not interfere with the new construction?

A15. Pile removal required per plan.

Q16. Can you confirm that the DBE certification for this project is Caltrans UCP DBE Certification?

A16. Yes, DBE certification is through the California Unified Certification Program. Refer to Caltrans Standard Specifications, Division I General Provisions, 2-1.12b Disadvantaged Business Enterprises (DBE).

Q17. There are multiple items in the bid schedule, with a LS unit of measure, and a quantity greater than 1. Please revise these items, on the PlanetBids E-bidding page.

A17. Revisions to bid items are included in Addendum A.

Q18. Reference Section 90-1.02H. The referenced section states that the cementitious material must be composed of one of the following by weight: A. "20 percent natural pozzolan or fly ash with a CaO content of up to 10 percent, 5 percent silica fume, and 75 percent Portland cement." B. 12 percent silica fume, metakaolin, or UFFA, and 88 percent Portland cement. C. 50 percent GGBFS and 50percent Portland cement. Option "A", Is not a feasible option with a 0.40 water cement ratio due to the amount of water required for the hydration of the silica fume and still meeting the slump requirements in section 49-3.02B(2). Option "B", Cannot be used because metakaolin is not commercially available in the region. Option "C", Also cannot be used because GGBFS is not commercially available in the region. Please confirm that it is acceptable to utilize a

cementitious content of 25 fly ash, and 75 percent Portland Cement as listed in section 49-3.01B(2)H & 90-1.02H in the Caltrans 2015 Standard Specifications.

A18. Revision to Section 90-1.02H included is in Addendum A.

Q19. In Section 19-3.03L(1) (pdf 167 of the Solicitation Final) of the specifications section 8 states that "Where excavation, construction, or reconstruction of levee embankment to a height greater than six (6) feet occurs, an exploration trench (also termed "inspection trench") must be excavated along the centerline of the levee and must be a minimum of six (6) feet in depth and six (6) feet in width at the bottom of the trench and have side slopes of one (1) foot vertical to one (1) foot horizontal or flatter." Is it the Owner's intent to apply this inspection trench requirement for the backfill behind the abutments that are technically part of the levee?

A19. Levee exploration trench requirements are applicable for earthwork behind the abutments.

Q20. In Section 8-1.10D (pdf 147 of the Solicitation Final Document) it states that "The Contractor shall begin work within 15 calendar days after the contract has been approved by the attorney appointed and authorized to represent the City." In Section 8-1.04B (pdf 144 of the Solicitation Final Document) it states 'Start job site activities within 55 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department". Due to the numerous items that must be submitted prior to starting jobsite activities please confirm that the Contractor has 55 days to start the jobsite activities after receiving notice of Contract approval.

A20. Limited Notice to Proceed (LNTP) to follow City specifications and guidelines. Revision to section 8-1.10D is included in Addendum A.

Q21. In Section 2-1.06B (pdf 107 of the Solicitation Final Document) it states that the "Bridge As-Built Plans for Bridge Number's 57-0705R, 57-0705L and 57C-0023" are available and included in the "informational handout". Please provide the referenced informational handout along with the bridge as-builts.

A21. Revision to Section 2-1.06B included is in Addendum A.

Q22. In Section 2-1.09 (pdf 107 of the Solicitation Final Document) it states "The item total for plant establishment work must be at least $80,000. The item is applicable to all plant establishment work within both the Caltrans and City right-of-way (not including the mitigation work)." Please clarify exactly which bid items this section is referencing.

A22. See Bid Item #125

Q23. In Section 78-4.07A(1) (pdf 198 of the Solicitation Final Document) it states "Apply the stain to all visible galvanized surfaces of Chain Link Fence (Type CL-4) and Cable Railing". Please clarify which bid item this staining of galvanized surfaces shall be paid under.

A23. Revision to Section 78-4.07D is included in Addendum A.

Q24. In Section 803-3.4.2 (pdf 968 of the Solicitation Final Document) it states that the "existing soil is considered appropriate for planting and seeding and no soil testing is considered necessary". It then states later that Restoration Ecologist and Engineer shall determine the suitability of topsoil prior to use. If topsoil alteration is determined to be required please confirm that this will be considered a change.

A24. Bid per plan and specifications.

Q25. In Section III-J of Exhibit A of Appendix P (pdf 936 of the Solicitation Final Document) it states that "The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the revegetation area according to the schedule and methods described in the Revegetation Plan." Is this Project Biologist, associated with the wetland mitigation work, provided by the City or the Contractor? Please clarify.

A25. Project Biologist to be provided by the City.

Q26. In Section 12-4.02C(3)(e) (pdf 153 of the Solicitation Final Document) it states "From 3 hours before to 2 hours after special events or events at the venues shown in the table titled "Special Events and Venues" do not perform work that encroaches onto the following freeway or connector traveled way or ramps." Please provide dates and times for the events identified in the "Special Events and Venues" table.

A26. Resident Engineer to coordinate with Contractor as specified in the revision to Section 12-4.02C(3)(e) included in Addendum A.

Q27. In the Site Development Permit No. 721993 (pdf 849 of the Solicitation Final Document) item 18 states "The developer shall secure a waiver from the Park & Recreation Director for any work within the City parkland that must be done during the Memorial Day through Labor Day Construction Moratorium." Please confirm that the City has secured this waiver and that the Memorial Day through Labor Day Construction Moratorium will not apply for this project.

A27. City is responsible to secure waiver.

Q28. We are a Demolition contractor bidding on the West Mission Bay Bridge and would like to obtain the As-Builts for the existing Bridge. Could you tell me who I should contact for the requested information.

A28. Availability of As-Built Plans for Bridge Numbers 57-0705R, 57-0705L, and 57C-0023, included in Addendum A via revisions to Attachment E, Supplementary Special Provisions, Section 2-15.

Q29. Regarding temporary construction access: Use of a dirt berm is discussed in the environmental assessment and the final mitigated negative declaration, as one of three likely construction methodologies. Specification section 48-6 is expressly descriptive of trestle construction. In addition, in the California Coastal Commission NOI to issue permit, special conditions part 1 paragraph D states "a trestle system as described in the city of San Diego's November 3, 2015 submittal shall be used for construction staging and falsework within the San Diego river flood control channel. Please definitively confirm, if placing a construction access berm in the channel, is an allowable option.

A29. Temporary Trestle Construction required, clarification included in Addendum A.

Q30. Paragraph 12 of the Notice Inviting Bids on page 7 is titled Supplemental Agreements and specifically refers to the Long Term Maintenance & Monitoring Agreements. This paragraph indicates that those agreements must be signed and labor & material bonds and insurance pertaining to this portion of work be provided at the time of submission of the primary BID.

First, there is no mention of this in the checklist of required bid submittal documents, and second, performance and payment bonds

and evidence of insurance are not available at time of bid submission and typically not required until contract award.

We request that this paragraph be revised to allow submission of these documents at time of award.

A30. This contract does require an extended revegetation maintenance and monitoring supplemental agreements. Appendix P - Long Term Maintenance and Monitoring Agreement 1 (Project Work Site) and in Appendix Q - Long-Term Maintenance and Monitoring Agreement 2 (Mitigation Sites)

Q31. In Division 1 of General Provisions; Section 2 - Bidding on page 107, the table of Supplemental Project Information indicates the availability of an Information Handout which includes: Environmental Assessment, Permits, Foundation Report, Geotechnical Design Report, Bridge As-Built Plans for Bridge Number's 57-0705R, 57-0705L, and 57C-0023.

The only documents currently provided are the Environmental Assessment and the Site Development Permit. Please provide the other referenced documents.

A31. Revision to Section 2-1.06B included in Addendum A.

Q32. The Environmental Assessment and the Final Mitigated Negative Declaration both discuss three methods for building access in the San Diego River for bridge construction. Namely: Temporary Large Berm, Temporary Small Berm, and Temporary Trestle. The bid list and specifications only refer to the method of Temporary Trestle Construction. Please confirm that any of the three options are allowable methods to construct access.

A32. Temporary Trestle Construction required, clarification included in Addendum A.

C. CLARIFICATIONS

1. Temporary Trestle Construction Required

2. To Planet Bids Tab, Bid Information, Liquidated Damages should read: $10,500 per day. For further information please see page 146, Section; 8-1.10.

D. ATTACHMENTS

1. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 107, Caltrans Standard Specifications, Division 1, General Provisions (1-9), "Add between the 1st and 2nd paragraphs of section 2-1.06B:" and "Supplemental Project Information" table, **DELETE** their entirety and **SUBSTITUTE** with the following:

   Add between the 1st and 2nd paragraphs of section 2-1.06B:

   The City of San Diego makes the following supplemental project information available:

   Supplemental Project Information

Means	Description
By contacting the Contract Specialist or visiting: https://filecloud.sandiego.gov/url/wtvamujfdulr	Permits, Foundation Report, Geotechnical Design Report, Bridge As-Built Plans for Bridge Numbers 57-0705R, 57-0705L and 57C-0023.
Available in Appendix B of Attachment E	Environmental Assessment
Available in Appendix D of Attachment E	Site Development Permit
Included with the project plans	Log of test borings

2. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page144, Caltrans Standard Specifications, Division 1, General Provisions (1-9), 8 Prosecution and Progress, "Replace *Reserved* in section 8-1.04C with:" (Delayed Start), **DELETE** second paragraph in its entirety and **SUBSTITUTE** with the following:

   Start job site activities within 15 calendar days from issuance of Notice to Proceed (NTP).

   On Page 145, eighth paragraph, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   You may start job site activities before the 15th calendar day from issuance of Notice to Proceed (NTP) if you:

   1. Obtain specified authorization or acceptance for each submittal before the 15th day.

1. Obtain specified authorization or acceptance for each submittal before the 15th day.
2. Receive authorization to start.

3. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page147, Caltrans Standard Specifications, Division 1, General Provisions (1-9), 8 Prosecution and Progress, Section 8-1.10D, Beginning of Work, Time of Completion and Liquidated Damages, **DELETE** first and second paragraphs in their entirety and **SUBSTITUTE** with the following:

   The Contractor shall begin work within 15 calendar days from issuance of Notice to Proceed (NTP).

   This work shall be diligently prosecuted to completion before the expiration of **900 WORKING DAYS** beginning on the fifteenth calendar day from issuance of Notice to Proceed (NTP).

4. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 148, Caltrans Standard Specifications, Division II, General Construction (10-95), 10 General, Section 10-8.01A, General, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   10-8.01A General
   Section 10-8 includes specifications for meeting the U.S. Army Corps of Engineers Southern California Area Design Channel Capacity requirements. From 15 October through 15 April 100% design channel capacity will be maintained unless a waiver is obtained from the Engineer.

5. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 149, Caltrans Standard Specifications, Division II, General Construction (10-95), 10 General, Section 10-8.01B, Submittal, Item 3, **DELETE** in its entirety.

6. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 151, Caltrans Standard Specifications, Division II, General Construction (10-95), 12 Temporary Traffic Control, **ADD** the following:

   Replace section 12-3.21C with:
   12-3.21C Construction

   Temporary Traffic Screen shall be installed during the following stages of construction as shown on sheet 39475-107-D and 39475-108-D of the plans and as directed by the Resident Engineer:

- **Phase 1 (Right Bridge Construction):** Install temporary traffic screen panels and fasten to the outside pedestrian railing of the existing bridge (eastern side). Screen shall be a minimum of 2 feet in height above the top of the pedestrian railing and shall be constructed using 3/8-inch minimum thickness plywood or ½-inch thick oriented strandboard.
- **Phases 2A and 2B (Partial Existing Bridge Demolition and Left Bridge Construction):** Install and anchor temporary traffic screen to the top of the existing bridge barrier in accordance with Caltrans Revised Standard Plan T4 (Alternative "B" Screen Anchorage Detail) and as directed by the Resident Engineer. The temporary traffic screen must have 3-foot-long openings spaced at 200-foot intervals.

7. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions , page 151, Caltrans Standard Specifications, Division II, General Construction (10-95), 12 Temporary Traffic Control, **ADD** the following:

Replace section 12-3.21D with:
12-3.21D Payment

The payment quantity for temporary traffic screen is the length measured along the line of the screen with no deductions for openings in the temporary traffic screen. Contractor to base bid for temporary traffic screen on 3,000 linear feet of temporary traffic screen installed and cost shall be included as part of the bid item for "Mobilization".

8. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, pages 152 through 153, Caltrans Standard Specifications (10-95), 12 Temporary Traffic Control, "Replace *Reserved* in section 12-4.02C(3)(e)" (Closure Restrictions for Designated Holidays and Special Days), **DELETE** in its entirety and **SUBSTITUTE** with the following:

Replace *Reserved* in section 12-4.02C(3)(e) with:

From 3 hours before to 2 hours after special events or events at the venues shown in the table titled "Special Events and Venues," do not perform work that encroaches onto the following freeway or connector traveled way or ramps:

1. WB I-8 Exit Ramp
2. EB I-8 Entrance Ramp

The Resident Engineer will coordinate the dates and time with Contractor.

The special events and venues that could impact closures are shown in the following table:

Special Events and Venues

Special event or venue	Affected routes	Route limits
Sea World Summer Nights	I-8	I-5 to Sunset Cliffs Blvd
Fourth of July (Mission Bay Park)	I-8	I-5 to Sunset Cliffs Blvd
Over the Line Tournament (Mission Bay Park)	I-8	I-5 to Sunset Cliffs Blvd
Valley View Casino Center Events	I-8	I-5 to Sunset Cliffs Blvd
2019 World Beach Games	I-8	I-5 to Sunset Cliffs Blvd

9. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 199, Caltrans Standard Specifications (10-95), 78 Incidental Construction, Section 78-4.07D, Payment, **DELETE** in its entirety and **SUBSTITUTE** with the following:

78-4.07D PAYMENT

Payment for staining Chain Link Fence with Natina is included under bid item "Chain Link Fence (Type CL-4)". Payment for staining cable railing with Natina is included under bid item "Cable Railing".

10. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 208, Caltrans Standard Specifications (10-95), Division XI, Materials, 90 Concrete, Addition to section 90-1.02H" (Concrete in Corrosive Environment), **DELETE** in its entirety and **SUBSTITUTE** with the following:

Add to section 90-1.02H:

The West Mission Bay Drive Bridge is in a corrosive environment.
Use Type V cement for concrete in direct contact with soil or seawater.
The ratio of the quantity of free water to the quantity of cementitious material must not exceed 0.40.

E. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Attachment E, Section 7, Responsibilities of The Contractor, **ADD** the following:

   7-5 PERMITS, FEES, AND NOTICES. To the "WHITEBOOK", to item 1, ADD the following:

   d) Contractor may be required to obtain a Special Event Permit if there are certain construction activities that severely impact nearby traffic.

2. To Attachment E, Section 7, Responsibilities of The Contractor, **ADD** the following:

   7-16.1 General. To the "WHITEBOOK", to item 6, ADD the following:

   e) Contractor to install video cameras for live feed and recording of construction progress.

3. To Attachment E, Section 7, Responsibilities of The Contractor, **ADD** the following:

   7-16.2.2 Communications with the Public. To the "WHITEBOOK", to item 4, DELETE in its entirety and SUBSTITUTE with the following:

   4. At the request of the Resident Engineer and on a quarterly basis, you shall attend and participate in project briefings at community meetings.

4. To Attachment E, Section 7, Responsibilities of The Contractor, **ADD** the following:

   7-17 NEWSLETTER. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

   1. You shall create, distribute, and provide the required information for newsletters, on a monthly basis, for all stakeholders, for the project including: a written update on the progress of Work, a 1 month look-ahead schedule, contact names and phone numbers, and any other information which may be of interest to the public for this purpose.

      a. Contractor to coordinate the stakeholders with the Resident Engineer.

5. To Attachment E, Section 9, Measurement and Payment, **ADD** the following:

9-3.4 **Mobilization.** To the "WHITEBOOK", to item 1, ADD the following paragraph:

Contractor to install traffic screens in accordance with Section 12-3.21 of the Caltrans Standard Specifications and these Supplementary Special Provisions and as directed by the Resident Engineer.

9-3.4.1 **Payment.** To the "WHITEBOOK", ADD the following:

4. The bid item for "Mobilization" shall include the installation of temporary traffic screen.

6. To Attachment E, Section 1, Terms, Definitions, Abbreviations, Units of Measure, and Symbols, page 211, Subsection 1-2, Terms and Definitions, after the Second paragraph, **ADD** the following:

Contractor to maintain, at a minimum, two (2) lanes open to traffic in each direction of travel. During the 2019 World Beach Games, contractor will coordinate with the Resident Engineer to provide all necessary traffic control for special events.

7. To Attachment E, page 212, Section 2, Scope and Control of Work, Subsection 2-15, Technical Studies and Data, Item 3, Number r), **DELETE** in its entirety and **SUBSTITUTE** with the following:

r) Water Quality Technical Report/Storm Water Data Report dated January 24, 2017, by Rick Engineering Company.

To Item 3, **ADD** the following:

s) Transportation Management Plan, dated May, 2017, by Rick Engineering Company.

5. The following as-builts for West Mission Bay Drive Bridge, 57-0705R, 57-0705L, and 57C-0023 are available on filecloud:

https://filecloud.sandiego.gov/url/wtvamujfdulr

8. To Attachment E, Section 7, Responsibilities of The Contractor, page 232, Subsection 7-16.3, Exclusive Community Liaison Services, **ADD** the following:

(i) Develop, operate, and maintain a project website.

(j) Develop and control project social media accounts with continuous updates.

F. CERTIFICATIONS AND FORMS

1. To Forms: List of Subcontractors, Named Equipment/Material Supplier List and Subcontractors Additive/Deductive Alternate, pages 988 through 990, **DELETE** in their entirety and **SUBSTITUTE** with pages 19 through 21 of this Addendum.

G. ADDITIONAL CHANGES

1. The following are additional changes to the Line Items in the PlanetBids Tab:

   For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been ~~**Stricken out.**~~

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	561730	Check and Test Existing Irrigation Facilities (P)	~~LS~~ EA	10	20-10.02
Main Bid	561730	Maintain Existing Irrigation Facilities (P)	~~LS~~ EA	8	20-10.02
Main Bid	561730	Operate Existing Irrigation Facilities (P)	~~LS~~ EA	4	20-10.02
Main Bid	237110	Removal or Abandonment of Existing Water Facilities	~~LS~~ LF	2380	306-3.3.3
Main Bid	237110	Handling and Disposal of Non-friable Asbestos Material	LF	~~360~~ 210	306-3.3.4.5

H. PLANS

1. To DRAWING number 39475-01-D (G-1), **DELETE** in its entirety and **REPLACE** with page 22 of this Addendum.

2. To DRAWING number 39475-12-D (C-8), **DELETE** in its entirety and **REPLACE** with page 23 of this Addendum.

3. To DRAWING numbers 39475-40-D (C-36) through 39475-41-D (C-37), **DELETE** in their entirety and **REPLACE** with pages 24 through page 25 of this Addendum.

4. To DRAWING number 39475-43-D (C-39), **DELETE** in its entirety and **REPLACE** with page 26 of this Addendum.

5. To DRAWING number 39475-46-D (C-42), **DELETE** in its entirety and **REPLACE** with page 27 of this Addendum.

6. To DRAWING number 39475-57-D (C-47), **DELETE** in its entirety and **REPLACE** with page 28 of this Addendum.

7. To DRAWING number 39475-59-D (C-49), **DELETE** in its entirety and REPLACE with page 29 of this Addendum.

8. To DRAWING number 39475-155-D (S-54), **DELETE** in its entirety and **REPLACE** with page 30 of this Addendum.

9. To DRAWING numbers 39475-157-D (S-56) through 39475-158-D (S-57), **DELETE** in their entirety and **REPLACE** with pages 31 through page 32 of this Addendum.

10. To DRAWING numbers 39475-180-D (S-79) through 39475-183-D (S-82), **DELETE** in their entirety and **REPLACE** with pages 33 through page 36 of this Addendum.

James Nagelvoort, Director
Public Works Department

Dated: *October 9, 2017*
San Diego, California

JN/AJ/egz

LIST OF SUBCONTRACTORS

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____								
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____								

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

Form AA35

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	DIR Registration Number	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							

① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE,SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

Form AA40

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

ADDITIVE/ DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNER SHIP
	Name: None Address: City: State: Zip: Phone: Email:								
	Name: Address: City: State: Zip: Phone: Email:								

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	State of California's Department of General Services	CADoGS
City of Los Angeles	LA	State of California	CA
U.S. Small Business Administration	SBA		

Form AA45

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

CITY OF SAN DIEGO

PLANS FOR THE CONSTRUCTION OF

WEST MISSION BAY DRIVE
BRIDGE (No. 57C-0023)
Federal-aid Project: BHLS-5004(049)

CONTRACTOR'S RESPONSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA 1-800-422-4133) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)
3. CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
3. ALL ADVANCED METERING INFRASTRUCTURE (AMI) DEVICES ATTACHED TO THE WATER METER OR LOCATED IN OR NEAR WATER METER BOXES, COFFINS, OR VAULTS SHALL BE PROTECTED AT ALL TIMES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONSTRUCTION STORM WATER PROTECTION NOTES

1. TOTAL SITE DISTURBANCE AREA (ACRES) 23.11
   HYDROLOGIC UNIT/ WATERSHED SAN DIEGO AND PENASQUITOS
   HYDROLOGIC SUBAREA NAME & NO. MISSION SAN DIEGO (907.11) & FIESTA ISLAND (906.70)
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE
   ☐ WPCP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100
   ☒ SWPPP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 AND CONSTRUCTION GENERAL PERMIT ORDER 2009-0009-DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND 2012-0006-DWQ
   TRADITIONAL: RISK LEVEL 1 ☐ 2 ☒ 3 ☐
   LUP: RISK TYPE 1 ☐ 2 ☐ 3 ☐
3. CONSTRUCTION SITE PRIORITY
   ☐ ASBS ☒ HIGH ☐ MEDIUM ☐ LOW

MONUMENTATION/ SURVEY NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA SHALL FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR ANY EARTHWORK, DEMOLITION OR SURFACE IMPROVEMENTS. IF DESTROYED, A LICENSED LAND SURVEYOR SHALL REPLACE SUCH MONUMENT(S) WITH APPROPRIATE MONUMENTS. WHEN SETTING SURVEY MONUMENTS USED FOR RE-ESTABLISHMENT OF THE DISTURBED CONTROLLING SURVEY MONUMENTS AS REQUIRED BY SECTIONS 6730.2 AND 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILLED WITH THE COUNTY SURVEYOR. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION SHALL BE NOTIFIED IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPLACING AND VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.

REFERENCE:

H452-H467, 5027, 6113-L, 8262-L, 12792-4-D, 12902-D, 14577-D, 23570-D, 26376-D, 11-046424,

STREET CLASSIFICATION

STREET NAME: WEST MISSION BAY DRIVE
PRIMARY ARTERIAL, ADT=64,156

STANDARD SPECIFICATIONS

CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITE BOOK), 2015 EDITION

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), 2015 EDITION

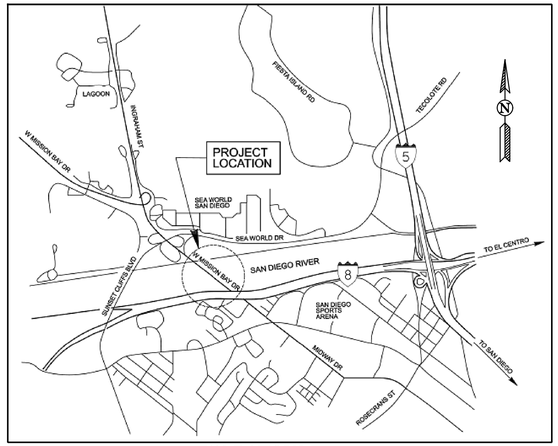
CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS, 2015 EDITION

CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, 2016 EDITION

CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS, 2015 EDITION

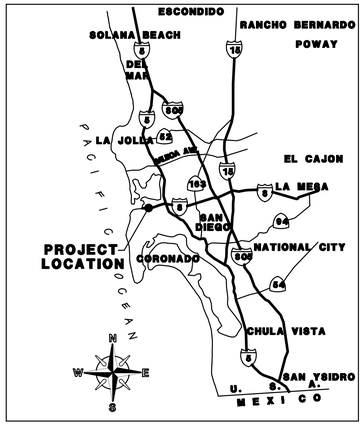
FIELD DATA

BENCHMARK: BRASS PLUG AT NORTHERLY CORNER
OF HANCOCK STREET AND CHANNEL WAY
PER CITY OF SAN DIEGO VERTICAL CONTROL
BOOK DATED AUGUST 1989.
ELEV. = 8.881
FIELD NOTES:
BASIS OF BEARINGS / COORDINATES:
EXISTING CONTROL PROVIDED BY THE CITY OF SAN DIEGO
PER PUBLIC WORKS/ENGINEERING AND CAPITAL PROJECTS
DEPT. - FIELD SURVEY NOTES WO#: 526430 DATED 8/30/2000
DATUM: MEAN SEA LEVEL
REFERENCES:



NOT TO SCALE

LOCATION MAP



VICINITY MAP
NOT TO SCALE

WORK TO BE DONE

THE PROJECT PROPOSES REMOVAL OF PORTIONS OF THE FOLLOWING ITEMS LOCATED ON WEST MISSION BAY DRIVE & SPORTS ARENA BOULEVARD BETWEEN SEA WORLD DRIVE AND INTERSTATE 8: SHARED PATH, CONCRETE SIDEWALK, CURB AND GUTTER, FENCING, METAL BEAM GURADRAIL AND EXISTING WEST MISSION BAY DRIVE BRIDGE.

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE STANDARD SPECIFICATIONS AND THE STANDARD DRAWINGS OF THE CITY OF SAN DIEGO & CALTRANS.

1. SPECIAL PROVISIONS
2. CONSTRUCTION DRAWINGS
3. STANDARD SPECIFICATIONS
4. STANDARD DRAWINGS

SHEET INDEX/LIMITS OF WORK

SHEET NO.	DISCIPLINE CODE	TITLE
1-4	G	COVER SHEET
5-48, 55-66	C	CIVIL PLANS
49-52	M	MECHANICAL PLANS
53-54	CP	CATHODIC PROTECTION PLANS
67-74	IR	IRRIGATION REMOVAL PLANS
75-82	PR	PLANT REMOVAL PLANS
83-101	L	LANDSCAPE PLANS
102-229	S	BRIDGE AND WALL PLANS
230-255	T	TRAFFIC PLANS
256-274	E	ELECTRICAL PLANS
275-283	O	OFFSITE MITIGATION
23-25	C	CURB RAMP LOCATION
58-65	C	PERMANENT STORM WATER BEST MANAGEMENT PRACTICES (BMP) -PRIORITY DEVELOPMENT PROJECTS
TC-01 TO TC-91	TC	TRAFFIC CONTROL PLANS
EC-01 TO EC-23	EC	EROSION CONTROL PLANS

DISCIPLINE CODE

G	GENERAL
C	CIVIL
CP	CATHODIC PROTECTION
IR	IRRIGATION REMOVAL
M	MECHANICAL
PR	PLANT REMOVAL
S	STRUCTURAL
T	TRAFFIC
E	ELECTRICAL
L	LANDSCAPE
TC	TRAFFIC CONTROL
EC	EROSION CONTROL

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Jay Holombo 3/3/2017

G-1

WEST MISSION BAY DRIVE BRIDGE

AS-BUILT INFORMATION

MATERIALS	MANUFACTURER
-	-
-	-
-	-
-	-

SPEC. NO. 1472

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE COVER SHEET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 283 SHEETS

FEDERAL ID BHLS-5004(049)
WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — DATE 09/27/2017 — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER

CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
⚠1 ADDENDUM A	TYLI		9/13/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-01-D

T·Y LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK

Jay Holombo — C47408 — 12-31-17 — 3-3-17
PROJECT ENGINEER — RCE — EXP — DATE

REGISTERED PROFESSIONAL ENGINEER — Jay Holombo — No. C47409 — Exp. 12-31-17 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION CHANGE / ADDENDUM			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.
A	9/13/17	01, 41, 43, 46, 57, 59, 155, 157, 158, 180, 181, 182	

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

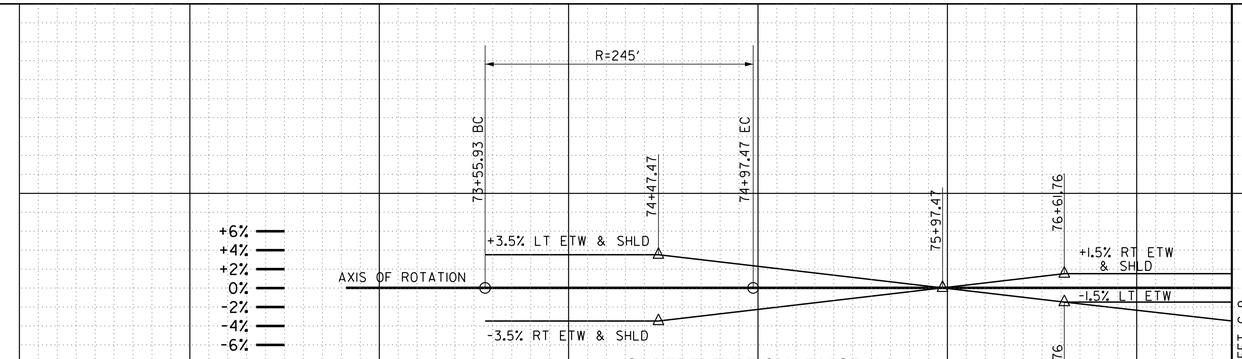
The City of SAN DIEGO Public Works

⚠1 UPDATED DETAILS/CALL-OUTS

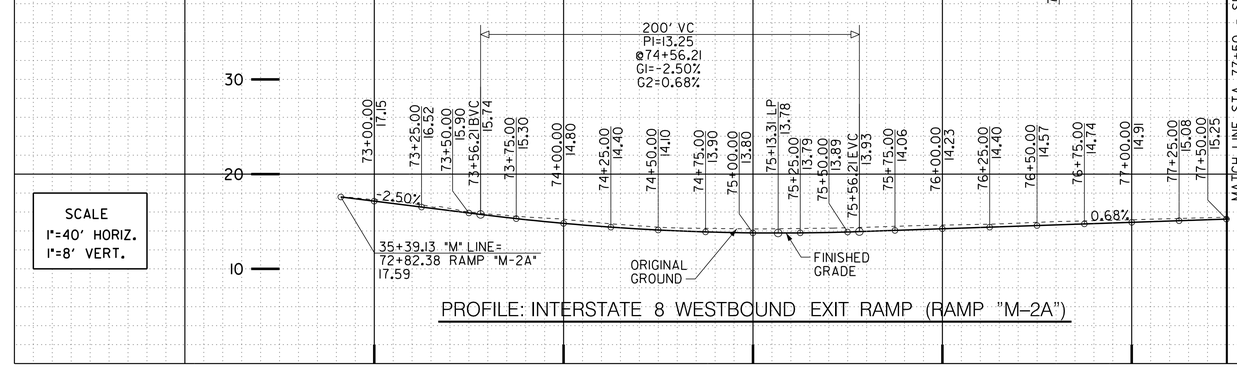
ADDENDUM A

PAVEMENT ELEVATION DATA			
NO.	STATION	OFFSET	Elev
1	"M-2A" 73+77.21	20.88' Rt	15.03
2	"M-2A" 74+00.00	20.03' Rt	14.10
3	"M-2A" 74+50.00	18.03' Rt	13.48
4	"M-2A" 75+00.00	16.00' Rt	13.44
5	"M-2A" 75+50.00	16.00' Rt	13.71
6	"M-2A" 76+00.00	16.00' Rt	14.22
7	"M-2A" 76+50.00	16.00' Rt	14.77
8	"M-2A" 76+61.76	16.00' Rt	14.89
9	"M-2A" 77+00.00	16.00' Rt	15.15
10	"M-2A" 77+50.00	16.00' Rt	15.49
11	"M-2A" 77+50.00	44.00' Lt	14.44
12	"M-2A" 77+50.00	36.00' Lt	14.72
13	"M-2A" 77+00.00	44.00' Lt	14.18
14	"M-2A" 77+00.00	36.00' Lt	14.37
15	"M-2A" 76+61.76	44.00' Lt	13.99
16	"M-2A" 76+61.76	36.00' Lt	14.11
17	"M-2A" 76+50.00	44.00' Lt	14.03
18	"M-2A" 76+00.00	44.00' Lt	14.25
19	"M-2A" 75+50.00	44.00' Lt	14.38
20	"M-2A" 75+00.00	44.00' Lt	14.80
21	"M-2A" 74+50.00	46.06' Lt	15.73
22	"M-2A" 74+00.00	48.19' Lt	16.49
23	"M-2A" 73+84.10	48.78' Lt	16.81

ALIGNMENT DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	Δ=51° 52'17"	245.00'	215.09'	
2	S86° 10'53"E		252.53'	

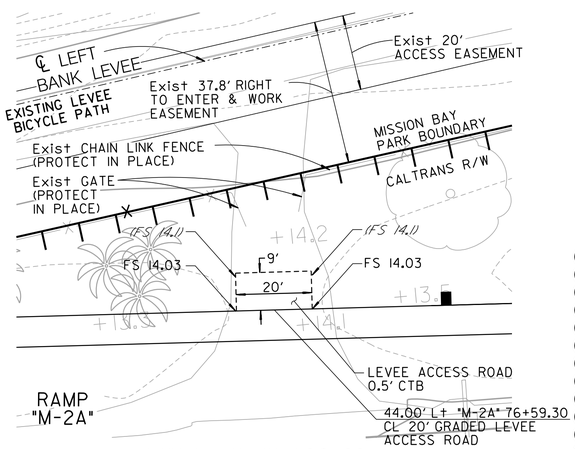


SUPERELEVATION DIAGRAM

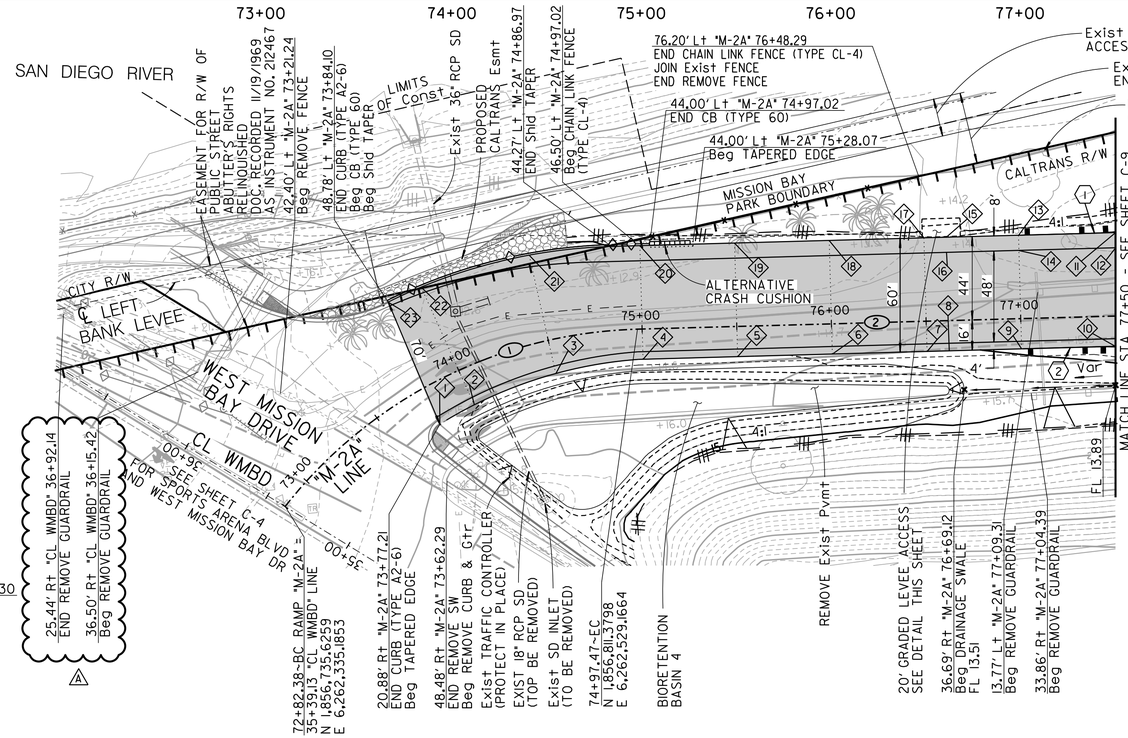


PROFILE: INTERSTATE 8 WESTBOUND EXIT RAMP (RAMP "M-2A")

SCALE
1"=40' HORIZ.
1"=8' VERT.



DETAIL: LEVEE ACCESS



PLAN: INTERSTATE 8 WESTBOUND EXIT RAMP (RAMP "M-2A")

NOTE:
FOR REMOVAL OF EXISTING TREES SEE PLANTING REMOVAL PLAN

NOTE:
FOR CONSTRUCTION OF BIORETENTION BASINS SEE BIORETENTION BASIN DETAIL SHEETS

NOTE:
FOR PROPOSED WATER, SEWER, AND STORM DRAIN SEE UTILITY SHEETS

NOTE:
AREA OUTSIDE OF CITY/CALTRANS RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

GUARD RAILING							
NO.	LINE	LOCATION STATION FROM	LOCATION STATION TO	SIDE	LAYOUT TYPE	MIDWEST GUARDRAIL SYSTEM (6')	END ANCHOR ASSEMBLY (TYPE SFT)	FLARE TERMINAL SYSTEM
						LF	EA	EA
1	"M-2A"	77+00.94	77+76.60	Lt	16B	37.5	1	1
2	"M-2A"	77+00.94	77+76.61	Rt	16B	37.5	1	1

C-8

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

PLAN & PROFILE

STATION 72+82.38 TO STATION 77+50

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 12 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 09/27/2017
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
Δ ADDENDUM A	REC		9/19/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-12-D

REGISTERED PROFESSIONAL ENGINEER — DEBORAH A. CRESPO — NO. 58844 — STATE OF CALIFORNIA

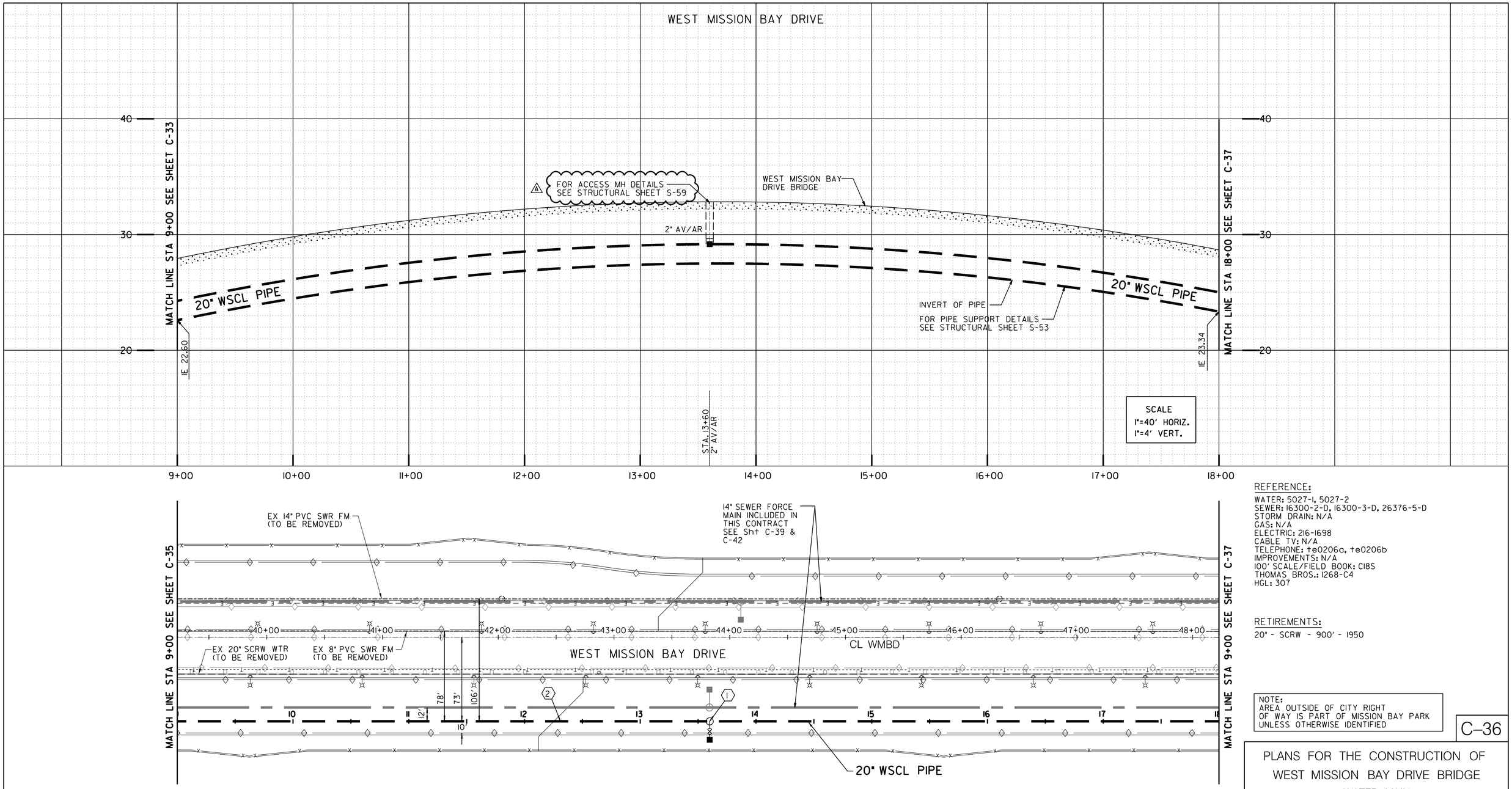
RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-13337

Δ ADJUSTED CALL OUT

WEST MISSION BAY DRIVE BRIDGE

ADDENDUM A



1 BY CONTRACTOR FURNISH AND INSTALL
STA 13+60
ACCESS MH W/
1-2" AV/AR ASSY
SEE DETAILS, SHEET S-59
A

2 BY CONTRACTOR FURNISH AND INSTALL
1-20" DOUBLE BALL
EXPANSION JOINT (F,F)
SEE DETAILS, SHEET M-2

0 40 80 120
SCALE 1" = 40'

REFERENCE:
WATER: 5027-1, 5027-2
SEWER: 16300-2-D, 16300-3-D, 26376-5-D
STORM DRAIN: N/A
GAS: N/A
ELECTRIC: 216-1698
CABLE TV: N/A
TELEPHONE: te0206a, te0206b
IMPROVEMENTS: N/A
100' SCALE/FIELD BOOK: C18S
THOMAS BROS.: 1268-C4
HGL: 307

RETIREMENTS:
20" - SCRW - 900' - 1950

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-36

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
WATER MAIN
STATION 9+00 TO STATION 18+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 40 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED FOR CITY ENGINEER 09/27/2017 DATE
DANIEL NUTTER DEPUTY CITY ENGINEER
RCE# 76641
SUBMITTED BY JESUS GARCIA PROJECT MANAGER
CHECKED BY HEIDI LEON PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
A ADDENDUM A	REC		9/14/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-40-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

REGISTERED PROFESSIONAL ENGINEER RICHARD A. CRICK NO. 58844 STATE OF CALIFORNIA

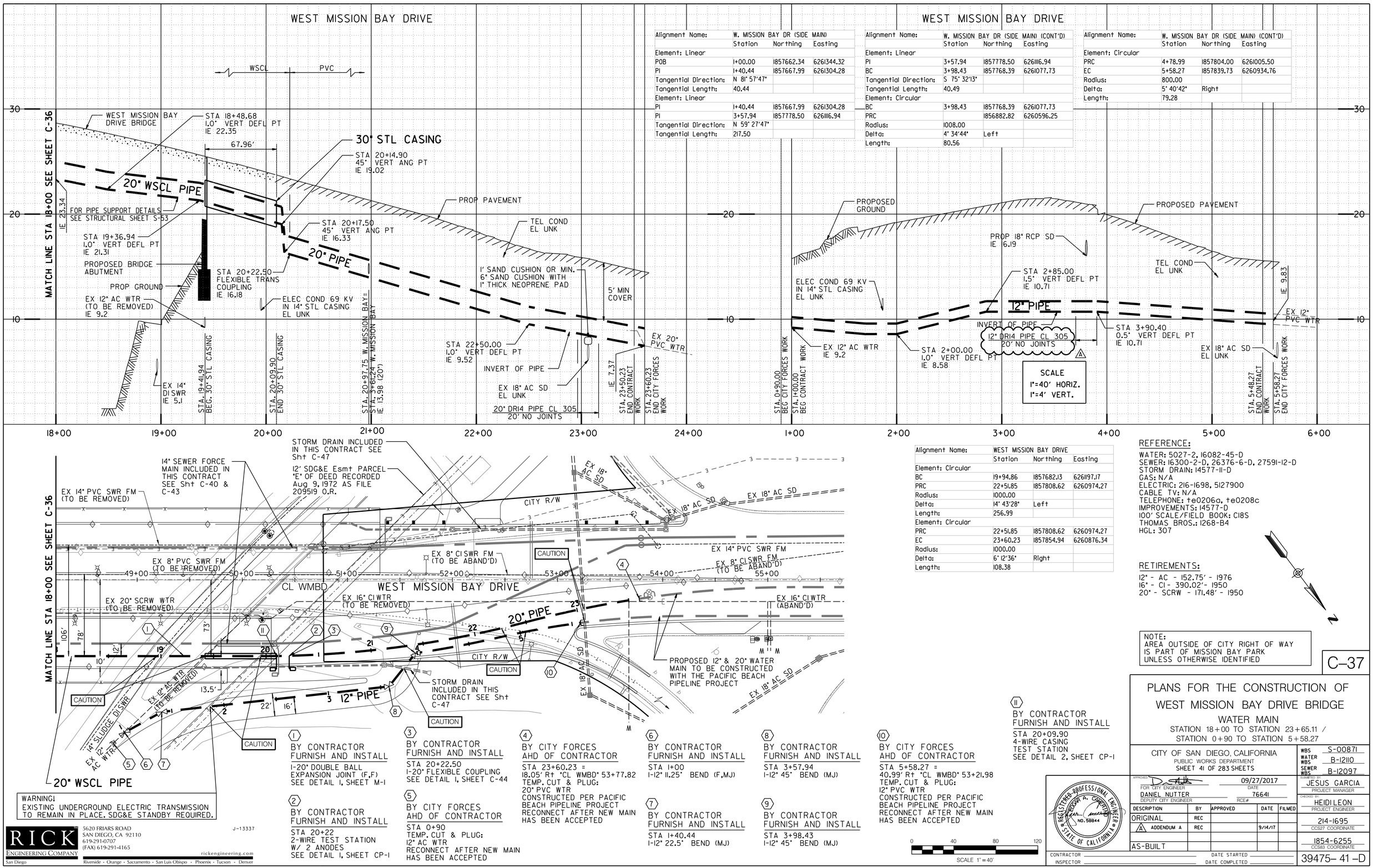
RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-13337

A ADJUSTED DETAIL REFERENCE

ADDENDUM A

WEST MISSION BAY DRIVE BRIDGE



Alignment Name:	W. MISSION BAY DR (SIDE MAIN)		
	Station	Northing	Easting
Element: Linear			
POB	1+00.00	1857662.34	6261344.32
PI	1+40.44	1857667.99	6261304.28
Tangential Direction:	N 81° 57'47"		
Tangential Length:	40.44		
Element: Linear			
PI	1+40.44	1857667.99	6261304.28
PI	3+57.94	1857778.50	6261116.94
Tangential Direction:	N 59° 27'47"		
Tangential Length:	217.50		

Alignment Name:	W. MISSION BAY DR (SIDE MAIN) (CONT'D)		
	Station	Northing	Easting
Element: Linear			
PI	3+57.94	1857778.50	6261116.94
BC	3+98.43	1857768.39	6261077.73
Tangential Direction:	S 75° 32'13"		
Tangential Length:	40.49		
Element: Circular			
BC	3+98.43	1857768.39	6261077.73
PRC	1856882.82	6260596.25	
Radius:	1008.00		
Delta:	4° 34'44"	Left	
Length:	80.56		

Alignment Name:	W. MISSION BAY DR (SIDE MAIN) (CONT'D)		
	Station	Northing	Easting
Element: Circular			
PRC	4+78.99	1857804.00	6261005.50
EC	5+58.27	1857839.73	6260934.76
Radius:	800.00		
Delta:	5° 40'42"	Right	
Length:	79.28		

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Circular			
BC	19+94.86	1857682.13	6261197.17
PRC	22+51.85	1857808.62	6260974.27
Radius:	1000.00		
Delta:	14° 43'28"	Left	
Length:	256.99		
Element: Circular			
PRC	22+51.85	1857808.62	6260974.27
EC	23+60.23	1857854.94	6260876.34
Radius:	1000.00		
Delta:	6° 12'36"	Right	
Length:	108.38		

REFERENCE:
WATER: 5027-2, 16082-45-D
SEWER: 16300-2-D, 26376-6-D, 27591-12-D
STORM DRAIN: 14577-11-D
GAS: N/A
ELECTRIC: 216-1698, 5127900
CABLE TV: N/A
TELEPHONE: te0206a, te0208c
IMPROVEMENTS: 14577-D
100' SCALE/FIELD BOOK: CI8S
THOMAS BROS.: 1268-B4
HGL: 307

RETIREMENTS:
12" - AC - 152.75' - 1976
16" - CI - 390.02' - 1950
20" - SCRW - 171.48' - 1950

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-37

WARNING!
EXISTING UNDERGROUND ELECTRIC TRANSMISSION TO REMAIN IN PLACE. SDG&E STANDBY REQUIRED.

1 BY CONTRACTOR FURNISH AND INSTALL
STA 20+22
2-WIRE TEST STATION
W/ 2 ANODES
SEE DETAIL 1, SHEET CP-1

2 BY CONTRACTOR FURNISH AND INSTALL
1-20" DOUBLE BALL EXPANSION JOINT (F,F)
SEE DETAIL 1, SHEET M-1

3 BY CONTRACTOR FURNISH AND INSTALL
STA 20+22.50
1-20" FLEXIBLE COUPLING
SEE DETAIL 1, SHEET C-44

4 BY CITY FORCES AHD OF CONTRACTOR
STA 23+60.23 =
18.05' Rt "CL WMBD" 53+77.82
TEMP. CUT & PLUG:
20" PVC WTR
CONSTRUCTED PER PACIFIC BEACH PIPELINE PROJECT
RECONNECT AFTER NEW MAIN
HAS BEEN ACCEPTED

5 BY CITY FORCES AHD OF CONTRACTOR
STA 0+90
TEMP. CUT & PLUG:
12" AC WTR
RECONNECT AFTER NEW MAIN
HAS BEEN ACCEPTED

6 BY CONTRACTOR FURNISH AND INSTALL
STA 1+00
1-12" 11.25° BEND (F,MJ)

7 BY CONTRACTOR FURNISH AND INSTALL
STA 1+40.44
1-12" 22.5° BEND (MJ)

8 BY CONTRACTOR FURNISH AND INSTALL
STA 3+57.94
1-12" 45° BEND (MJ)

9 BY CONTRACTOR FURNISH AND INSTALL
STA 3+98.43
1-12" 45° BEND (MJ)

10 BY CITY FORCES AHD OF CONTRACTOR
STA 5+58.27 =
40.99' Rt "CL WMBD" 53+21.98
TEMP. CUT & PLUG:
12" PVC WTR
CONSTRUCTED PER PACIFIC BEACH PIPELINE PROJECT
RECONNECT AFTER NEW MAIN
HAS BEEN ACCEPTED

11 BY CONTRACTOR FURNISH AND INSTALL
STA 20+09.90
4-WIRE CASING
TEST STATION
SEE DETAIL 2, SHEET CP-1

0 40 80 120
SCALE 1" = 40'

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE WATER MAIN

STATION 18+00 TO STATION 23+65.11 /
STATION 0+90 TO STATION 5+58.27

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 41 OF 283 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED: _____ 09/27/2017
FOR CITY ENGINEER — DATE
DANIEL NUTTER 76641
DEPUTY CITY ENGINEER — RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
A ADDENDUM A	REC		9/14/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-41-D

REGISTERED PROFESSIONAL ENGINEER — GREGORY A. CORRETTE — NO. 58844 — STATE OF CALIFORNIA

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver
J-13337

A ADJUSTED WATER PROFILE CALL OUT

ADDENDUM A

WEST MISSION BAY DRIVE

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Circular			
BC	16+70.08	1857672.54	6261189.95
EC	18+48.54	1857766.35	6261038.43
Radius:	988.00		
Delta:	10° 20'56"	Left	
Length:	178.46		

SEE NEXT SHEET

50' FLANGED JOINTS

STA. 9+43.25

FOR ACCESS MH DETAILS SEE STRUCTURAL SHEET S-59 (A)

754.25' RESTRAINED JOINTS

14" DIFM CL 250 W/ RESTRAINED JOINTS

WEST MISSION BAY DRIVE BRIDGE

STA. 16+97.50

MATCH LINE STA 9+00 SEE SHEET C-38

IE 27.94

14" DIFM CL 53 W/ FLANGED JOINTS

INVERT OF PIPE

FOR PIPE SUPPORT DETAILS SEE STRUCTURAL SHEETS

14" DIFM CL 250 W/ RESTRAINED JOINTS

55.96'

MATCH LINE STA 17+00 SEE SHEET C-40

STA 15+83.61
1.0° VERT DEFL PT
IE 21.81

STA 16+24.16
1.0° VERT DEFL PT
IE 21.46

30" STL CASING

STA 16+90.00
45° VERT ANGLE PT
IE 19.75

STA 16+97.50
FLEXIBLE TRANS COUPLING
IE 17.16

PROPOSED BRIDGE ABUTMENT

PROP GROUND

EX 12" AC WTR (TO BE REMOVED)
IE 9.2

IE 17.06

STA 10+35
2" SEWAGE AV/AR

EX 14" DISWR
IE 4.5

STA 16+29.16
BEG. 30" STL CASING

STA 16+92.50
45° VERT ANGLE PT
IE 17.26

ELEC COND 69 KV IN 14" STL CASING EL UNK

STA 16+85.12
END 30" STL CASING

SCALE
1"=40' HORIZ.
1"=4' VERT.

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

30 20 10

14" SEWER FORCE MAIN INCLUDED IN THIS CONTRACT SEE Sht C-40

EX 14" PVC SWR FM (TO BE REMOVED)

MATCH LINE STA 9+00 SEE SHEET C-38

MATCH LINE STA 17+00 SEE SHEET C-40

43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00

CL WMBD

66' 91.5' 60.5'

EX 8" PVC SWR FM (TO BE REMOVED)

EX 20" SCRW WTR (TO BE REMOVED)

WEST MISSION BAY DRIVE

CAUTION

29' 22' 12'

10 11 12 13 14 15 16 17

1-14" DOUBLE BALL EXPANSION JOINT (F,F), SEE DETAILS, SHEET M-3

STA 10+35.00
ACCESS MH W/
2" SEWAGE AV/AR
SEE DETAIL, SHEET S-59
AND DETAIL 1, SHEET M-4

(A)

20" WATER MAIN INCLUDED IN THIS CONTRACT SEE Sht C-36

14" DIFM CL 250 W/ RESTRAINED JOINTS

14" SLUDGE DISWR

EX 12" AC WTR (TO BE REMOVED)

STA 16+97.50
1-14" FLEXIBLE COUPLING
SEE DETAIL 1, SHEET C-44

STA 16+85.00
4-WIRE CASING
TEST STATION
SEE DETAIL 2, SHEET CP-1

1-14" DOUBLE BALL EXPANSION JOINT (F,F)
SEE DETAIL 2, SHEET M-2

12" WATER MAIN INCLUDED IN THIS CONTRACT SEE Sht C-37

12' SDG&E EASEMENT PARCEL "E" OF DEED RECORDED Aug 9, 1972 AS FILE 209519 O.R.

NOTE:
CONTRACTOR TO PROVIDE A SECTION OF SPARE PIPE IN EACH CELL OF BRIDGE. SEAL BOTH ENDS OF EXTRA PIPE LENGTHS AND PLACE SPARE PIPE ON WOOD CRADLES IN AN ACCESSIBLE LOCATION.

0 40 80 120
SCALE 1" = 40'

N

REFERENCE:
WATER: 5027-1, 5027-2
SEWER: 16300-2-D, 16300-3-D, 26376-5-D
STORM DRAIN: N/A
GAS: N/A
ELECTRIC: 216-1698, 5127900
CABLE TV: N/A
TELEPHONE: te0206a, te0206b
IMPROVEMENTS: N/A
100' SCALE/FIELD BOOK: CI8S
THOMAS BROS.: 1268-B4, 1268-C4
HGL: 307

RETIREMENTS:
14" - PVC - 800' - 1993

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-39

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 9+00 TP STATION 17+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 43 OF 283 SHEETS

WBS WATER	S-00871
WBS WATER	B-12110
WBS SEWER	B-12097

APPROVED: FOR CITY ENGINEER — 09/27/2017 DATE
DANIEL NUTTER, DEPUTY CITY ENGINEER — 76641 RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
(A) ADDENDUM A	REC		9/14/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-43-D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

REGISTERED PROFESSIONAL ENGINEER — RICHARD A. CRIPPEN — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
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J-13337

(A) ADJUSTED DETAIL REFERENCE

ADDENDUM A

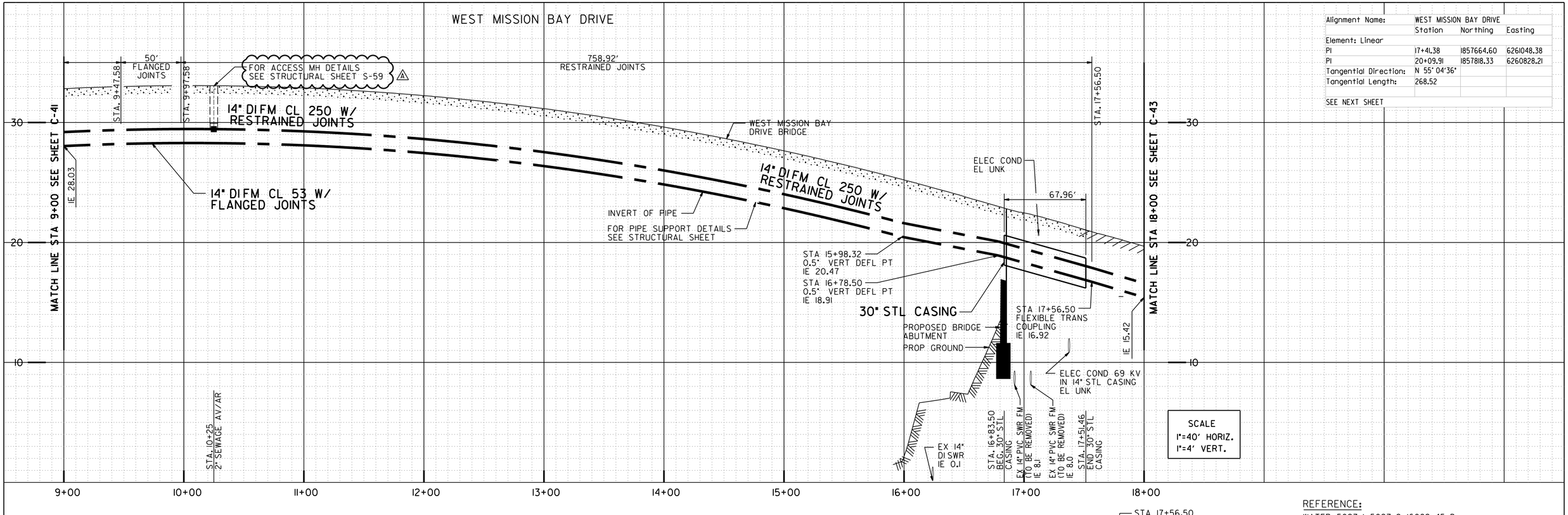
WEST MISSION BAY DRIVE BRIDGE

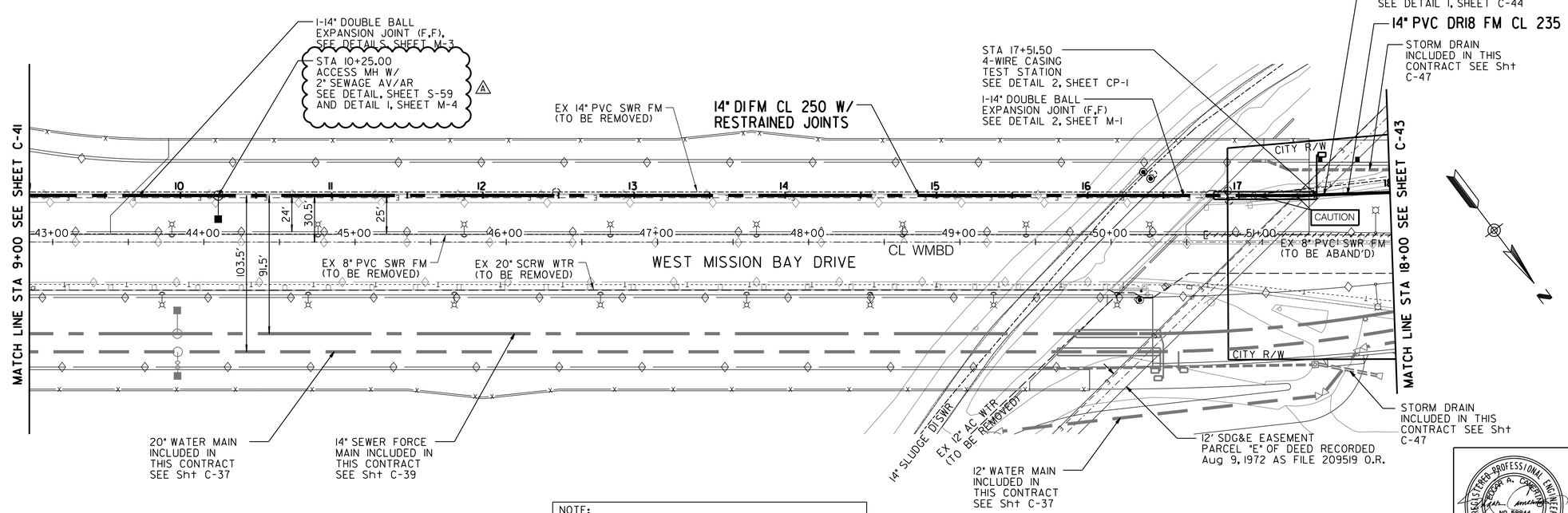
WEST MISSION BAY DRIVE BRIDGE

WEST MISSION BAY DRIVE

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Linear			
PI	17+41.38	1857664.60	6261048.38
PI	20+09.91	1857818.33	6260828.21
Tangential Direction:	N 55° 04'36"		
Tangential Length:	268.52		

SEE NEXT SHEET





NOTE:
CONTRACTOR TO PROVIDE A SECTION OF SPARE PIPE IN EACH CELL OF BRIDGE. SEAL BOTH ENDS OF EXTRA PIPE LENGTHS AND PLACE SPARE PIPE ON WOOD CRADLES IN AN ACCESSIBLE LOCATION.

REFERENCE:
WATER: 5027-1, 5027-2, 16082-45-D
SEWER: 16300-2-D, 16300-3-D, 26376-5-D, 26376-5-D
STORM DRAIN: N/A
GAS: N/A
ELECTRIC: 216-1698, 5127900
CABLE TV: N/A
TELEPHONE: te0206a, te0206b, te0208c
IMPROVEMENTS: N/A
100' SCALE/FIELD BOOK: CI8S
THOMAS BROS.: 1268-B4, 1268-C4
HGL: 307

RETIREMENTS:
8" - PVC - 900.95' - 1975

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-42

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 9+00 TO STATION 18+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 46 OF 283 SHEETS

APPROVED: 09/27/2017
FOR CITY ENGINEER — DATE
DANIEL NUTTER — 76641
DEPUTY CITY ENGINEER — RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
⚠ ADDENDUM A	REC		9/14/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

WBS WATER	S-00871
WBS	B-12110
WBS SEWER	B-12097
SUBMITTED BY	JESUS GARCIA, PROJECT MANAGER
CHECKED BY	HEIDI LEON, PROJECT ENGINEER
	214-1695 CCS27 COORDINATE
	1854-6255 CCS83 COORDINATE
	39475-46-D

REGISTERED PROFESSIONAL ENGINEER — RICHARD A. CRAIG — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
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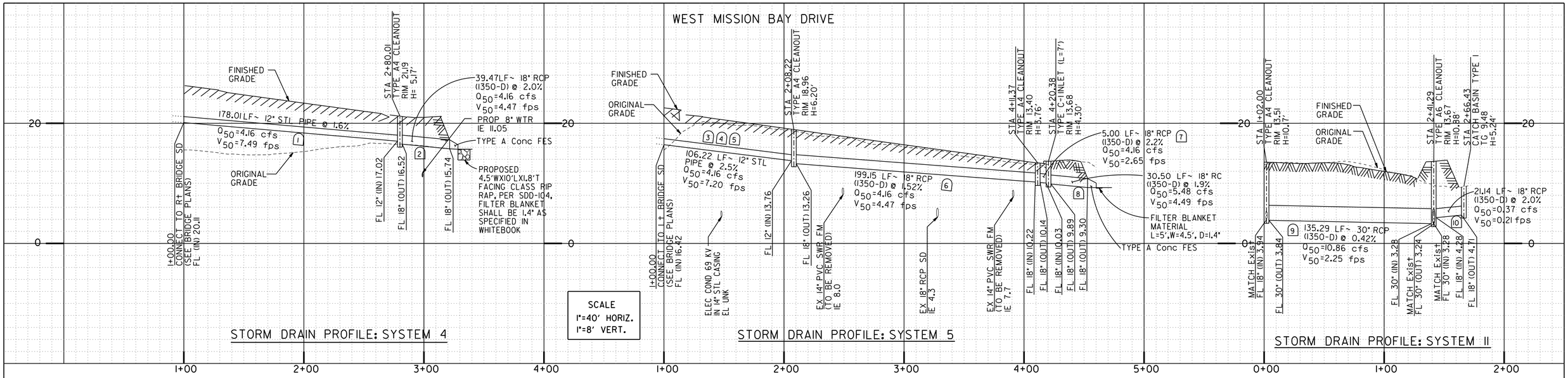
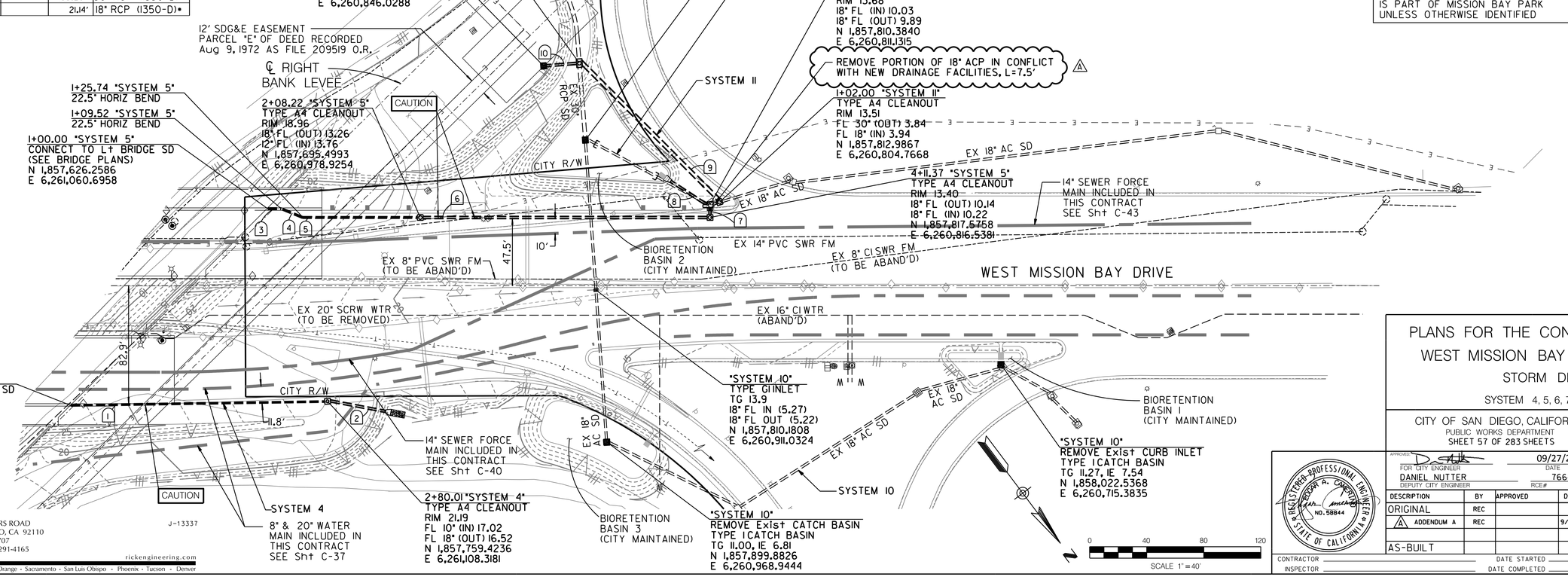
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver
J-13337

⚠ ADJUSTED DETAIL REFERENCE



STORM DRAIN DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N53° 56'16"W		178.01	12" STEEL PIPE
2	N42° 26'50"W		39.47	18" RCP (1350-D)
3	N53° 03'53"W		9.52'	12" STEEL PIPE
4	N30° 33'53"W		16.22'	12" STEEL PIPE
5	N53° 03'53"W		80.48'	12" STEEL PIPE
6	N53° 03'53"W		199.15'	18" RCP (1350-D)
7	N36° 56'07"E		5.00'	18" RCP (1350-D)
8	N20° 22'11"W		30.50'	18" RCP (1350-D)
9	N08° 02'20"W		135.29'	30" RCP (1350-D)*
10	N57° 33'24"W		21.14'	18" RCP (1350-D)*

*WATERTIGHT JOINTS



NOTE:
FOR CONSTRUCTION OF BIORETENTION BASINS SEE BIORETENTION BASIN DETAIL SHEETS

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

WEST MISSION BAY DRIVE BRIDGE

C-47

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
STORM DRAIN
SYSTEM 4, 5, 6, 7, 10, & 11

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 57 OF 283 SHEETS

APPROVED FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — DATE 09/27/2017 — RCE# 76641

DESCRIPTION	BY	APPROVED	DATE	F/L/MED
ORIGINAL	REC			
⚠ ADDENDUM A	REC		9/14/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097
SUBMITTED BY	JESUS GARCIA, PROJECT MANAGER
CHECKED BY	HEIDI LEON, PROJECT ENGINEER
	214-1695, CCS27 COORDINATE
	1854-6255, CCS83 COORDINATE
	39475-57-D

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
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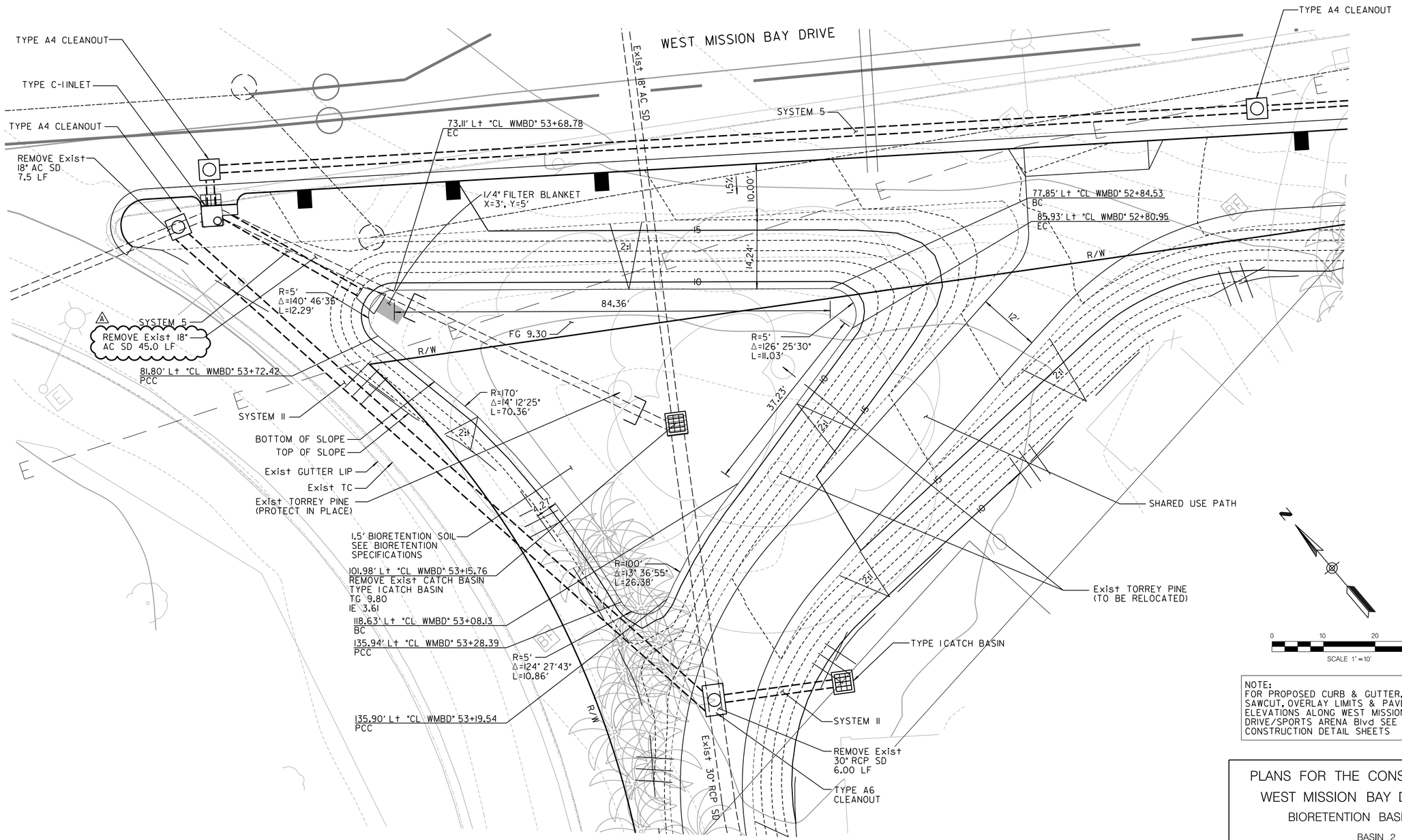
619-291-0707
(FAX) 619-291-4165
rickengineering.com
San Diego — Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver

REGISTERED PROFESSIONAL ENGINEER — GREGORY A. CASEY — NO. 58844 — STATE OF CALIFORNIA

⚠ ADJUSTED PIPE REMOVAL CALL OUTS

ADDENDUM A



BIORETENTION BASIN 2
(CITY MAINTAINED)
SCALE 1"=10'

NOTE:
FOR PROPOSED CURB & GUTTER, SAWCUT, OVERLAY LIMITS & PAVEMENT ELEVATIONS ALONG WEST MISSION BAY DRIVE/SPORTS ARENA Blvd SEE CONSTRUCTION DETAIL SHEETS

NOTE:
SEE SHEET C-7 FOR DRIVEWAY LOCATION USED TO ACCESS STRUCTURAL BMPS.

NOTE:
FOR STORM DRAIN PLAN AND PROFILES SEE UTILITY SHEETS C-46 & C-47

C-49

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

BIORETENTION BASIN DETAILS

BASIN 2

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 59 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — 09/27/2017 DATE
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
A ADDENDUM A	REC		9/14/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-59-D

REGISTERED PROFESSIONAL ENGINEER — DEBORAH A. CORTEZ — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
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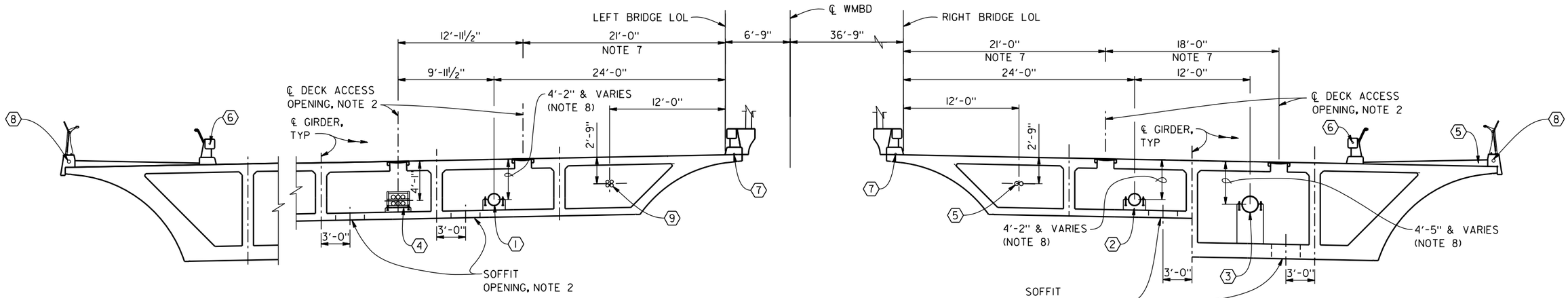
J-13337

WEST MISSION BAY DRIVE BRIDGE

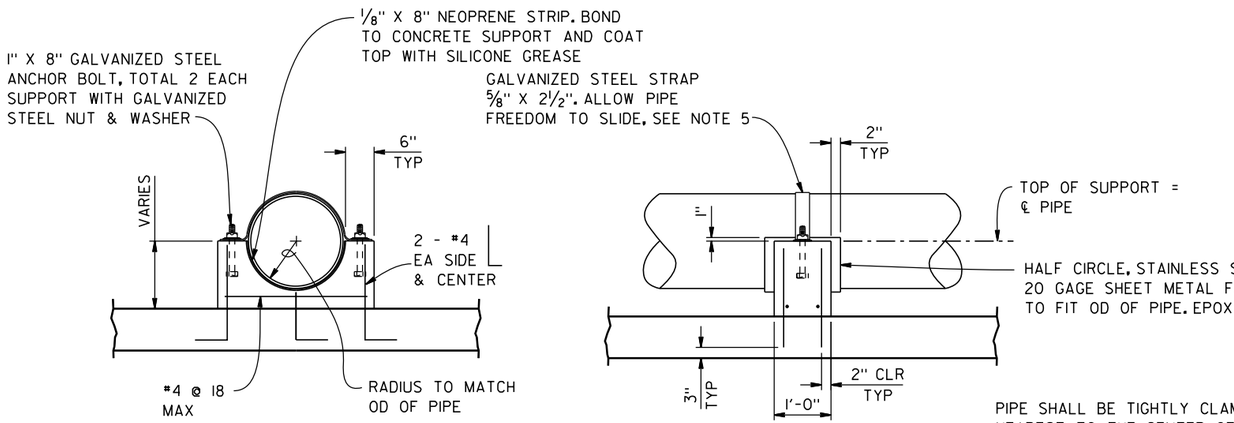


LEFT BRIDGE

RIGHT BRIDGE

TYPICAL SECTION

3/16" = 1'-0"



SECTION

ELEVATION

PIPE SUPPORT DETAILS FOR WATER AND SEWER MAINS

NO SCALE

PIPE SHALL BE TIGHTLY CLAMPED AT TWO PIPE SUPPORTS NEAREST TO THE CENTER OF THE FRAME. ALL OTHER PIPE SUPPORTS SHALL BE SHIMMED WITH STEEL WASHER PLATE TO PROVIDE 1/4" CLEARANCE BETWEEN PIPE & CLAMP.

UTILITIES

⟨1⟩ - 14" DIA SEWER FORCE MAIN (CITY OF SAN DIEGO)

⟨2⟩ - 14" DIA SEWER FORCE MAIN (CITY OF SAN DIEGO)

⟨3⟩ - 20" DIA WATER MAIN (CITY OF SAN DIEGO)

⟨4⟩ - 6 - 5" DIA ELECTRICAL CONDUITS (SDG&E)

⟨5⟩ - 2 - 5" DIA TELECOMMUNICATION CONDUITS (COX COMMUNICATIONS), SEE "STAGE CONSTRUCTION NO.1" AND "STAGE CONSTRUCTION NO.2" SHEETS.

⟨6⟩ - 2" ELECTRICAL CONDUIT (FUTURE UTILITY)

⟨7⟩ - 2" ELECTRICAL CONDUIT

⟨8⟩ - 2" ELECTRICAL CONDUIT

⟨9⟩ - 4 - 4" DIA TELECOMMUNICATION CONDUITS (AT&T)

NOTES:

1. FOR UTILITY OPENINGS THROUGH ABUTMENT AND PIER CAP, SEE "UTILITY DETAILS NO. 2" SHEET. FOR UTILITY OPENING THROUGH HINGE, SEE "HINGE DETAILS NO. 3" SHEET. FOR UTILITY OPENING SIZES SEE "TYPICAL SECTION" SHEET.
2. SEE "GIRDER LAYOUT" SHEETS FOR DECK AND SOFFIT OPENING LOCATIONS. FOR DECK AND SOFFIT OPENING DETAILS, SEE "MISCELLANEOUS DETAILS NO. 2" SHEET.
3. WATER/SEWER PIPE SUPPORT SPACING SHALL BE AT 10'-0" MAX. ALONG PIPE.
4. WATER/SEWER PIPE SUPPORTS TO BE PLACED AT 5'-0" MAX. FROM PIPE JOINTS, ABUTMENT/ HINGE DIAPHRAGMS AND PIER CAP FACES.
5. ALL HARDWARE TO BE GALVANIZED.
6. FOR EXPANSION FITTINGS FOR WATER/SEWER MAINS AT THE ABUTMENT AND HINGE, SEE "ROADWAY PLANS".
7. FOR DECK ACCESS OPENING LOCATIONS OVER AIR RELEASE VALVES, SEE "GIRDER LAYOUT NO. 2 LEFT BRIDGE" AND "GIRDER LAYOUT NO. 2 RIGHT BRIDGE" SHEETS.
8. FOR PROFILES OF WATER AND SEWER FORCE MAINS, SEE "ROADWAY PLANS".
9. FOR ELECTRICAL CONDUIT SUPPORT DETAILS, PEDESTAL DIMENSIONS, SPACING AND EXPANSION FITTINGS DETAILS, SEE "UTILITY DETAILS NO.3" SHEET AND "ELECTRICAL CONDUIT INSTALLATION DETAIL" SHEETS BY SDG&E.
10. FOR TELECOMMUNICATION CONDUIT SUPPORT DETAILS, SPACING AND EXPANSION FITTING DETAILS, SEE "UTILITY DETAILS NO.4" SHEET AND "TELECOMMUNICATION CONDUIT INSTALLATION DETAIL" SHEETS BY AT&T AND COX COMMUNICATIONS.
11. ALL CONDUITS, FIXTURES AND SUPPORT BRACES FOR AT&T, COX COMMUNICATIONS AND SDG&E WILL BE PROVIDED AND INSTALLED BY THE CORRESPONDING UTILITY COMPANY.

A

S-54

WEST MISSION BAY DRIVE BRIDGE

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE

UTILITY DETAILS NO. 1

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 155 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 09/27/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-155-D

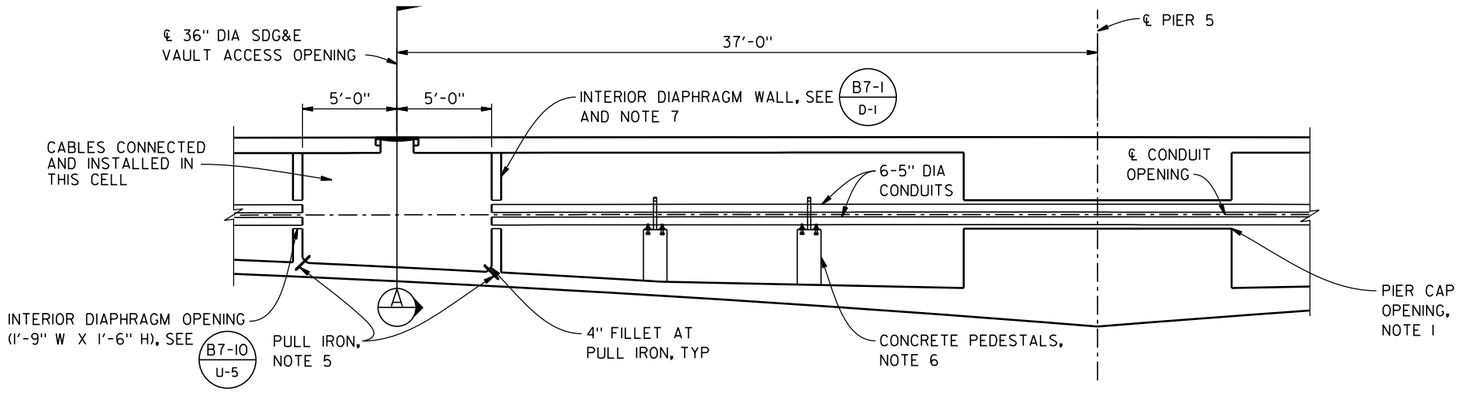
CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

TYLIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
PROJECT ENGINEER — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE

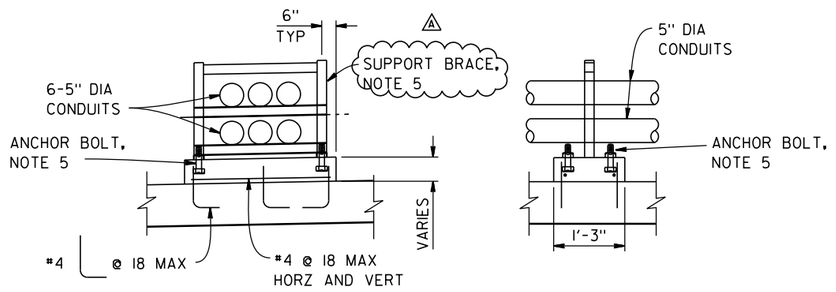
REGISTERED PROFESSIONAL ENGINEER — Kumar Ghosh — No. C72555 — Exp. 6-30-18 — CIVIL — STATE OF CALIFORNIA

A ADDED NOTE



LONGITUDINAL SECTION - OPENING FOR PULLING ELECTRICAL CONDUITS (SDG&E)

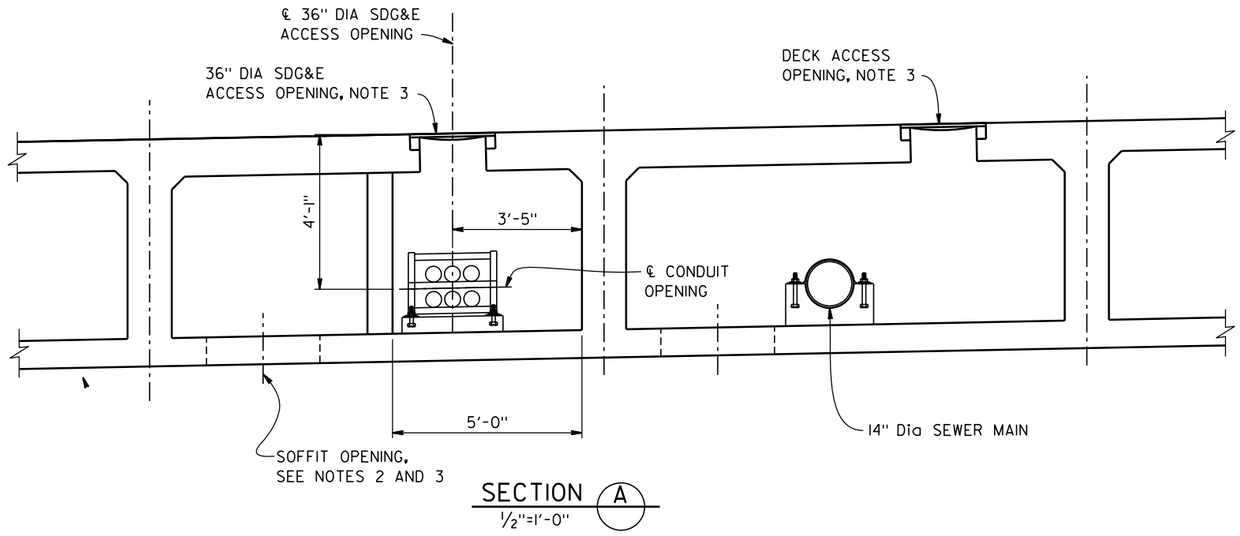
No Scale



SECTION ELEVATION

SUPPORT DETAILS FOR ELECTRICAL CONDUITS (SDG&E)

NO SCALE



SECTION A

1/2"=1'-0"

NOTES:

1. FOR UTILITY OPENINGS THROUGH ABUTMENT AND PIER CAP, SEE "UTILITY DETAILS NO. 2" SHEET. FOR UTILITY OPENING THROUGH HINGE, SEE "HINGE DETAILS NO. 3" SHEET. FOR UTILITY OPENING SIZES SEE "TYPICAL SECTION" SHEET.
2. SEE "GIRDER LAYOUT" SHEETS FOR SOFFIT OPENING LOCATIONS.
3. FOR DECK AND SOFFIT OPENING DETAILS, SEE "MISCELLANEOUS DETAILS NO. 2" SHEET. FOR 36" DIA SDG&E ACCESS OPENING DETAILS, SEE "ELECTRICAL CONDUIT INSTALLATION DETAIL" SHEETS BY SDG&E.
4. ALL HARDWARE TO BE GALVANIZED.
5. FOR ELECTRICAL CONDUIT SUPPORT DETAILS, ANCHOR BOLT AND PULL IRON DETAILS AND EXPANSION FITTINGS DETAILS, SEE "ELECTRICAL CONDUIT INSTALLATION DETAIL" SHEETS BY SDG&E.

A. ALL CONDUITS, FIXTURES AND AND SUPPORT BRACES FOR SDG&E ELECTRICAL CONDUITS SHALL BE PROVIDED AND INSTALLED BY SDG&E.

6. CONCRETE PEDESTALS SHALL BE SPACED AT 10'-0" MAX ALONG CONDUITS AND AT 5'-0" MAX FROM ABUTMENT / HINGE DIPAHRAGMS AND PIER CAP FACES.
7. BEND AND OVERLAP INTERIOR DIAPHRAGM REINFORCEMENT 2'-6" AT THE CORNERS OF THE DIAPHRAGM.

S-56

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE

UTILITY DETAILS NO. 3

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 157 OF 283 SHEETS

WBS S-00871

APPROVED: 09/27/2017
FOR CITY ENGINEER DANIEL NUTTER — DATE
DEPUTY CITY ENGINEER — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED
39475-157-D

TYLIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

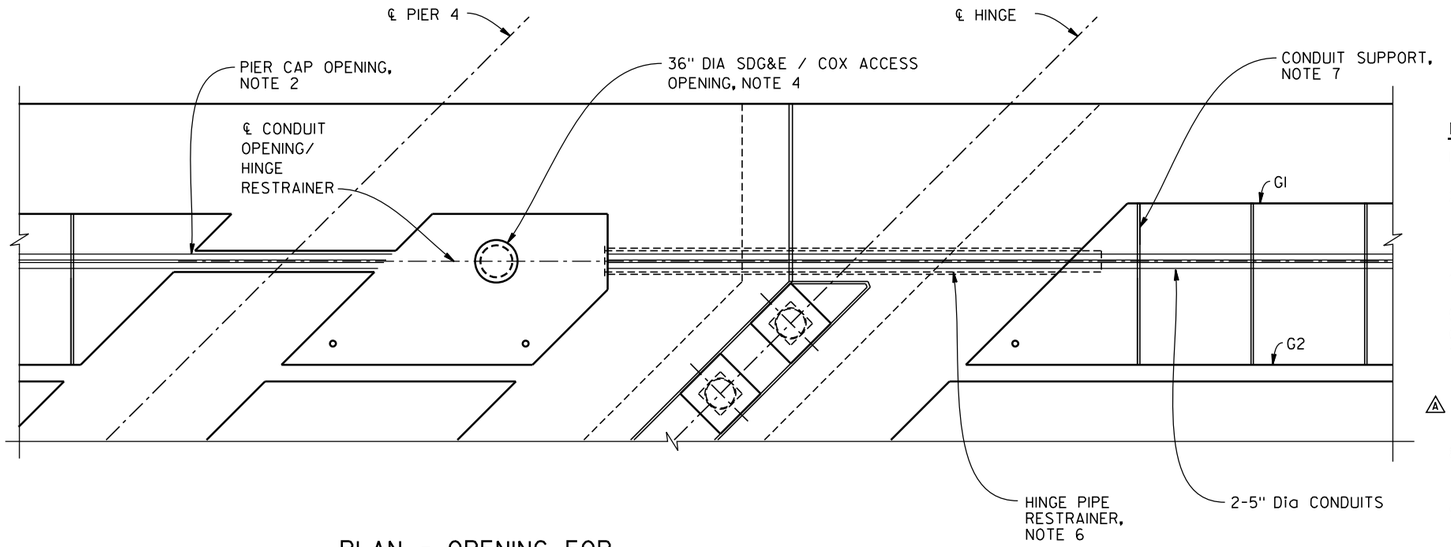
ENGINEER OF WORK
PROJECT ENGINEER — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE

REGISTERED PROFESSIONAL ENGINEER — Kumar Ghosh — No. C72555 — Exp. 6-30-18 CIVIL — STATE OF CALIFORNIA

A UPDATED NOTE / DETAIL

ADDENDUM A

WEST MISSION BAY DRIVE BRIDGE



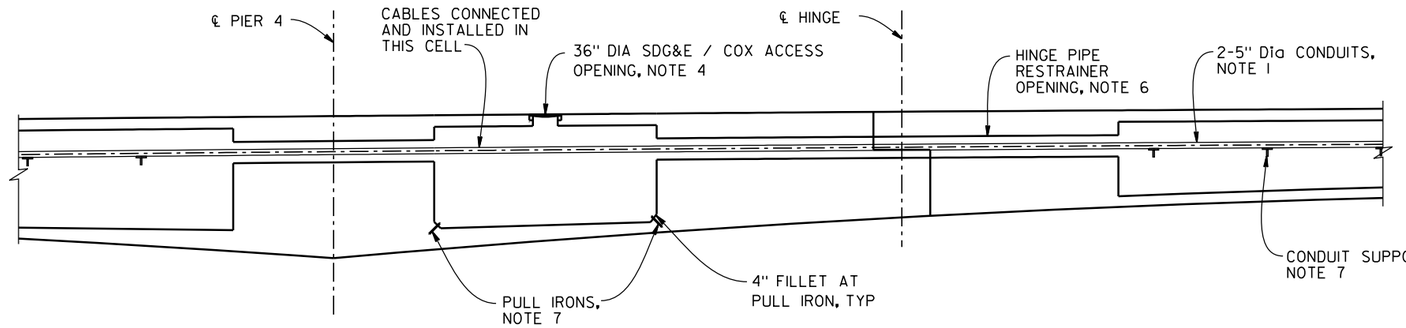
PLAN - OPENING FOR
PULLING TELECOMMINICATION
CONDUITS (AT&T AND COX COMMUNICATIONS)

No Scale

NOTE: DETAILS FOR 4-4" AT&T CONDUITS IN LEFT BRIDGE ARE SIMILAR

NOTES:

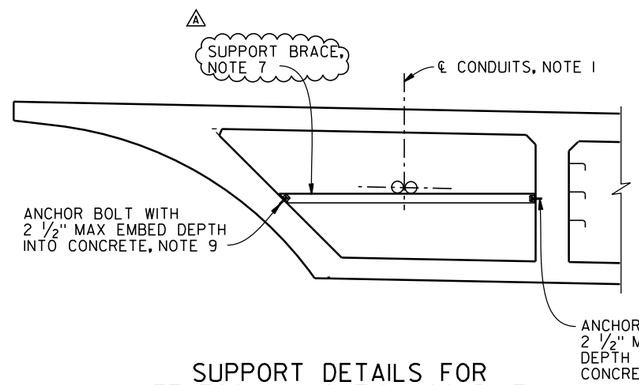
1. DETAILS ARE SHOWN FOR 2-5" DIA CONDUITS FOR COX COMMUNICATIONS. DETAILS FOR 4-4" DIA CONDUITS FOR AT&T ARE SIMILAR.
2. FOR UTILITY OPENINGS THROUGH ABUTMENT AND PIER CAP, SEE "UTILITY DETAILS NO. 2" SHEET. FOR UTILITY OPENING THROUGH HINGE, SEE "HINGE DETAILS NO. 3" SHEET. FOR UTILITY OPENING SIZES SEE "TYPICAL SECTION" SHEET.
3. SEE "GIRDER LAYOUT" SHEETS FOR SOFFIT OPENING LOCATIONS.
4. FOR SDG&E / COX ACCESS OPENING DETAILS, SEE PLANS FROM SDG&E AND COX COMMUNICATIONS.
5. ALL HARDWARE TO BE GALVANIZED.
6. FOR HINGE RESTRAINER PIPE DETAIL, SEE "HINGE DETAILS NO. 4" SHEET.
7. FOR TELECOMMUNICATION CONDUIT SUPPORT AND PULL IRON DETAILS, SUPPORT SPACING AND EXPANSION FITTING DETAILS, SEE "TELECOMMUNICATION CONDUIT INSTALLATION DETAILS" SHEET BY AT&T AND COX COMMUNICATIONS.
△A ALL CONDUITS, FIXTURES AND SUPPORT BRACES FOR SDG&E ELECTRICAL AND COX TELECOMMUNICATION CONDUITS SHALL BE PROVIDED AND INSTALLED BY THE UTILITY COMPANY.
8. CONDUIT SUPPORTS FOR THE COX COMMUNICATION CONDUITS SHALL BE DESIGNED FOR THE GREATER OF THE LOADS FROM THE SDG&E TEMPORARY CONDUIT DURING PHASE I AND THE COX COMMUNICATION CONDUITS.
9. POST INSTALLED ANCHOR BOLTS MUST NOT BE EMBEDDED MORE THAN 2 ½" INTO CONCRETE TO AVOID CONFLICT WITH PT DUCTS.



LONGITUDINAL SECTION - OPENING FOR
PULLING TELECOMMINICATION
CONDUITS (AT&T AND COX COMMUNICATIONS)

No Scale

△A



SUPPORT DETAILS FOR
TELECOMMUNICATION CONDUIT

NO SCALE

S-57

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

UTILITY DETAILS NO. 4

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 158 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — DATE 09/27/2017 — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
△A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-158-D

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

TY LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

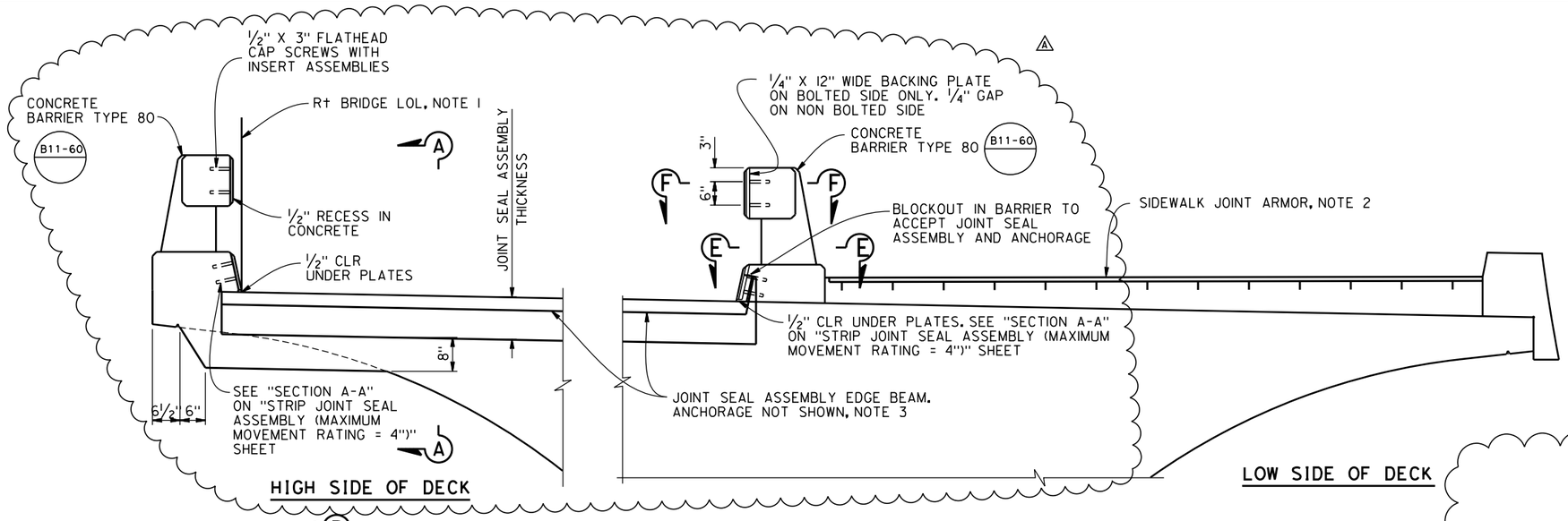
ENGINEER OF WORK
Ghosh — PROJECT ENGINEER — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE

REGISTERED PROFESSIONAL ENGINEER — Kumar Ghosh — No. C72555 — Exp. 6-30-18 — CIVIL — STATE OF CALIFORNIA

△A ADDED NOTE / UPDATED DETAIL

ADDENDUM A

WEST MISSION BAY DRIVE BRIDGE

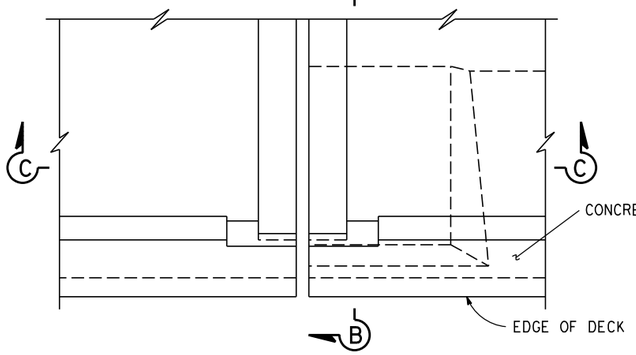


SEAL INSTALLATION

3/4" = 1'-0"

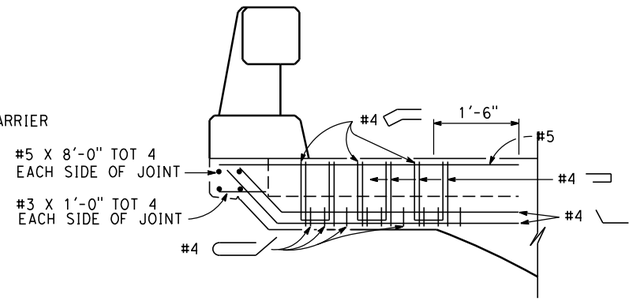
NOTES:

1. RIGHT BRIDGE SHOWN, LEFT BRIDGE IS SIMILAR.
2. FOR SIDEWALK JOINT ARMOR DETAILS, SEE "JOINT ARMOR FOR PEDESTRIAN WALKWAYS" SHEET.
3. FOR STRIP JOINT SEAL NOT SHOWN, SEE "STRIP JOINT SEAL ASSEMBLY (MAXIMUM MOVEMENT RATING = 4")
4. FOR JOINT SEAL BLOCK OUT DIMENSIONS, SEE "JOINT PROJECTION DETAIL" ON "ABUTMENT DETAILS NO 3" SHEET.
5. FOR "SECTION E-E" AND "SECTION F-F" SEE "JOINT ARMOR FOR PEDESTRIAN WALKWAYS" SHEET.



PLAN - DECK JOINT

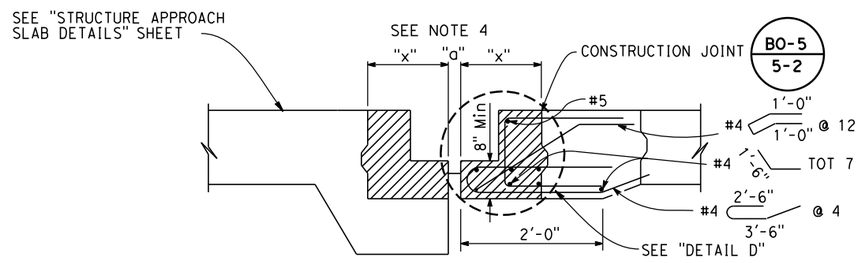
3/4" = 1'-0"



NOTE:
REINF SHOWN IS IN ADDITION TO SLAB REINF

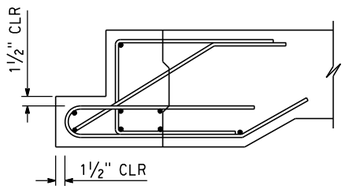
SECTION B-B

3/4" = 1'-0"



SECTION C-C

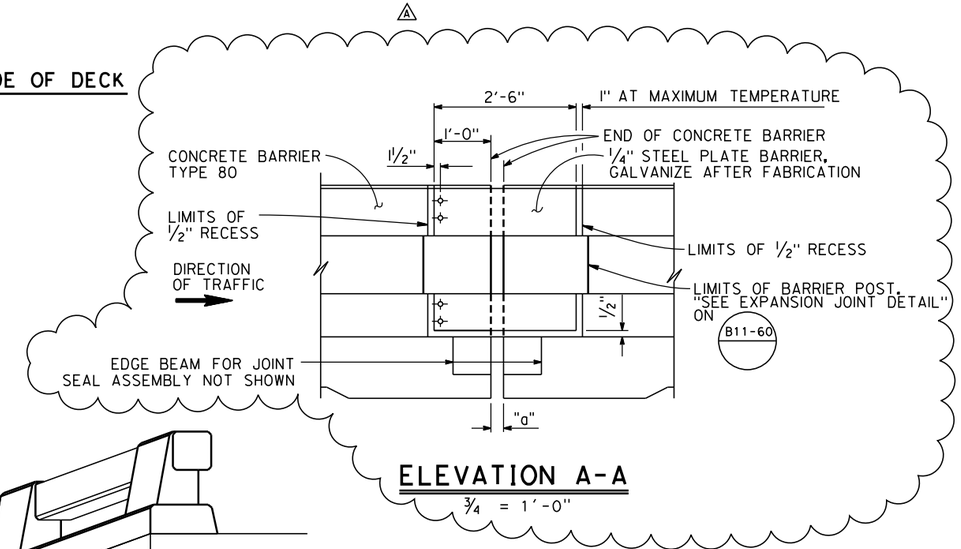
NO SCALE



DETAIL D

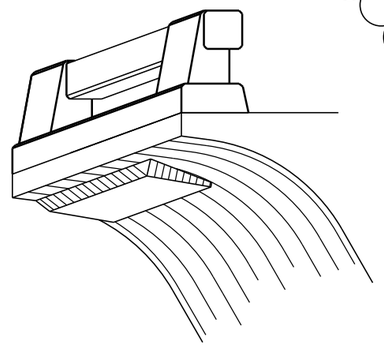
1" = 1'-0"

LOW SIDE OF DECK



ELEVATION A-A

3/4" = 1'-0"



DECK OVERHANG AT ABUTMENT

(HIGH SIDE)

NO SCALE

WEST MISSION BAY DRIVE BRIDGE

S-79

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
ABUTMENT JOINT SEAL DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 180 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 09/27/2017 DATE — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED
39475-180-D

T:\SanDiego\Legacy\prj_file\850\862 West Mission Bay\500_Design\520_Structures\521_CADD\DGN\86240-q-hingedt05.dgn
October 9, 2017 West Mission Bay Drive Bridge
9/14/2017 2:35:26 PM atoledo

TY·LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

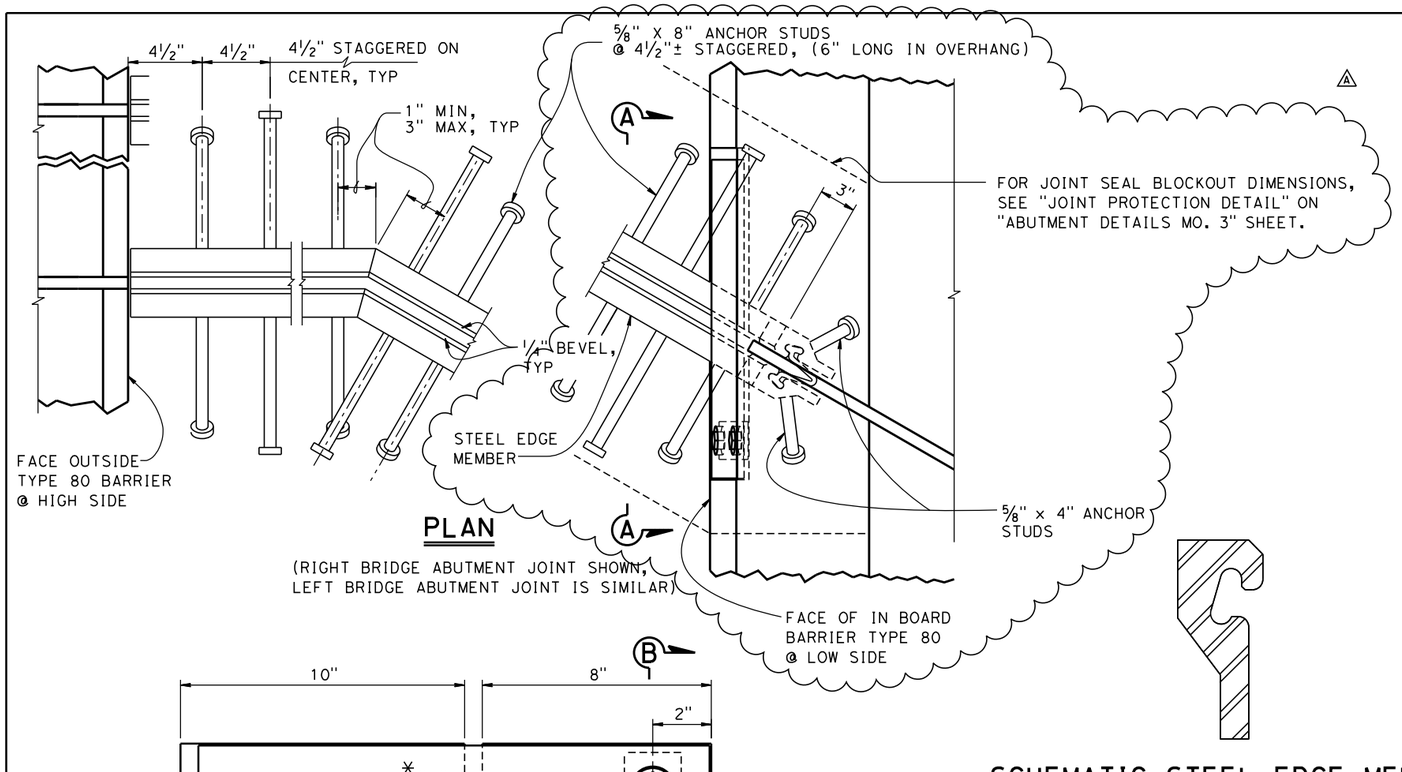
ENGINEER OF WORK
PROJECT ENGINEER — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE

REGISTERED PROFESSIONAL ENGINEER — Kumar Ghosh, No. C72555, Exp. 6-30-18, CIVIL, STATE OF CALIFORNIA

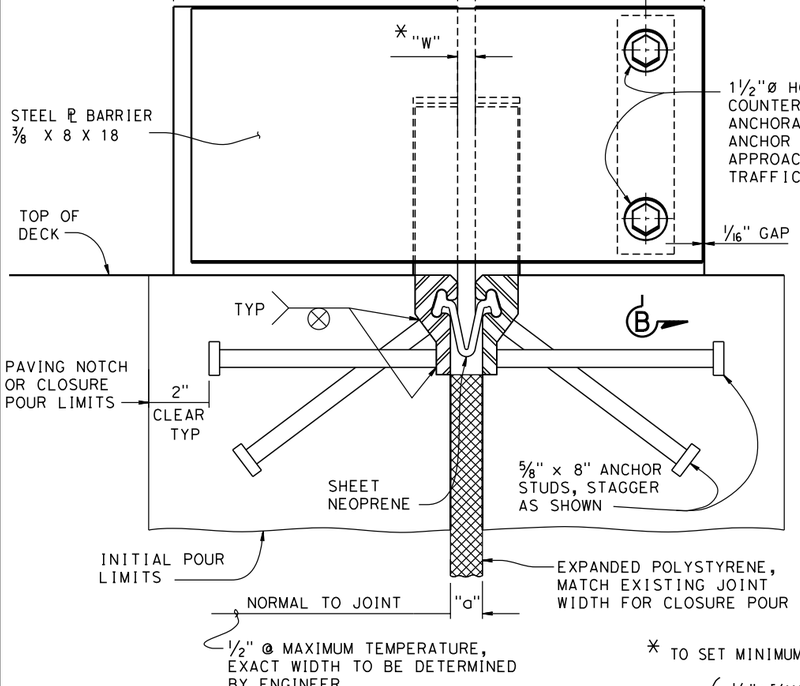
ADDENDUM A

A UPDATED DETAIL / ADDED NOTE

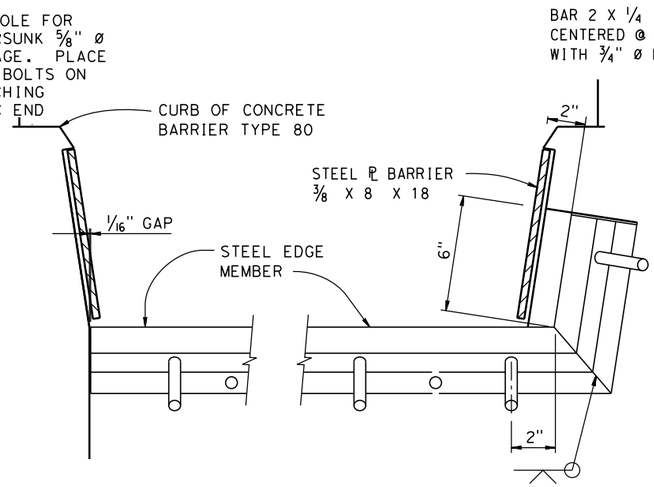
ADDENDUM A



SCHEMATIC STEEL EDGE MEMBER

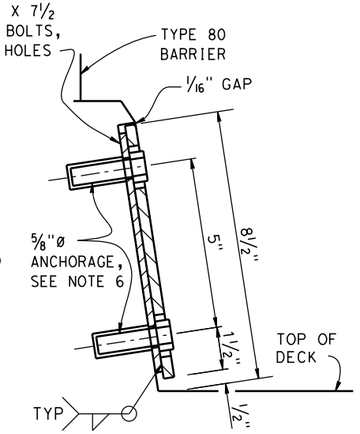


SECTION A-A



BARRIER DETAIL HIGH SIDE

BARRIER DETAIL LOW SIDE



SECTION B-B

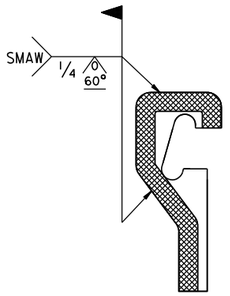
$$\text{"W"} = \begin{cases} ½\text{"} + [(\text{MAX STR TEMPERATURE IN °F}) - (\text{ACTUAL STR TEMPERATURE IN °F})] \\ *(A_C \text{ OR } A_S)(12)(\text{CONTRIBUTORY L IN FEET}) \\ ½\text{" MINIMUM} \\ a_C = 0.0000060 \\ a_S = 0.0000065 \end{cases}$$

* TO SET MINIMUM JOINT OPENING "W"

NOTES:

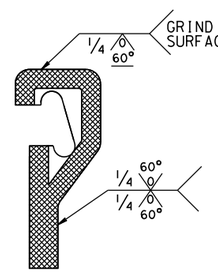
1. ALTERNATIVELY, FILLET OR COMPLETE PENETRATION WELDS MAY BE USED AT ANCHOR STUDS.
2. ALTERNATE TYPES OF ANCHOR STUDS MAY BE PERMITTED SUBJECT TO THE AUTHORIZATION BY THE ENGINEER.
3. JOINT SEAL ASSEMBLY TO BE USED IN CONJUNCTION WITH CLOSURE POUR. (SEE OTHER SHEETS FOR LIMITS). CLOSURE POUR SHALL NOT BE PLACED UNTIL FINAL DECK SURFACE IS WITHIN THE TOLERANCES SPECIFIED.
4. USE JOINT AT CROWN OF ROADWAY, AT ANY CHANGE IN TRAVERSE SLOPE IN DECK AND AT CHANGES IN HORIZONTAL DIRECTION. PLACE OTHER JOINTS AT OR NEAR LANES. ALL METAL PARTS TO BE PAINTED OR GALVANIZED AFTER FABRICATION.
5. SHEET NEOPRENE SHALL BE FABRICATED IN ONE CONTINUOUS PIECE AND SHALL BE FABRICATED TO BEND AROUND CORNERS. FIELD SPLICES OF THE NEOPRENE ARE NOT ALLOWED.
6. INSERT ASSEMBLY OR EXPANSION ANCHORAGE FOR 5/8" X 1¾" BOLTS. USE INSTALLATION BOLTS EXTENDED ½" MINIMUM PAST NUT AND COAT WITH BOND BREAKER, AFTER CONCRETE HAS CURED, REMOVE INSTALLATION BOLTS, INSTALL HS BOLTS AND SHEET NEOPRENE.
7. a_C, a_S, ARE THE THERMAL EXPANSION COEFFICIENTS FOR CONCRETE AND STEEL RESPECTIVELY.
8. ANCHOR STUDS SHALL CONFORM TO ASTM 108.

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1 Lt BRIDGE	4"	45°	2.13	1.60	1.06
Abut 1 Rt BRIDGE	4"	45°	2.07	1.56	1.04
Abut 8 Lt BRIDGE	4"	45°	2.00	1.50	1.00
Abut 8 Rt BRIDGE	4"	45°	2.14	1.61	1.07



SCHEMATIC FIELD WELD DETAIL

NOTE:
SHADED AREAS TO BE WELDED



SCHEMATIC SHOP WELD DETAIL

S-80

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
STRIP JOINT SEAL ASSEMBLY
(MAXIMUM MOVEMENT RATING = 4")

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 181 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 09/27/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER
214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-181-D

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
⚠ ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

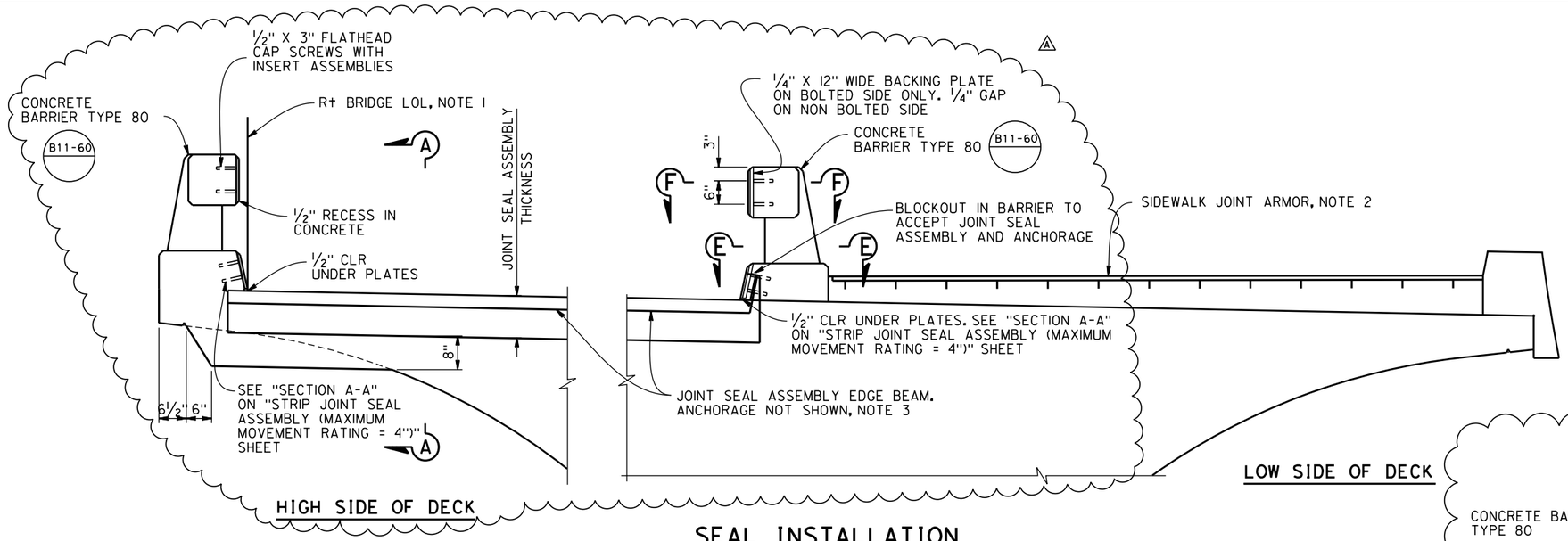
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

TY LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
Ghosh — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE
PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER — Kumar Ghosh — No. C72555 — Exp. 6-30-18 — CIVIL — STATE OF CALIFORNIA

WEST MISSION BAY DRIVE BRIDGE

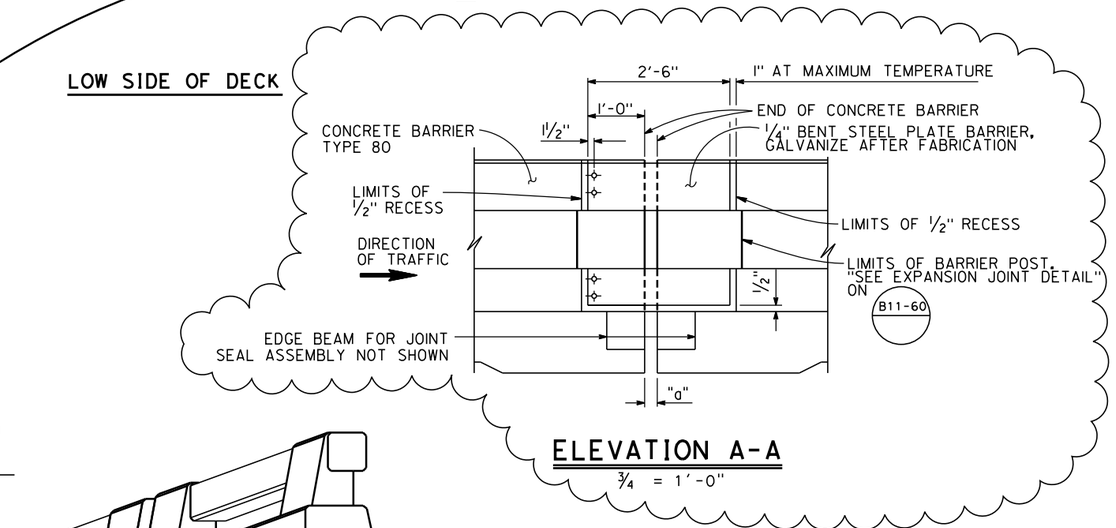


SEAL INSTALLATION

3/4" = 1'-0"

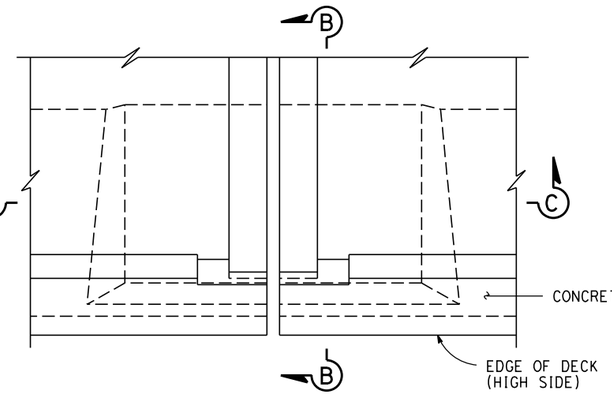
JOINT INFORMATION		"a" DIMENSIONS			
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Lt Br HINGE	9	45°	3.59	2.69	1.79
Rt Br HINGE	9	45°	3.59	2.69	1.79

NOTE:
FOR DETAILS NOT SHOWN, SEE PROJECT PLANS



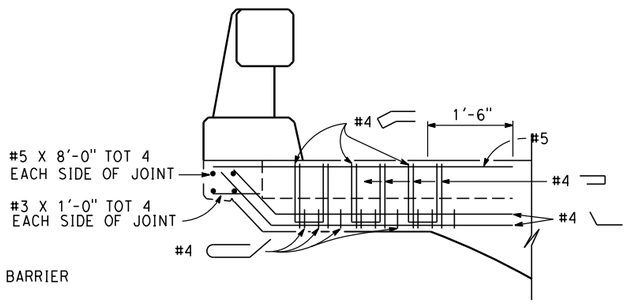
ELEVATION A-A

3/4 = 1'-0"



PLAN - DECK JOINT (HIGH SIDE)

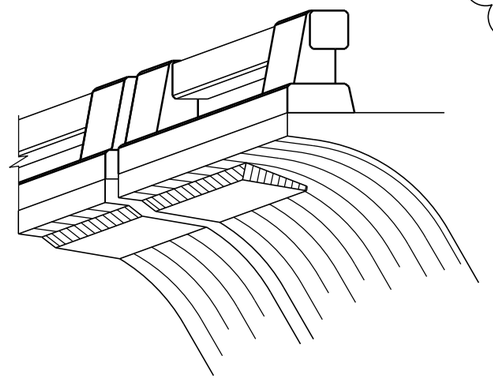
3/4" = 1'-0"



NOTE:
REINF SHOWN IS IN ADDITION TO SLAB REINF

SECTION B-B

3/4" = 1'-0"



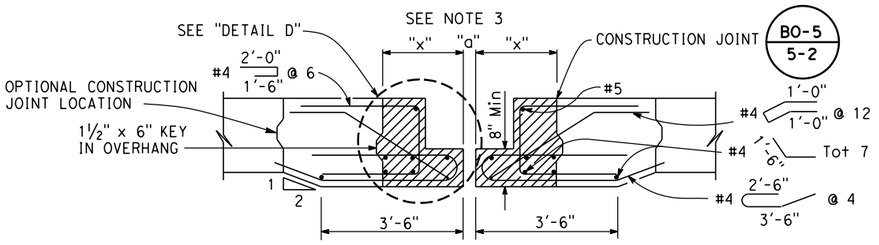
(HIGH SIDE)

DECK OVERHANG AT HINGE

NO SCALE

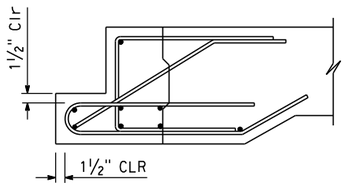
NOTES:

1. RIGHT BRIDGE SHOWN, LEFT BRIDGE IS SIMILAR.
2. FOR SIDEWALK JOINT ARMOR DETAILS, SEE "JOINT ARMOR FOR PEDESTRIAN WALKWAYS" SHEET.
3. FOR BLOCK OUT DIMENSIONS, SEE "TABLE I" ON "HINGE DETAILS NO. 1" SHEET.
4. FOR "SECTION E-E" AND "SECTION F-F" SEE "JOINT ARMOR FOR PEDESTRIAN WALKWAYS" SHEET.



SECTION C-C

NO SCALE



DETAIL D

1" = 1'-0"

S-81

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE HINGE JOINT SEAL DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 182 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 09/27/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-182-D

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

TYLIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

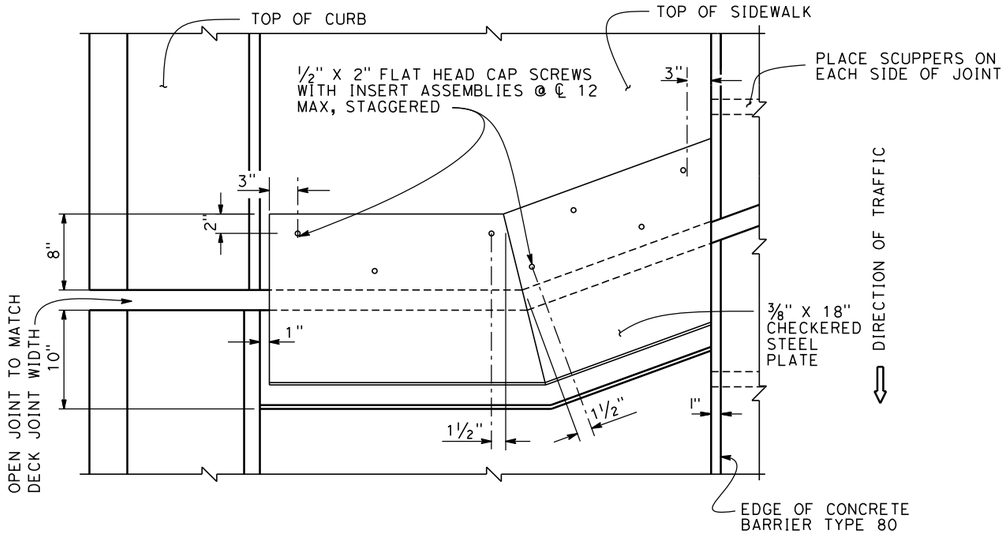
ENGINEER OF WORK

Kumar Ghosh No. C72555 Exp. 6-30-18 CIVIL STATE OF CALIFORNIA

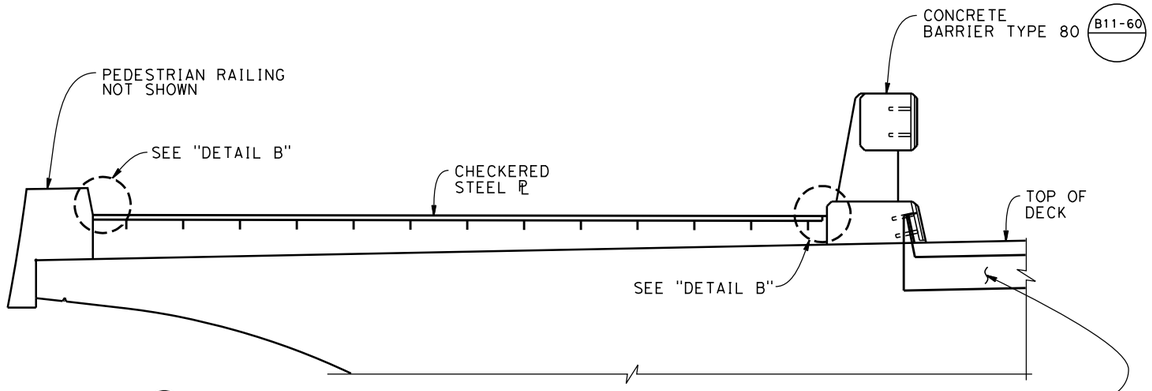
PROJECT ENGINEER	RCE	EXP	DATE
	72555	6/30/18	3/3/17

A UDATED DETAIL / ADDED NOTE

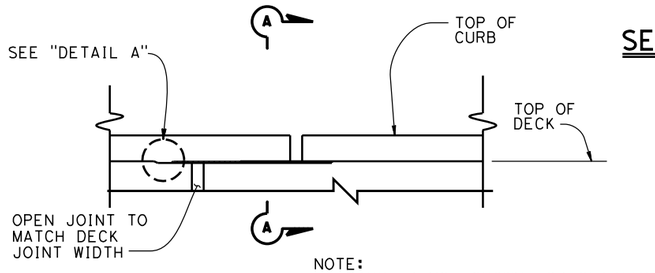
WEST MISSION BAY DRIVE BRIDGE



PLAN
NO SCALE



SECTION A-A
NO SCALE

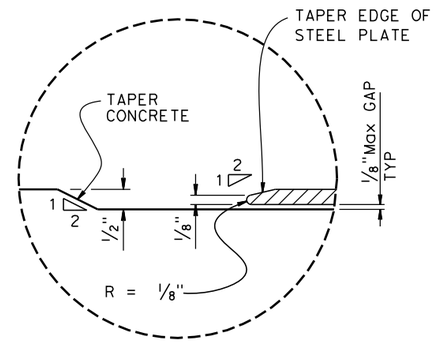


NOTE:
BARRIER NOT SHOWN FOR CLARITY

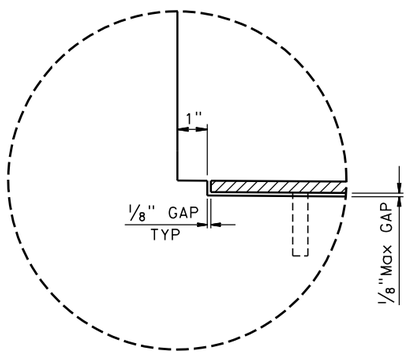
ELEVATION
NO SCALE

NOTES:

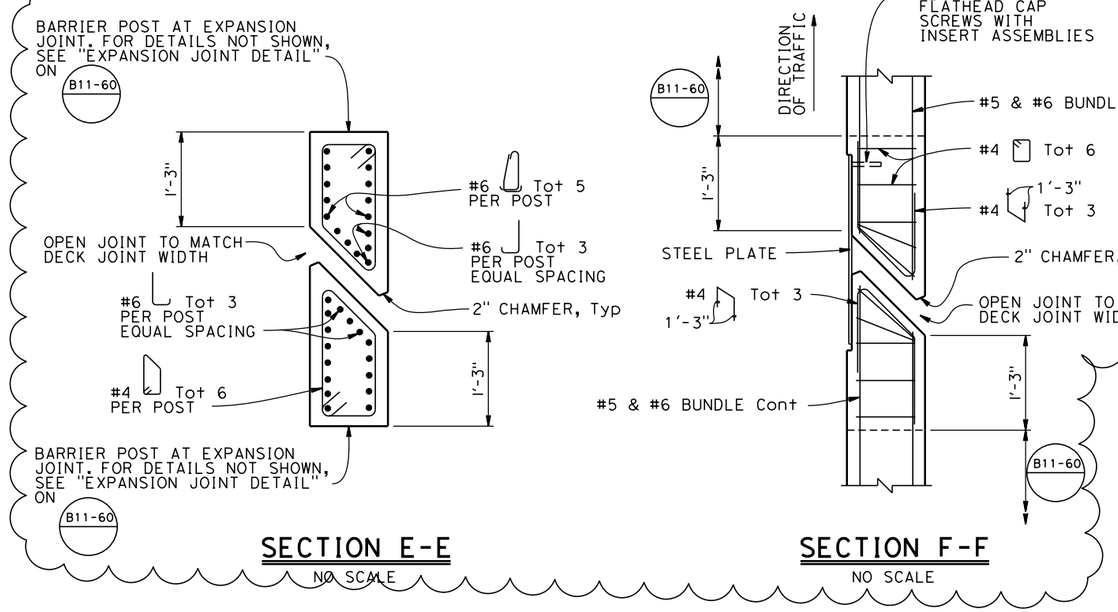
1. UTILITY OPENINGS AND EXPANSION JOINTS NOT SHOWN FOR CLARITY.
2. RECESS CONCRETE ½" FOR PLATES.
3. PLATES TO BE GALVANIZED.
4. ARCHITECTURAL TREATMENT NOT SHOWN.
5. FOR DETAILS NOT SHOWN, SEE "ABUTMENT JOINT SEAL DETAILS" AND "HINGE JOINT SEAL DETAILS" SHEET.
6. ARRANGEMENT OF REINFORCEMENT AT BASE OF BARRIER AT SKEW CORNER IS SIMILAR TO THAT SHOWN FOR BARRIER RAILING IN "SECTION F-F".



DETAIL A
NO SCALE



DETAIL B
NO SCALE



SECTION E-E
NO SCALE

SECTION F-F
NO SCALE

S-82

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE
JOINT ARMOR FOR PEDESTRIAN WALKWAYS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 183 OF 283 SHEETS

WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 09/27/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
⚠A ADDENDUM A	TYLI		9/13/17	
AS-BUILTS				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-183-D

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

TY·LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
Kumar Ghosh, No. C72555, Exp. 6-30-18 CIVIL, State of California
Ghosh — PROJECT ENGINEER — 72555 RCE — 6/30/18 EXP — 3/3/17 DATE

⚠A ADDED DETAIL / NOTE

WEST MISSION BAY DRIVE BRIDGE

City of San Diego

CITY CONTACT: Antoinette Sanfilippo. Contract Specialist, **Email:** ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, **Fax No**. (619) 533-3633

ADDENDUM B

e - Bidding

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.:	K-18-1472-DBB-3
SAP NO. (WBS/IO/CC):	S-00871, B-12110, B-12097
CLIENT DEPARTMENT:	1714, 2000, 2116
COUNCIL DISTRICT:	2
PROJECT TYPE:	GF, IB, JA
FEDERAL AID PROJECT NO.:	BHLS-5004(049)

BID DUE DATE:

2:00 PM
NOVEMBER 2, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

K. Ghosh

1) Registered Engineer

10/18/2017

Date

Seal:

2) For City Engineer

10/18/2017

Date

Seal:

A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

B. BIDDER's QUESTIONS

Q1. RSS Section 48-2.03D states "Remove falsework Piling and shoring for cofferdams." Please clarify if the entire falsework pile needs to be removed or if the pile can be abandoned several feet below grade. If the intent of the specification is to remove the entire pile, please advise if large blockouts (4' square +/-) can be used in the soffit and deck to facilitate falsework pile removal. There is not enough room under the bridge for the required equipment to remove the pile. The blockouts would be poured back after falsework removal.

A1. Falsework and shoring piles must be removed in their entirety. Blockouts can be proposed as a Value Engineering Change Proposal, per Section 4-1.07B of the Caltrans Standard Specifications.

Q2. Bid Items 134 – 136 and 253 have unit of measure of LS but quantities that are greater than 1. Please confirm the quantity and unit and measure for these items.

A2. Bid items revised in Addendum A.

Q3. Bid Item 214 Misc Metal has a unit of measure of SF. Please confirm this UOM. We believe this should be LB.

A3. Unit of measurement is LB not SF, revision to bid item 214 is included in Addendum B.

Q4. Special Provision Section 2-1.09 states "The item total for plant establishment must be at least $80,000." Please confirm which bid items must total $80,000 minimum.

A4. Bid item revised in Addendum A.

Q5. Please confirm the location for facilities for agency personnel so that the Contractor can accurately price set-up fees.

A5. The location is included in the plans.

Q6. Special Provisions Section 8-1.04C states "Start job site activities within 55 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the department." Section 8-1.10D states "The Contractor shall being work within 15 calendar days after the contract has been approved by the attorney appointed and authorized to represent the City." Please confirm if start up is 55 days or 15 days, and please confirm if they are calendar days or working days.

A6. Sections 8.1-04C and 8-1.10D were revised in Addendum A.

Q7. Special Provisions Section 49-1.01D(5) requires the Contractor to perform test borings. Please confirm method of payment for test borings.

A7. Compliance with this special provision shall be considered incidental to the project. No separate payment will be made.

Q8. Standard Specification Section 49-1.01D(5) states that the Owner has 20 days to notify the Contractor of confirmation of or revisions to the specified pile tip elevations. If pile tip elevations and casing lengths are revised, please confirm that the Contractor will be granted a time extension to procure additional material, including increased lengths of rebar cages. Further, please confirm the method of adjustment for increased pile length.

A8. Changed conditions will be addressed via construction change order.

Q9. A load test pile is required for this project. Standard Specifications Section 49-1.01D(3) states that the Owner has 10 days to revise the specified tip elevations. If pile tip elevations and casing lengths are revised, please confirm that the Contractor will be granted a time extension to procure additional material, including increased lengths of rebar cages. Further, please confirm the method of adjustment for increased pile lengths.

A9. Changed conditions will be addressed via construction change order.

Q10. Special Provisions Section 7-20 state that "Virtual Project Manager" shall be used on this Contractor. Does the Contractor need to procure this software for the City and its own use? If so, please provide the cost for this software.

A10. This is a responsibility for the contractor.

Q11. Special Provisions Section 802-2.2 states if birds are breeding and noise levels cannot be reduced during breeding season, the project construction will stop. Please confirm that if the controlling operation is stopped as a result of nesting / breeding birds, a contract extension will be granted for the suspended period of work.

A11. Please refer to the WHITEBOOK, Section 300-1.1, item No. 4.

Q12. Is the Contractor permitted to close the bike path during construction?

A12. The bike paths must remain open during construction. Bid per plan.

Q13. Plan sheet 39475-255-D shows 54" and 60" CIDH Concrete piles for sign foundations. There is no bid item for 54". Is the 60" CIDH included in bid item 197?

A13. Revision to Sheet 39475-255-D (T-26) and bid item are included in Addendum B.

Q14. Plan sheet 39475-255-D shows laminated panel signs (1" – Type A) signs to be furnished and mounted on the sign structures. There is no bid item for the sign panels. How are these going to be paid for?

A14. Revision to Section 56-2.04 is included in Addendum B.

Q15. Per sheet 63/C53 Bio-retention Basin Detail, in which bid item will the Class II Permeable Base be paid?

A15. Class II Permeable Base is to be included and paid for as part of the BIORETENTION SOIL MIX, bid item 102. Revision to bid item is included in Addendum B.

Q16. In regards to Specification 78 'Incidental Construction' it list's the manufacturer Natina Products for the Stain, but it is unclear if Natina Products are to be used for both concrete and galvanized surfaces. Please specify which surfaces require the stain and if those stained surfaces require a sealer coat? Also, please specify what stain & sealer products are to be used for the concrete and galvanized surfaces and if both products are required to be from the same manufacturer?

A16. Natina Stain is only to be used for galvanized surfaces for the CABLE RAILING and the CHAIN LINK FENCE (Type CL-4) bid items, as described in Addendum A revisions to Section 78-4.07A(1) of the Caltrans Standard Specifications.

Q17. The bid quantity of 2,720 LF for Bid Item 220 Handrailing only accounts for the outer pedestrian handrailing on the left and right bridges. Where is payment made for the inboard handrail as shown on sheet S-69?

A17. The CONCRETE BARRIER Type 80 (Mod) bid item includes the Inboard Railing, as shown on 39475-170-D (S-69). The HANDRAILING bid item includes the Outer Pedestrian Railing, as shown on 39475-169-D (S-68).

Q18. Please confirm the limits of ESA fencing and method of payment.

A18. Mobilization. Revisions to Sheet 39475-E1-D (EC-01) and Section 16-2.03D are included in Addendum B.

Q19. Page 11 of the Wetland & Mitigation Monitoring Plan (Sheet 701 of Solicitation Package) shows staging area in the parking lot of Sea World. Please confirm this area is available for contractor staging.

A19. The SeaWorld parking lot is not available, staging areas included in plans.

Q20. The Final Mitigated Negative Declaration discusses 3 options for crossing the river, including the use of temporary berms. Will temporary berms be permitted, as described in this document?

A20. Clarification provided in Addendum A.

Q21. Section 10-8 of the Contract Documents states that the Contractor must submit an application for waiver to USACE for the design channel capacity. What is the review and approval time for this waiver? What is the cost for this application?

A21. Submittal will be sent to the City.

Q22. SPL-4080-2014-063 states that the Contractor must submit falsework drawings and bridge abutment demolition plan to USACE prior to starting construction. What is the review and approval time for this submission?

A22. Submittal will be sent to the City.

Q23. Is there a "full set" of as-built drawings (1949)? I am able to piece together about a third of the ones listed on the as-built cover page from the bid documents and misc. reports. Thanks!

A23. As-Builts provided via Addendum A.

Q24. We are requesting CAD files for the above referenced project. The current plans have limited data related to existing topography and design grading elevations. In an effort to better evaluate the grading requirements, CAD files would allow us to better quantify the earthwork requirements for the project. Please let me know if you have any questions related to this request.

A24. Bid per plan.

Q25. Spec. page 144 states "Start Job site activities within 55 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department". Spec. Page 147 states, "The Contractor shall begin work within 15 calendar days after the contract has been approved by the attorney appointed and authorized to represent the City". Please clarify which is correct.

A25. Addressed in Addendum A.

Q26. Please confirm Flashing Beacon pay item (Sheet E-9)

A26. The flashing beacon is in the SIGNAL AND LIGHTING bid item.

Q27. Please confirm Ramp Metering pay item (Sheet E-10).

A27. Ramp metering is in the SIGNAL AND LIGHTING bid item.

Q28. Please confirm Electrical pay item (Sheet E-11 and E-12)

A28. Electrical is in the SIGNAL AND LIGHTING bid item.

Q29. Please confirm Signal Lighting and Sign Illumination pay item (Sheet E-13)

A29. Signal lighting and sign illumination is in the SIGNAL AND LIGHTING bid item.

Q30. Please confirm Pole Location 'c' on sheet E-8 is a 61-5-100 Modified.

A30. Confirmed. Pole C is a Modified Type 61-5-100, per Caltrans Standard Plans.

Q31. Refer to plan sheet E-11 only. Confirm only those conductors in capital letters are new conductors to be installed.

A31. See updated Sheet 39475-266-D (E-11) included in Addendum B.

Q32. Please confirm the manhole shown to be installed by others (sheet e-11 note #5) will be installed with a stub out to connect to. Confirm the vault will be installed in advanced of the conduit work connecting to the vault.

A32. Manhole installation by utility owner. Coordination of work is included in construction contract. Proposed 3325 manhole construction should be coordinated with SDG&E.

Q33. Some work is shown in the Caltrans right of way. Please confirm all work is to be constructed per City of San Diego Requirements only. If not please detail which plan sheets shall be built only per Caltrans spec.

A33. Reference numbers in the Line Items List indicate the applicable City of San Diego or Caltrans Specifications. Bid per plan.

Q34. Please confirm Section 86 in the special provisions apply to all plan sheets.

A34. Section 86 is applicable to the barrier mounted electroliers (39475-175-D (S-74) and sign posts (39475-171-D (S-70).

Q35. Plans call for complete footing and pile removal at existing piers 1, 3, 5, 6, 8, and 10. Piers 3 and 8 are called out to be removed in demo phase 2A, prior to construction of the left bridge. Once construction of the bridge is complete, vertical clearance will be limited and will not permit removal of existing piles at piers 1, 3, 6, and 10. Will the contractor be permitted to remove portions of footing and piles at all locations in Phase 2A, prior to construction of the left bridge?

A35. Bid per plan.

Q36. Plans call for removal of existing pier footings 2, 4, 7, and 9 in demo phase 3. Demo of these footings require a shoring system. Once construction of the bridge is complete, vertical clearance will be limited and will not permit removal of a shoring system. Will the contractor be permitted to remove portions of footing at these locations in Phase 2A, prior to construction of the left bridge?

A36. Bid per plan.

Q37. Is the Contractor permitted to work from the existing bridge?

A37. Please refer to Section 5-1.37 of Caltrans Standard Specifications.

Q38. Storm drain profile: System 2, sheet C-46 (56 of 283), notes 'Sediment & Debris to be Removed from Exist 36" RCP SD Between Outfall and Type A4 Cleanout'...Basin 6 and Basin 7 shown on sheet C-50 also notes 'Sediment and Debris to be removed from exist...." Please advise on the payment method for this scope of work.

A38. Revision to Section 30-1.4 is included in Addendum B.

Q39. Plan Sheet E11 has 2ea light poles shown on the plans at plan stations 29+00 and 36+50 and Plan Sheet E12 there are 3 ea poles at station 51+80 (2ea) and 53+00 roughly but there is no call out for the type of

pole and fixture. Please confirm if they are installed by the contractor or not. If it is installed by the contractor, we need to know what type to furnish or relocated.

A39. See updated Sheets 39475-266-D (E-11) and 39475-267-D (E-12) included in Addendum B.

Q40. Please confirm the manhole shown to be installed by others (sheet E-12 note #3) will be installed with a stub out to connect to. Confirm the vault will be installed in advanced of the conduit work connecting to the vault.

A40. Manhole installation by utility owner. Coordination of work is included in construction contract. Proposed 3325 manhole construction should be coordinated with SDG&E.

Q41. Please confirm the wiring required on conduit run #5 on plan sheet E12.

A41. Size of wires should be coordinated with SDG&E. Coordination of work is included in construction contract.

Q42. Please refer to plan sheets E-14 and E-15. The plan sheet notes seem to reference the wrong plan sheet for details. Please correct.

A42. See updated Sheets 39475-269-D (E-14) and 39475-270-D (E-15) included in Addendum B.

Q43. Please confirm the use of a “T” fitting encased in the barrier to feed the LED rail lighting and Pole lighting. This may not be feasible. (Refer to plan sheet E-18)

A43. Bid per plan.

Q44. Please provide the both pedestrian rail fixture and Pole Assembly manufacturers. No spec seems to have been provided for those details. (Refer to plan sheet E-18)

A44. Fixture manufacturers are provided on Sheet 39475-272-D (E-17). Pole to be manufactured per plan requirements.

Q45. Please confirm the interval installation of the LED rail lighting being at 6.5ft (plan sheet S-68) and if only the outer side of both bridges (one string per bridge).

A45. The Outer Pedestrian Railing posts have LED rail lighting. See Sheets 39475-162-D (S-61) and 39475-163-D (S-62) for layout.

Q46. Please confirm no barrier (9 or 9A) pull boxes are shown and required to be installed for the LED rail and bridge lighting.

A46. See updated Sheets 39475-269-D (E-14) through 39475-273-D (E-18) included in Addendum B.

Q47. Please confirm SDGE will install 6-5" duct bank and AT&T will install 4-4" duct bank in the bridge and related duct bank in the roadwork areas.

A47. SDG&E and AT&T will install their respective facilities.

Q48. Good morning. This is a Federal-aid Project as stated on the Addendum "A" plans. Is this a "Buy America" /A.I.S. project requiring all the material to be "Domestic"?

A48. "Buy America" is applicable as stipulated on pg. 123 of the construction contract Section 6-1.04.

Q49. I am inquiring about the bird deterrent netting for the Mission Bay Bridge work. The drawings show spike for the light poles, but are vague regarding the netting. Is this something the Biologist will request or are there other plans available that show what is wanted. Thank you for your time.

A49. This will be coordinated with the Biologist and the Resident Engineer.

Q50. This bid question concerns the "Supplemental Agreements" for the extended revegetation maintenance and monitoring, agreements one (Base contract), and two (remote mitigation areas). In the "Notice to Bidders", Item 12 "Supplemental Agreements", it requires bidders to provide the following, AT BID TIME. 1. Signed agreements one and two. 2. Executed P&P Bond for value of the two agreements. 3. Certificate

of Insurance. This request cannot be provided at bid time. Bidder's bonding agents will not issue a P&P bond for a bid only. Issuance of P&P Bonds take place only when Owner issues a contract to the lowest responsible bidder. It is also unclear if this bond is intended to be a separate bond from the one required to cover the entire contract. Your specifications states the "Bond" will be reduced to the value of extended agreements upon substantial completion of the base contract. This would imply the bidder would be required to provide only one bond. We requested the signing of the agreements, issuance of bonds and insurance take place with only the bidder the City intends to award this contract to. And after the bid. If the City does not change this requirement, then we request a detailed clarification on how each bidder is to execute your requirements

A50. See revised information included in Addendum B.

C. CLARIFICATIONS

1. For larger scale plans of Addendum A see FileCloud:

   https://filecloud.sandiego.gov/url/w93rjhkh4f9kgfw3

D. ADDENDUM

1. To Addendum A, Section B, Bidder's Questions, **DELETE** Answer A12 to Question Q12 in its entirety and **SUBSTITUTE** with the following

   A12. Revision to Sheets 39475-242-D (T-13) & 39475-244-D (T-15) are included in Addendum B.

2. To Addendum A, Section B, Bidder's Questions, **DELETE** Answer A13 to Question Q13 in its entirety and **SUBSTITUTE** with the following

   A13. Overhead Signs 2 and 4 (39475-242-D (T-13)) do not require lighting or walkways. Overhead Sign 5 requires a walkway and lighting along the whole length of the structure, per Caltrans standard plans.

E. NOTICE INVITING BIDS

1. To Section 12, Supplemental Agreements, page 7, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   12. SUPPLEMENTAL AGREEMENTS: Supplemental agreements attached to this contract for items of Work such as revegetation maintenance/monitoring or emulsion aggregate slurry shall be signed by the BIDDER at time of award of the primary BID. The signed agreements shall be accompanied by the proper bonds and insurance as specified in 2-4, "CONTRACT BONDS," 7-3, "LIABILITY INSURANCE," and 7-4 WORKERS' COMPENSATION INSURANCE. Bonds shall be in the amount of the total Contract Price for all Work including the supplemental agreements.

F. ATTACHMENTS

1. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, Section 10, Wage Rates, pages 37 through 63, **DELETE** in their entirety and **SUBSTITUTE** with pages 16 through 43 of this Addendum.

2. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 166, Caltrans Standard Specifications (10-95), Division II, General Construction, 16 Temporary Facilities, Section 16-2.03D, Payment, **ADD** the following:

   Replace "Not Used" in section 16-2.03D with:
   16-2.03D Payment
   Include payment for any high visibility temporary fence (Type ESA) as part of construction mobilization.

3. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 190, Caltrans Standard Specifications (10-95), Division VI, Structures, 56 Overhead Sign Structures, Standards, and Poles, Section 56-2.04, Payment, **ADD** the following:

   Replace section 56-2.04 with:
   56-2.04 Payment

   The pay quantity for install sign structure includes the weight of the sign panels. Fabricate and install sign panels in accordance with Section 82-2 "Sign Panels."

For determining the payment quantity for furnish sign structure and install sign structure, the weight of extruded aluminum used for steel slot channel for the light fixture mounting channel is the computed weight of the steel channel.

G. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Attachment E, Section 9, Measurement and Payment, **ADD** the following:

9-3.4 Mobilization. To the "WHITEBOOK", ADD the following:

3. Contractor to install temporary construction fencing (Type ESA) at locations shown on the plans and as directed by the Resident Engineer.

9-3.4.1 Payment. To the "WHITEBOOK", ADD the following:

5. The bid item for "Mobilization" shall include the installation of temporary construction fencing (Type ESA).

2. To Attachment E, Section 300, Earthwork, **ADD** the following:

300-1.4 Payment. To the "WHITEBOOK", ADD the following:

8. Work related to sediment and debris removal from existing storm drain pipes shall be included in the Bid item for "Clearing and Grubbing".

H. ADDITIONAL CHANGES

1. The following are additional changes to the Line Items in the PlanetBids Tab:

For clarity where applicable, **ADDITIONS**, if any, have been **<u>Underlined</u>** and **DELETIONS**, if any, have been ~~**Stricken out.**~~

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	237310	60" Cast-In-Drilled-Hole Concrete Piling	LF	~~681~~ <u>819</u>	49-1.04 (CT)
Main Bid	561730	Bioretention Soil Mix	CY	~~1700~~ <u>1960</u>	800-4.1
Main Bid	237310	Miscellaneous Metal (Restrainer – Pipe Type) (P-F)	~~SF~~ <u>LB</u>	64984	75-3.04 (CT)

I. PLANS

1. To DRAWING number 39475-01-D (G-1), **DELETE** in its entirety and **REPLACE** with page 44 of this Addendum.

2. To DRAWING number 39475-242-D (T-13), **DELETE** in its entirety and **REPLACE** with page 45 of this Addendum.

3. To DRAWING number 39475-244-D (T-15), **DELETE** in its entirety and **REPLACE** with page 46 of this Addendum.

4. To DRAWING number 39475-255-D (T-26), **DELETE** in its entirety and **REPLACE** with page 47 of this Addendum.

5. To DRAWING number 39475-263-D (E-8), **DELETE** in its entirety and **REPLACE** with page 48 of this Addendum.

6. To DRAWING numbers 39475-266-D (E-11) through 39475-267-D (E-12), **DELETE** in its entirety and **REPLACE** with pages 49 through page 50 of this Addendum.

7. To DRAWING numbers 39475-269-D (E-14) through 39475-273-D (E-18), **DELETE** in its entirety and **REPLACE** with pages 51 through page 55 of this Addendum.

8. To DRAWING number 39475-E1-D (EC-01), **DELETE** in its entirety and **REPLACE** with page 56 of this Addendum.

James Nagelvoort, Director
Public Works Department

Dated: *October 19, 2017*
San Diego, California

JN/AJ/egz

10. WAGE RATES: This contract shall be subject to the following Davis-Bacon Wage Decisions:

General Decision Number: CA170001 10/13/2017 CA1

Superseded General Decision Number: CA20160001

State: California

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

County: San Diego County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/27/2017
2	02/17/2017
3	02/24/2017
4	03/03/2017
5	03/10/2017
6	03/24/2017
7	05/05/2017
8	05/12/2017
9	05/26/2017
10	06/09/2017
11	06/30/2017
12	07/07/2017
13	07/14/2017
14	08/04/2017
15	08/11/2017
16	09/08/2017
17	09/29/2017
18	10/13/2017

ASBE0005-002 07/03/2017

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)	$ 39.72	20.81
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls)	$ 26.96	17.81

ASBE0005-004 07/03/2017

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)	$ 19.26	11.27

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER	$ 41.17	28.27

BRCA0004-008 11/01/2016

	Rates	Fringes
BRICKLAYER; MARBLE SETTER	$ 35.30	17.35

* BRCA0018-004 07/01/2017

	Rates	Fringes
MARBLE FINISHER	$ 30.93	12.95
TILE FINISHER	$ 25.98	11.23
TILE LAYER	$ 37.76	16.37

* BRCA0018-010 09/01/2017

	Rates	Fringes
TERRAZZO FINISHER	$ 30.53	12.27

```
TERRAZZO WORKER/SETTER.....$ 37.57            13.14
----------------------------------------------------------------
 CARP0409-002 07/01/2016

                                  Rates          Fringes

Diver
     (1) Wet.....................$ 712.48           17.03
     (2) Standby.................$ 356.24           17.03
     (3) Tender..................$ 348.24           17.03
     (4) Assistant Tender........$ 324.24           17.03

Amounts in "Rates' column are per day
----------------------------------------------------------------
 CARP0409-008 08/01/2010

                                  Rates          Fringes

Modular Furniture Installer......$ 17.00            7.41
----------------------------------------------------------------
 CARP0547-001 07/01/2016

                                  Rates          Fringes

CARPENTER
     (1)  Bridge.................$ 40.33           17.03
     (2)  Commercial Building....$ 35.10           17.03
     (3)  Heavy & Highway........$ 40.20           17.03
     (4)  Residential Carpenter..$ 28.08           17.03
     (5)  Residential
     Insulation Installer........$ 18.00            8.16
MILLWRIGHT......................$ 46.70           17.03
PILEDRIVERMAN...................$ 40.33           17.03
----------------------------------------------------------------
 CARP0547-002 07/01/2016

                                  Rates          Fringes

Drywall
     (1) Work on wood framed
     construction of single
     family residences,
     apartments or condominiums
     under four stories
      Drywall Installer/Lather...$ 30.15           16.03
      Drywall Stocker/Scrapper...$ 10.00            6.67
     (2) All other work
      Drywall Installer/Lather...$ 27.35            9.58
      Drywall Stocker/Scrapper...$ 11.00            6.67
----------------------------------------------------------------
 ELEC0569-001 06/05/2017

                                  Rates          Fringes

Electricians (Tunnel Work)
     Cable Splicer...............$ 49.41         3%+12.63
     Electrician.................$ 46.97         3%+12.63
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Electricians: (All Other
Work, Including 4 Stories
Residential)
     Cable Splicer.....$ 44.00 3%+12.63
     Electrician.....$ 43.25 3%+12.63

 ELEC0569-004 06/05/2017

	Rates	Fringes
ELECTRICIAN (Sound & Communications Sound Technician).....	$ 31.00	3%+11.53

  SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, freuency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music.
  All of the above shall include the installation and transmission over fiber optics.

 ELEC0569-005 06/05/2017

	Rates	Fringes
Sound & Communications Sound Technician.....	$ 31.00	3%+11.53

  SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, freuency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music.
  All of the above shall include the installation and transmission over fiber optics.

  SOUND TECHNICIAN: Terminating, operating and performing final check-out

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ELEC0569-006 02/27/2017

Work on street lighting; traffic signals; and underground systems and/or established easements outside of buildings

	Rates	Fringes
Traffic signal, street light and underground work		
Utility Technician #1	$ 30.48	3%+7.70
Utility Technician #2	$ 25.45	3%+7.70

STREET LIGHT & TRAFFIC SIGNAL WORK:

UTILITY TECHNICIAN #1: Installation of street lights and traffic signals, including electrical circuitry, programmable controller, pedestal-mounted electrical meter enclosures and laying of pre-assembled cable in ducts. The layout of electrical systems and communication installation including proper position of trench depths, and radius at duct banks, location for manholes, street lights and traffic signals.

UTILITY TECHNICIAN #2: Distribution of material at jobsite, installation of underground ducts for electrical, telephone, cable TV land communication systems. The setting, leveling, grounding and racking of precast manholes, handholes and transformer pads.

ELEC0569-008 06/05/2017

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories)	$ 32.81	3%+6.61

ELEC1245-001 06/01/2017

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer	$ 55.49	3%+17.65
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment)	$ 44.32	3%+17.65
(3) Groundman	$ 33.89	3%+17.65
(4) Powderman	$ 49.55	3%+17.65

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,

Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

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ELEV0018-001 01/01/2017

	Rates	Fringes
ELEVATOR MECHANIC	$ 52.21	31.585

FOOTNOTE:
PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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* ENGI0012-003 07/01/2017

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1	$ 44.00	24.25
GROUP 2	$ 44.78	24.25
GROUP 3	$ 45.07	24.25
GROUP 4	$ 46.56	24.25
GROUP 5	$ 47.66	24.25
GROUP 6	$ 46.78	24.25
GROUP 8	$ 46.89	24.25
GROUP 9	$ 47.99	24.25
GROUP 10	$ 48.01	24.25
GROUP 11	$ 48.11	24.25
GROUP 12	$ 47.18	24.25
GROUP 13	$ 47.28	24.25
GROUP 14	$ 47.31	24.25
GROUP 15	$ 47.39	24.25
GROUP 16	$ 47.51	24.25
GROUP 17	$ 47.68	24.25
GROUP 18	$ 47.78	24.25
GROUP 19	$ 47.89	24.25
GROUP 20	$ 48.01	24.25
GROUP 21	$ 48.18	24.25
GROUP 22	$ 48.28	24.25
GROUP 23	$ 48.39	24.25
GROUP 24	$ 48.51	24.25
GROUP 25	$ 48.68	24.25
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1	$ 45.35	24.25
GROUP 2	$ 46.13	24.25
GROUP 3	$ 46.42	24.25
GROUP 4	$ 46.56	24.25
GROUP 5	$ 46.78	24.25

GROUP 6	$ 46.89	24.25
GROUP 7	$ 47.01	24.25
GROUP 8	$ 47.18	24.25
GROUP 9	$ 47.35	24.25
GROUP 10	$ 48.35	24.25
GROUP 11	$ 49.35	24.25
GROUP 12	$ 50.35	24.25
GROUP 13	$ 51.35	24.25

OPERATOR: Power Equipment
(Tunnel Work)

GROUP 1	$ 41.80	23.35
GROUP 2	$ 42.58	23.35
GROUP 3	$ 42.87	23.35
GROUP 4	$ 43.01	23.35
GROUP 5	$ 43.23	23.35
GROUP 6	$ 43.34	23.35
GROUP 7	$ 43.46	23.35

PREMIUM PAY:
$3.75 per hour shall be paid on all Power Equipment Operator work on the followng Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: $2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter(concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld

150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bendng machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder -

Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: $1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds.and up to and including 50

cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator,

stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S,

R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point whch is the SW corner of Section 34.T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman	$ 49.50	23.60
(2) Dredge dozer	$ 43.53	23.60
(3) Deckmate	$ 43.42	23.60
(4) Winch operator (stern winch on dredge)	$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand	$ 42.33	23.60
(6) Barge Mate	$ 42.94	23.60

IRON0377-002 07/01/2016

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 28.33	20.64
Ornamental, Reinforcing and Structural	$ 34.75	29.20

PREMIUM PAY:

$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0089-001 07/18/2016

	Rates	Fringes
LABORER (BUILDING and all other Residential Construction)		
Group 1	$ 29.42	19.78
Group 2	$ 30.10	19.78
Group 3	$ 30.81	19.78
Group 4	$ 31.61	19.78
Group 5	$ 33.54	19.78
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer	$ 27.32	18.11
(2) Cleanup, Landscape, Fencing (Chain Link & Wood)	$ 26.03	18.11

RESIDENTIAL DEFINITION: Wood or metal frame construction of single family residences, apartments and condominums - excluding (a) projects that exceed three stories over a garage level, (b) any utility work such as telephone, gas, water, sewer and other utilities and (c) any fine grading work, utility work or paving work in the future street and public right-of-way; but including all rough grading work at the job site behind the existing right of way

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete Screeding for Rought Strike-off; Concrete, water curing; Demolition laborer; Flagman; Gas, oil and/or water pipeline laborer; General Laborer; General clean-up laborer; Landscape laborer; Jetting laborer; Temporary water and air lines laborer; Material hoseman (walls, slabs, floors and decks); Plugging, filling of Shee-bolt holes; Dry packing of concrete; Railroad maintenance, Repair Trackman

and road beds, Streetcar and railroad construction trac laborers; Slip form raisers; Slurry seal crews (mixer operator, applicator operator, squeegee man, Shuttle man, top man), filling of cracks by any method on any surface; Tarman and mortar man; Tool crib or tool house laborer; Window cleaner; Wire Mesh puling-all concrete pouring operations

GROUP 2: Asphalt Shoveler; Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute man, pouring concrete, the handling of the cute from ready mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete curer-impervious membrane and form oiler; Cutting torch operator (demoliton); Guinea chaser; Headboard man-asphlt; Laborer,
packing rod steel and pans; membrane vapor barrier installer; Power broom sweepers (small); Riiprap, stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Tank sealer and cleaner; Tree climber, faller, chain saw operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellower

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, mult-plate; Kettlemen, potmen and mean applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibratring machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and inclduing rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scaarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

GROUP 4: Asphalt raker, luterman, ironer, apshalt dumpman and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), Grinder or sander; Concrete saw man; cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Laser beam in connection with laborer's work; Oversize concrete vibrator operator 70 pounds and over; Pipelayer performing all services in the laying, installation and all forms of connection of pipe from the point of receiving pipe in the ditch until completion of oepration, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid, gas, air or other

product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzleman), Porta shot-blast, water blasting

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all pwder and explosives of whatever type, regardless of method used for such loading and placing; Driller-all power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power.

LABO0089-002 11/01/2016

	Rates	Fringes
LABORER (MASON TENDER)	$ 29.62	15.89

LABO0089-004 07/01/2017

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1	$ 31.63	18.58
Group 2	$ 32.09	18.58
Group 3	$ 32.50	18.58
Group 4	$ 33.34	18.58
Group 5	$ 37.46	18.58

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer. Asphalt Rubber Material Loader. Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete water curing. Concrete Curb & Gutter laborer, Certified Confined Space Laborer, Demolition laborer & Cleaning of Brick and lumber,Expansion Joint Caulking; Environmental Remediation, Monitoring Well, Toxic waste and Geotechnical Drill tender, Fine Grader, Fire Watcher, Limbers, Brush Loader, Pilers and Debris Handlers. flagman. Gas Oil and Water Pipeline Laborer. Material Hoseman (slabs, walls, floors, decks); Plugging, filling of shee bolt holes; Dry packing of concrete and patching; Post Holer Digger (manual); Railroad maintenance, repair trackman, road beds; Rigging & signaling; Scaler, Slip-Form Raisers, Filling cracks on any surface, tool Crib or Tool House Laborer, Traffic control (signs, barriers, barricades, delineator, cones etc.), Window Cleaner
GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete

curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/'2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer; Kettleman-Potman hot mop, includes applying asphalt, lay-klold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter,Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting,m makeing of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

GROUP 4: Any worker exposed to raw sewage. Asphalt Raker, Luteman, Asphalt Dumpman, Asphalt Spreader Boxes, Concrete Core Cutter, Concrete Saw Man, Cribber, Shorer, Head Rock Slinger. Installation of subsurface instrumentation, monitoring wells or points, remediation system installer; Laborer, asphalt-rubber distributor bootman; Oversize concrete vibrator operators, 70 pounds or over. Pipelayer, Prfefabricated Manhole Installer, Sandblast Nozzleman (Water Balsting-Porta Shot Blast), Traffic Lane Closure.

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of

whatever type, regardless of method used for such loading and placing; Horizontal directional driller, Boring system, Electronic traking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

LABO0300-005 01/01/2017

	Rates	Fringes
Asbestos Removal Laborer	$ 31.88	16.82

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LABO1184-001 07/01/2017

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer	$ 34.65	13.20
(2) Vehicle Operator/Hauler	$ 34.82	13.20
(3) Horizontal Directional Drill Operator	$ 36.67	13.20
(4) Electronic Tracking Locator	$ 38.67	13.20
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1	$ 35.86	16.21
GROUP 2	$ 37.16	16.21
GROUP 3	$ 39.17	16.21
GROUP 4	$ 40.91	16.21

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control

person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/02/2017

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER	$ 35.50	18.29
PLASTER TENDER	$ 38.05	18.29

Work on a swing stage scaffold: $1.00 per hour additional.

Work at Military Bases - $3.00 additional per hour:
Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

PAIN0036-001 07/01/2017

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County)	$ 27.59	13.94
(2) All Other Work	$ 31.12	13.94

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

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* PAIN0036-010 10/01/2017

	Rates	Fringes
DRYWALL FINISHER/TAPER		
(1) Building & Heavy Construction	$ 30.24	16.95
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories)	$ 21.00	13.91

PAIN0036-012 10/01/2016

	Rates	Fringes
GLAZIER	$ 41.55	11.93

PAIN0036-019 01/01/2017

	Rates	Fringes
SOFT FLOOR LAYER	$ 28.77	13.31

PLAS0200-005 08/02/2017

	Rates	Fringes
PLASTERER	$ 41.26	14.46

NORTH ISLAND NAVAL AIR STATION, COLORADO NAVAL AMPHIBIOUS BASE, IMPERIAL BEACH NAVAL AIR STATION: $3.00 additional per hour.

PLAS0500-001 07/01/2017

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1	$ 26.34	19.77
GROUP 2	$ 27.99	19.77
GROUP 3	$ 29.57	19.77

CEMENT MASONS - work inside the building line, meeting the following criteria:

GROUP 1: Residential wood frame project of any size; work classified as Type III, IV or Type V construction; interior tenant improvement work regardless the size of the project; any wood frame project of four stories or less.
GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

PLUM0016-006 07/01/2017

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton	$ 53.78	21.61
Plumber and Pipefitter: All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work	$ 49.28	21.61
Work ONLY on new additions and remodeling of commercial buildings, bars, restaurants, and stores not to exceed 5,000 sq. ft. of floor space	$ 47.76	20.63
Work ONLY on strip malls, light commercial, tenant improvement and remodel work	$ 36.91	18.96

PLUM0016-011 07/01/2017

	Rates	Fringes
PLUMBER/PIPEFITTER		
Residential	$ 39.91	17.53

PLUM0078-001 07/01/2016

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter	$ 44.16	25.19
Sewer & Storm Drain Work	$ 44.16	25.19

ROOF0045-001 07/01/2017

	Rates	Fringes
ROOFER	$ 30.73	8.43

SFCA0669-001 04/01/2017

	Rates	Fringes
SPRINKLER FITTER	$ 39.17	15.84

SHEE0206-001 07/01/2017

	Rates	Fringes
SHEET METAL WORKER		
Camp Pendleton	$ 38.88	26.52
Except Camp Pendleton	$ 36.88	26.52
Sheet Metal Technician	$ 27.70	8.43

SHEET METAL TECHNICIAN - SCOPE:
a. Existing residential buildings, both single and multi-family, where each unit is heated and/or cooled by a separate system b. New single family residential buildings including tracts. c. New multi-family residential buildings, not exceeding five stories of living space in height, provided each unit is heated or cooled by a separate system. Hotels and motels are excluded. d. LIGHT COMMERCIAL WORK: Any sheet metal, heating and air conditioning work performed on a project where the total construction cost, excluding land, is under $1,000,000 e. TENANT IMPROVEMENT WORK: Any work necessary to finish interior spaces to conform to the occupants of commercial buildings, after completion of the building shell

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TEAM0166-001 07/03/2017

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 15.90	32.69
GROUP 2	$ 23.49	32.69
GROUP 3	$ 23.69	32.69
GROUP 4	$ 23.89	32.69
GROUP 5	$ 24.09	32.69
GROUP 6	$ 24.59	32.69
GROUP 7	$ 26.09	32.69

FOOTNOTE: HAZMAT PAY: Work on a hazmat job, where hazmat certification is required, shall be paid, in addition to the classification working in, as follows: Levels A, B and C - +$1.00 per hour. Workers shall be paid hazmat pay in increments of four (4) and eight (8) hours.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

GROUP 2: 2-axle Dump Truck, 2-axle Flat Bed,Concrete Pumping Truck, Industrial Lift Truck, Motorized Traffic Control, Pickup Truck on Jobsite

GROUP 3: 2-axle Water Truck, 3-axle Dump Truck, 3-axle Flat Bed, Erosion Control Nozzleman, Dump Crete Truck under 6.5 yd, Forklift 15,000 lbs and over, Prell Truck, Pipeline Work Truck Driver, Road Oil Spreader, Cement Distributor or

Slurry Driver, Bootman, Ross Carrier

GROUP 4: Off-road Dump Truck under 35 tons 4-axles but less than 7-axles, Low-Bed Truck & Trailer, Transit Mix Trucks under 8 yd, 3-axle Water Truck, Erosion Control Driver, Grout Mixer Truck, Dump Crete 6.5yd and over, Dumpster Trucks, DW 10, DW 20 and over, Fuel Truck and Dynamite, Truck Greaser, Truck Mounted Mobile Sweeper 2-axle Winch Truck

GROUP 5: Off-road Dump Truck 35 tons and over, 7-axles or more, Transit Mix Trucks 8 yd and over, A-Frame Truck, Swedish Cranes

GROUP 6: Off-Road Special Equipment (including but not limited to Water Pull Tankers, Athey Wagons, DJB, B70 Wuclids or like Equipment)

GROUP 7: Repairman

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular

rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of

each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

CITY OF SAN DIEGO

PLANS FOR THE CONSTRUCTION OF

WEST MISSION BAY DRIVE
BRIDGE (No. 57C-0023)
Federal-aid Project: BHLS-5004(049)

CONTRACTOR'S RESPONSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA 1-800-422-4133) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)
3. CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
3. ALL ADVANCED METERING INFRASTRUCTURE (AMI) DEVICES ATTACHED TO THE WATER METER OR LOCATED IN OR NEAR WATER METER BOXES, COFFINS, OR VAULTS SHALL BE PROTECTED AT ALL TIMES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONSTRUCTION STORM WATER PROTECTION NOTES

1. TOTAL SITE DISTURBANCE AREA (ACRES) 23.11
   HYDROLOGIC UNIT/ WATERSHED SAN DIEGO AND PENASQUITOS
   HYDROLOGIC SUBAREA NAME & NO. MISSION SAN DIEGO (907.11) & FIESTA ISLAND (906.70)
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE
   ☐ WPCP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100
   ☒ SWPPP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 AND CONSTRUCTION GENERAL PERMIT ORDER 2009-0009-DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND 2012-0006-DWQ
   TRADITIONAL: RISK LEVEL 1 ☐ 2 ☒ 3 ☐
   LUP: RISK TYPE 1 ☐ 2 ☐ 3 ☐
3. CONSTRUCTION SITE PRIORITY
   ☐ ASBS ☒ HIGH ☐ MEDIUM ☐ LOW

MONUMENTATION/ SURVEY NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA SHALL FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR ANY EARTHWORK, DEMOLITION OR SURFACE IMPROVEMENTS. IF DESTROYED, A LICENSED LAND SURVEYOR SHALL REPLACE SUCH MONUMENT(S) WITH APPROPRIATE MONUMENTS. WHEN SETTING SURVEY MONUMENTS USED FOR RE-ESTABLISHMENT OF THE DISTURBED CONTROLLING SURVEY MONUMENTS AS REQUIRED BY SECTIONS 6730.2 AND 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILLED WITH THE COUNTY SURVEYOR. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION SHALL BE NOTIFIED IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPLACING AND VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.

REFERENCE:

H452-H467, 5027, 6113-L, 8262-L, 12792-4-D, 12902-D, 14577-D, 23570-D, 26376-D, 11-046424,

STREET CLASSIFICATION

STREET NAME: WEST MISSION BAY DRIVE
PRIMARY ARTERIAL, ADT=64,156

STANDARD SPECIFICATIONS

CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITE BOOK), 2015 EDITION

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), 2015 EDITION

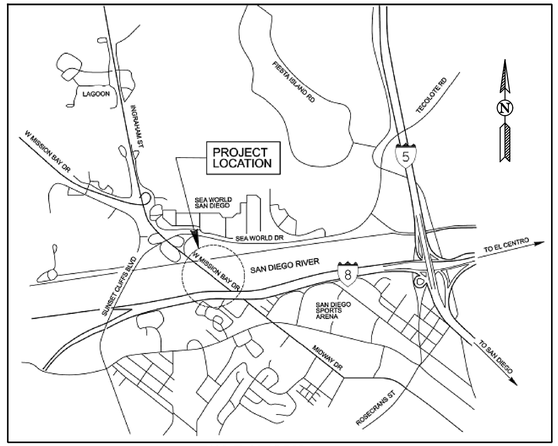
CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS, 2015 EDITION

CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, 2016 EDITION

CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS, 2015 EDITION

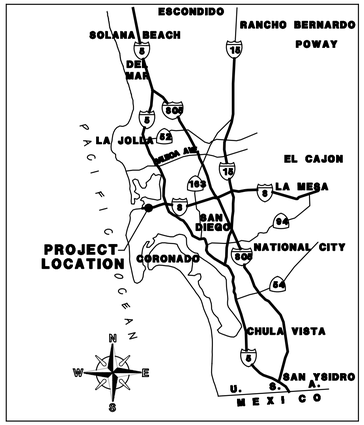
FIELD DATA

BENCHMARK: BRASS PLUG AT NORTHERLY CORNER
OF HANCOCK STREET AND CHANNEL WAY
PER CITY OF SAN DIEGO VERTICAL CONTROL
BOOK DATED AUGUST 1989.
ELEV. = 8.881
FIELD NOTES:
BASIS OF BEARINGS / COORDINATES:
EXISTING CONTROL PROVIDED BY THE CITY OF SAN DIEGO
PER PUBLIC WORKS/ENGINEERING AND CAPITAL PROJECTS
DEPT. - FIELD SURVEY NOTES WO#: 526430 DATED 8/30/2000
DATUM: MEAN SEA LEVEL
REFERENCES:



NOT TO SCALE

LOCATION MAP



VICINITY MAP
NOT TO SCALE

WORK TO BE DONE

THE PROJECT PROPOSES REMOVAL OF PORTIONS OF THE FOLLOWING ITEMS LOCATED ON WEST MISSION BAY DRIVE & SPORTS ARENA BOULEVARD BETWEEN SEA WORLD DRIVE AND INTERSTATE 8: SHARED PATH, CONCRETE SIDEWALK, CURB AND GUTTER, FENCING, METAL BEAM GURADRAIL AND EXISTING WEST MISSION BAY DRIVE BRIDGE.

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE STANDARD SPECIFICATIONS AND THE STANDARD DRAWINGS OF THE CITY OF SAN DIEGO & CALTRANS.

1. SPECIAL PROVISIONS
2. CONSTRUCTION DRAWINGS
3. STANDARD SPECIFICATIONS
4. STANDARD DRAWINGS

SHEET INDEX/LIMITS OF WORK

SHEET NO.	DISCIPLINE CODE	TITLE
1-4	G	COVER SHEET
5-48, 55-66	C	CIVIL PLANS
49-52	M	MECHANICAL PLANS
53-54	CP	CATHODIC PROTECTION PLANS
67-74	IR	IRRIGATION REMOVAL PLANS
75-82	PR	PLANT REMOVAL PLANS
83-101	L	LANDSCAPE PLANS
102-229	S	BRIDGE AND WALL PLANS
230-255	T	TRAFFIC PLANS
256-274	E	ELECTRICAL PLANS
275-283	O	OFFSITE MITIGATION
23-25	C	CURB RAMP LOCATION
58-65	C	PERMANENT STORM WATER BEST MANAGEMENT PRACTICES (BMP) -PRIORITY DEVELOPMENT PROJECTS
TC-01 TO TC-91	TC	TRAFFIC CONTROL PLANS
EC-01 TO EC-23	EC	EROSION CONTROL PLANS

DISCIPLINE CODE

G	GENERAL
C	CIVIL
CP	CATHODIC PROTECTION
IR	IRRIGATION REMOVAL
M	MECHANICAL
PR	PLANT REMOVAL
S	STRUCTURAL
T	TRAFFIC
E	ELECTRICAL
L	LANDSCAPE
TC	TRAFFIC CONTROL
EC	EROSION CONTROL

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Jay Holombo 3/3/2017

G-1

AS-BUILT INFORMATION

MATERIALS	MANUFACTURER
-	-
-	-
-	-
-	-

SPEC. NO. 1472

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
COVER SHEET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 283 SHEETS

FEDERAL ID BHLS-5004(049)
WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — DATE 5/31/2017 — RCE # 76641
SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI			
A ADDENDUM A	TYLI		9/13/17	
B ADDENDUM B	TYLI		10/17/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-01-D

T·Y·LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
Jay Holombo, No. C47409, Exp. 12-31-17, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

PROJECT ENGINEER	RCE	EXP	DATE
	C47408	12-31-17	3-3-17

CONSTRUCTION CHANGE / ADDENDUM

CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.
A	9/13/17	01, 12, 40, 41, 43, 46, 57, 59, 155, 157, 158, 180, 181, 182, 183	
B	10/17/17	242, 244, 255, 263, 266, 267, 269, 270, 271, 272, 273, EC-01	

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

The City of SAN DIEGO Public Works

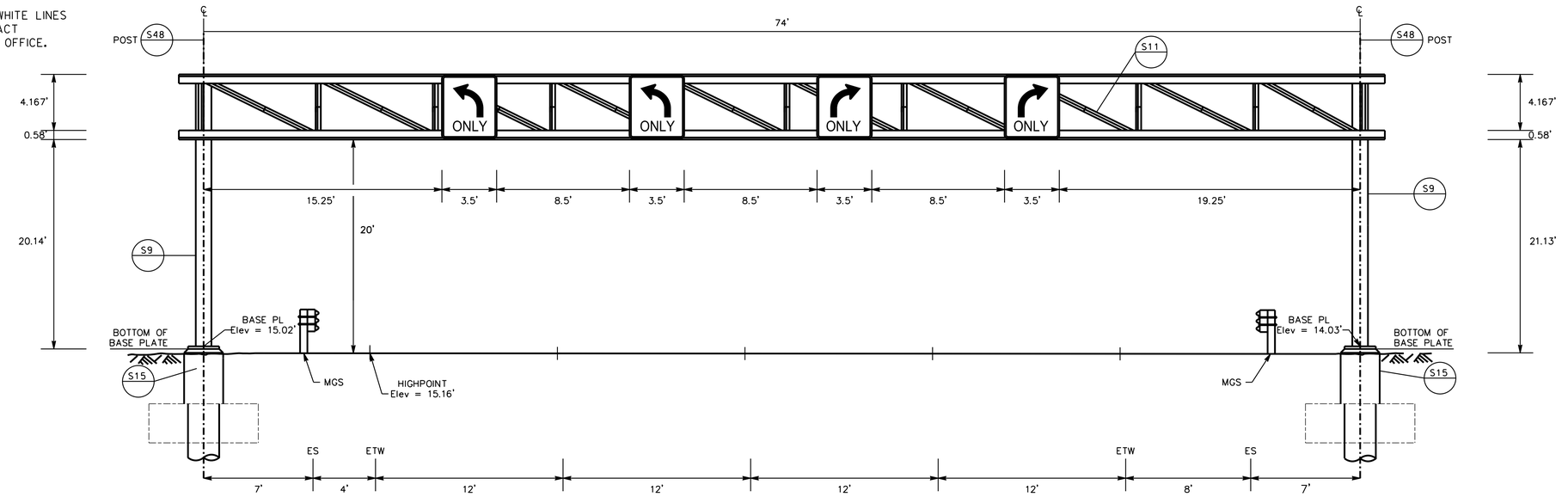
B UPDATED DETAILS/CALL-OUTS

ADDENDUM B

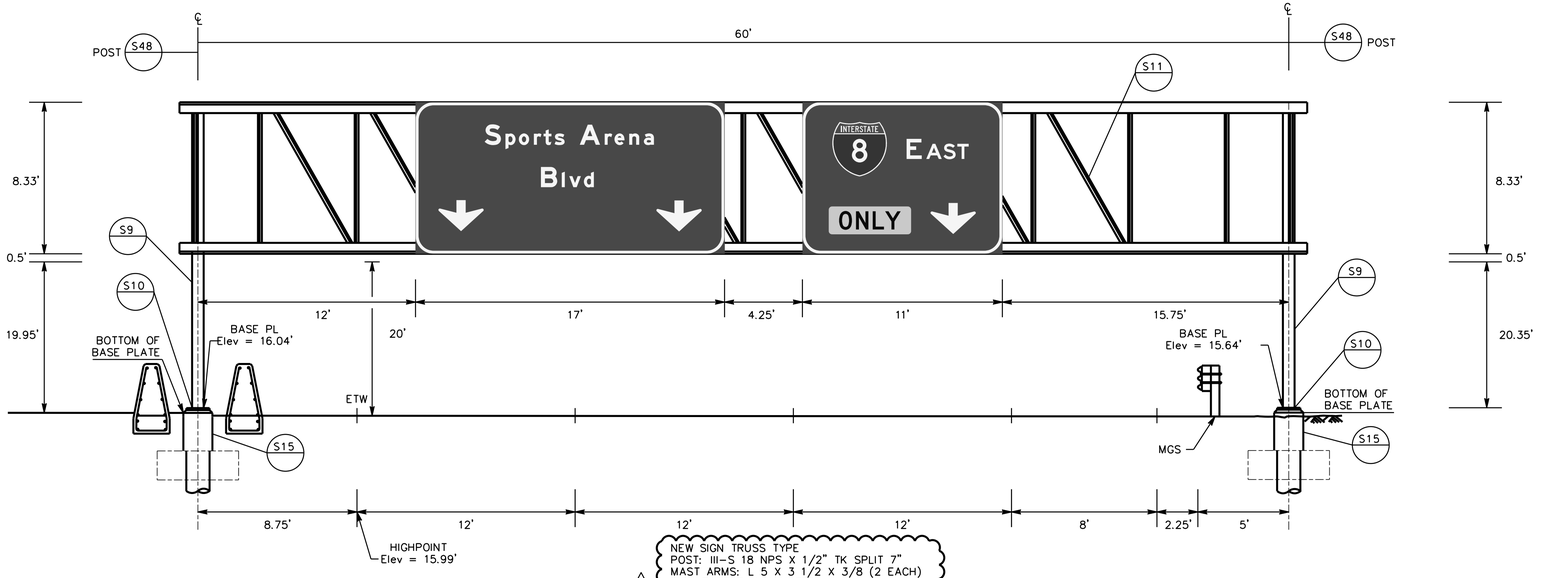
WEST MISSION BAY DRIVE BRIDGE

NOTES:

1. ALL LIMIT LINES AND CROSSWALKS ARE 12" WHITE LINES
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



2 NEW SIGN TRUSS TYPE
POST: I-S 14 NPS X 1/2" TK SPLIT 5"
MAST ARMS: L 6 X 4 X 1/2 (2 EACH)
SIGN PANELS: LAMINATED
ILLUMINATION: NOT REQUIRED
WALKWAY NOT REQUIRED
STA 53+30 "M" LINE FSBT
TRUSS SIGN STRUCTURE
NOT TO SCALE
B



4 NEW SIGN TRUSS TYPE
POST: III-S 18 NPS X 1/2" TK SPLIT 7"
MAST ARMS: L 5 X 3 1/2 X 3/8 (2 EACH)
SIGN PANELS: LAMINATED
ILLUMINATION: NOT REQUIRED
WALKWAY NOT REQUIRED
STA 53+30 "M" LINE FSBT
TRUSS SIGN STRUCTURE
NOT TO SCALE
B

B MODIFIED SIGN STRUCTURE CALL-OUT

WEST MISSION BAY DRIVE BRIDGE

T-13

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SIGN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 242 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER
DANIEL NUTTER
DCE NAME
5/31/2017
DATE
76641
RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	REC		10/17/17	
AS-BUILT				

214-1695
CCS27 COORDINATE
1854-6255
CCS83 COORDINATE
39475-242-D

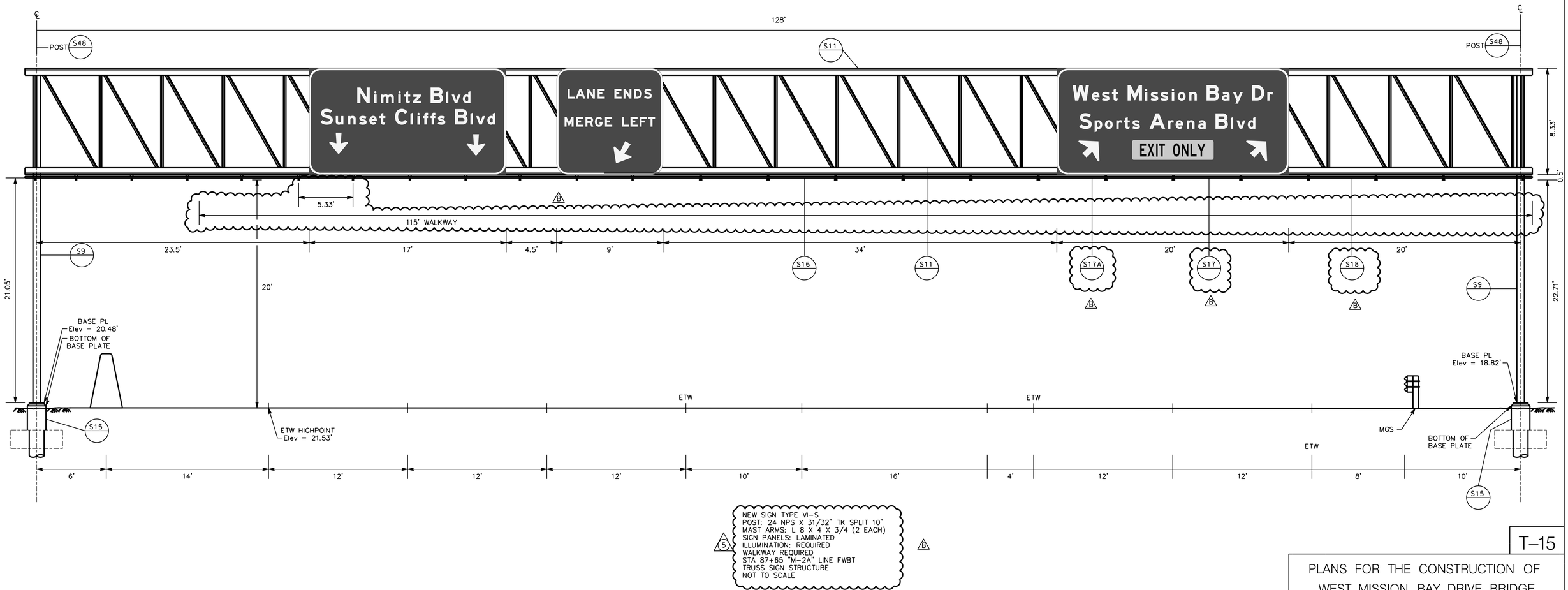
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
San Diego Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
J-13337

ADDENDUM B

NOTES:

1. ALL LIMIT LINES AND CROSSWALKS ARE 12" WHITE LINES
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



5 B NEW SIGN TYPE VI-S
POST: 24 NPS X 31/32" TK SPLIT 10"
MAST ARMS: L 8 X 4 X 3/4 (2 EACH)
SIGN PANELS: LAMINATED
ILLUMINATION: REQUIRED
WALKWAY REQUIRED
STA 87+65 "M-2A" LINE FWBT
TRUSS SIGN STRUCTURE
NOT TO SCALE

T-15

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

SIGN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 244 OF 283 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED _____ FOR CITY ENGINEER
DANIEL NUTTER DCE NAME
5/31/2017 DATE
76641 RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	REC		10/17/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-244-D

REGISTERED PROFESSIONAL ENGINEER — RICK M. ENGINEERING No. 66939 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
J-13337
San Diego
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
rickengineering.com

B MODIFIED SIGN STRUCTURE CALL-OUT

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE

OVERHEAD SIGN QUANTITIES

SIGN No. (X)	LOCATION	FURNISH SIGN STRUCTURE (LIGHTWEIGHT)	INSTALL SIGN STRUCTURE (LIGHTWEIGHT)	FURNISH SIGN STRUCTURE (TUBULAR)	INSTALL SIGN STRUCTURE (TUBULAR)	FURNISH SIGN STRUCTURE (TRUSS)	INSTALL SIGN STRUCTURE (TRUSS)	CIDH CONCRETE PILE SIGN FOUNDATION 60" (B)		REMOVE SIGN STRUCTURE	REMARKS
		LB	LB	LB	LB	LB	LB	FT		EA	
								LT	RT		
1	"M-2A", STA 77+10,									1	
2	"M-2A", STA 77+10,					25,600	25,600	18	18		
3	"", STA 52+18,									1	
4	"", STA 53+30,					24,300	24,300	23	23		
5	"M-2A", STA 87-65,					61,600	61,600	27.83	27.83		
6	"", STA 87-51,									1	
SUBTOTAL						111,500	111,500	68.83	68.83	3	
TOTAL						111,500	111,500	68.83	68.83	3	

FURNISH OVERHEAD SIGN PANEL

SIGN No. (X)	SIGN CODE	PANEL SIZE		BACKGROUND		LEGEND		FURNISH SIGN PANEL			REMARKS
		Horiz	Vert	SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE	SHEETING COLOR	REFLECTIVE ASTM TYPE	LAMINATED (1"-TYPE A)	HARDWARE TYPE	PROTECTIVE OVERLAY	
		in X in						SQFT	A-2	PREMIUM FILM	
2	R3-5(LT)	48 X 60		WHITE	XI	BLACK	-	20	X	X	
	R3-5(LT)	48 X 60		WHITE	XI	BLACK	-	20	X	X	
	R3-5(RT)	48 X 60		WHITE	XI	BLACK	-	20	X	X	
	R3-5(RT)	48 X 60		WHITE	XI	BLACK	-	20	X	X	
4	G24(CA)	168 X 100		GREEN	XI	WHITE	XI	117	X	X	
	G24(CA)	132 X 100		GREEN	XI	WHITE/RED/BLUE	XI	92	X	X	
	W61B(CA)	44 X 20		YELLOW	XI	BLACK	-	7	X	X	
5	G24-6(CA)	204 X 110		GREEN	XI	WHITE	XI	156	X	X	
	G25-6(CA)	240 X 110		GREEN	XI	WHITE/RED/BLUE	XI	184	X	X	
	G24(CA)	110 X 110		YELLOW	XI	BLACK	XI	85	X	X	
	W61C(CA)	84 X 20		YELLOW	XI	BLACK	-	12	X	X	SHEETING ONLY
							-				
							TOTAL	733			

WEST MISSION BAY DRIVE BRIDGE

T-26

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 255 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 5/31/2017
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
(B) ADDENDUM B	REC		10/17/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-255-D

REGISTERED PROFESSIONAL ENGINEER — JESUS M. GARCIA — NO. 66939 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

J-13337

(B) ADJUSTED SIGN FOUNDATION QUANTITIES

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE

EQUIPMENT AND POLE SCHEDULE

Loc	STANDARDS TYPE	SMA	LMA	PLACEMENT DIMENSIONS	SIGNAL MOUNTING AND PLACEMENT VEHICLE POLE	VEHICLE MAST ARM	PEDESTRIAN SIGNAL	PEDESTRIAN APS	PEDESTRIAN ARROW	LUMINAIRE (LED)	REMARKS
A	I-A	-	-	STA 34+75 74.0' Rt	-	-	SP-I-T	Ø2P	←	-	-
B	I-A	-	-	STA 34+89.9 59' Lt	TV-I-T	-	-	-	-	-	-
C	61-5-100 (MOD)	65'	15'	STA 35+71 80.5' Lt	SV-I-T	2-MAS	-	-	-	137 W	-
D	60-5-100	60'	-	STA 35+93.7 27' Lt	SV-I-T	2-MAS	-	-	-	-	-
E	29-5-100	50'	15	STA 36+06 98.5' Rt	SV-I-T	2-MAS	SP-I-T	Ø2P	→	137 W	-
F	I-A	-	-	STA 35+67.18 104.5' Rt	TV-I-T	-	-	-	-	-	-
G	15TS	-	-	STA 34+88.1 83.3' Rt	SV-I-T	-	-	-	-	137 W	-

CONDUIT LEGEND:

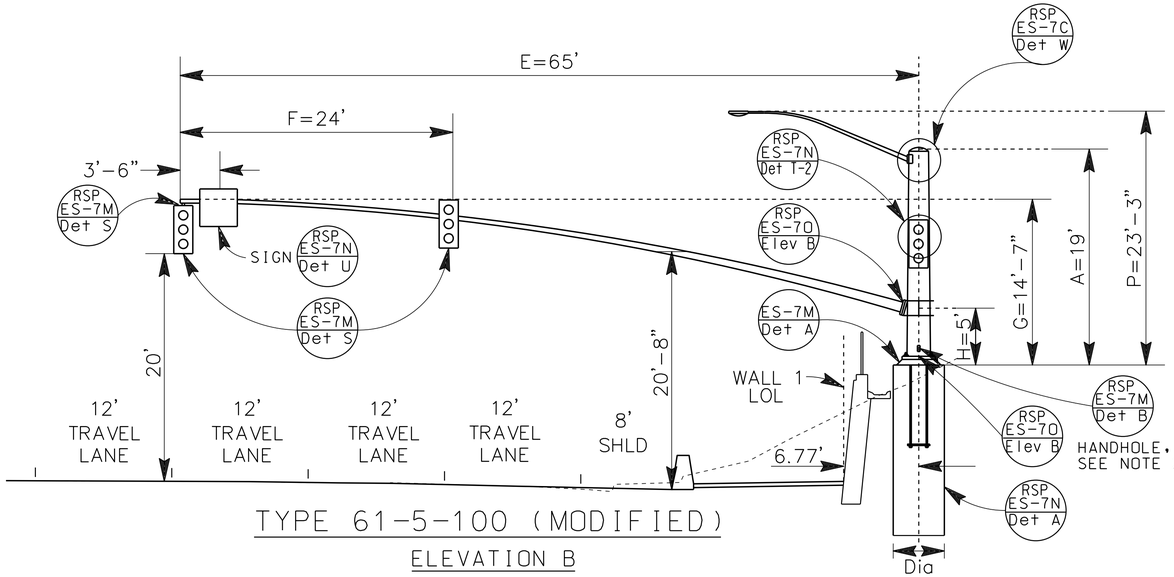
- (9) 2"C, 4 DLC, 1 SIC
- (10) 2"C, 2 DLC, 1 SIC
- (11) 2"C, 1 SIC
- (12) 2"C, 2 DLC
- (13) 2"C, 6 DLC
- (14) 2"C, 5 DLC
- (15) 2"C, 1 SIC
- (16) 2"C, 2 SIC
- (17) 2"C, 2#10(Ltg), 4#14(PEU), 1#8(G)

DETECTOR SCHEDULE

No.	PHASE	SLOT	TERMINAL
1	2	I2U	T2-5&6
2	2	I2L	T2-7&8
3	2	I3U	T2-9&10
4	2	I3L	T2-11&12
5	6	J2U	T3-5&6
6	6	J2L	T3-7&8
7	6	J3U	T3-9&10
8	6	J3L	T3-11&12
9	6	J4U	T5-1&2
10	OLA	J6U	T5-9&10
11	8	J6L	T5-11&12
12	OLA	J7U	T7-1&2
13	OLA	J7L	T7-3&4
14	8	J8U	T7-5&6
15	8	J8L	T7-7&8
PPB	2	II2U	T8-4&COM6
PPB	6	II3U	T8-7&COM9
EVA	2	JI2U	T9-4&COM6
EVB	4	JI3U	T9-7&COM9
EVC	6	JI2L	T9-5&COM6
FLASH	-	II4U	T8-10&COM12

CONDUCTOR SCHEDULE

AWG	PHASE	CIRCUIT	3" (1)	2-2" (2)	3" (3)	2" (4)	3" (5)	2-2" (6)	2-2" (7)	2-3" (8)
3CSC / 12CSC		POLE A	- -	- -	- -	- -	- -	- -	1 1	1 1
		POLE B	- -	- 1	- -	- -	- -	- -	- -	- 1
		POLE C	- 1	- 1	- -	- -	- -	- -	- -	- 1
		POLE D	- -	- -	- 1	- -	- -	- 1	- 1	- 1
		POLE E	- -	- -	- -	1 1	1 1	1 1	1 1	1 1
		POLE F	- -	- -	- -	- -	- 1	- 1	- 1	- 1
		POLE G	- -	- -	- -	- -	- -	1 -	1 -	1 -
TOTAL CABLES-3CSC/12CSC			- 1	- 2	- 1	1 1	1 2	1 4	2 5	2 7
#6		Service	-		-	-	-	-	-	1
#8		Ground	1	1	-	1	1	1	1	1
#10		Ltg	2	2	-	2	2	2	2	-
#14		PEU	-	-	-	-	-	4	4	-
DLC TYPE B	Ø2	DLC	-	-	-	-	-	-	-	4
	Ø4	DLC	-	-	-	-	-	-	4	4
	Ø6	DLC	5	5	-	-	-	-	-	6
TOTAL DLC			5	5	-	-	-	-	4	14
INTERCONNECT CABLE-SIC			-	-	-	-	-	-	-	2
EVUD			1	1	1	1	1	2	2	3
VIDEO CABLE HARNESS			1	1	1	1	1	2	2	3
TOTAL CONDUCTORS/CABLES			11	12	3	7	8	16	22	33



TYPE 61-5-100 (MODIFIED)

ELEVATION B

SIGNAL MAST ARM DATA

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM PL THICKNESS	L POLE PL THICKNESS	Ø	Q SECTION LENGTH	Q SECTION THICKNESS	X Max
65'-0"	15'-0"	14'-7"	5'-0"	1'-1½"	0.2391"	20"	1½"-6NC-4"	2'-0"	2"	2"	15°	29'-0"	0.3125"	14'-0"

LUMINAIRE MAST ARM DATA

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT
				30'-0" POLE
15'-0"	4'-9"±	4¼"	0.1196"	23'-3"±

POLE DATA / BASE PLATE DATA

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	CIDH PILE FOUNDATION DEPTH
61-5-100	5	100	19'-0"	25"	20¾"	0.375"	10'-0"	22⅛"	20¾"	2'-11"	2'-9"	3"	3"Ø x 60"	15'-0"	65'-0"	4'-6"	15'-0"

NOTES:

1. The radial separation between the face of the pole and the adjacent insides of the top and bottom gusset plates shall not exceed 3#16". Fillet weld size to be increased by amount of gap.
2. Handhole shall be located on the downstream side of traffic.

E-8

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
TRAFFIC SIGNAL PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 263 OF 264 SHEETS

WATER WBS S-00871
SEWER WBS S-00871

APPROVED: FOR CITY ENGINEER DANIEL NUTTER (DCE NAME) — DATE 5/31/2017 — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
LESTER DEL ROSARIO, PROJECT ENGINEER
214-1695, CCS27 COORDINATE
1854-6255, CCS83 COORDINATE

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
(B) ADDENDUM B	REC	[signature]	10/17/17	

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-263-D

REGISTERED PROFESSIONAL ENGINEER — MARK M. JOSEPH — NO. 68939 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
J-13337

ADDENDUM B

NOTES:

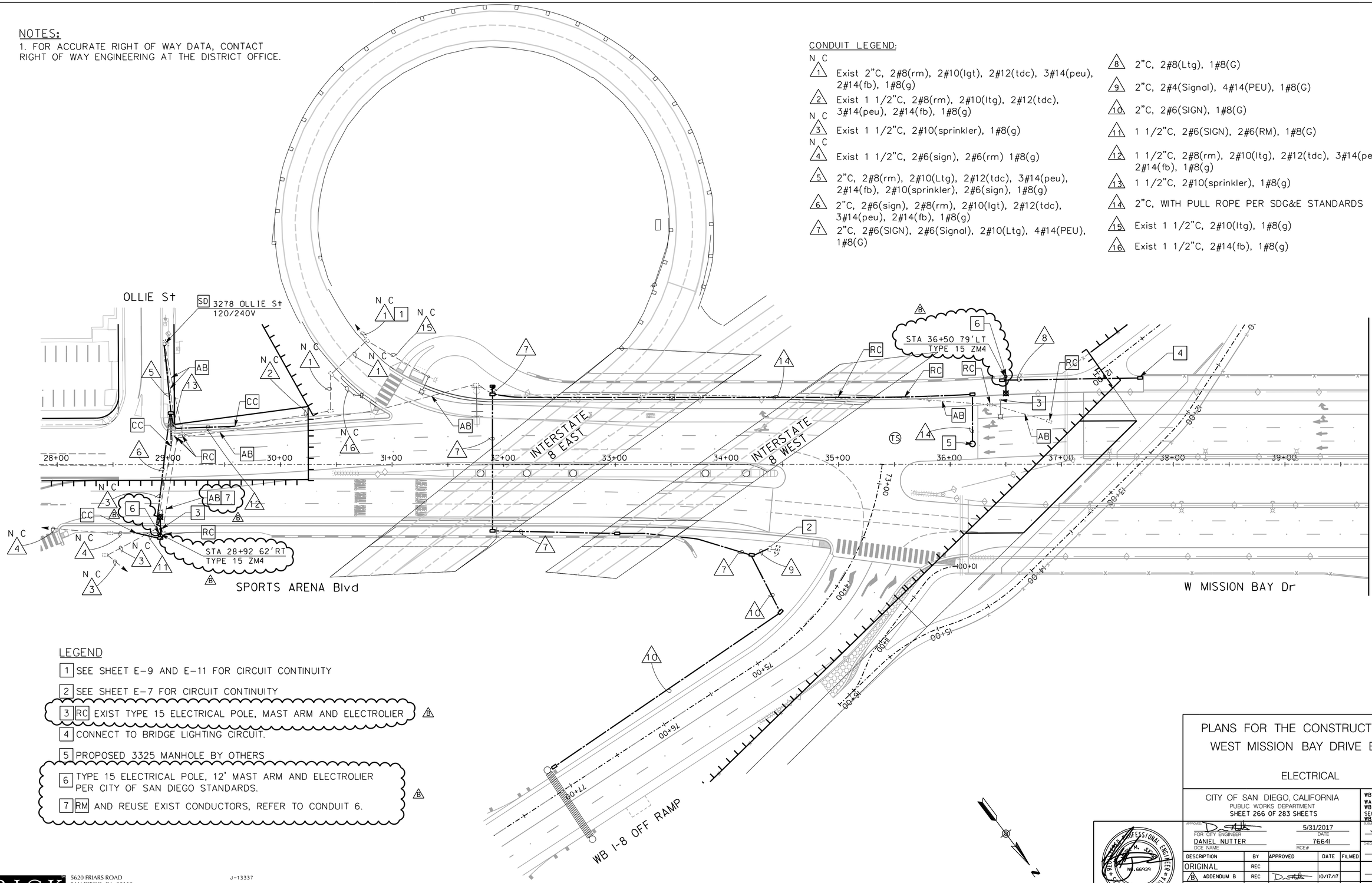
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CONDUIT LEGEND:

N C
1. Exist 2"C, 2#8(rm), 2#10(lgt), 2#12(tdc), 3#14(peu), 2#14(fb), 1#8(g)
2. Exist 1 1/2"C, 2#8(rm), 2#10(ltg), 2#12(tdc), 3#14(peu), 2#14(fb), 1#8(g)

N C
3. Exist 1 1/2"C, 2#10(sprinkler), 1#8(g)

N C
4. Exist 1 1/2"C, 2#6(sign), 2#6(rm) 1#8(g)
5. 2"C, 2#8(rm), 2#10(Ltg), 2#12(tdc), 3#14(peu), 2#14(fb), 2#10(sprinkler), 2#6(sign), 1#8(g)
6. 2"C, 2#6(sign), 2#8(rm), 2#10(lgt), 2#12(tdc), 3#14(peu), 2#14(fb), 1#8(g)
7. 2"C, 2#6(SIGN), 2#6(Signal), 2#10(Ltg), 4#14(PEU), 1#8(G)
8. 2"C, 2#8(Ltg), 1#8(G)
9. 2"C, 2#4(Signal), 4#14(PEU), 1#8(G)
10. 2"C, 2#6(SIGN), 1#8(G)
11. 1 1/2"C, 2#6(SIGN), 2#6(RM), 1#8(G)
12. 1 1/2"C, 2#8(rm), 2#10(ltg), 2#12(tdc), 3#14(peu), 2#14(fb), 1#8(g)
13. 1 1/2"C, 2#10(sprinkler), 1#8(g)
14. 2"C, WITH PULL ROPE PER SDG&E STANDARDS
15. Exist 1 1/2"C, 2#10(ltg), 1#8(g)
16. Exist 1 1/2"C, 2#14(fb), 1#8(g)



LEGEND

1. SEE SHEET E-9 AND E-11 FOR CIRCUIT CONTINUITY
2. SEE SHEET E-7 FOR CIRCUIT CONTINUITY
3. RC EXIST TYPE 15 ELECTRICAL POLE, MAST ARM AND ELECTROLIER (B)
4. CONNECT TO BRIDGE LIGHTING CIRCUIT.
5. PROPOSED 3325 MANHOLE BY OTHERS
6. TYPE 15 ELECTRICAL POLE, 12' MAST ARM AND ELECTROLIER PER CITY OF SAN DIEGO STANDARDS. (B)
7. RM AND REUSE EXIST CONDUCTORS, REFER TO CONDUIT 6.

APPROVED FOR ELECTRICAL WORK ONLY

SCALE 1"=20'

(B) ADDED STREET LIGHT INFORMATION

E-11

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE

ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 266 OF 283 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED FOR CITY ENGINEER: DANIEL NUTTER (DCE NAME) — 5/31/2017 (DATE) — 76641 (RCE#)

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER
214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-266-D

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
(B) ADDENDUM B	REC		10/17/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

J-13337

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE

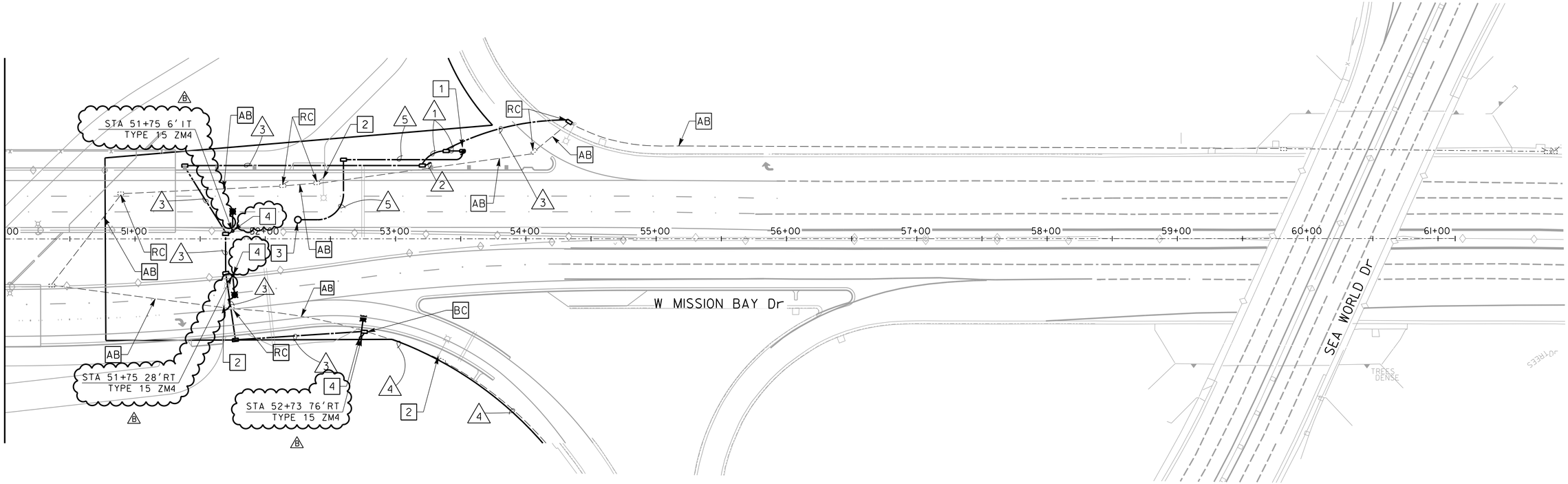
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CONDUIT LEGEND

1. 2"C, 2#6(SIGN), 2#6(Ltg), 1#8(G)
2. 2"C, 2#6(SIGN), 1#8(G)
3. 2"C, 2#6(Ltg), 1#8(G)
4. Exist 1 1/2"C, 2#6(Ltg), 1#8(G)
5. 2"C, WIRING PER SDG&E STANDARDS

LEGEND

1. TYPE III BF SERVICE EQUIPMENT ENCLOSURE
- B 2 RC EXIST TYPE 15 ELECTRICAL POLE, MAST ARM AND LUMINAIRE
3. PROPOSED 3325 MANHOLE BY OTHERS
- B 4 TYPE 15 ELECTRICAL POLE 12' MAST ARM AND ELECTROLIER PER CITY OF SAN DIEGO STANDARDS.



APPROVED FOR ELECTRICAL WORK ONLY

0 20 40 60
SCALE 1" = 20'

B ADDED STREET LIGHT INFORMATION

WEST MISSION BAY DRIVE BRIDGE

E–12

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE

ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 267 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 5/31/2017
DANIEL NUTTER, DCE NAME — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	REC		10/17/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-267-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

ADDENDUM B

RICK ENGINEERING COMPANY
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619-291-0707
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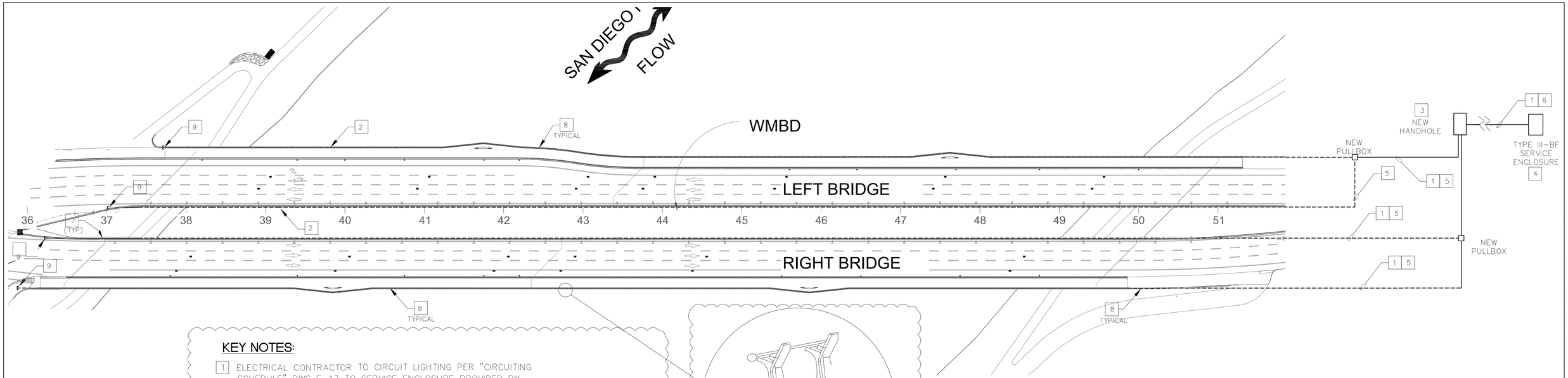
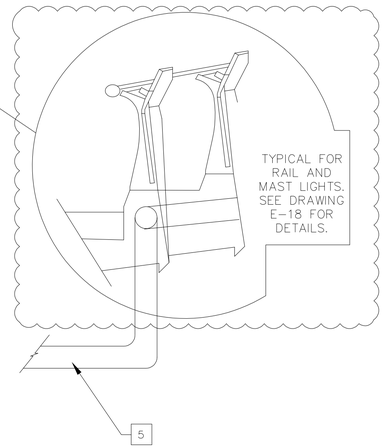
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

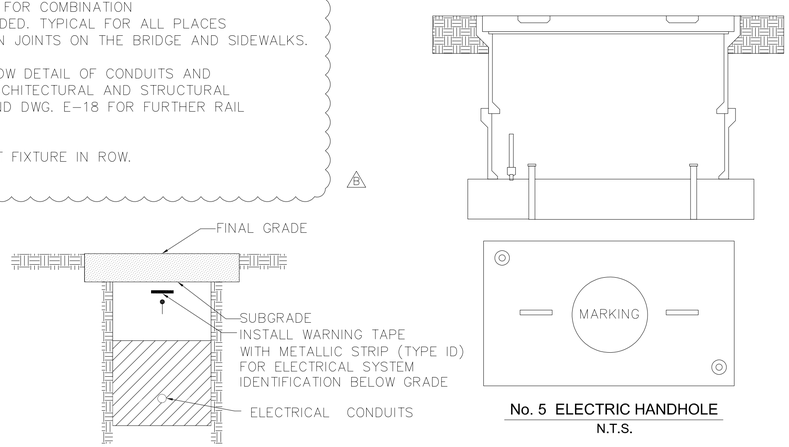
J-13337



KEY NOTES:

1. ELECTRICAL CONTRACTOR TO CIRCUIT LIGHTING PER "CIRCUITING SCHEDULE" DWG E-17 TO SERVICE ENCLOSURE PROVIDED BY CALTRANS. REFER TO "SERVICE ENCLOSURE DETAIL" DWG E-18, ALSO REFER TO LIGHTING DETAILS ON DWG E-17.
2. LOCATIONS OF LIGHTS IS DIAGRAMMATICAL COORDINATE WITH HANDRAIL AND MAST ARM LIGHTING DETAILS DWG E-18 FOR DETAILS AND EXACT LOCATIONS.
3. NEW HANDHOLE. COORDINATE EXACT LOCATION WITH CITY OF SAN DIEGO ENGINEERING DRAWINGS. REFER TO "LIGHTING DETAILS (THIS DRAWING) FOR FURTHER INFORMATION.
4. ELECTRIC SERVICE ENCLOSURE. COORDINATE EXACT LOCATION WITH CITY OF SAN DIEGO ENGINEERING DRAWINGS (AND RICK ENG. SIGNAL DRAWING E-7 .) REFER TO DWG E-18 FOR FURTHER INFORMATION.
5. (1) 1" SCHEDULE 80 PVC CONDUIT FROM ELECTRIC HANDHOLE TO RAIL CONDUIT ENCLOSURE AT RAIL END. (1) PER SIDE. COORDINATE LOCATIONS WITH CITY OF SAN DIEGO ENGINEERING AND STRUCTURAL DRAWINGS.
6. (1) 2" SCHEDULE 80 PVC CONDUIT FROM ELECTRIC SERVICE ENCLOSURE TO HANDHOLE. COORDINATE WITH CITY OF SAN DIEGO ENGINEERING DRAWINGS AND RICK ENG. SIGNAL DRAWING E7.
7. REFER TO CALTRANS STANDARD DETAIL ES-9B FOR COMBINATION EXPANSION-DEFLECTION FITTING DETAIL AS NEEDED. TYPICAL FOR ALL PLACES WHERE ELECTRICAL CONDUITS CROSS EXPANSION JOINTS ON THE BRIDGE AND SIDEWALKS.
8. BRIDGE RAIL WORK HAS BEEN REMOVED TO SHOW DETAIL OF CONDUITS AND WIRING WITHIN THE BRIDGE RAILS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILED RAILING DRAWINGS, AND DWG. E-18 FOR FURTHER RAIL WIRING DETAILS.
9. TERMINATE CONDUIT AND WIRING AT LAST LIGHT FIXTURE IN ROW.





UNPAVED AREAS

NOTE:
REFERENCE CALTRANS TRENCHING DETAILS FOR EXACT REQUIREMENTS.

No. 5 ELECTRIC HANDHOLE
N.T.S.

HANDHOLE NOTE:

1. REFER TO CALTRANS REVISED STANDARD PLAN RSP-ES-8, DETAIL 'A' FOR HANDHOLE BOX DETAILS.

GENERAL NOTES:

1. ALL MATERIALS SHALL BE U.L. LISTED WHEN SUCH LISTINGS EXIST. ALL WORK AND MATERIALS SHALL CONFORM TO ALL APPLICABLE BUILDING CODES REGULATIONS AND LAWS IN FORCE AS WELL AS THE ELECTRICAL SPECIFICATIONS.
2. CONTRACTOR SHALL INSTALL NEW ELECTRICAL DEVICES, ALONG WITH ANY SPECIAL INSTALLATION ATTRIBUTES, IN LOCATIONS SHOWN ON PLAN.
3. THE ELECTRICAL SUB-CONTRACTOR SHALL DETERMINE IN ADVANCE, FROM THE CITY OF SAN DIEGO REPRESENTATIVE, THE ADEQUACY OF THE ELECTRICAL SERVICE EQUIPMENT.
4. ALL CIRCUIT NUMBERS ARE FOR REFERENCE ONLY.

UNDERGROUND SERVICE ALERT
(USA) 1-800-422-4133

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

APPROVED FOR ELECTRICAL WORK ONLY

TY·LIN
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
M. McENTEE 35275 3/31/19 3/6/17
PROJECT ENGINEER RCE EXP DATE

REGISTERED PROFESSIONAL ENGINEER
MICHAEL ROBERT MCENTEE
35275
MECHANICAL
STATE OF CALIFORNIA

E-14

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE BRIDGE ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 269 OF 283 SHEETS

APPROVED:
FOR CITY ENGINEER DANIEL NUTTER — 5/31/2017 DATE
DEPUTY CITY ENGINEER — 76641 RCE #

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	TYLI		10/11/17	
AS BUILT				

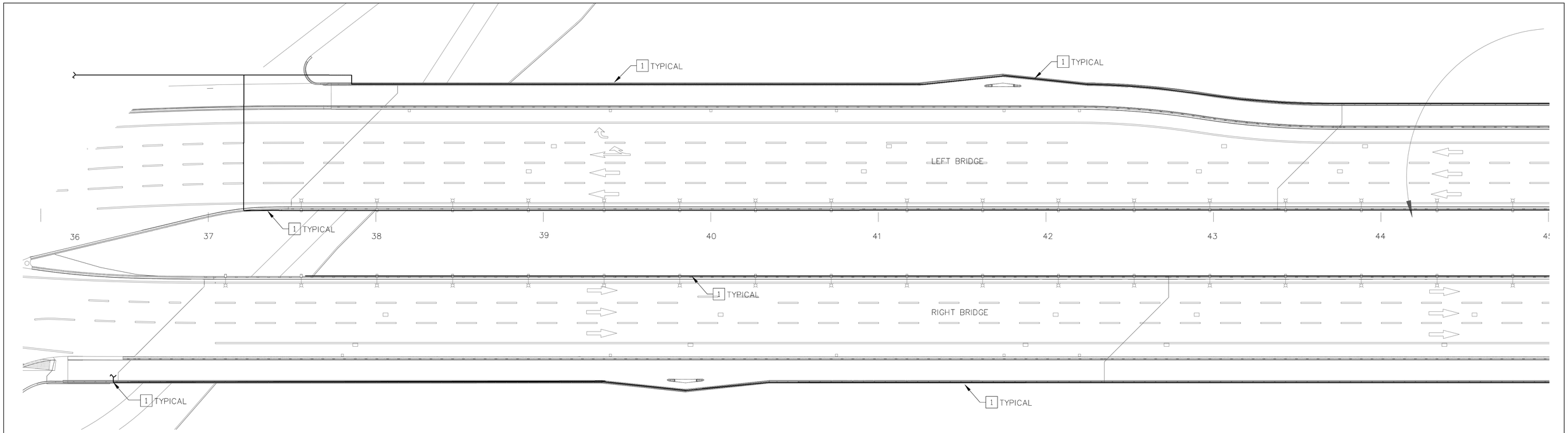
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

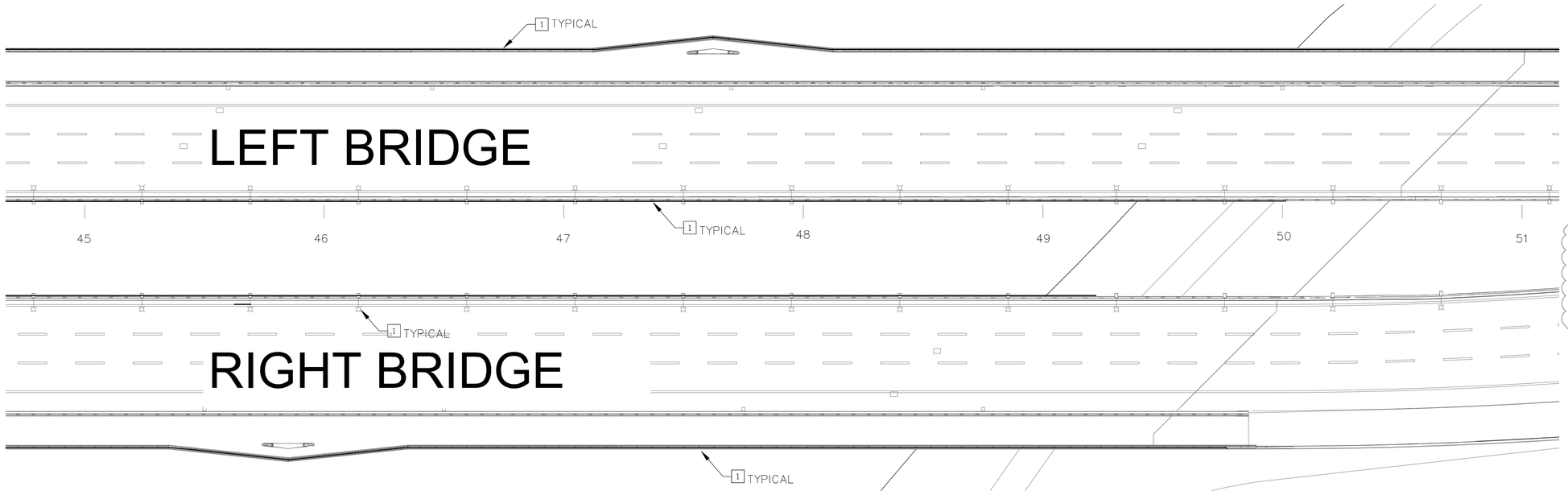
WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097
SUBMITTED BY:
JESUS GARCIA
PROJECT MANAGER
HEIDI LEON
PROJECT ENGINEER
214-1695
CCS27 COORDINATE
1854-6255
CCS83 COORDINATE
39475-269-D

B UPDATED DETAIL

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE





NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

GENERAL ELECTRICAL NOTES:

1. ALL MATERIALS SHALL BE U.L. LISTED WHEN SUCH LISTINGS EXIST. ALL WORK AND MATERIALS SHALL CONFORM TO ALL APPLICABLE BUILDING CODES REGULATIONS AND LAWS IN FORCE AS WELL AS THE ELECTRICAL SPECIFICATIONS.
2. CONTRACTOR SHALL INSTALL NEW ELECTRICAL DEVICES, ALONG WITH ANY SPECIAL INSTALLATION ATTRIBUTES, IN LOCATIONS SHOWN ON PLAN.
3. THE ELECTRICAL SUB-CONTRACTOR SHALL DETERMINE IN ADVANCE, FROM THE CALTRANS REPRESENTATIVE, THE ADEQUACY OF THE ELECTRICAL SERVICE EQUIPMENT.
4. ALL CIRCUIT NUMBERS ARE FOR REFERENCE ONLY.

KEY NOTES:

[1] BRIDGE RAIL WORK HAS BEEN REMOVED TO SHOW DETAIL OF CONDUITS AND WIRING WITHIN THE BRIDGE RAILS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILED RAILING DRAWINGS, AND DWG. E-18 FOR FURTHER RAIL WIRING DETAILS.

[B]

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T·Y LIN
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK

PROJECT ENGINEER	RCE	EXP	DATE
M. McENTEE	35275	3/31/19	3/6/17

REGISTERED PROFESSIONAL ENGINEER — MICHAEL ROBERT McENTEE — 35275 — MECHANICAL — STATE OF CALIFORNIA

E-15

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 270 OF 283 SHEETS

APPROVED: FOR CITY ENGINEER DANIEL NUTTER — DEPUTY CITY ENGINEER — 5/31/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA — PROJECT MANAGER

HEIDI LEON — PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
[B] ADDENDUM B	TYLI	[illegible]	10/11/17	
AS BUILT				

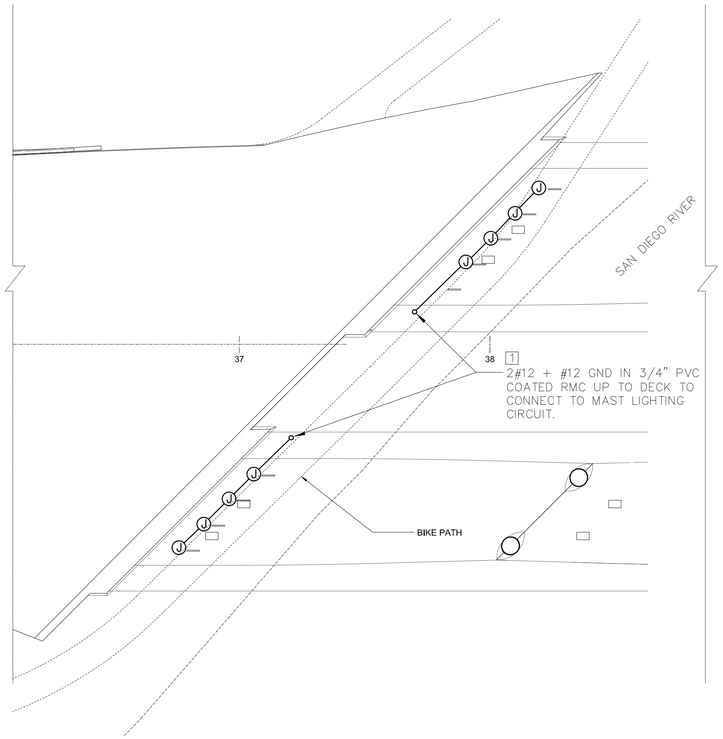
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097
214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-270-D

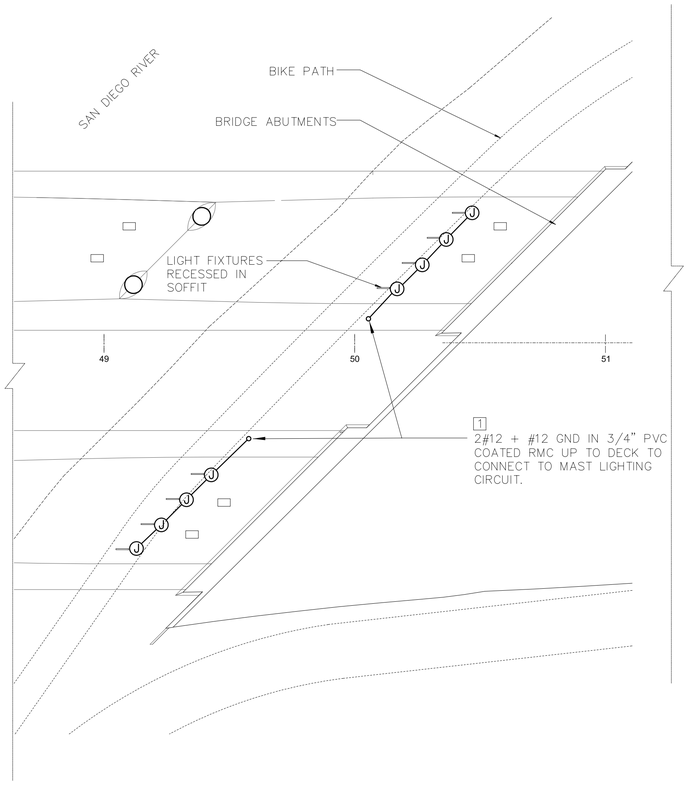
[B] UPDATED DETAIL

ADDENDUM B

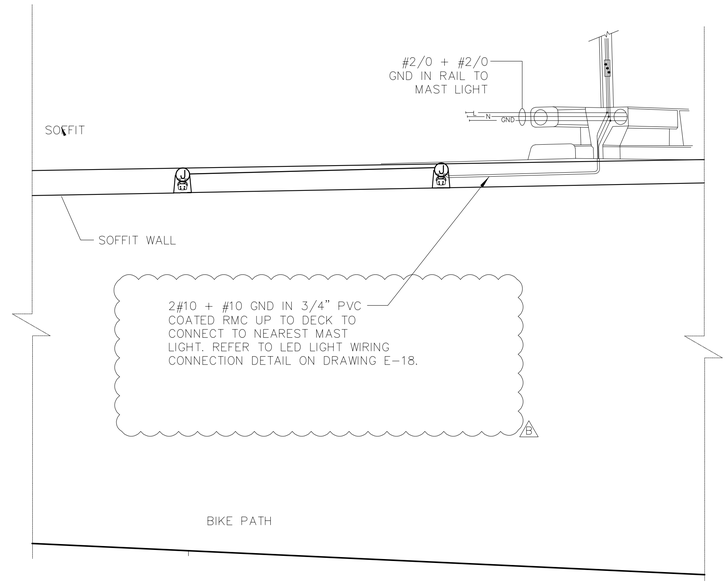
WEST MISSION BAY DRIVE BRIDGE



SOFFIT LIGHTING
N.T.S.



SOFFIT LIGHTING
N.T.S.



SOFFIT LIGHTING WIRING DETAIL
N.T.S.

KEY NOTES:

1 ELECTRICAL CONTRACTOR TO CIRCUIT LIGHTING PER "CIRCUITING SCHEDULE" DWG E-9.

GENERAL ELECTRICAL NOTES:

1. ALL MATERIALS SHALL BE U.L. LISTED WHEN SUCH LISTINGS EXIST. ALL WORK AND MATERIALS SHALL CONFORM TO ALL APPLICABLE BUILDING CODES REGULATIONS AND LAWS IN FORCE AS WELL AS THE ELECTRICAL SPECIFICATIONS.
2. CONTRACTOR SHALL INSTALL NEW ELECTRICAL DEVICES, ALONG WITH ANY SPECIAL INSTALLATION ATTRIBUTES, IN LOCATIONS SHOWN ON PLAN.
3. THE ELECTRICAL SUB-CONTRACTOR SHALL DETERMINE IN ADVANCE, FROM THE CALTRANS REPRESENTATIVE, THE ADEQUACY OF THE ELECTRICAL SERVICE EQUIPMENT.
4. ALL CIRCUIT NUMBERS ARE FOR REFERENCE ONLY.
5. LOCATIONS OF SOFFIT LIGHTS IS DIAGRAMMATICAL COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATIONS.

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404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK

PROJECT ENGINEER	RCE	EXP	DATE
M. McENTEE	35275	3/31/19	3/6/17

REGISTERED PROFESSIONAL ENGINEER MICHAEL ROBERT McENTEE 35275 MECHANICAL STATE OF CALIFORNIA

E-16

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
BRIDGE ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 271 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 5/31/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER

HEIDI LEON, PROJECT ENGINEER

214-1695 CCS27 COORDINATE

1854-6255 CCS83 COORDINATE

39475-271-D

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	TYLI	[signature]	10/11/17	
AS BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

WEST MISSION BAY DRIVE BRIDGE

B UPDATED DETAIL

ADDENDUM B

ABBREVIATION LIST

A	AMPERE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
E	EXISTING
EQUIP	EQUIPMENT
ELEC	ELECTRIC
EMT	ELECTRIC METALLIC TUBING
ETR	EXISTING TO REMAIN
GND	GROUND
HZ	HERTZ
JB	JUNCTION BOX
LTG	LIGHTING
NEC	NATIONAL ELECTRICAL CODE
N	NEUTRAL
PB	PULLBOX
ø	PHASE
PH	PHASE
P	POLE
UG	UNDERGROUND
V	VOLT
VA	VOLT-AMPERE
W	WATT
WP	WEATHERPROOF

ELECTRICAL PANEL

MAIN CIRCUIT BREAKER: PER CITY OF SAN DIEGO ENGINEERING DIRECTION
MAIN BUS:
VOLTAGE: 120/240V-1P-3W

PROJECT NAME: WEST MISSION DRIVE BRIDGE
FED FROM: PER CITY OF SAN DIEGO
LOCATION: PER CITY OF SAN DIEGO

DESCRIPTION	PHASE WATTAGE øA	øB	øC	BREAKER POLE	AMP	CKT	BUS	CKT	BREAKER AMP	POLE	PHASE WATTAGE øA	øB	øC	DESCRIPTION
PEU #1	720			1	20	1		2	1	20	720			PEU #2
LEFT BRIDGE RAIL LIGHTS		1499		1	20	3		4	1	20		1505		RIGHT BRIDGE RAIL LIGHTS
LEFT BRIDGE MAST LIGHTS			1614	1	20	5		6	1	20			1483	RIGHT BRIDGE MAST LIGHTS
IRRIGATION CTRL	3600			1	30	7		8						
						9		10						
						11		12						
						13		14						
						15		16						
						17		18						
						19		20						
	4320	1499	1614								720	1505	1483	

	øA	øB	øC	CALCULATED LOAD VALUES	
PANEL PHASE TOTALS	5040	3004	3097	TOTAL CONNECTED kw	11.14kw
				TOTAL CONNECTED A	30.94

PANEL SCHEDULE NOTE:

1. PANEL SCHEDULE BREAKER LOCATIONS ARE SHOWN FOR REFERENCE ONLY. ACTUAL PANEL PROVIDED AND INSTALLED BY CALTRAN. SIZE AND SPACES AVAILABLE MAY DIFFER FROM SCHEDULE. COORDINATE IN FIELD.
2. REFER TO CALTRANS PLAN ES-2E ELECTRIC SYSTEMS (SERVICE EQUIPMENT ENCLOSURE AND TYPICAL WIRING DIAGRAM TYPE III-B SERIES) FOR SERVICE ENCLOSURE DETAILS.
3. COORDINATE IRRIGATION CONTROLLER BREAKER SIZE WITH MANUFACTURER.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	DRIVER	LAMPS/WATTS	VOLT.	DESIGN MAKE/MODEL
LED	RAIL LIGHT	ELECTRONIC	1/6.3W	120V	BEGA 2009LED UPGRADE
LED	MAST ARM ROADWAY LIGHT	ELECTRONIC	1/87W	120V	SELUX R3/R4-L1-6TL500-30 MOUNTED TO TECHNALINOX BARRIER MTD ELECTROLIER POLES
LED	SOFFIT LIGHTING	ELECTRONIC	11W/FT	120V	COVELINE XL WET 4-3K-
LED	SOFFIT LIGHTING EQUAL	ELECTRONIC	20W/FT	120V	ACCLAIM LIGHTING DYNACOVE EXTERIOR DCB.D.A.B (SEE NOTES)
LED	SOFFIT LIGHTING EQUAL	ELECTRONIC	11W/FT	120V	ECOSENSE TROVE L50 (SEE NOTES) L50-E-48-12-30-MULT-80

LIGHTING NOTES:

- COORDINATE COLORS WITH CITY OF SAN DIEGO.
- COORDINATE ALL LUMINAIRE SPECIFICATIONS WITH CITY OF SAN DIEGO REPRESENTATIVE PRIOR TO ORDERING.
- COORDINATE MAST LIGHTING POLES WITH CITY OF SAN DIEGO REPRESENTATIVE PRIOR TO ORDERING.
- REFERENCE ELEVATION ON "CABLE HANDRAILING DETAILS #1" AND "DRIVER POST DETAILS" ON "CABLE HANDRAILINGS DETAIL #1"
- SOFFIT LIGHTING CHOICES MUST MATCH SPECS FOR THE COVELINE XL WET SERIES. COORDINATE WITH ENGINEER.

SYMBOLS AND ABBREVIATIONS

1. REFER TO CALTRAN STANDARD PLAN SYMBOLS.

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(619) 692-1920 www.tylin.com

ENGINEER OF WORK

M. McENTEE 35275 3/31/19 3/6/17
PROJECT ENGINEER RCE EXP DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL ROBERT McENTEE 35275 MECHANICAL STATE OF CALIFORNIA

E-17

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

BRIDGE ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 272 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER — DATE 5/31/2017
DEPUTY CITY ENGINEER — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	TYLI		10/11/17	
AS BUILT				

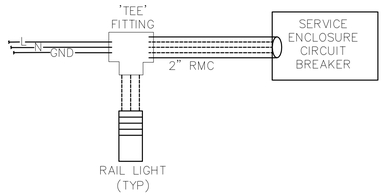
214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-272-D

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

B UPDATED DETAIL

ADDENDUM B

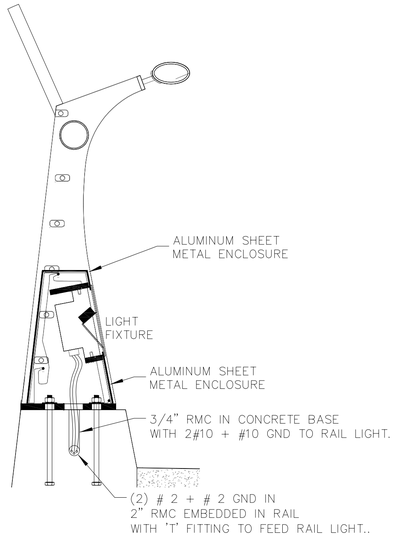
WEST MISSION BAY DRIVE BRIDGE



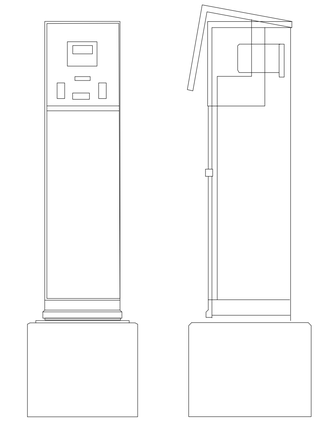
LED LIGHT WIRING

LED NOTE:

1. TEE FITTING FOR RAIL LIGHTS ONLY. COORDINATE MANUFACTURERS CUT SHEETS TO FIT TEE INSIDE CONCRETE CURB. FOR DIMENSIONS OF CURB SEE DRAWING S-58.



LED LIGHT WIRING CONNECTION DETAILS



ENCLOSURE NOTES:

1. REFER TO CALTRANS PLAN ES-2E ELECTRIC SYSTEMS (SERVICE EQUIPMENT ENCLOSURE AND TYPICAL WIRING DIAGRAM TYPE III-B SERIES) FOR SERVICE ENCLOSURE DETAILS.
2. ENCLOSURE COMES PRESET A 60A, 2P CONTACTOR WHICH THE CITY OF SAN DIEGO ENGINEERING WILL USE TO CONTROL THE LIGHTS.

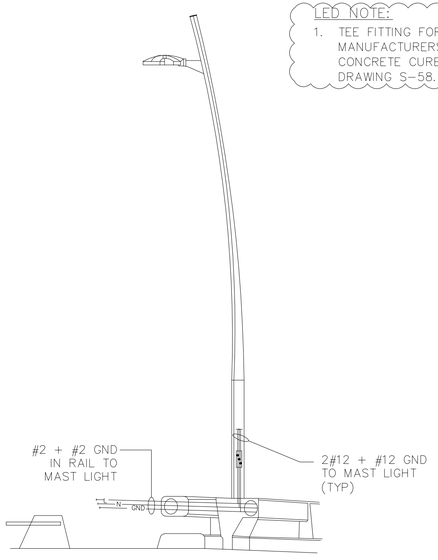
ELECTRIC POWER ENCLOSURE

N.T.S.

GENERAL NOTES:

1. REFER TO CALTRANS STANDARD DETAILS ES-9B FOR EXPANSION FITTINGS AS NEEDED AT ABUTMENT AND HINGE EXPANSION LOCATION.
2. PROVIDE PULLBOX AT 3'-3" MINIMUM FROM ELECTROLIER IN CONCRETE BARRIER FOR POLE LIGHTS. REFER TO CALTRANS STANDARD PLAN B11-61.
3. ALSO REFER TO DWG NOS. S-61, S-68, S-69 AND S-74 FOR FURTHER DETAILS.

B



WIRING CONNECTION DETAILS TO ELECTROLIER

LED NOTE:

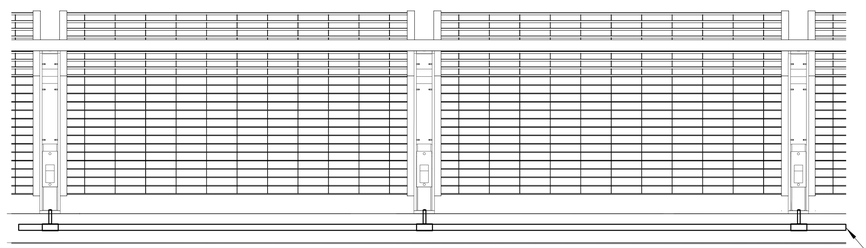
1. COORDINATE WITH MANUFACTURER FOR A COMPLETE "BOM" FOR THE DESIGN OF ALL CONNECTOR PIECES AND PARTS FOR A COMPLETE LIGHTING SYSTEM.
2. REFER TO MANUFACTURERS TECHNICAL DRAWINGS FOR INSTALLATION DETAILS.
3. REFER TO STRUCTURAL DRAWINGS AND GENERAL NOTES, THIS DRAWING FOR RAILING AND PULLBOX DETAILS.
4. POWER TO SOFFIT LIGHTS WILL BE WIRED THE SAME. HOWEVER POWER WILL FEED SOFFIT LIGHT JUNCTION BOX. CONNECT SOFFIT LIGHTING TO NEAREST MAST LIGHTING FIXTURE.

B

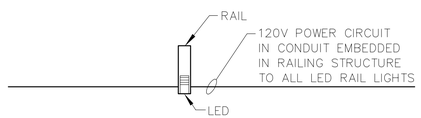
SWITCHING/CIRCUITING DIAGRAM

SWITCHING SCHEDULE

- RAIL LIGHTS = PEU #1
- MAST, AND SOFFIT LIGHTS = PEU #2



LED RAIL LIGHT WIRING CONNECTION DETAILS



LED LIGHT WIRING DETAILS

N.T.S.

APPROVED FOR ELECTRICAL WORK ONLY

TYLIN
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK

S. THOMSEN	7544	6/30/19	10/12/17
PROJECT ENGINEER	RCE	EXP	DATE

REGISTERED PROFESSIONAL ENGINEER — STEVEN P. THOMSEN — 7544 — CONTROL SYSTEM — STATE OF CALIFORNIA

E-18

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
BRIDGE ELECTRICAL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 273 OF 283 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED: FOR CITY ENGINEER — DANIEL NUTTER — DEPUTY CITY ENGINEER — 5/31/2017 DATE — 76641 RCE #

SUBMITTED BY: JESUS GARCIA — PROJECT MANAGER

HEIDI LEON — PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	TYLI		10/11/17	
AS BUILT				

214-1695 CCS27 COORDINATE

1854-6255 CCS83 COORDINATE

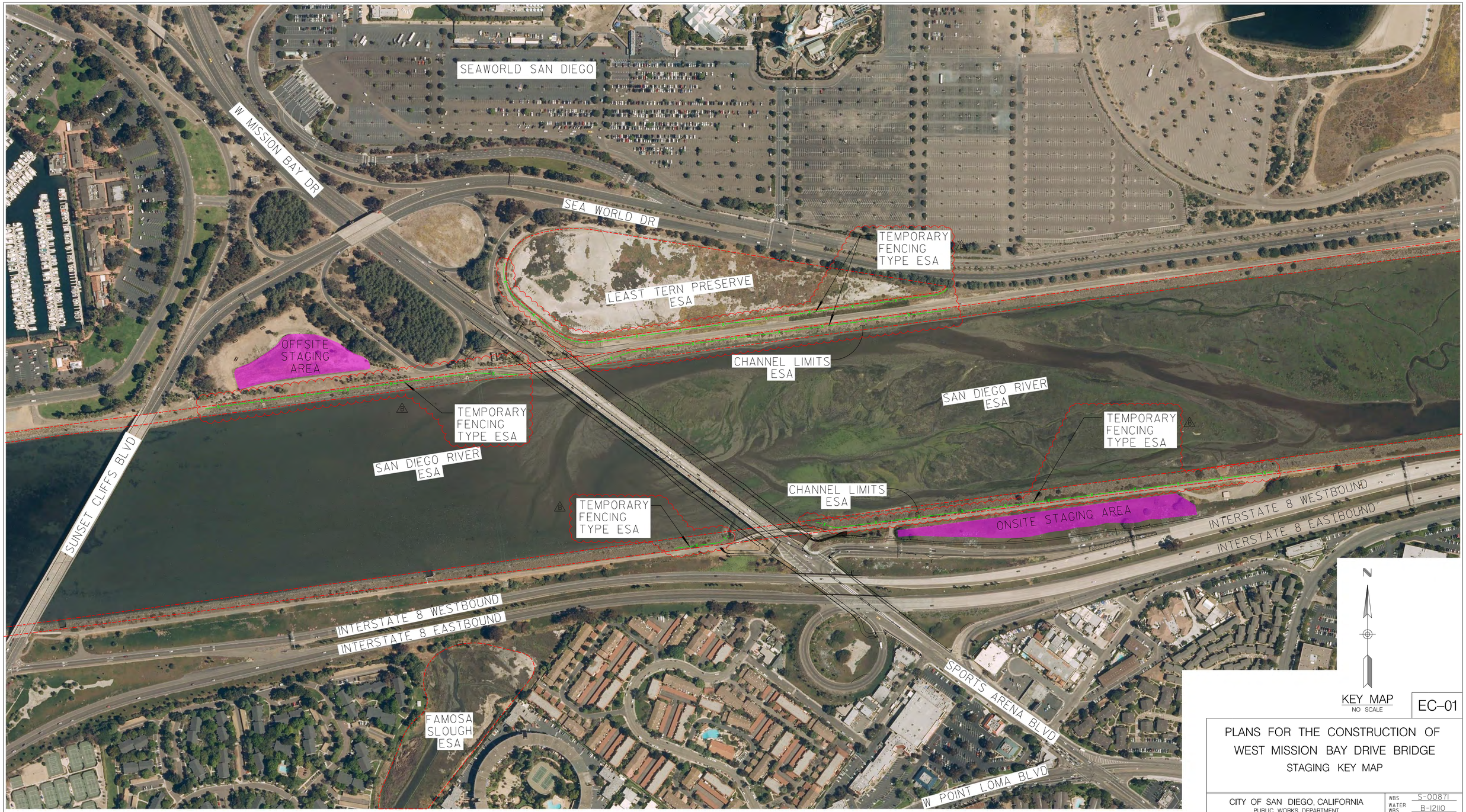
39475-273-D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

B UPDATED DETAIL

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE



KEY MAP
NO SCALE

EC–01

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE STAGING KEY MAP

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET E1 OF E23 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED: _____ 5/31/2017
FOR CITY ENGINEER — DATE
DANIEL NUTTER — 76641
DEPUTY CITY ENGINEER — RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
B ADDENDUM B	REC		10/17/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475–E1 –D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

REGISTERED PROFESSIONAL ENGINEER — GREGORY P. CARPENTER — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
San Diego · Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver

J-13337

B ADDED TEMPORARY ESA FENCING

ADDENDUM B

WEST MISSION BAY DRIVE BRIDGE

City of San Diego

CITY CONTACT: Antoinette Sanfilippo. Contract Specialist, **Email:** ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, **Fax No**. (619) 533-3633

ADDENDUM C

e - Bidding

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.:	K-18-1472-DBB-3
SAP NO. (WBS/IO/CC):	S-00871, B-12110, B-12097
CLIENT DEPARTMENT:	1714, 2000, 2116
COUNCIL DISTRICT:	2
PROJECT TYPE:	GF, IB, JA
FEDERAL AID PROJECT NO.:	BHLS-5004(049)

BID DUE DATE:

2:00 PM
NOVEMBER 16, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

1) Registered Engineer — 10/24/17 — Date — Seal:

2) For City Engineer — 10/26/2017 — Date — Seal:

A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

THE SUBMITTAL DATE FOR THIS PROJECT HAS BEEN EXTENDED AS STATED ON THE COVER PAGE

B. BIDDER's QUESTIONS

Q1. Rather than using temporary casing to pile tip elevation in conjunction with permanent casing: 1) Please confirm the 120" permanent casing can be extended to pile tip elevation and then extracted to final tip elevation during the concrete pour operation assuming concrete head elevation will remain a minimum of 10' above casing tip elevation. This would make the CIDH pile 120" for the entire length rather than 120"/108". 2) Please confirm the 72" permanent casing can be extended to pile tip elevation and then extracted to final tip elevation during the concrete pour operation assuming concrete head elevation will remain a minimum of 10' above casing tip elevation. This would make the CIDH pile 72" for the entire length rather than 120"/108".

A1. Permanent casing may be extended to pile tip and extracted to casing tip pending submittal, review, and approval of the contractor's pile installation plan and working drawings.

Q2. If permanent casing can be used to pile tip eleavation and extracted during concrete pour, please Confirm no changes to the reinforcing cage is required due to the increased concrete cover.

A2. This may be possible, pending submittal, review, and approval of the contractor's pile installation plan and working drawings.

Q3. If temporary casing is used to the pile tip elevation at the abutment piles: 1) Please confirm that 1650 mm (64.96" OD/61.02" ID) temporary casing can be used for the 60" piles.

A3. Confirmed, pending submittal, review, and approval of the contractor's pile working drawings.

Q4. There is conflicting information on lane requirements during construction; sheet S-01 “Phase 2A” shows 2 north and 2 south bound lanes versus Sheet TC-63 which show 3 north and 2 south bound lanes. Please review and advise.

A4. Refer to Traffic Control plans. Sheets 39475-107-D (S-06) through 39475-109-D (S-08) illustrate staged construction of the bridge only.

Q5. Can all existing pier group timber pile be left in place as shown for piers 2, 4, 7 and 9?

A5. No. All piles must be removed, per Sheet 39475-111-D (S-10) and 39475-112-D (S-11).

Q6. If the contractor determines a better plan for phasing the work than what is called for in the plans and specs and include this price advantage in the bid, essentially giving the city money back on bid day for the contractor's ingenuity, will the city still expect a credit from the contractor post bid to allow the alternate plan, like the city has done on other contracts? If so, the city is forcing all bidders to bid the phasing of the work as shown on the plan and specs and will lose out on any price advantages from contractor's ingenuity.

A6. Please bid per plan and specifications.

Q7. The contract documents are contradicting. The Nationwide Permit Verification Letter (Dated January 5, 2017) states that no cofferdams are authorized. Temporary steel sheet pile and walers beams configured to hold back water and earth are needed to accomplish the demolition of the old pier's concrete and wood pile extraction. A similar temp structure will be required at each new pier location to accommodate the shaft cutoff at elevation -7, (about 7' below mud line). What is the contract's definition of a cofferdam? If the above description meets the definition of a cofferdam, than how does the city plan to perform the demolition and new shaft cutoff without a cofferdam, please advise.

A7. Cofferdams cannot be used to access a dry riverbed from the shoreline. Temporary sheet piles and similar devices must be limited to the immediate area surrounding individual piers to be constructed or removed.

Q8. Please provide the list of CUCP work category codes that were utilized to develop the DBE goal for the project.

A8. The following CUCP work categories were utilized to develop the DBE goal for the project:

C0625	C1601	C2602	C5110	C7112	C8405	C9903
C0670	C1701	C2700	C5201	C7191	C8406	
C0671	C1901	C3701	C5301	C7200	C8501	
C1200	C1920	C3910	C5501	C7218	C8602	
C1201	C1930	C3940	C5601	C7301	C8712	
C1290	C2000	C4901	C5620	C7500	C8851	
C1522	C2020	C4906	C6500	C8000	C8852	
C1531	C2030	C5000	C6819	C8001	C9829	
C1575	C2066	C5100	C7000	C8330	C9867	
C1580	C2301	C5105	C7035	C8331	C9869	

Q9. Reference Notice Inviting Bids, 12. Supplemental Agreements and Question and Answer #30 of Addendum A – This section states "Supplemental agreements attached to this contract for the items of Work such as extended revegetation maintenance and monitoring shall be signed by the BIDDER at the time of submission of the primary BID. The signed agreements shall be accompanied by the evidence of a bond (i.e., labor and materials) and insurance as specified in 2-4, "CONTRACT BONDS," 7-3, "LIABILITY INSURANCE," and 7-4 WORKERS' COMPENSATION INSURANCE. Bonds shall be in amount of the Contract Price for the Work included in the supplemental agreements." Appendix P & Q, LTMMA 1 and 2 specifically states: "This 25-Month Long-Term Maintenance & Monitoring Agreement (LTMMA) is made and entered into by and between the City of San Diego (City), a municipal corporation, and INSERT NAME OF CONTRACTOR - TO BE IDENTIFIED AFTER AWARD (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."; and Recitals A states: "Concurrent with execution of this LTMMA, the Parties entered into a general contract (Construction Contract) for the construction of…"; and Section 5: Bonds and Insurance states: "Prior to the commencement of Work, the Contractor, at its sole cost and expense, shall provide the following bonds issued by a surety authorized to issue bonds in California satisfactory to the City…" which indicate that the LTMMA Agreements are not due to be executed and

bonds provided at time of bid submission. We request the requirement to execute the agreements and provide bonds at time of submission of the bid be deleted. Specifically, in regard to the bonds, a surety will not issue contract bonds to a Bidder for a contract that has not been awarded yet.

A9. Addressed in Addendum B.

Q10. Reference Appendix P and Appendix Q, Long-Term Maintenance and Monitoring Agreement (LTMMA) 1 and 2. Please confirm that the Contract Bonds required by the LTMMA Agreements are separate of the Contract Bonds required for the Construction Contract. Also, please provide a copy of the LTMMA Payment and Performance Bond forms to be utilized for the Agreements.

A10. Please refer to Section E-2, Bond Handling for Contract Phases, in Appendix P and Q.

Q11. Reference Contract Bonds for Construction Contract and LTMMA – If the Contract Bonds for the Construction Contract and LTMMA are separate Contract Bonds, please confirm that the Contract Bonds for the Construction Contract will be released upon completion of the Construction Contract.

A11. Please refer to Section E-2, Bond Handling for Contract Phases, in Appendix P and Q.

Q12. Reference Certifications and Forms, Certification with Regard to the Performance of Previous Contracts or Subcontracts Subject to the Equal Opportunity Clause and the Filing of Required Reports – Please confirm, is this form due only for the Bidder or is it also required to be completed by each listed subcontractor at time of bid submission.

A12. The form is to be submitted by the prime and address both prime and all sub-contractors. The prime may fill out the form for each sub-contractor or note to see attached documents.

Q13. Reference Instructions to Bidders, 14. Subcontractor Information, 14.1 Listing of Subcontractors. This section states: “In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the

NAME and ADDRESS of each Subcontractor who will perform work, labor, render services or who specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also state within the description, whether the subcontractor is a CONSTRUCTOR, CONSULTANT or SUPPLIER. The Bidder shall further state within the description, the PORTION of the work which will be performed by each subcontractor under this Contract." The Subletting and Subcontracting Fair Practices Act is applicable to subcontractors, not suppliers and consultants. We request the requirement to designate "CONSTRUCTORS, CONSULTANT or SUPPLIER" be deleted.

A13. Please refer to section 14.1 in Instructions to Bidders, page 13 of the solicitation document.

Q14. Please confirm that Section 9-1.16F RETENTIONS of the 2015 Caltrans Specifications applies to this project and that the owner will not withhold retention from progress payments made on this contract.

A14. Please refer to section 2-5.2 of the City's WHITEBOOK for precedence of contract documents.

Q15. Please confirm the bid item and unit of measurement for the curb and sidewalk on the bridge.

A15. Bridge curb and sidewalk is part of bid item 203, Structural Concrete, Bridge (F).

Q16. The curb and sidewalk is called out on Sheet 104 as 4500 PSI concrete. Please confirm the required concrete strength for 80 rail.

A16. Material requirements for the Type 80 rail are in Section 83 of the Caltrans Standard Specifications.

Q17. The environmental package within Addendum A did not contain the San Diego RWQCB 401 Water Quality Certificate (401 permit). Please provide for our review.

A17. See Addendum A folder in the following link:
https://filecloud.sandiego.gov/url/wtvamujfdulr

Q18. On sheet C-36 the callout for the Access MH W/ 1-2" AV/AR ASSY on the 20" Waterline provides a detail reference for the Access Manhole but not for the 2" AV/AR Assembly. On sheet C-39 the 14" Force Main references detail 1 on sheet M-4 for the Sewage AV/AR Assembly. Please provide a detail for the 20" Waterline AV/AR Assembly.

A18. See revision to Sheet 39475-40-D (C-36), included in Addendum C, for additional verbiage on installation/required modifications to City of San Diego Standard Drawing SDW-159.

Q19. Spec Section 73 of the Special Provisions calls out for Pre-Construction and Post-Construction Surveys. Please advise the payment method for this scope of work.

A19. Pre-Construction and Post-Construction Surveys are to be paid as part of the bid item for Minor Concrete (Curb Ramp) and Minor Concrete (Miscellaneous Construction), bid item 14 and 15 respectively. Revision to Section 73-1.04 is included in Addendum C.

Q20. In regard to the Seat Wall shown on sheet 26, [C-22]. A) What is the bid item, measurement and payment method for this scope of work? B) Please provide footing and stem dimensions for the seat wall. C) Please confirm there is no reinforcing steel in the seat wall.

A20. The Concrete Seat Walls are to be paid as part of the bid item for Minor Concrete (Miscellaneous Construction), bid item 15. Refer to revisions to Sheet 39475-26-D (C-22) and Section 73-1.04, included in Addendum C, for footing dimensions and reinforcement.

Q21. Please provide a specification for the 12" Steel [Drainage] Pipe (Bid item #60).

A21. The 12-inch steel pipe for drainage off of the bridge is to be constructed in accordance with Caltrans Standard Specification Section 70-3.

Q22. Please confirm there is no reinforcing steel or WWM required in the 4" PCC Shared Use Path and the 4" PCC Bicycle Path.

A22. The north and south shared use paths along the San Diego River and the NE Shared use path shall be built per the typical sections on Sheet 39475-6-D (C-2) and per the details on Sheet 39475-32-D (C-28) and are to include Welded Wire Fabric (WWF). The other shared use paths are to be built per the typical sections on Sheet 39475-6-D (C-2) and do not require WWF.

Q23. Per details on sheet M-2 for the 20" Waterline and M-3 for the 14" Force Mains a minimum of 25" Diameter Steel Casing is to be installed through the Bridge Hinge. What bid item will the steel casing be paid under?

A23. The steel casing through the hinge is to be paid as part of the bid item 215, Miscellaneous Metal (Bridge) (P-F).

Q24. On sheet M-3 Note number 1 states that "14" Ductile Iron Pipe to have 24 Mils Fusion Bonded Epoxy Lining and Coating Tested Holiday Free". Reference is made on this sheet to both 14" DIP bid items. What bid item does this note apply to?

A24. The note applies to bid item 248, Sewer Force Main (14-Inch, DI Class 250 with Restrained Joints), and bid item 249, Sewer Force Main (14-Inch, DI Class 53 with Flanged Joints).

Q25. Sheet C-38, C-40, C-41 & C-43 call for a 5X3 Access Manhole. Please provide a detail for this manhole.

A25. See revision to Sheet 39475-48-D (C-44) for Access Manhole Detail and revisions to Sheets 39475-42-D (C-38), 39475-44-D (C-40), 39475-45-D (C-41), 39475-47-D (C-43) for Access Manhole Detail References,

Q26. Regarding Bid Item 15, "Minor Concrete Misc. Construction", what does this quantity of 930 CY include?

A26. Bid Item 15 includes payment for curb and gutter, sidewalk, shared use paths, driveways, and the concrete seat walls. Revision to Section 73-1.04 is included in Addendum C.

Q27. Regarding Bid Item 20, "Remove Concrete", what does this quantity of 370 CY include?

A27. Bid Item 20 includes payment for the removal of the concrete raised median along Sports Arena Blvd. Revision to Section 15-1.04 is included in Addendum C.

Q28. Please provide a hazardous materials survey for the project that identifies all lead and asbestos materials sampled that may have an impact on the project.

A28. See Asbestos Containing Material Survey, dated September 6, 2016 and the Lead Safety Survey, dated May 21, 2015. Revision to sub-section 2-15 in the Supplementary Special Provisions is included in Addendum C.

Q29. For piles associated with piers 1, 3, 5, 6, 8 and 10, please advise if the piles can be abandoned in place versus complete removal if the piles do not impact the new construction.

A29. No. All piles must be removed per plan.

Q30. Plan sheets C-23 & C-24 call out 'Demountable Posts' on the Northwest and Northeast Bicycle Path Turnouts. What is the bid item and measurement and payment method for this scope of work? Please also provide a detail.

A30. Demountable posts are to be constructed per City of San Diego Standard Drawing M-16. See revision to Sheet 39475-17-D (C-13), included in Addendum C, for standard plan reference. Demountable Posts are to be paid for as part of bid item 101, Pedestrian Barricade. Revision to Section 701-2 is included in Addendum C.

Q31. Please provide additional details for the benches detailed on sheet 174. What is the spacing on the armrests? What material type is denoted by the grey shading? What material type is denoted by the non-shaded areas? Are the bench seats made of steel?

A31. Bench armrest layout dimensions are shown on the Bench Elevation. Bench materials consist of reinforced concrete and stainless steel. The shaded items are stainless steel.

Q32. Special Provision 209-2.2.4 Joints requires that all pipe shall have lap welded slip joints and shall be field welded on the inside. Due to safety requirements it will not be possible to field weld 20" CML&C Steel pipe on the inside. Please confirm that the joints can be welded from the outside. Also please confirm that the pipe can be installed a minimum of 18" above the soffit to allow for welding.

A32. Welding can be completed on the outside of the pipe. See revision to Section 209-2.2.4 included in Addendum C. A minimum of 18-inches above the soffit is provided.

Q33. Please provide sewage flow rates (MGD) for the existing 14" and 8" Sewer Force Mains.

A33. Flow rates to be provided when contract is awarded.

Q34. The specification requires the San Diego Channel to remain at 100% flow capacity from October through April unless waived by governing authority. This statement triggers the following questions: a. Will a waiver be allowed?

A34. Yes, please see Section 10-8.01A of Addendum A.

Q35. Will the Owner or Contractor be responsible to obtain waiver?

A35. The contractor is responsible for getting the waiver from the City, per Addendum A.

Q36. Will the placement of the temporary trestle be considered as reducing the 100% channel capacity?

A36. Yes, the temporary trestle reduces the channel capacity.

Q37. We noticed the profile elevations shown on Drawing Sheet C-12 appear to be incorrect. Please review and make corrections.

A37. Revision to Sheet 39475-16-D (C-12) for corrected profile grades is included in Addendum C.

Q38. Please provide dimension details for the concrete seat wall shown on drawings sheet C-22.

A38. Revision to Sheet 39475-26-D (C-22) for footing dimensions and reinforcement is included in Addendum C.

Q39. Bid Item #245 lists the quantity as 360 LF Quantities as shown in profiles thru abutments: a. Sheet 39-D/C-35 quantity is 47.26' b. Sheet 41-D/C-37 quantity is 67.96' c. Sheet 42-D/C-38 quantity is 59.26' d. Sheet 43-D/C-39 quantity is 55.96' e. Sheet 45-D/C-41 quantity is 55.96' f. Sheet 46-D/C-42 quantity is 67.96' Total for abutments is 354.36' However, there are no quantities shown for the casings through the hinges. Sheet 49-D/M-1 indicates that the footage for the casings at the abutments to be 42' at each. Of the two 20" Waterline abutment locations and 41.75' at each of the four 14" Sewer Force Main locations. Total Quantity is 251.00'. Sheets 50-D/M-2, 51-D/M-3, and Bridge Structural Sheets indicate that the 3 casings through the hinges will be 34' each for a total of 102'. However, note 3 of the material lists indicate that the casing through the hinges is to be a minimum of 25". This size is not listed in the bid in items and would not work for the 20" WSP. However, this total of 102' added to the 251'

totals 353' which is close to the quantity total of Bid Item #245. This also would indicate that the total quantity for Bid Item #245 should be 460 LF Questions: 1. Is the casing size through the hinges supposed to be 30"?

A39. See Sheets 39475-50-D (M-2) and 39474-51-D (M-3) for the sizes of the casing through hinges.

Q40. If, not what is the size for each location and under what bid item will this work be paid?

A40. Sizes are called out on Sheets 39475-49-D (M-1) through 39475-51-D (M-3). Casings through the hinge are paid under bid item 215, Miscellaneous Metal (Bridge) (P-F). Revision to Section 75-3.01A is included in Addendum C.

Q41. If so, is the casing length through the hinges to be paid under Item #245?

A41. No. Casings through the hinge are paid under bid item 215 Miscellaneous Metal (Bridge) bid item. Revision to Section 75-3.01A is included in Addendum C.

Q42. Will the quantity for Bid Item #245 be increased to 460 LF?

A42. No. Casings through the hinge are paid under the Miscellaneous Metal (Bridge) (P-F). Revision to Section 75-3.01A is included in Addendum C.

Q43. Due to the requirement for temporary casing to the tip elevation of the pile, please confirm it is acceptable to oscillate casing the entire depth and excavate the entire pile by dig crane and grab. In this case, no drill rig would be required for pile installation. Please confirm a rounded pile base created by excavation by grab is acceptable. The base of the drilled shaft can still be verified by Mini SID. a. If a rounded drilled shaft base is unacceptable, please confirm a drill rig must be used to clean loose soils and cuttings at the base of the shaft.

A43. A rounded pile base is not acceptable. The contractor is not required to use a drill rig to clean loose soils from the pile base.

Q44. Please confirm that mineral or synthetic slurry must be used for drilled shaft excavation even when the entire depth of the pile is cased.

A44. Confirmed.

Q45. Is item 120 EC-Type 3 seed mix the same as item 118 EC-Type 1 (refer to plan 39475-101D).

A45. No. See Sheet 39475-100-D for EC-Type 3 and Sheet 39475-101-D for EC-Type 1.

Q46. In regards to item 125, 126 and 240: will the City be responsible for the Monitoring Plan and Reporting since the City is providing Project Biologist and the Restoration Ecologist?

A46. Monitoring and reporting for planting and the off-site mitigation sites will be provided by the City's Project Biologist/Restoration Ecologist, not the bidding contractor.

Q47. In regards to item 240: can the initial 120 day plant establishment period and following 56 month maintenance period start as soon as the Eastern and Western Mitigation Sites are planted and/or seeded? Which may be able to begin during the second year of the projects 900 WD.

A47. Correct, 120-day PEP commences when installation is accepted by the City, regardless of schedule for bridge construction component.

Q48. In regards to item 125 & 126: can the initial 90 day plant establishment period and following 34 month maintenance period start as soon as the irrigation and landscape items are complete and accepted?

A48. The plant establishment periods can begin after completion of all planting work, per Section 20-4.

Q49. Please provide the location and as-builts for the existing Sewer Lift Station or Stations feeding the Existing 14" Sewer Force Main and 8" Sewer Force Main that are to be replaced.

A49. A selected number of sheets of As-Built drawings have been provided via Addendum C. For a complete set of As-Builts, bidder must request the drawings in-person at the City's Development Services Department and pay any applicable fees.

Q50. Attachment E - Supplementary Special Provisions – Section 7-3 substitutes the insurance requirements from the Greenbook, however, Attachment D CERTIFICATE OF INSURANCE for both Workers' Compensation Insurance and Liability Insurance reference Caltrans

Standard Specs and require that an insurance company representative certify that those requirements are met. Please clarify which insurance requirements need to be followed.

A50. Please refer to Attachment E, pages 220-228 of the solicitation document.

Q51. Attachment D CERTIFICATE OF INSURANCE for both Workers' Compensation Insurance and Liability Insurance reference Caltrans Standard Specs Section 7-1.12. We are unable to locate this specification. Please advise.

A51. Please refer to Item 10 in Instruction to Bidders, page 12 of the solicitation document, for a website link to the Caltrans Standard Specifications.

Q52. Attachment E - 7-3.2.3 Contractors Pollution Liability Insurance and 7-3.2.4 Contractors Hazardous Transporters Pollution Liability Insurance. Will the city consider allowing a deductible in excess of $25,000 per claim when factoring the financial stability and ability to pay a higher deductible by the Contractor/and or Subcontractor performing the work?

A52. Please bid per solicitation documents.

Q53. There are no details provided for bid item 19, rock blanket. Please advise any reference details for installation.

A53. Rock Blanket is to be constructed per Caltrans Standard Plan H9.

Q54. There are no application rates for bid item 114 and 115. Please advise.

A54. Please see Sections 800-2.2.2 and 800-1.2, respectively.

Q55. Planting specifications have a soil amendment recipe. Please advise if this is to be used for the city right of way planting areas. There doesn't seem to be a bid item for this work as well.

A55. Please see Section 800-2.2.2 for soil amendments.

Q56. We are preparing a bid on item Joint Seal Assembly (MR9") and have the following question. Should these joint assemblies be designed per typical Caltrans specifications or should AASHTO fatigue design provisions be followed.

A56. Please see Section 51-2.02 of the Caltrans Standard Specifications for design requirements.

Q57. Reference Whitebook Section 6-6.1: Please confirm that Section 7105 of the California Public Contract Code applies to this project.

A57. Confirmed, it applies.

Q58. Contractor staging area is shown in the NW corner adjacent to Sunset Cliffs Blvd (Sheet E1). Currently, this area is being used as a landscape dump site. Will the Contractor be responsible for clearing & disposing of the material at this site?

A58. The area is not a landscape dump site. The Contractor is responsible to clear the area as needed to be able to stage. Contractor will be responsible to collect and dispose any waste to a location on-site or off-site. Access to the area for City use to be maintained.

Q59. Reference Attachment E 7-3.2.5. Can the 15% of the Contract Value to cover administrative costs, design costs, and the costs of inspections and construction management be included in the policy limits (equal to the full contract value) as Soft Costs? This is typically how these types of expenses are handled. Soft Costs are rated less than hard construction costs and savings can be realized if the Owner is agreeable.

A59. The Insurance requirements are detailed in Attachment E, Section 7-3 and the City will not deviate from these requirements.

C. CLARIFICATIONS

1. Please refer to Section 2-5.2 of the City's WHITEBOOK for precedence of contract documents.

2. For a list of DBEs certified by the California Unified Certification Program a website link is included in the solicitation document.

D. NOTICE INVITING BIDS

1. To Section 3, Estimated Construction Cost, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   3. ESTIMATED CONSTRUCTION COST: The City's estimated construction for this project is **$99,700,000.**

E. ATTACHMENTS

1. To Attachment A, Scope of Work, page 24, Section 2, Estimated Construction Cost, **DELETE** in its entirety and **SUBSTITUTE** with the following:

2. ESTIMATED CONSTRUCTION COST: The City's estimated construction for this project is **$99,700,000.**

2. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 166, Caltrans Standard Specifications (10-95), Division II, General Construction, 15 Existing Facilities, Section 15-1.04, Payment, **ADD** the following:

Replace "Not Used" in section 15-1.04 with:
15-1.04 Payment
The pay quantity for remove concrete includes the removal of the concrete raised median located along Sports Arena Blvd and is to be measured in cubic yards of concrete removed.

3. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 193, Caltrans Standard Specifications (10-95), Division VIII, Miscellaneous Construction, 73 Concrete Curbs and Sidewalks, Section 73-1.04, Payment, **ADD** the following:

Replace "Not Used" in section 73-1.04 with:

73-1.04 Payment

The pay quantity for minor concrete (miscellaneous construction) includes the construction of curb and gutter, sidewalk, shared use paths, driveways, and concrete seat walls and is to be measured in cubic yards of concrete placed. Payment also includes any reinforcement that is required as well as any pre-construction and post-construction surveys that are required.

The pay quantity for minor concrete (curb ramps) includes the construction of curb ramps and is to be measured in cubic yards of concrete placed. Payment also includes any detectable warning surfaces that are required as well as any pre-construction and post-construction surveys that are required.

The pay quantity for minor concrete (textured paving) includes the construction of textured paving concrete and is to be measured in square yards of concrete placed. Payment also includes any reinforcement that is required.

4. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 196, Caltrans Standard Specifications (10-95), Division VIII, Miscellaneous Construction, 75 Miscellaneous Metal, "Add to the end of section 75-3.01A:" (Summary), **ADD** to the list in the second paragraph the following:

6. Hinge restrainer pipe at West Mission Bay Drive Bridge Hinge

7. 25" Min ID x 0.375" cylinder wall thickness butt welded steel casing through West Mission Bay Drive Bridge Hinge

F. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Attachment E, page 212, Section 2, Scope and Control of Work, Subsection 2-15, Technical Studies and Data, Item 3, **ADD** the following:

   t) Asbestos Containing Material Survey dated September 6, 2016.

   u) Lead Safety Survey dated May 21, 2015.

2. To Attachment E, page 241, Section 209, Pressure Pipe, Subsection 209-2.2.4, Joints, Paragraph 1, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   All nonflanged joints shall be field welded. All pipe shall have lap welded slip joints and shall be field welded on the outside. Fillet welds shall be used and shall be of a size equal to the thickness of the bell or cylinder, whichever is greater, and shall be built up in passes not more than one-eight inch (1/8") per pass. Field welding shall conform to AWWA C206, "Standard for Field Welding of Steel Water Pipe". For lap joint pipe prepared for field welding, the inside circumference of the bell end shall not exceed the outside circumference of the spigot end by more than 0.1563 inch (5/32 inch).

2. To Attachment E, page 250, Section 701, Construction, Subsection 701-2, Payment, item 19, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   19. The payment for pedestrian barricades and demountable posts shall be included in the Bid item for each "pedestrian barricades."

G. ADDITIONAL CHANGES

1. The following are additional changes to the Line Items in the PlanetBids Tab:

   For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been ~~**Stricken out.**~~

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	237310	Pedestrian Barricade	EA	~~4~~ 9	701-2
Main Bid	237310	Miscellaneous Metal (Bridge) (P-F)	LB	~~49370~~ 60685	75-3.04 (CT)

H. PLANS

1. To DRAWING number 39475-01-D (G-1), **DELETE** in its entirety and **REPLACE** with page 19 of this Addendum.

2. To DRAWING numbers 39475-16-D (C-12) through 39475-17-D (C-13), **DELETE** in its entirety and **REPLACE** with pages 20 through 21 of this Addendum.

3. To DRAWING number 39475-26-D (C-22), **DELETE** in its entirety and **REPLACE** with page 22 of this Addendum.

4. To DRAWING number 39475-40-D (C-36), **DELETE** in its entirety and **REPLACE** with page 23 of this Addendum.

5. To DRAWING number 39475-42-D (C-38), **DELETE** in its entirety and **REPLACE** with page 24 of this Addendum.

6. To DRAWING numbers 39475-44-D (C-40) through 39475-45-D (C-41), **DELETE** in its entirety and **REPLACE** with pages 25 through 26 of this Addendum.

7. To DRAWING numbers 39475-47-D (C-43) through 39475-48-D (C-44), **DELETE** in its entirety and **REPLACE** with pages 27 through 28 of this Addendum.

James Nagelvoort, Director
Public Works Department

Dated: *October 27, 2017*
San Diego, California

JN/AJ/egz

CITY OF SAN DIEGO

PLANS FOR THE CONSTRUCTION OF

WEST MISSION BAY DRIVE
BRIDGE (No. 57C-0023)
Federal-aid Project: BHLS-5004(049)

CONTRACTOR'S RESPONSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA 1-800-422-4133) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)
3. CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
3. ALL ADVANCED METERING INFRASTRUCTURE (AMI) DEVICES ATTACHED TO THE WATER METER OR LOCATED IN OR NEAR WATER METER BOXES, COFFINS, OR VAULTS SHALL BE PROTECTED AT ALL TIMES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONSTRUCTION STORM WATER PROTECTION NOTES

1. TOTAL SITE DISTURBANCE AREA (ACRES) 23.11
   HYDROLOGIC UNIT/ WATERSHED SAN DIEGO AND PENASQUITOS
   HYDROLOGIC SUBAREA NAME & NO. MISSION SAN DIEGO (907.11) & FIESTA ISLAND (906.70)
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE
   ☐ WPCP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100
   ☒ SWPPP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 AND CONSTRUCTION GENERAL PERMIT ORDER 2009-0009-DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND 2012-0006-DWQ
   TRADITIONAL: RISK LEVEL 1 ☐ 2 ☒ 3 ☐
   LUP: RISK TYPE 1 ☐ 2 ☐ 3 ☐
3. CONSTRUCTION SITE PRIORITY
   ☐ ASBS ☒ HIGH ☐ MEDIUM ☐ LOW

MONUMENTATION/ SURVEY NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA SHALL FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR ANY EARTHWORK, DEMOLITION OR SURFACE IMPROVEMENTS. IF DESTROYED, A LICENSED LAND SURVEYOR SHALL REPLACE SUCH MONUMENT(S) WITH APPROPRIATE MONUMENTS. WHEN SETTING SURVEY MONUMENTS USED FOR RE-ESTABLISHMENT OF THE DISTURBED CONTROLLING SURVEY MONUMENTS AS REQUIRED BY SECTIONS 6730.2 AND 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILLED WITH THE COUNTY SURVEYOR. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION SHALL BE NOTIFIED IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPLACING AND VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.

REFERENCE:

H452-H467, 5027, 6113-L, 8262-L, 12792-4-D, 12902-D, 14577-D, 23570-D, 26376-D, 11-046424,

STREET CLASSIFICATION

STREET NAME: WEST MISSION BAY DRIVE
PRIMARY ARTERIAL, ADT=64,156

STANDARD SPECIFICATIONS

CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITE BOOK), 2015 EDITION

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), 2015 EDITION

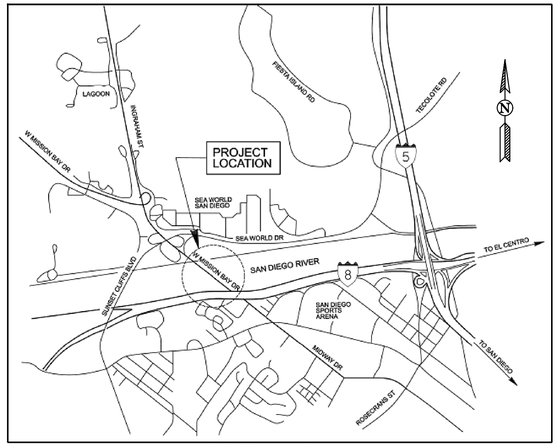
CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS, 2015 EDITION

CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, 2016 EDITION

CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS, 2015 EDITION

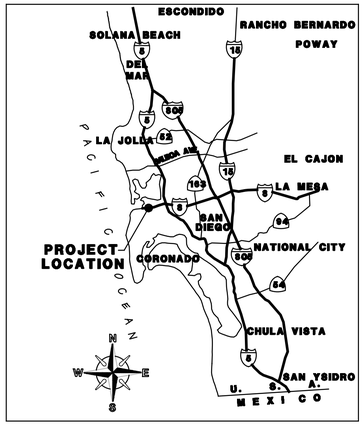
FIELD DATA

BENCHMARK: BRASS PLUG AT NORTHERLY CORNER
OF HANCOCK STREET AND CHANNEL WAY
PER CITY OF SAN DIEGO VERTICAL CONTROL
BOOK DATED AUGUST 1989.
ELEV. = 8.881
FIELD NOTES:
BASIS OF BEARINGS / COORDINATES:
EXISTING CONTROL PROVIDED BY THE CITY OF SAN DIEGO
PER PUBLIC WORKS/ENGINEERING AND CAPITAL PROJECTS
DEPT. - FIELD SURVEY NOTES WO#: 526430 DATED 8/30/2000
DATUM: MEAN SEA LEVEL
REFERENCES:



NOT TO SCALE

LOCATION MAP



VICINITY MAP
NOT TO SCALE

WORK TO BE DONE

THE PROJECT PROPOSES REMOVAL OF PORTIONS OF THE FOLLOWING ITEMS LOCATED ON WEST MISSION BAY DRIVE & SPORTS ARENA BOULEVARD BETWEEN SEA WORLD DRIVE AND INTERSTATE 8: SHARED PATH, CONCRETE SIDEWALK, CURB AND GUTTER, FENCING, METAL BEAM GURADRAIL AND EXISTING WEST MISSION BAY DRIVE BRIDGE.

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE STANDARD SPECIFICATIONS AND THE STANDARD DRAWINGS OF THE CITY OF SAN DIEGO & CALTRANS.

1. SPECIAL PROVISIONS
2. CONSTRUCTION DRAWINGS
3. STANDARD SPECIFICATIONS
4. STANDARD DRAWINGS

SHEET INDEX/LIMITS OF WORK

SHEET NO.	DISCIPLINE CODE	TITLE
1-4	G	COVER SHEET
5-48, 55-66	C	CIVIL PLANS
49-52	M	MECHANICAL PLANS
53-54	CP	CATHODIC PROTECTION PLANS
67-74	IR	IRRIGATION REMOVAL PLANS
75-82	PR	PLANT REMOVAL PLANS
83-101	L	LANDSCAPE PLANS
102-229	S	BRIDGE AND WALL PLANS
230-255	T	TRAFFIC PLANS
256-274	E	ELECTRICAL PLANS
275-283	O	OFFSITE MITIGATION
23-25	C	CURB RAMP LOCATION
58-65	C	PERMANENT STORM WATER BEST MANAGEMENT PRACTICES (BMP) -PRIORITY DEVELOPMENT PROJECTS
TC-01 TO TC-91	TC	TRAFFIC CONTROL PLANS
EC-01 TO EC-23	EC	EROSION CONTROL PLANS

DISCIPLINE CODE

G	GENERAL
C	CIVIL
CP	CATHODIC PROTECTION
IR	IRRIGATION REMOVAL
M	MECHANICAL
PR	PLANT REMOVAL
S	STRUCTURAL
T	TRAFFIC
E	ELECTRICAL
L	LANDSCAPE
TC	TRAFFIC CONTROL
EC	EROSION CONTROL

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Jay Holombo 3/3/2017

G-1

AS-BUILT INFORMATION

MATERIALS	MANUFACTURER
-	-
-	-
-	-
-	-

SPEC. NO. 1472

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
COVER SHEET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 283 SHEETS

FEDERAL ID BHLS-5004(049)
WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — DATE 5/31/2017 — RCE # 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER

CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	TYLI		9/13/17	
A ADDENDUM A	TYLI		10/17/17	
B ADDENDUM B	TYLI		10/24/17	
C ADDENDUM C	TYLI			

CCS27 COORDINATE 214-1695
CCS83 COORDINATE 1854-6255
39475-01-D

T·Y·LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700, SAN DIEGO, CA. 92108
(619) 692-1920 www.tylin.com

ENGINEER OF WORK
Jay Holombo, No. C47409, Exp. 12-31-17, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

PROJECT ENGINEER	RCE	EXP	DATE
	C47408	12-31-17	3-3-17

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

△C UPDATED DETAILS/CALL-OUTS

CONSTRUCTION CHANGE / ADDENDUM

CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.
A	9/13/17	01, 12, 40, 41, 43, 46, 57, 59, 155, 157, 158, 180, 181, 182, 183	
B	10/17/17	242, 244, 255, 263, 266, 267, 269, 270, 271, 272, 273, EC-01	
C	10/24/17	16, 17, 26, 40, 42, 44, 45, 47, 48	

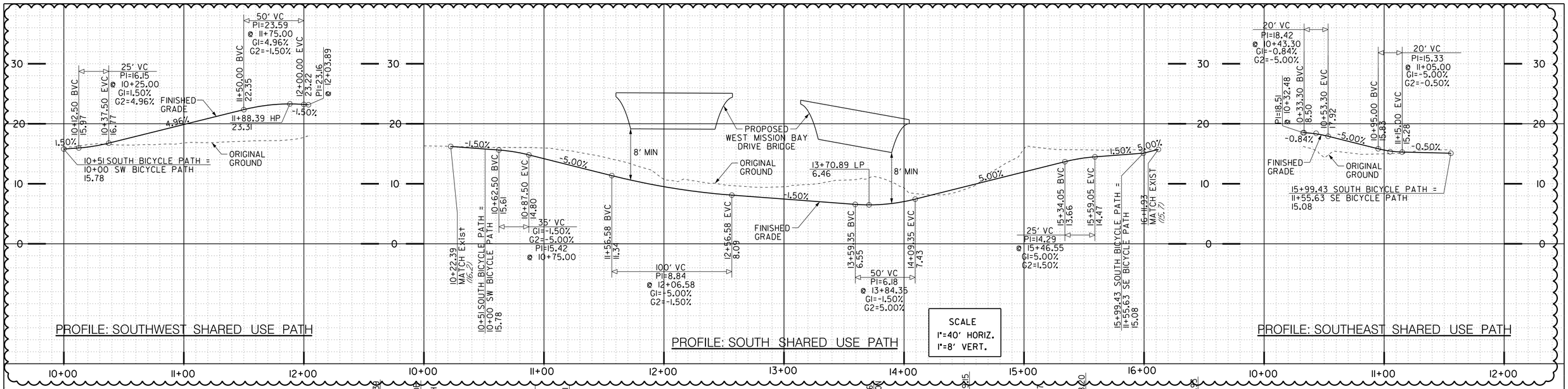
WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

The City of SAN DIEGO Public Works

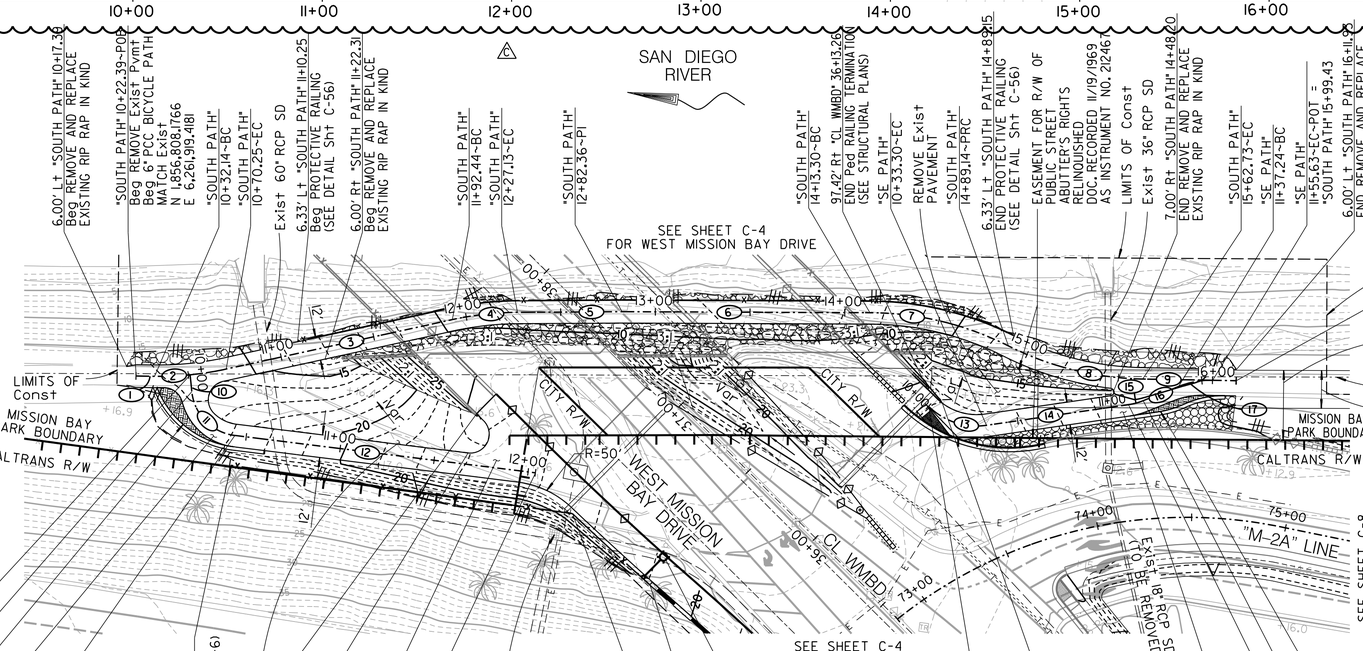
ADDENDUM C

WEST MISSION BAY DRIVE BRIDGE

WEST MISSION BAY DRIVE BRIDGE



CENTERLINE DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
①	N83° 00'45"E		9.75'	SOUTH BICYCLE PATH
②	Δ =13° 09'12"	166.00'	76.27'	SOUTH BICYCLE PATH
③	N69° 51'33"E		122.19'	SOUTH BICYCLE PATH
④	Δ= 11° 58'31"	166.00'	72.37'	SOUTH BICYCLE PATH
⑤	N81° 50'04"E		55.22'	SOUTH BICYCLE PATH
⑥	N82° 25'30"E		130.95'	SOUTH BICYCLE PATH
⑦	Δ=26° 29'45"	164.00'	75.84'	SOUTH BICYCLE PATH
⑧	Δ=25° 42'36"	164.00'	73.59'	SOUTH BICYCLE PATH
⑨	N83° 12'39"E		49.20'	SOUTH BICYCLE PATH
⑩	N13° 29'33"W		8.84'	SW BICYCLE PATH
⑪	Δ=77° 13'56"	26.00'	35.05'	SW BICYCLE PATH
⑫	N89° 16'31"E		160.00'	SW BICYCLE PATH
⑬	Δ=44° 13'05"	36.00'	33.30'	SE BICYCLE PATH
⑭	N73° 56'14"E		75.76'	SE BICYCLE PATH
⑮	Δ=13° 37'36"	34.00'	8.09'	SE BICYCLE PATH
⑯	N60° 18'34"E		20.10'	SE BICYCLE PATH
⑰	Δ=22° 54'05"	46.00'	18.39'	SE BICYCLE PATH



PLAN: BICYCLE PATHS AT SOUTH ABUTMENTS

SCALE 1"=40'

NOTE:
AREA OUTSIDE OF CITY/CALTRANS RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

NOTE:
FOR PROPOSED WATER, SEWER, AND STORM DRAIN SEE UTILITY SHEETS

NOTE:
FOR INFORMATION ON WEST MISSION BAY DRIVE BRIDGE SEE BRIDGE PLANS

NOTE:
FOR REMOVAL OF EXISTING TREES SEE PLANTING REMOVAL PLAN

C-12

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
PLAN & PROFILE
SHARED USE PATHS AT SOUTH ABUTMENTS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 16 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER DEPUTY CITY ENGINEER — DATE 5/31/2017 — RCE# 76641
SUBMITTED BY: JESUS GARCIA PROJECT MANAGER
CHECKED BY: HEIDI LEON PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
⚠C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-16-D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

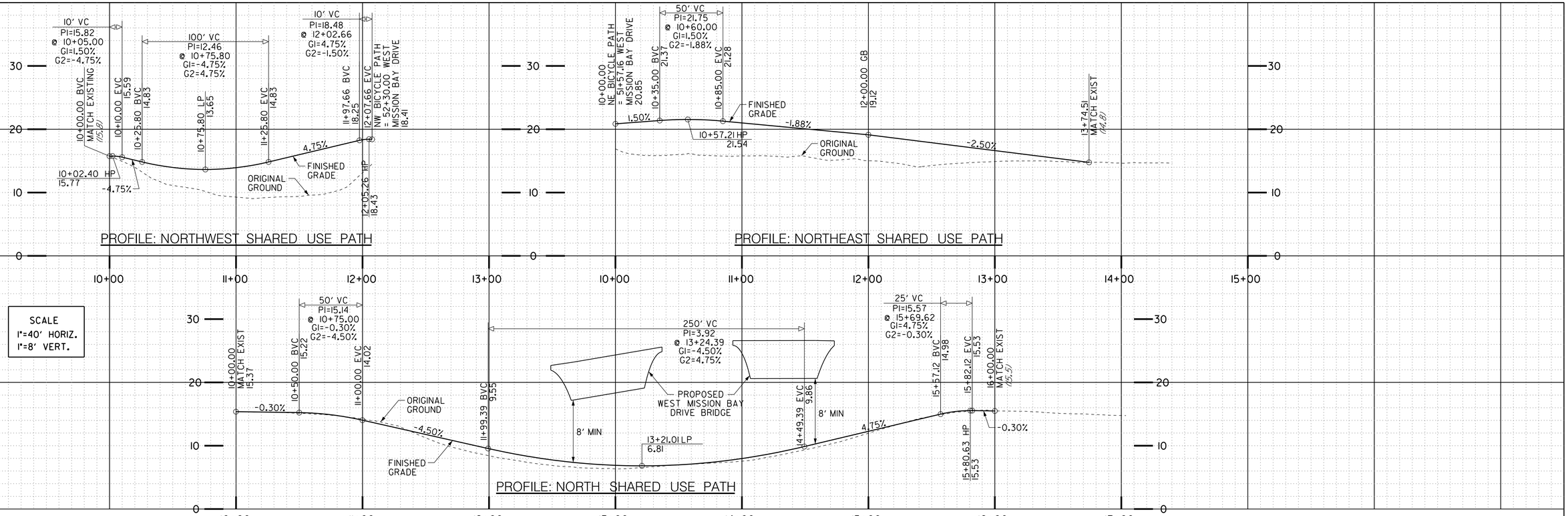
REGISTERED PROFESSIONAL ENGINEER — DEBORAH A. CORTEZ — No. 58844 — STATE OF CALIFORNIA

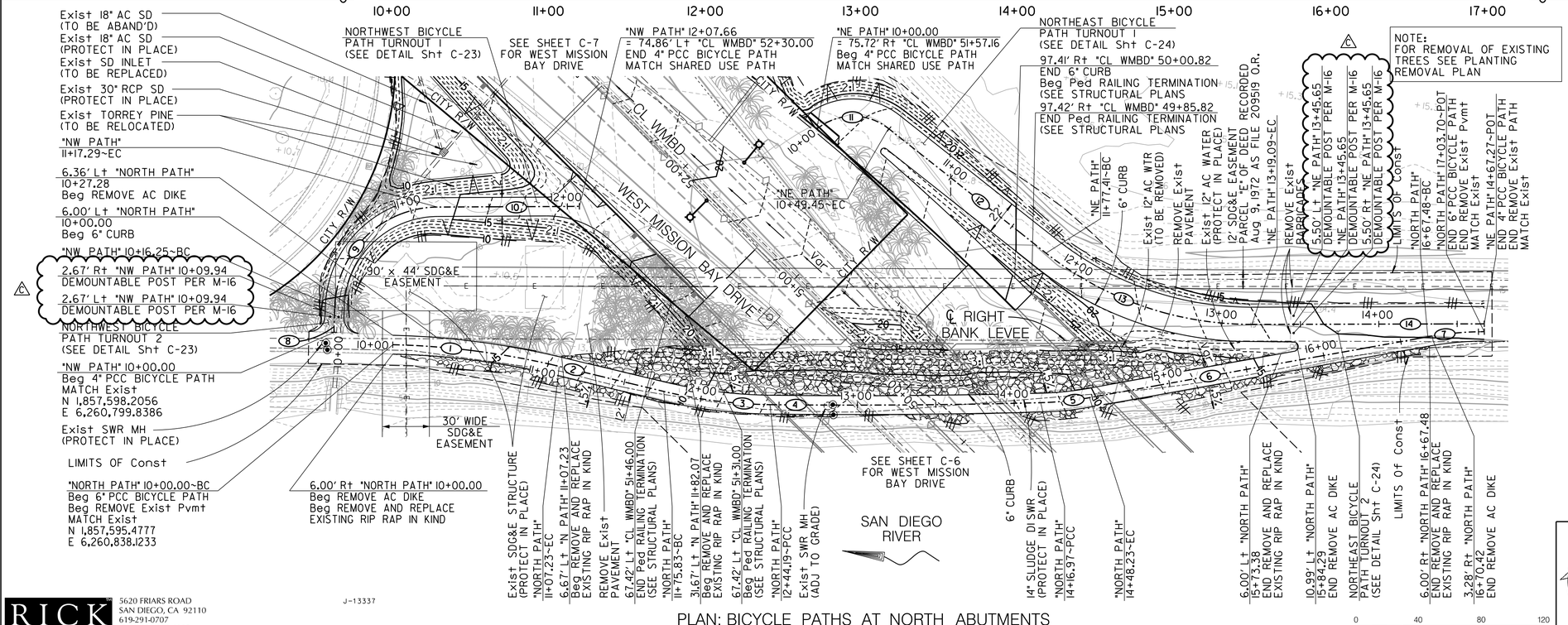
RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-13337

⚠C ADJUSTED PROFILE GRID

WEST MISSION BAY DRIVE BRIDGE





CENTERLINE DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
①	Δ=12° 08'30"	506.00'	107.23'	NORTH BICYCLE PATH
②	N84° 19'09"W		68.60'	NORTH BICYCLE PATH
③	Δ=12° 47'55"	306.00'	68.35'	NORTH BICYCLE PATH
④	Δ=02° 11'49"	4506.00'	172.78'	NORTH BICYCLE PATH
⑤	Δ=08° 41'38"	206.00'	31.26'	NORTH BICYCLE PATH
⑥	N71° 59'28"E		219.26'	NORTH BICYCLE PATH
⑦	Δ=10° 04'23"	206.00'	36.22'	NW BICYCLE PATH
⑧	N05° 46'58"W		16.25'	NW BICYCLE PATH
⑨	Δ=87° 43'03"	66.00'	101.04'	NW BICYCLE PATH
⑩	N81° 56'07"E		90.37'	NW BICYCLE PATH
⑪	Δ=77° 41'15"	36.47'	49.45'	NW BICYCLE PATH
⑫	N59° 27'47"W		127.96'	NW BICYCLE PATH
⑬	Δ=38° 28'20"	211.00'	141.68'	NW BICYCLE PATH
⑭	N82° 03'52"E		148.18'	NW BICYCLE PATH

C-13

PLANS FOR THE CONSTRUCTION OF WEST MISSION BAY DRIVE BRIDGE

PLAN & PROFILE

SHARED USE PATHS AT NORTH ABUTMENTS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 17 OF 283 SHEETS

APPROVED: FOR CITY ENGINEER DANIEL NUTTER DEPUTY CITY ENGINEER — 5/31/2017 DATE — RCE# 76641

REGISTERED PROFESSIONAL ENGINEER — STEPHEN A. CAMPBELL — NO. 58844 — STATE OF CALIFORNIA

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
△C ADDENDUM C	REC		10/23/17	
AS-BUILT				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

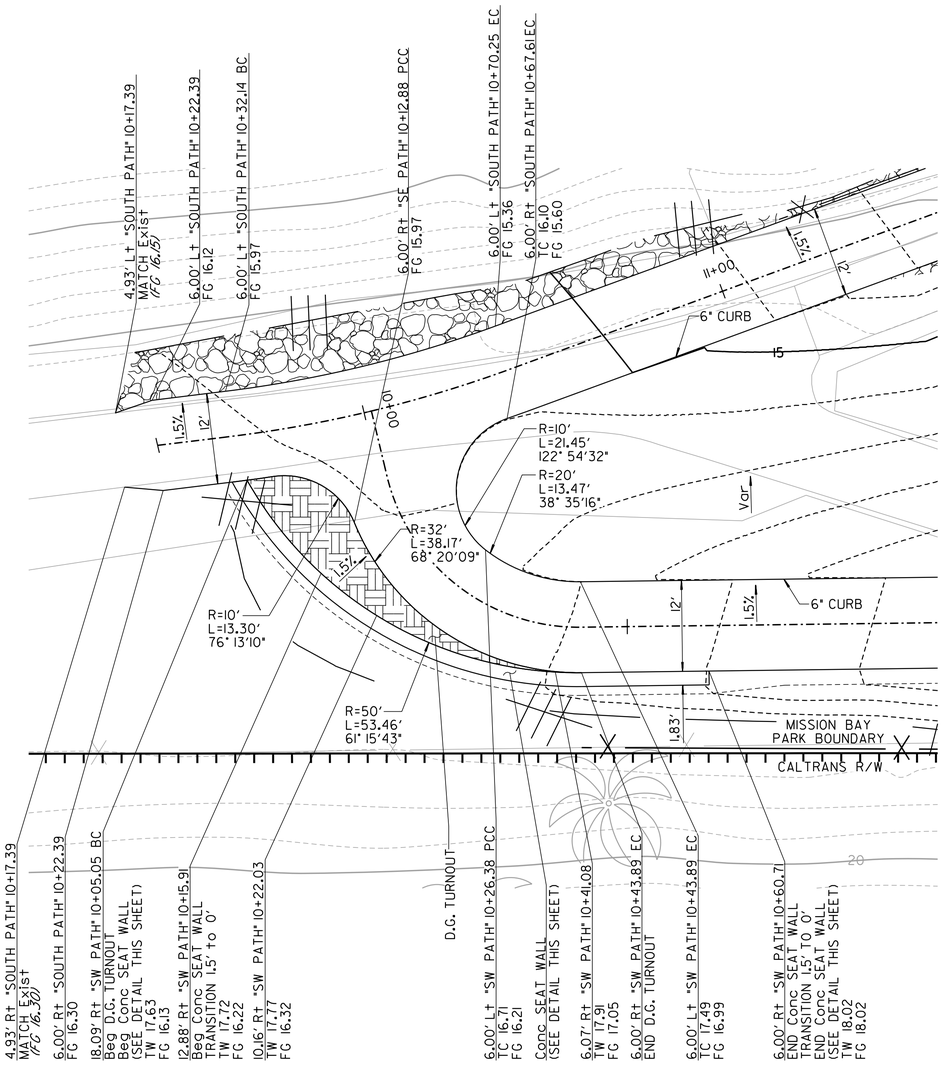
WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097
SUBMITTED BY	JESUS GARCIA, PROJECT MANAGER
CHECKED BY	HEIDI LEON, PROJECT ENGINEER
	214-1695 CCS27 COORDINATE
	1854-6255 CCS83 COORDINATE
	39475-17-D

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

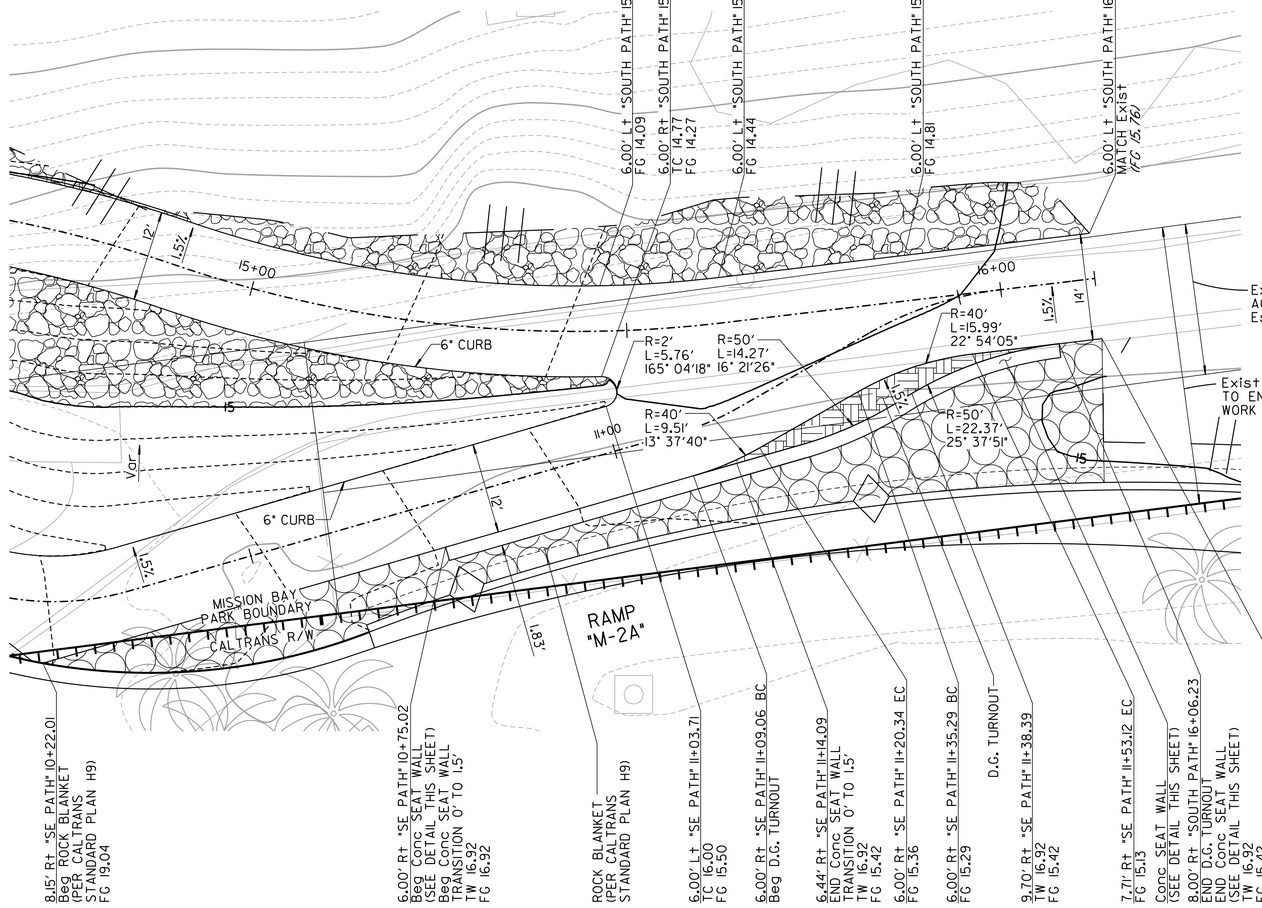
J-13337

△C ADDED DEMOUNTABLE POST DETAIL REFERENCE

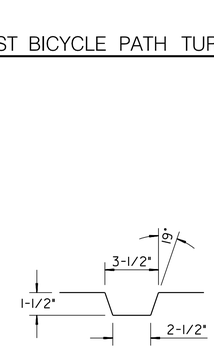
ADDENDUM C



DETAIL: SOUTHWEST BICYCLE PATH TURNOUT 1

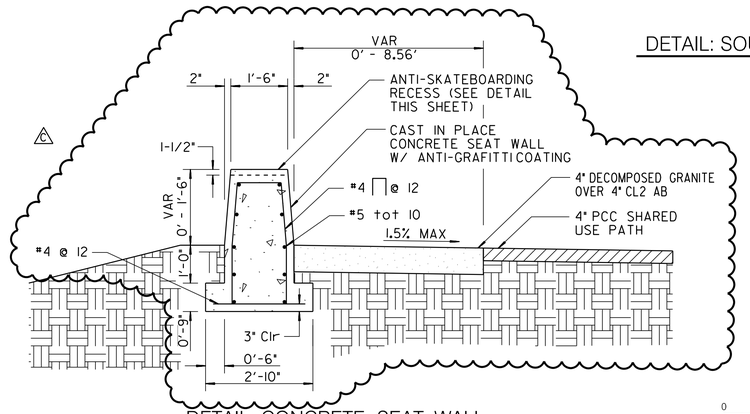


DETAIL: SOUTHEAST BICYCLE PATH TURNOUT

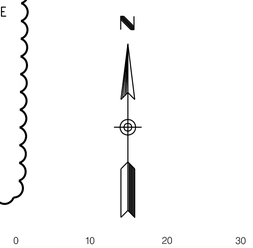


NOTE: RECESS TO BE SPACED @ 3'-0" EDGE TO EDGE ALONG EXTENT OF CONCRETE SEAT WALL

DETAIL: ANTI-SKATEBOARDING RECESS



DETAIL: CONCRETE SEAT WALL



WEST MISSION BAY DRIVE BRIDGE

C-22

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
CONSTRUCTION DETAILS
BICYCLE PATH TURNOUTS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 26 OF 283 SHEETS

WBS	S-00871
WATER WBS	B-12110
SEWER WBS	B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 5/31/2017 DATE — RCE# 76641

SUBMITTED: JESUS GARCIA, PROJECT MANAGER

CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE

1854-6255 CCS83 COORDINATE

39475-26-D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

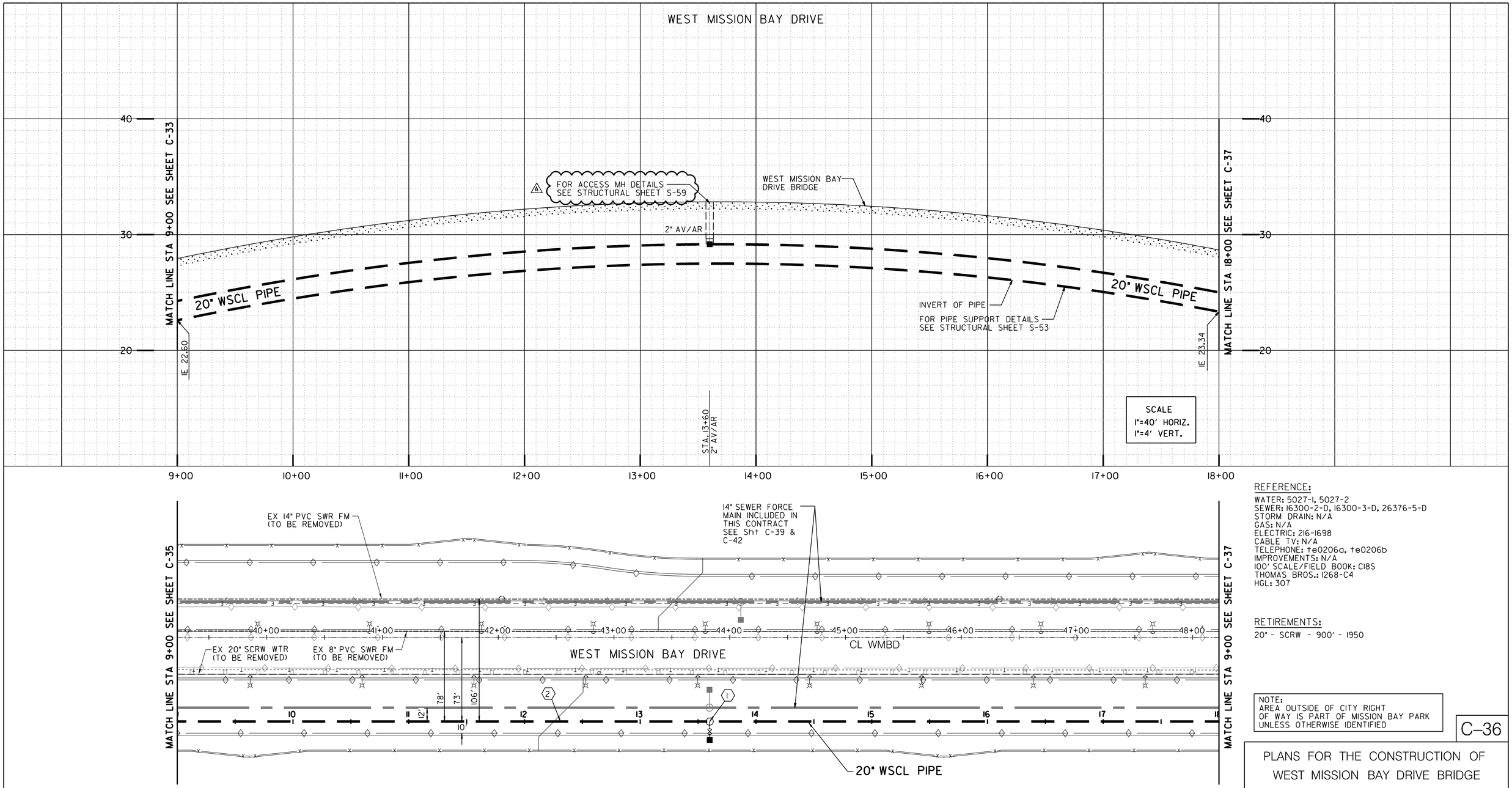
REGISTERED PROFESSIONAL ENGINEER — GREGORY P. CROSS — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-13337

C ADDED FOOTING DIMENSIONS AND REINFORCEMENT

ADDENDUM C



1 BY CONTRACTOR FURNISH AND INSTALL

STA 13+60
ACCESS MH W/
~~12" AV/AR ASSY~~
SEE DETAILS, SHEET S-59
AND AV/AR NOTE THIS SHT

△C

2 BY CONTRACTOR FURNISH AND INSTALL

1-20" DOUBLE BALL EXPANSION JOINT (F,F)
SEE DETAILS, SHEET M-2

△C NOTE:
2" AUTOMATIC COMBINATION AIR/VAC VALVE ON 20" STEEL WATER MAIN REQUIREMENTS. WELD 2" 3,000 LB STEEL HALF-COUPLING TO TOP OF 20-INCH STEEL PIPE. INSTALL 2" 316 SS NIPPLE FOLLOWED BY 2" 316 SS BALL VALVE, THEN 2" 316 SS NIPPLE, FOLLOWED BY THE 2" AIR/VAC VALVE. PIPE NIPPLE TO BE AS SHORT AS PRACTICAL SO THAT TOP OF AIR/VAC VALVE IS BELOW ACCESS HOLE COVER.

0 40 80 120
SCALE 1" = 40'

△C ADDED AV/AR REQUIREMENTS

REFERENCE:

WATER: 5027-1, 5027-2
SEWER: 16300-2-D, 16300-3-D, 26376-5-D
STORM DRAIN: N/A
GAS: N/A
ELECTRIC: 216-1698
CABLE TV: N/A
TELEPHONE: te0206a, te0206b
IMPROVEMENTS: N/A
100' SCALE/FIELD BOOK: C18S
THOMAS BROS.: 1268-C4
HGL: 307

RETIREMENTS:

20" - SCRW - 900' - 1950

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-36

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
WATER MAIN
STATION 9+00 TO STATION 18+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 40 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 5/31/2017
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
△A ADDENDUM A	REC		9/14/17	
△C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-40-D

REGISTERED PROFESSIONAL ENGINEER — RICHARD A. CRISP — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
San Diego Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-13337

ADDENDUM C

WEST MISSION BAY DRIVE BRIDGE

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Linear			
POB	1+00.00	1856671.16	6262348.51
PI	2+49.57	1856818.94	6262325.39
Tangential Direction:	N 8° 53'26"		
Tangential Length:	149.57		
Element: Linear			
PI	2+49.57	1856818.94	6262325.39
BC	16+70.08	1857672.54	6261189.95
Tangential Direction:	N 53° 03'53"		
Tangential Length:	1420.51		

SEE NEXT SHEET

WEST MISSION BAY DRIVE

634.25' RESTRAINED JOINTS

50' FLANGED JOINTS

STA. 2+59.00

STA. 8+93.25

WEST MISSION BAY DRIVE BRIDGE

CONNECT TO EX 14" PVC SWR FM STA 1+00.00

PROP 18" RCP SD
IE 16.73
TEL COND
EL UNK

PROP PAVEMENT

ELEC COND
EL UNK

59.26'

14" DIFM CL 250 W/ RESTRAINED JOINTS

FOR PIPE SUPPORT DETAILS SEE STRUCTURAL SHEETS

INVERT OF PIPE

IE 27.94

MATCH LINE STA 9+00 SEE SHEET C-39

EX 8" PVC SWR FM (TO BE ABAND'D) EL UNK

STA 3+78.31
1.0° VERT DEFL PT
IE 18.44

STA 3+36.65
1.0° VERT DEFL PT
IE 17.83

30" STL CASING

STA 2+67.00
45° VERT ANGLE PT
IE 15.60

PROPOSED BRIDGE ABUTMENT

PROP GROUND

14" PVC DR18 FM CL 235 @ 3.15%

EX 14" PVC SWR FM

IE 7.36

STA. 1+15 ACCESS MH W/ 14" ISOLATION GV SEE DETAIL 2, SHEET C-44

STA 2+59.00 FLEXIBLE TRANS COUPLING IE 12.36

EX 20" SCRW WTR (TO BE REMOVED) IE 4.1

STA. 2+72.39 BEG. 30" STL CASING

STA. 3+31.65 END 30" STL CASING

SCALE
1"=40' HORIZ.
1"=4' VERT.

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

30 20 10

6 ACCESS MH
W/ 14" ISOLATION GV
STA. 1+15.00
SEE DETAIL 2, SHEET C-44

CONNECT TO EX 14" PVC SWR FM STA. 1+00.00
= 43.52'-L-† "CL WMBD" 34+89.75
45° BEND W/ THRUST BLOCK

INTERSTATE 8 WESTBOUND

EX 14" PVC SWR FM (TO BE ABAND'D))

STORM DRAIN INCLUDED IN THIS CONTRACT SEE Sht C-46

14" SEWER FORCE MAIN INCLUDED IN THIS CONTRACT SEE Sht C-41

PROPOSED 14" SEWER FM TO BE CONSTRUCTED WITH THE PACIFIC BEACH PIPELINE PROJECT

EX 60" RCP SD

EX 14" PVC SWR FM

SPORTS ARENA BLVD

EX 12" VC SWR

58' 37.5' 14.5' 6.5'

14" PVC DR18 FM CL 235 @ 2%

EX 8" PVC SWR FM (TO BE ABAND'D)

34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00

CAUTION

CALTRANS R/W

CITY R/W

CL WMBD

WEST MISSION BAY DRIVE

EX 14" PVC SWR FM (TO BE REMOVED)

EX 20" SCRW WTR (TO BE REMOVED)

EX 8" PVC SWR FM (TO BE REMOVED)

20" WATER MAIN INCLUDED IN THIS CONTRACT SEE Sht C-35

EX 16" CI WTR (TO BE REMOVED)

EX 18" RCP SD (TO BE REMOVED)

66' 91.5' 60.5' 29' 22' 12'

MATCH LINE STA 9+00 SEE SHEET C-39

STORM DRAIN INCLUDED IN THIS CONTRACT SEE Sht C-46

EASEMENT FOR R/W OF PUBLIC STREET ABUTTER'S RIGHTS RELINQUISHED DOC. RECORDED 11/19/1969 AS INSTRUMENT NO. 212467

STA 2+72.50
4-WIRE CASING TEST STATION
SEE DETAIL 2, SHEET CP-1

1-14" DOUBLE BALL EXPANSION JOINT (F,F)
SEE DETAIL 2, SHEET M-1

STA 2+59
1-14" FLEXIBLE COUPLING
SEE DETAIL 1, SHEET C-44

STA 2+49.57
45° BEND W/ THRUST BLOCK

14" DIFM CL 250 W/ RESTRAINED JOINTS

NOTE:
CONTRACTOR TO PROVIDE A SECTION OF SPARE PIPE IN EACH CELL OF BRIDGE. SEAL BOTH ENDS OF EXTRA PIPE LENGTHS AND PLACE SPARE PIPE ON WOOD CRADLES IN AN ACCESSIBLE LOCATION.

0 40 80 120
SCALE 1"=40'

REFERENCE:
WATER: 5027-1
SEWER: 1610-D, 16300-3-D, 26376-4-D, 12902-3-D
STORM DRAIN: 8262-1-L
GAS: N/A
ELECTRIC: 216-1698, EA 049841, EA 151611
CABLE TV: N/A
TELEPHONE: †e0206b, †e0206db
IMPROVEMENTS: 57705, 11-046424
100' SCALE/FIELD BOOK: CI8S, DI8S
THOMAS BROS.: 1268-C4
HGL: 307

RETIREMENTS:
14" - PVC - 765.16' - 1993
CO - 3 - 1993

NOTE:
CONTRACTOR TO POTHOLE EXISTING CONDUITS WITHIN CALTRANS RIGHT OF WAY FOR EXACT LOCATIONS & DEPTH THAT ARE IN CONFLICT WITH THE PROPOSED WORK. CONDUITS ARE TO BE PROTECTED IN PLACE.

NOTE:
AREA OUTSIDE OF CITY/CALTRANS RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-38

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 1+00 TO STATION 9+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 42 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER DANIEL NUTTER, DEPUTY CITY ENGINEER — 5/31/2017 DATE — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER

CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
6 ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE

1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-42-D

REGISTERED PROFESSIONAL ENGINEER — GREGORY A. CAMPBELL — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
J-13337

6 ADDED DETAIL REFERENCE

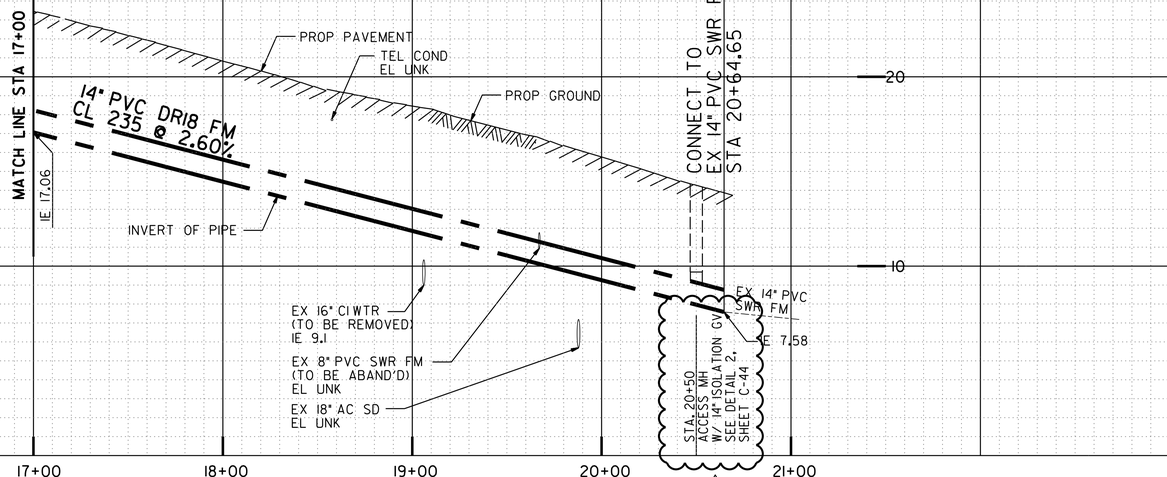
ADDENDUM C

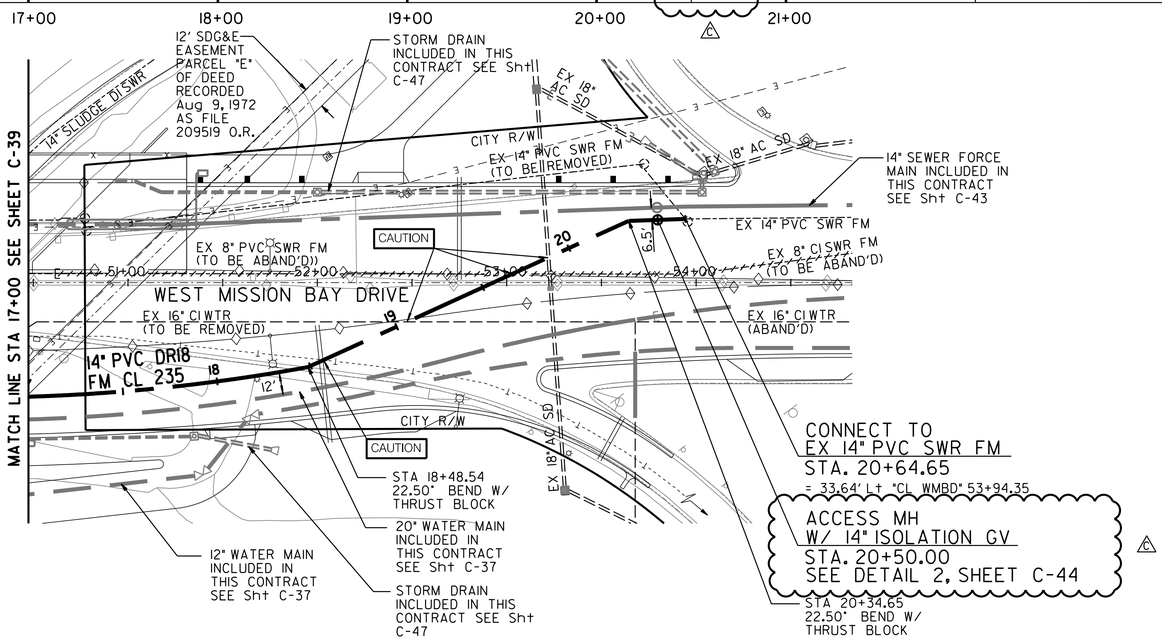
WEST MISSION BAY DRIVE BRIDGE

WEST MISSION BAY DRIVE BRIDGE

WEST MISSION BAY DRIVE

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Linear			
PT	18+48.54	1857766.35	6261038.43
PI	20+34.65	1857806.39	6260856.67
Tangential Direction:	N 77° 34'36"		
Tangential Length:	186.11		
Element: Linear			
PI	20+34.65	1857806.39	6260856.67
POE	20+64.65	1857823.56	6260832.07
Tangential Direction:	N 55° 04'36"		
Tangential Length:	30.00		





SCALE
1"=40' HORIZ.
1"=4' VERT.

0 40 80 120
SCALE 1"=40'

REFERENCE:
WATER: 5027-2, 16082-45-D
SEWER: 16300-2-D, 26376-6-D, 27591-12-D
STORM DRAIN: 14577-11-D
GAS: N/A
ELECTRIC: 216-1698, 5127900
CABLE TV: N/A
TELEPHONE: te0206a, te0208c
IMPROVEMENTS: 14577-D
100' SCALE/FIELD BOOK: CI8S
THOMAS BROS.: 1268-B4
HGL: 307

RETIREMENTS:
14" - PVC - 371.65' - 1993
CO - 4 - 1993

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY
IS PART OF MISSION BAY PARK
UNLESS OTHERWISE IDENTIFIED

C-40

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 17+00 TO STATION 20+64.65

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 44 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 5/31/2017
DANIEL NUTTER, DEPUTY CITY ENGINEER, RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-44-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

REGISTERED PROFESSIONAL ENGINEER — GEORGE A. CONSTANTINO — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
J-13337

C ADDED DETAIL REFERENCE

ADDENDUM C

Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Linear			
POB	1+00.00	1856667.55	6262342.49
PI	1+27.72	1856694.94	6262338.21
Tangential Direction:	N 8° 53'26"		
Tangential Length:	27.72		
Element: Linear			
PI	1+27.72	1856694.94	6262338.21
PI	17+41.38	1857664.60	6261048.38
Tangential Direction:	N 53° 03'53"		
Tangential Length:	1613.67		

SEE NEXT SHEET

WEST MISSION BAY DRIVE

630.58'
RESTRAINED JOINTS

STA. 3+17.00

WEST MISSION BAY DRIVE BRIDGE

55.96'

ELEC COND
EL UNK

ELEC COND
EL UNK

14" DIFM CL 250 W/
RESTRAINED JOINTS

FOR PIPE SUPPORT DETAILS
SEE STRUCTURAL SHEET

IE 28.03

MATCH LINE STA 9+00 SEE SHEET C-42

REMOVE END CAP
CONNECT TO
EX 14" PVC SWR FM
STA 1+00.00

INVERT OF PIPE

STA 3+91.00
1.0° VERT DEFL PT
IE 20.58

STA 4+87.48
1.0° VERT DEFL PT
IE 22.27

STA 3+25.00
45° VERT ANGLE PT
IE 18.26

30" STL CASING

PROPOSED BRIDGE
ABUTMENT

PROP GROUND

14" PVC DR18
FM CL 235 @ 3.50%

EX 14" PVC
SWR FM

IE 7.36

EX 14" PVC SWR FM
(TO BE REMOVED)
IE 7.5

STA. 1+18
ACCESS MH
W/ 14" ISOLATION GV
SEE DETAIL 2,
SHT C-44

STA 3+17.00
FLEXIBLE TRANS
COUPLING
IE 14.96

STA. 3+30.04
BEG. 30" STL
CASING

STA 3+22.00
45° VERT ANGLE PT
IE 15.14

STA. 3+86.00
END 30" STL
CASING

SCALE
1"=40' HORIZ.
1"=4' VERT.

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

REMOVE END CAP
CONNECT TO
EX 14" PVC SWR FM
STA. 1+00.00
= 50.00' Lt "CL WMBD" 34+92.39
45° BEND W/
THRUST BLOCK

ACCESS MH
W/ 14" ISOLATION GV
STA. 1+18.00
SEE DETAIL 2, SHT C-44

STA 3+30
4-WIRE CASING
TEST STATION
SEE DETAIL 2, SHEET CP-1

STA 3+17
1-14" FLEXIBLE COUPLING
SEE DETAIL 1, SHEET C-44

1-14" DOUBLE BALL
EXPANSION JOINT (F,F)
SEE DETAIL 2, SHEET M-1

INTERSTATE 8
WESTBOUND

EX 14" PVC SWR FM
(TO BE ABAND'D)

CAUTION

EX 14" PVC SWR FM
(TO BE REMOVED)

PROPOSED 14" SEWER FM
TO BE CONSTRUCTED
WITH THE PACIFIC BEACH
PIPELINE PROJECT

EX 60" RCP SD

14" DIFM CL 250 W/
RESTRAINED JOINTS

EX 14" PVC SWR FM

SPORTS ARENA BLVD

2 14" PVC DR18
FM CL 235

EX 8" PVC SWR FM
(TO BE ABAND'D)

EX 12" VC SWR

CAUTION

CAUTION

CALTRANS R/W

CITY R/W

CL WMBD
WEST MISSION BAY DRIVE

EX 20" SCRW WTR
(TO BE REMOVED)

EX 8" PVC SWR FM
(TO BE REMOVED)

STA 1+27.72
45° BEND W/
THRUST BLOCK

20" WATER MAIN
INCLUDED IN
THIS CONTRACT
SEE Sht C-35

EX 16" CI W.TR.
(TO BE REMOVED)

EX 18" RCP SD

STORM DRAIN
INCLUDED IN THIS
CONTRACT SEE Sht
C-46

STORM DRAIN
INCLUDED IN THIS
CONTRACT SEE Sht
C-46

EASEMENT FOR R/W OF PUBLIC STREET
ABUTTER'S RIGHTS RELINQUISHED
DOC. RECORDED 11/19/1969
AS INSTRUMENT NO. 212467

14" SEWER FORCE
MAIN INCLUDED IN
THIS CONTRACT
SEE Sht C-38

MATCH LINE STA 9+00 SEE SHEET C-42

NOTE:
CONTRACTOR TO PROVIDE A SECTION OF SPARE PIPE IN EACH CELL OF BRIDGE. SEAL BOTH ENDS OF EXTRA PIPE LENGTHS AND PLACE SPARE PIPE ON WOOD CRADLES IN AN ACCESSIBLE LOCATION.

0 40 80 120
SCALE 1"=40'

REFERENCE:

WATER: 5027-1, 5027-2-D
SEWER: 1610-D, 16300-3-D, 26376-4-D, 26376-5D
STORM DRAIN: 8262-1-L
GAS: N/A
ELECTRIC: 216-1698, EA 049841, EA 15161
CABLE TV: N/A
TELEPHONE: te0206b, te0206db
IMPROVEMENTS: 57705, 11-046424
100' SCALE/FIELD BOOK: C18S, D18S
THOMAS BROS.: 1268-C4
HGL: 307

RETIREMENTS:

8" - PVC - 820.43'- 1975

NOTE:
CONTRACTOR TO POTHOLE EXISTING CONDUITS WITHIN CALTRANS RIGHT OF WAY FOR EXACT LOCATIONS & DEPTH THAT ARE IN CONFLICT WITH THE PROPOSED WORK. CONDUITS ARE TO BE PROTECTED IN PLACE.

NOTE:
AREA OUTSIDE OF CITY/CALTRANS RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-41

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 1+00 TO STATION 9+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 45 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — 5/31/2017 DATE
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

39475-45-D

REGISTERED PROFESSIONAL ENGINEER — DEBORAH A. CORBETT — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

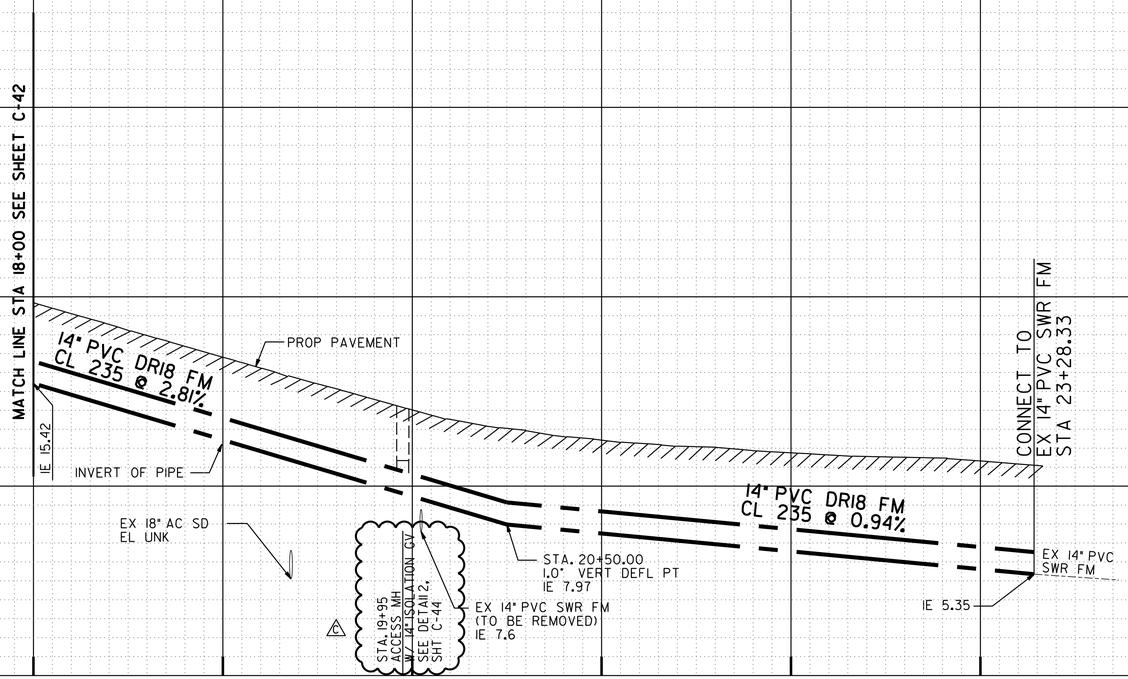
J-13337

C ADDED DETAIL REFERENCE

WEST MISSION BAY DRIVE BRIDGE

WEST MISSION BAY DRIVE

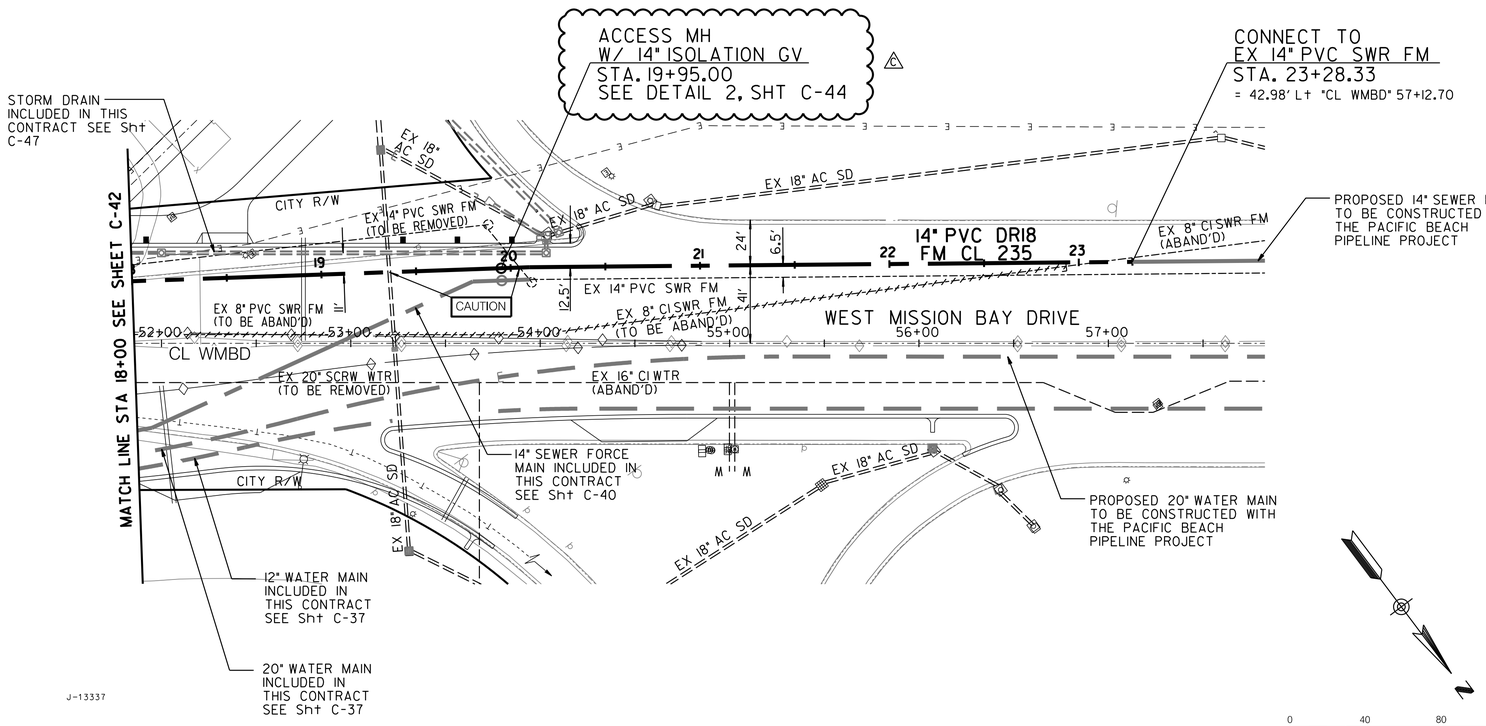
Alignment Name:	WEST MISSION BAY DRIVE		
	Station	Northing	Easting
Element: Linear			
PI	20+09.91	1857818.33	6260828.21
POE	23+28.33	1858007.39	6260571.99
Tangential Direction:	N 53° 34'36"		
Tangential Length:	318.42		



SCALE
1"=40' HORIZ.
1"=4' VERT.

REFERENCE:
WATER: 5027-2, 6116-L
SEWER: 16300-2-D, 26376-7-D
STORM DRAIN: 14577-11-D
GAS: N/A
ELECTRIC: 216-1698, EA 049841, EA 15161
CABLE TV: N/A
TELEPHONE: te0206a, te0208c
IMPROVEMENTS: 14577-D
100' SCALE/FIELD BOOK: C18S
THOMAS BROS.: 1268-B4
HGL: 307

RETIREMENTS:
8" - PVC- 211.65' - 1975
8" - CI - 318.15' - 1975



0 40 80 120
SCALE 1"=40'

NOTE:
AREA OUTSIDE OF CITY RIGHT OF WAY IS PART OF MISSION BAY PARK UNLESS OTHERWISE IDENTIFIED

C-43

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
SEWER FORCE MAIN
STATION 18+00 TO STATION 23+28.33

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 47 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — DATE 5/31/2017
DANIEL NUTTER, DEPUTY CITY ENGINEER — RCE# 76641

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
C ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

39475-47-D

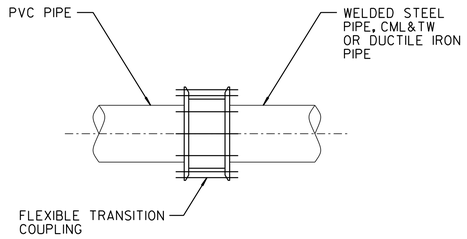
REGISTERED PROFESSIONAL ENGINEER — ROBERT A. CRISPIN — NO. 58844 — STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

J-13337

C ADDED DETAIL REFERENCE

ADDENDUM C



NOTE:

1. FLEXIBLE EXPANSION JOINTS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT THE DIFFERENT PIPE MATERIALS.
2. EACH COUPLING SHALL CONSIST OF A MIDDLE RING, TWO FOLLOWERS, TWO RUBBER-COMPOUNDED WEDGE SECTION GASKETS, AND SUFFICIENT BOLTS TO PROPERLY COMPRESS THE GASKETS.
3. ALL RODS, NUTS, AND WASHERS SHALL BE CADMIUM PLATED.
4. WETTED PARTS SHALL BE LINED WITH A MINIMUM OF 12 MILS OF FUSION BONDED EPOXY CONFORMING TO THE APPLICABLE REQUIREMENTS OF AWWA C213 AND SHALL BE HOLIDAY TESTED AND FOUND TO BE HOLIDAY FREE WHEN TESTED WITH A 1500 VOLT SPARK TEST CONFORMING TO SAID SPECIFICATION.
5. COUPLINGS SHALL BE SUPPLIED BY DRESSER MANUFACTURING DIVISION, ROMAC, SMITH BLAIR, OR APPROVED EQUAL.
6. APPLY A WAX TAPE COATING OVER ALL METALIC COMPONENTS OF THE BURIED FLEXIBLE TRANSITION COUPLING.

1 / C-44 — PVC TO STEEL / DUCTILE IRON PIPE CONNECTION

NTS

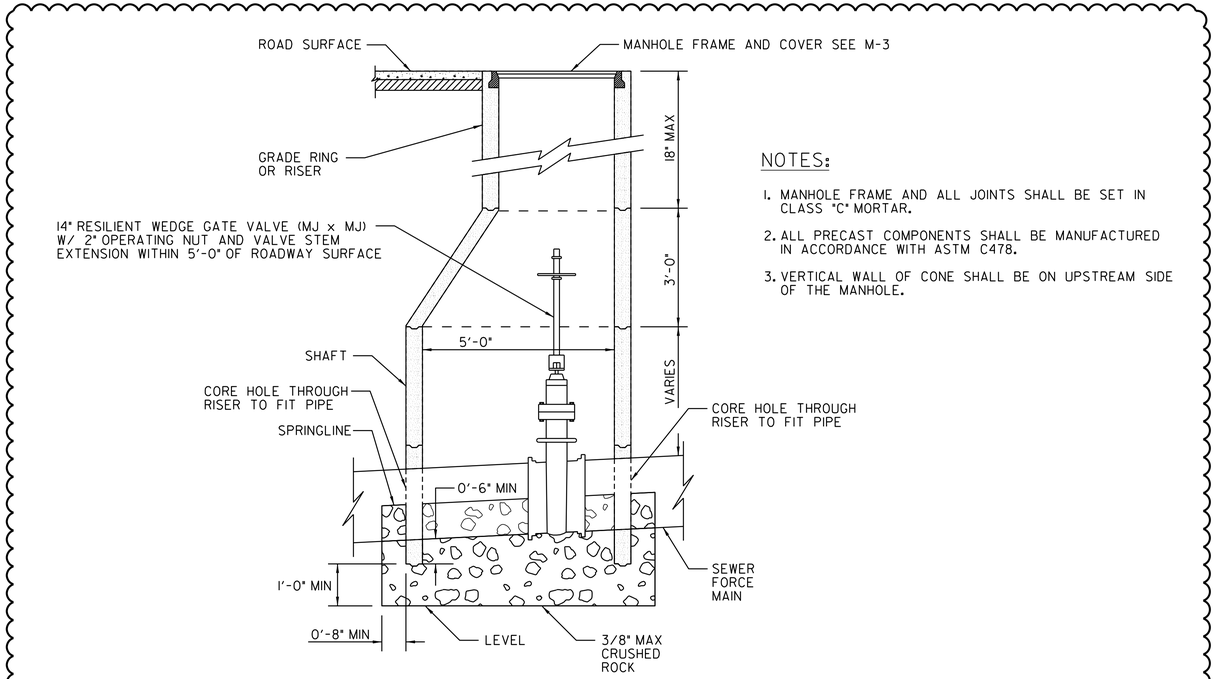
GENERAL WATER NOTES

1. PURSUANT TO SECTION 4216 OF THE GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (e.g. UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (i.e., 69 KV & HIGHER).
3. EXCAVATE AROUND WATER METER BOX (i.e., CITY PROPERTY SIDE) TO DETERMINE IN ADVANCE, THE SIZE OF EACH SERVICE BEFORE TAPPING THE MAIN.
4. CITY FORCES, WHEN SPECIFIED OR SHOWN ON THE PLANS, WILL MAKE PERMANENT CUTS AND PLUGS AND CONNECTIONS.
5. EXISTING MAINS SHALL BE KEPT IN SERVICE IN LIEU OF HIGH-LINING, UNLESS OTHERWISE SHOWN ON PLANS.
6. THE LOCATIONS OF EXISTING BUILDINGS AS SHOWN ON THE PLAN ARE APPROXIMATE.
7. KEEP STORM DRAIN INLETS FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION.
8. UNLESS OTHERWISE NOTED AS PREVIOUSLY POTHOLED (PH), ELEVATIONS SHOWN ON THE PROFILE FOR EXISTING UTILITIES ARE BASED ON A SEARCH OF THE AVAILABLE RECORD INFORMATION ONLY AND ARE SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THE CITY DOES NOT GUARANTEE THAT IT HAS REVIEWED ALL AVAILABLE DATA. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES EITHER SHOWN ON THE PLANS OR MARKED IN THE FIELD IN ACCORDANCE WITH THE SPECIFICATIONS SECTION 5-1.
9. EXISTING UTILITY CROSSINGS AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE NOT REPRESENTATIVE OF ACTUAL LENGTH AND LOCATION OF CONFLICT AREAS. SEE PLAN VIEW.
10. FOR COORDINATION OF THE SHUTDOWN OF TRANSMISSION MAIN (16 INCHES AND LARGER), CONTACT THE CITY'S SENIOR WATER DISTRIBUTION OPERATIONS SUPERVISOR AT (619) 527-7438. FOR COORDINATION OF THE SHUTDOWN OF DISTRIBUTION MAIN (LESS THAN 16 INCHES), CONTACT THE CITY'S WATER OPERATIONS DISTRICT MANAGER AT (619) 527-3945.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE PIPE COVER SPECIFIED ON PLANS, AND TO RAISE THE PIPE BACK TO WHATEVER ELEVATION IS NEEDED TO ACHIEVE THE CONNECTION TO EXISTING MAINS.
12. IF CROSSING A NON-POTABLE PIPELINE, NEW WATER MAINS SHALL BE CONSTRUCTED NO LESS THAN 45-DEGREES TO AND AT LEAST ONE FOOT ABOVE THAT PIPELINE. NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN EIGHT HORIZONTAL FEET OF THE FLUID PIPELINE. UNLESS OTHERWISE INDICATED ON THE PLANS.
13. UNLESS OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS NEW WATER MAINS ARE TO BE CONSTRUCTED USING DR18 CLASS 235 PVC PIPE.

THRUST/ANCHOR TABLE FOR 20" WATER MAINS FOR DESIGN PRESSURE 235

TYPE/ DIAM. OF PIPE	TYPE OF BLOCK	TYPE OF APPURTENANCE	DESIGN PRESSURE (lb/sq.in.)	TOTAL THRUST (lb)	ASSUMED SOIL CAPACITY (lb/sq.ft.)	MINIMUM BEARING AREA (sq.ft.), SEE NOTE 3 BELOW OR VOLUME OF BLOCK (cu.ft.)
PVC / 20"	THRUST	22.50° HORIZ. BEND	235	33,600	1,500	28 SF
PVC / 20"	ANCHOR	22.50° VERT. BEND	235	33,600	-	10 CY
PVC / 20"	ANCHOR	45° VERT. BEND	235	65,908	-	20 CY

NOTES:
1. FOR ADDITIONAL THRUST BLOCKS, ANCHOR BLOCKS, DETAILS AND NOTES SEE SDW-151
2. REFER TO SPECIFICATIONS SECTION 306-1.2.14 FOR ADDITIONAL REQUIREMENTS
3. FOR ESTIMATING THE QUANTITY FOR THRUST BLOCKS, THE DEPTH OF THE THRUST BLOCKS SHALL BE HALF OF THE TRENCH WIDTH PLUS 12" EMBEDMENT.
4. CONCRETE UNIT WEIGHT = 150 lb/cu.ft.
5. SAFETY FACTOR = 1.25



NOTES:
1. MANHOLE FRAME AND ALL JOINTS SHALL BE SET IN CLASS "C" MORTAR.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478.
3. VERTICAL WALL OF CONE SHALL BE ON UPSTREAM SIDE OF THE MANHOLE.

△6

2 / C-44 — ACCESS MANHOLE

NTS

WEST MISSION BAY DRIVE BRIDGE

C-44

PLANS FOR THE CONSTRUCTION OF
WEST MISSION BAY DRIVE BRIDGE
WATER MAIN DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 48 OF 283 SHEETS

WBS S-00871
WATER WBS B-12110
SEWER WBS B-12097

APPROVED: FOR CITY ENGINEER — 5/31/2017 DATE
DANIEL NUTTER, DEPUTY CITY ENGINEER — 76641 RCE#

SUBMITTED BY: JESUS GARCIA, PROJECT MANAGER
CHECKED BY: HEIDI LEON, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			
△6 ADDENDUM C	REC		10/23/17	
AS-BUILT				

214-1695 CCS27 COORDINATE
1854-6255 CCS83 COORDINATE
39475-48-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
J-13337

△6 ADDED ACCESS MANHOLE DETAIL

ADDENDUM C

City of San Diego

CITY CONTACT: Antoinette Sanfilippo, **Contract Specialist, Email**: ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, **Fax No**. (619) 533-3633

ADDENDUM D

e - Bidding

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.:	K-18-1472-DBB-3
SAP NO. (WBS/IO/CC):	S-00871, B-12110, B-12097
CLIENT DEPARTMENT:	1714, 2000, 2116
COUNCIL DISTRICT:	2
PROJECT TYPE:	GF, IB, JA
FEDERAL AID PROJECT NO.:	BHLS-5004(049)

BID DUE DATE:

2:00 PM
NOVEMBER 16, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

1) Registered Engineer — 11/7/17 — Date — Seal:

2) For City Engineer — 11/7/2017 — Date — Seal:

A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

B. BIDDER's QUESTIONS

Q1. Under what bid item are the concrete pipe supports through the bridge paid for?

A1. The pipe supports are included in the Structural Concrete, Bridge pay item.

Q2. There are existing sewer and water lines shown on the drawings that are to be removed and some to be abandoned. The utilities to be abandoned are under the section of roadway that will not disturbed or removed. There appears to be an oversight since there are utilities shown to be removed under the roadway that will not be disturbed. Please confirm that the utilities under the roadway not to be removed, are only to be abandoned.

A2. Bid per plan.

Q3. The work to be performed in Stage 5B & 5D is restricted to nightly 8hr windows which will be more costly and disruptive to the public. Please consider a longer ramp closure window as it will be a significant cost savings and much less inconvenience to the public. i.e. a 56hr ramp closure window (Friday 8pm to Monday 6am).

A3. Bid per plan.

Q4. There is no method of payment for traffic control detours, lane closures, ramp closures, etc. Where does this get paid?

A4. Refer to Section 601-6, "Payment" of the Whitebook Specifications.

Q5. Is all Hot Mix Asphalt (Type A) on the project to follow the requirements of Caltrans 2015 specifications for material and placement, regardless of whether within Caltrans or City Right of ways? Therefore, are Whitebook & Greenbook specifications for Asphalt Concrete superseded and not applicable?

A5. HMA (Type A) will follow the requirements of the 2015 Caltrans Specifications for material and placement.

Q6. Section 9-3.7 appears to eliminate Whitebook adjustments for Oil Price Index Fluctuations. Please confirm that the intent of the specification is to have no index adjustment? Due to the lengthy duration of the project, it is recommended that the index adjustment be allowed to facilitate reasonable bid pricing for the City.

A6. Bid per plan.

Q7. Reference Addendum B, Page 13, E. Notice Inviting Bids – This section modified the submittal of the Supplemental Agreements to be executed by the selected bidder at time of award. However, the modified language states "The signed agreements shall be accompanied by the proper bonds and insurance as specified in 2-4 "CONTRACT BONDS"…Bonds shall be in the amount of the total Contract Price for all Work including the supplemental agreements. "LTMMA 1, Recitals, B. states "…The performance of the terms of the LTMMA shall commence immediately upon completion of performance of Construction Contract."; and E. 1 Performance of Contract in Two Phases states: "There are two separate phases of work to be performed by the Contractor under this Contract. The first phase covers the work involved in the original agreement as described in this agreement ("Phase 1 Work"). The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation Area after Phase 1 Work has been completed ("Phase 2 Work"); and E. 2. Bond Handling for Contract Phases states "The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work…." Based on these sections, please confirm the following: ·Is it SANDAG's intent that the payment and performance bonds cover the total duration of the construction contract, LTMMA 1 and LTMMA 2? Contract bonds are not commercially available in excess of a five year period. Please advise.

A7. Refer to Addendum C, Section B, Bidder's Question, A10.

Q8. If separate bonds will be required for LTMMA 1 and 2, please provide copies of bond forms for surety review.

A8. Refer to Appendix P and Appendix Q.

Q9. If separate bonds will be required for LTMMA 1 and 2, please confirm the bonds are required to be in place after the completion of the construction contract and prior to the start of work on LTMMA 1.

A9. Refer to Addendum B, Section E, Notice Inviting Bids.

Q10. Our irrigation suppliers have reached out to the controller manufacturer, Calsense, and they cannot provide a quote for the controllers and upgrades for the existing controllers because they are not sure what are the specific options the irrigation consultant would like for this project. Can you please advise the model with options?

A10. Bid per plan.

Q11. The listing statute does not require listing or naming of consultants and suppliers. Please clarify whether all consultants and suppliers are required to be listed/named or only those with which the Bidder is seeking recognition for participation goals.

A11. Refer to Section 14.2, Listing of Suppliers, of the Instructions to Bidders.

Q12. The electronic bidding site indicates that an attachment is required for "Subcontractors Additive/Deductive Alternates". The specifications state that "ALTERNATE" is to be noted in the description of the "Listing of Subcontractors and Suppliers for Alternates". If the description includes the notation of "Alternate", will a separate attachment be required?

A12. Refer to Section 14.3, Listing of Subcontractors or Suppliers of Alternates, of the Instructions to Bidders.

Q13. Will the Addendums A & B revisions to the bid schedule be incorporated into the electronic bidding site?

A13. PlanetBids has been updated.

Q14. There is no shown access to the 'T' fitting for splicing purposes. You cannot splice a #2 wire with #10 in that type of fitting or space. This does not meet the National Electric Code (NEC). This is a huge problem for this project, not only in design, but in construction. Please re-design this portion of the project or provide explanation as to how we are to splice the conductors in this fitting while its encased in concrete. How we are to splice conductors in the 'T' fitting that is encased in concrete.

A14. The 'T' fitting is not intended to be used as a splicing location. The T fitting will be placed in the conduit run and the wire fed through it during rough in. The wire will feed up into the aluminum sheet metal enclosure where it can be spliced with the #10 wire feeding the rail light, and then fed back through the 'T' to the next light.

Q15. My question is for line item 213 prepare and stain concrete with regards to the reference that is listed on the website which reads 51-1.04 (CT) I understood this reference to mean the Cal Trans spec. When I checked the Cal Trans standard spec book 2015 under this spec it did not offer insight as to what kind of staining to use. Which specification am I supposed to look at for this line item?

A15. Prepare and stain concrete with sealer is covered under Section 78-4.04 of the Caltrans Standard Specifications and Attachment D Caltrans Supplementary Provisions.

Q16. Please confirm if the test pile can be installed closer to Pier #2. This would allow for a more efficient project startup and this area has a very similar soil profile to the current test pile location.

A16. The test pile must be installed in the location indicated on the plans.

Q17. We would like to provide a quote for the "prepare and stain concrete with sealer". The specifications do not specify what type of stain nor does it list any products. If this an acid stain? Acrylic stain?

A17. Prepare and stain concrete with sealer is covered under Section 78-4.04 of the Caltrans Standard Specifications and Attachment D Caltrans Supplementary Provisions.

Q18. Question: Reference Plan Page S-68/Section J. It is the intent to weld the grating bars to form one full panel with a 149 degree angle then add a 1 1/4" x 1 1/4" x 1/4" angle trim on the sides and a 1 1/4" x 1 1/4" x 1/4" face plate trim. Please confirm.

A18. Confirmed.

Q19. Question: Reference Plan Page S-68/Detail L. There is no detail for the rub rail to post connection. Is it the intent to weld a 19' 4 1/2" section of 3 posts and rub rail as one fabricated section? Then powder coated and installed?

A19. The intention is to powder coat the post as an assembly, which includes the post connection and the rub rail to be powder coated separately. The connection between the rub rail and the post is intended to consist of a fastener, or another unobtrusive method that allows the rub rail to be painted separately from the post. If a fastener connection is used, a flathead, vandal resistant fastener shall be countersunk flush to the rub rail support.

Q20. Can vibratory hammers be utilized to install temporary starter casing to help facilitate the installation of the drilled shafts?

A20. As per Section 49-3.02C(6) of Attachment D Caltrans Supplementary Provisions, only oscillators and high torque rotators are allowed. Vibratory hammers are not allowed.

Q21. Would it be acceptable to install the 108”/60” portion or the drilled shaft utilizing polymer drilling fluid in lieu of full length temporary casing. The method prescribed in previous addendums is too prescriptive and limits the means and method capabilities of specialty foundation contractors.

A21. Temporary casing is required. See Section 8.4 of the Foundation Report for further discussion.

Q22. In order to reduce job cost, it is beneficial to use standardized equipment for drilled shaft installation. Please confirm if it is acceptable to use 1.8 meter permanent casing in lieu of the 72” permanent casing as noted in the plans for Abutment Drilled Shafts.

A22. Confirmed: a 1.8 m permanent casing in lieu of 72” casing is acceptable pending submittal, review and approval of the pile working drawings and pile installation plan.

Q30. Based on previous experience, it is likely that 3 meter diameter casing cannot be advanced while maintaining a 10’ soil plug within the dense soil layers encountered at depth on this site, even using a high torque rotator, or other drilling methods. Please be aware that 3 meter diameter up to 180’ deep and maintaining a 10’ soil plug in dense layers is not standard practice and may be unconstructable. Contractor requests that specifications are reviewed and modified to address this constraint.

A30. The intent of the 10’ thick soil plug at the bottom of the casing is to reduce the potential for bottom heave within the loose paralic estuarine deposits. The casing does not need to extend 10’ below the pile tip where the excavations are advanced through dense materials that do not appear to be prone to caving located near the bottoms of the CIDH pile excavations.

Q31. Based on previous experience in similar soil conditions and performance of Mini SID testing; it is highly unlikely to achieve readings of less than 1/4” of sediment over 50% of the base even in clean shafts when the potential of granular soils is present. We request this requirement be modified to provide a criteria that can be consistently performed in construction.

A31. See updated Section 49-3.02C(2), included in Addendum D, and also refer to Section 8.4 Pile Installation of the Bridge Foundation Report.

Q32. Due to the existence of installation procedures dictated by the engineer outside of standard practice, will the engineer allow the test pile to be installed using standard drilled shaft procedures based on previous experience? This experience is similar size and type drilled shafts less than 1 mile upstream that have been constructed within the past year.

A32. The test pile should be installed using the means and methods proposed by the contractor for the production piles.

Q33. Please confirm if the drilled shaft contractor can remove the soil plug once the casing is in the denser cobble and gravel layers as long as polymer slurry is used to stabilize the excavation.

A33. Confirmed.

C. ATTACHMENTS

1. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 174, Caltrans Standard Specifications (10-95), Division VI, Structures, 46 Ground Anchors and Soil Nails, Section 46-1.01A, Summary, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   Add to section 46-1.01A:
   For sub horizontal ground anchors for West Mission Bay Drive Ground Anchor Wall No. 1 and Ground Anchor Wall No. 2 (placed beneath Midway Drive UC (L/R), Bridge No. 57-0705L/R), the Contractor must take necessary provisions in the excavation sequence to avoid undermining of the existing bridge footing or damaging existing piles. Excavation for subsequent lifts of ground anchors must not proceed until construction of the previous lift has been completed and the ground anchors have been locked off at their design loads. The depth of excavation for a lift of ground anchors must not extend below the bottom of the panel for that lift of ground anchors.

   The following additional requirements will apply:

   A. To reduce the potential for damage to existing piles during ground anchor installation, steel casings must be installed 5' past the trailing abutment or wingwall piles at all anchor locations for a particular lift and shall remain in place. The steel casings may be pushed through the existing pile zone using hydraulic pressure, or driven using a small impact hammer. The ground anchors may then be installed through the casings. The casings may require jetting or relief drilling if soils collect within the annulus during installation.

   B. If resistance is encountered during casing advancement that can be attributed to a possible conflict with a pile, the Contractor must immediately stop casing advancement and document the location and depth of hole. The Contractor must then cut off the casing at the face of excavation and grout the hole. A second casing must be advanced 2 ft up wall station from the first hole, at the same elevation of the first hole. The contractor must submit all conflict locations for a lift to the Engineer and allow the Engineer 1 weeks

to review the results for all holes and supplement the contract plans with additional ground anchors if necessary. No further work on this wall will be allowed without approval by the Engineer. Submittal will consist of written documentation of hole locations, order of work, depth of hole when resistance was encountered, and photos of the excavation.

2. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, pages 185 through 186, Caltrans Standard Specifications (10-95), Division VI, Structures, 49 Piling, Section 49-3.02C(2), Drilled Holes, **DELETE** in its entirety and **SUBSTITUTE** with the following:

Add to section 49-3.02C(2):

If you use an oscillator or rotator to excavate the piles, you must:

1. Maintain a positive fluid head within the drill rod at all times. Use only mineral or synthetic slurry for the fluid (10 feet of head minimum).
2. Maintain a minimum 10-foot soil/rock plug within the drill rod. This plug must be maintained until the drill rod reaches the specified tip elevation.
3. Provide access to the Engineer to the top of the oscillator/rotator drill rod to verify that the minimum 10-foot slurry head and soil plug are being maintained.

The Contractor's Shaft Inspection Device (SID) will be utilized to inspect the bottom of the CIDH piles after completion of drilling and clean out. Department representatives must be present during the SID inspection. You must allow time for the SID to be used to re-inspect the bottom of pile excavations after placement of pile reinforcement.

All CIDH pile excavations must be authorized before placing concrete.

James Nagelvoort, Director
Public Works Department

Dated: *November 9, 2017*
San Diego, California

JN/AJ/egz

City of San Diego

CITY CONTACT: Antoinette Sanfilippo, **Contract Specialist, Email**: ASanfilippo@sandiego.gov
Phone No. (619) 533-3439, **Fax No**. (619) 533-3633

ADDENDUM E

e - Bidding

FOR

WEST MISSION BAY DRIVE BRIDGE

BID NO.:	K-18-1472-DBB-3
SAP NO. (WBS/IO/CC):	S-00871, B-12110, B-12097
CLIENT DEPARTMENT:	1714, 2000, 2116
COUNCIL DISTRICT:	2
PROJECT TYPE:	GF, IB, JA
FEDERAL AID PROJECT NO.:	BHLS-5004(049)

BID DUE DATE:

2:00 PM
NOVEMBER 16, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

1) Registered Engineer — 11/7/17 — Date — Seal:

2) For City Engineer — 11/7/2017 — Date — Seal:

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B. ADDENDUM

1. To Addendum D, **DELETE** in its entirety.

C. BIDDER's QUESTIONS

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A6. Bid per plan.

Q7. Reference Addendum B, Page 13, E. Notice Inviting Bids – This section modified the submittal of the Supplemental Agreements to be executed by the selected bidder at time of award. However, the modified language states "The signed agreements shall be accompanied by the proper bonds and insurance as specified in 2-4 "CONTRACT BONDS"…Bonds shall be in the amount of the total Contract Price for all Work including the supplemental agreements. "LTMMA 1, Recitals, B. states "…The performance of the terms of the LTMMA shall commence immediately upon completion of performance of Construction Contract."; and E. 1 Performance of Contract in Two Phases states: "There are two separate phases of work to be performed by the Contractor under this Contract. The first phase covers the work involved in the original agreement as described in this agreement ("Phase 1 Work"). The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation Area after Phase 1 Work has been completed ("Phase 2 Work"); and E. 2. Bond Handling for Contract Phases states "The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work…." Based on these sections, please confirm the following: ·Is it SANDAG's intent that the payment and performance bonds cover the total duration of the construction contract, LTMMA 1 and LTMMA 2? Contract bonds are not commercially available in excess of a five year period. Please advise.

A7. Refer to Addendum C, Section B, Bidder's Question, A10.

Q8. If separate bonds will be required for LTMMA 1 and 2, please provide copies of bond forms for surety review.

A8. Refer to Appendix P and Appendix Q.

Q9. If separate bonds will be required for LTMMA 1 and 2, please confirm the bonds are required to be in place after the completion of the construction contract and prior to the start of work on LTMMA 1.

A9. Refer to Addendum B, Section E, Notice Inviting Bids.

Q10. Our irrigation suppliers have reached out to the controller manufacturer, Calsense, and they cannot provide a quote for the controllers and upgrades for the existing controllers because they are not sure what are the specific options the irrigation consultant would like for this project. Can you please advise the model with options?

A10. Bid per plan.

Q11. The listing statute does not require listing or naming of consultants and suppliers. Please clarify whether all consultants and suppliers are required to be listed/named or only those with which the Bidder is seeking recognition for participation goals.

A11. Refer to Section 14.2, Listing of Suppliers, of the Instructions to Bidders.

Q12. The electronic bidding site indicates that an attachment is required for "Subcontractors Additive/Deductive Alternates". The specifications state that "ALTERNATE" is to be noted in the description of the "Listing of Subcontractors and Suppliers for Alternates". If the description includes the notation of "Alternate", will a separate attachment be required?

A12. Refer to Section 14.3, Listing of Subcontractors or Suppliers of Alternates, of the Instructions to Bidders.

Q13. Will the Addendums A & B revisions to the bid schedule be incorporated into the electronic bidding site?

A13. PlanetBids has been updated.

Q14. There is no shown access to the 'T' fitting for splicing purposes. You cannot splice a #2 wire with #10 in that type of fitting or space. This does not meet the National Electric Code (NEC). This is a huge problem for this project, not only in design, but in construction. Please re-design this portion of the project or provide explanation as to how we are to splice the conductors in this fitting while its encased in concrete. How we are to splice conductors in the 'T' fitting that is encased in concrete.

A14. The 'T' fitting is not intended to be used as a splicing location. The T fitting will be placed in the conduit run and the wire fed through it during rough in. The wire will feed up into the aluminum sheet metal enclosure where it can be spliced with the #10 wire feeding the rail light, and then fed back through the 'T' to the next light.

Q15. My question is for line item 213 prepare and stain concrete with regards to the reference that is listed on the website which reads 51-1.04 (CT) I understood this reference to mean the Cal Trans spec. When I checked the Cal Trans standard spec book 2015 under this spec it did not offer insight as to what kind of staining to use. Which specification am I supposed to look at for this line item?

A15. Prepare and stain concrete with sealer is covered under Section 78-4.04 of the Caltrans Standard Specifications and Attachment D Caltrans Supplementary Provisions.

Q16. Please confirm if the test pile can be installed closer to Pier #2. This would allow for a more efficient project startup and this area has a very similar soil profile to the current test pile location.

A16. The test pile must be installed in the location indicated on the plans.

Q17. We would like to provide a quote for the "prepare and stain concrete with sealer". The specifications do not specify what type of stain nor does it list any products. If this an acid stain? Acrylic stain?

A17. Prepare and stain concrete with sealer is covered under Section 78-4.04 of the Caltrans Standard Specifications and Attachment D Caltrans Supplementary Provisions.

Q18. Question: Reference Plan Page S-68/Section J. It is the intent to weld the grating bars to form one full panel with a 149 degree angle then add a 1 1/4" x 1 1/4" x 1/4" angle trim on the sides and a 1 1/4" x 1 1/4" x 1/4" face plate trim. Please confirm.

A18. Confirmed.

Q19. Question: Reference Plan Page S-68/Detail L. There is no detail for the rub rail to post connection. Is it the intent to weld a 19' 4 1/2" section of 3 posts and rub rail as one fabricated section? Then powder coated and installed?

A19. The intention is to powder coat the post as an assembly, which includes the post connection and the rub rail to be powder coated separately. The connection between the rub rail and the post is intended to consist of a fastener, or another unobtrusive method that allows the rub rail to be painted separately from the post. If a fastener connection is used, a flathead, vandal resistant fastener shall be countersunk flush to the rub rail support.

Q20. Can vibratory hammers be utilized to install temporary starter casing to help facilitate the installation of the drilled shafts?

A20. As per Section 49-3.02C(6) of Attachment D Caltrans Supplementary Provisions, only oscillators and high torque rotators are allowed. Vibratory hammers are not allowed.

Q21. Would it be acceptable to install the 108”/60” portion or the drilled shaft utilizing polymer drilling fluid in lieu of full length temporary casing. The method prescribed in previous addendums is too prescriptive and limits the means and method capabilities of specialty foundation contractors.

A21. Temporary casing is required. See Section 8.4 of the Foundation Report for further discussion.

Q22. In order to reduce job cost, it is beneficial to use standardized equipment for drilled shaft installation. Please confirm if it is acceptable to use 1.8 meter permanent casing in lieu of the 72” permanent casing as noted in the plans for Abutment Drilled Shafts.

A22. Confirmed: a 1.8 m permanent casing in lieu of 72” casing is acceptable pending submittal, review and approval of the pile working drawings and pile installation plan.

Q23. In Addendum A, Section E, Part 2 the following was added: “e) Contractor to install video cameras for live feed and recording of construction progress.” Please confirm only two cameras are required.

A23. Confirmed.

Q24. Per Special provisions Section 46-1.01A permanent galvanized steel casing must be installed using "hydraulic pressure or driven using a small impact hammer". This does not appear feasible for the following reasons: 1) It is not practical nor does equipment exist that can "drive" or "press" casing in a near-horizontal direction. 2) Project special provisions section 46-2.03A Item #2 indicates the material in which the casing is to be installed contains "cobbles within the abutment fills". Thus making driving or hydraulically pressing casing into the ground near impossible due to the soil type anticipated. 3) Driving or pressing casing into the ground (if it was possible to do so) is highly inaccurate and will more than likely result in contact and possible damage to the existing bridge abutment piles. Typical procedure for this application would be to drill and install permanent casing in the ground using drill rotary methods. Is installation of the permanent galvanized casing using drilling methods acceptable for the tiebacks?

A24. See updated Section 46-1.01A, included in Addendum D, and note that casing installation methods described therein are not mandatory.

Q25. Please confirm the thickness and dimension of the oval pipe for the bridge handrail (Sheet S-68). Is it acceptable to fabricate the oval pipe from 12 gage material?

A25. The rub rail thickness should be chosen based on the span specified (~6’-5”) and the loading requirements called out in the specifications.

Q26. What grade of permanent casing is needed for ground anchor wall casings? What is the required wall thickness for permanent casings for ground anchor wall tiebacks?

A26. Ground anchor casings are nonstructural, and section properties are to be determined by the Contractor.

Q27. Per US DOT FHWA Construction Procedure and LRFD Design Methods, Section 6.1.2.2.2 Oscillator/Rotator Method Para 3 states, "At completion of the excavation, the soil plug may be removed to the base of the casing (or below) if the casing is extended into a rock or stable formation or if a slurry head is used to maintain stability. If the hole terminates in water-bearing soil with only a water head for stability, it may be necessary that the casing extend below the base of the final excavation to avoid instability at the base. However, this procedure may result in an annular zone of loosened soil at the base of the drilled shaft excavation." (a.) In accordance with the above, please confirm that as long as a polymer slurry head is used for stability, the casing tip does not need to be extended past the pile tip elevation since it is seated in a stable formation. (b.) In accordance with the above, if the soil plug must be maintained and the casing must be extended past the pile tip, does the engineer understand that a zone of loosened soil will be present below the pile tip which may limit the end bearing capacity?

A27. (a.) Confirmed. (b.) The casing does not need to extend below the specified pile tip elevation.

Q28. Please clarify that the casing must be extended 10' past the pile tip to maintain the soil plug as required by 49-3.02C(2).

A28. The casing does not need to extend below the specified pile tip elevation. During pile installation within the loose paralic estuarine deposits, a 10' thick soil plug at the bottom of the casing is recommended to help reduce the potential for bottom heave.

Q29. Polymer slurry must be used inside full depth casing rather than water slurry during advance of the drilled shaft. However at completion of the advance, the specifications require that the pile be flushed with clean water before Mini SID testing? The replacement of polymer slurry with water slurry may result in instability at the base, as noted by FHWA. Can Mini SID be performed within polymer slurry in order to reduce this potential risk?

A29. Yes, if it is possible to conduct a thorough inspection with the Mini SD without the use of clean water.

Q30. Based on previous experience, it is likely that 3 meter diameter casing cannot be advanced while maintaining a 10' soil plug within the dense soil layers encountered at depth on this site, even using a high torque rotator, or other drilling methods. Please be aware that 3 meter diameter up to 180' deep and maintaining a 10' soil plug in dense layers is not standard practice and may be unconstructable. Contractor requests that specifications are reviewed and modified to address this constraint.

A30. The intent of the 10' thick soil plug at the bottom of the casing is to reduce the potential for bottom heave within the loose paralic estuarine deposits. The casing does not need to extend 10' below the pile tip where the excavations are advanced through dense materials that do not appear to be prone to caving located near the bottoms of the CIDH pile excavations.

Q31. Based on previous experience in similar soil conditions and performance of Mini SID testing; it is highly unlikely to achieve readings of less than 1/4" of sediment over 50% of the base even in clean shafts when the potential of granular soils is present. We request this requirement be modified to provide a criteria that can be consistently performed in construction.

A31. See updated Section 49-3.02C(2), included in Addendum D, and also refer to Section 8.4 Pile Installation of the Bridge Foundation Report.

Q32. Due to the existence of installation procedures dictated by the engineer outside of standard practice, will the engineer allow the test pile to be installed using standard drilled shaft procedures based on previous experience? This experience is similar size and type drilled shafts less than 1 mile upstream that have been constructed within the past year.

A32. The test pile should be installed using the means and methods proposed by the contractor for the production piles.

Q33. Please confirm if the drilled shaft contractor can remove the soil plug once the casing is in the denser cobble and gravel layers as long as polymer slurry is used to stabilize the excavation.

A33. Confirmed.

D. ATTACHMENTS

1. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, page 174, Caltrans Standard Specifications (10-95), Division VI, Structures, 46 Ground Anchors and Soil Nails, Section 46-1.01A, Summary, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   Add to section 46-1.01A:
   For sub horizontal ground anchors for West Mission Bay Drive Ground Anchor Wall No. 1 and Ground Anchor Wall No. 2 (placed beneath Midway Drive UC (L/R), Bridge No. 57-0705L/R), the Contractor must take necessary provisions in the excavation sequence to avoid undermining of the existing bridge footing or damaging existing piles. Excavation for subsequent lifts of ground anchors must not proceed until construction of the previous lift has been completed and the ground anchors have been locked off at their design loads. The depth of excavation for a lift of ground anchors must not extend below the bottom of the panel for that lift of ground anchors.

   The following additional requirements will apply:

   A. To reduce the potential for damage to existing piles during ground anchor installation, steel casings must be installed 5' past the trailing abutment or wingwall piles at all anchor locations for a particular lift and shall remain in place. The steel casings may be pushed through the existing pile zone using hydraulic pressure, or driven using a small impact hammer. The ground anchors may then be installed through the casings. The casings may require jetting or relief drilling if soils collect within the annulus during installation.

   B. If resistance is encountered during casing advancement that can be attributed to a possible conflict with a pile, the Contractor must immediately stop casing advancement and document the location and depth of hole. The Contractor must then cut off the casing at the face of excavation and grout the hole. A second casing must be advanced 2 ft up wall station from the first hole, at the same elevation of the first hole. The contractor must submit all conflict locations for a lift to the Engineer and allow the Engineer 1 weeks to review the results for all holes and supplement the contract

plans with additional ground anchors if necessary. No further work on this wall will be allowed without approval by the Engineer. Submittal will consist of written documentation of hole locations, order of work, depth of hole when resistance was encountered, and photos of the excavation.

2. To Attachment D, Federal Highway Administration (FHWA) Funding Agency Provisions, pages 185 through 186, Caltrans Standard Specifications (10-95), Division VI, Structures, 49 Piling, Section 49-3.02C(2), Drilled Holes, **DELETE** in its entirety and **SUBSTITUTE** with the following:

Add to section 49-3.02C(2):

If you use an oscillator or rotator to excavate the piles, you must:

1. Maintain a positive fluid head within the drill rod at all times. Use only mineral or synthetic slurry for the fluid (10 feet of head minimum).
2. Maintain a minimum 10-foot soil/rock plug within the drill rod. This plug must be maintained until the drill rod reaches the specified tip elevation.
3. Provide access to the Engineer to the top of the oscillator/rotator drill rod to verify that the minimum 10-foot slurry head and soil plug are being maintained.

The Contractor's Shaft Inspection Device (SID) will be utilized to inspect the bottom of the CIDH piles after completion of drilling and clean out. Department representatives must be present during the SID inspection. You must allow time for the SID to be used to re-inspect the bottom of pile excavations after placement of pile reinforcement.

All CIDH pile excavations must be authorized before placing concrete.

James Nagelvoort, Director
Public Works Department

Dated: *November 13, 2017*
San Diego, California

JN/AJ/egz

Bid Results

Bidder Details

Vendor Name Flatiron West, Inc.
Address 1770 La Costa Meadows Drive
San Marcos, CA 92078
United States

Respondee Dale A. Nelson
Respondee Title Vice President
Phone 760-916-9100 Ext. 2074
Email dnelson@flatironcorp.com
Vendor Type PQUAL,Local
License # 772589
CADIR

Bid Detail

Bid Format Electronic
Submitted November 16, 2017 1:45:53 PM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 123575
Ranking 0

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Contractor's Certfification of Pending Actions	Contractor's Certfification of Pending Actions.pdf	CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS
Debartment and Suspension Certificate	Debartment and Suspension Certificate.pdf	DEBARMENT AND SUSPENSION CERTIFICATION
Certification Equal Opportunity	Certfication Equal Opportunity.pdf	CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUSCONTRACTS OR SUBCONTRACTS EQUAL OPPORTUNITY
Public Contract Code 10162	Public Contract Code 10162.pdf	PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE
Non-Lobbying Certification	Non-Lobbying Certification.pdf	NON-LOBBYING CERTIFICATION
Lobby Prohibition, Certification and Disclosure	Lobby Prohibition, Certification and Disclosure.pdf	LOBBY PROHIBITION, CERTIFICATION AND DISCLOSURE
Subcontractors Additive-Deductive Alternate	Subcontractors Additive-Deductive Alternate.pdf	SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE
Bid Bond	Bid Bond.pdf	Bid Bond

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	Main Bid					
1	Bonds (Payment and Performance)					
	524126	LS	1	$1,500,000.00	$1,500,000.00	
2	CONTINGENCIES (City Field Orders - EOC Type II)					
		AL	1	$347,206.00	$347,206.00	
3	Mobilization					
	237310	LS	1	$11,100,000.00	$11,100,000.00	
4	Exclusive Community Liaison Services (TMP-Public Information)					
	541820	LS	1	$285,000.00	$285,000.00	
5	Caltrans Encroachment Permit (EOC Type I)					
	237310	AL	1	$5,100.00	$5,100.00	
6	SWPPP (Development & Implementation)					
	541330	LS	1	$1,835,000.20	$1,835,000.20	
7	SWPPP Permit Fee (EOC Type I)					
	541330	AL	1	$10,000.00	$10,000.00	
8	Field Office Class A (2)					
	237310	LS	1	$600,000.00	$600,000.00	
9	Lead Compliance Plan					
	562910	LS	1	$7,300.00	$7,300.00	
10	Clearing and Grubbing					
	238910	LS	1	$500,000.00	$500,000.00	
11	Cold Plane Asphalt Concrete Pavement					
	237310	SY	13500	$3.00	$40,500.00	
12	Hot Mix Asphalt (Type A)					
	237310	TON	7340	$120.00	$880,800.00	
13	Place Hot Mix Asphalt Dike (Type E)					
	237310	LF	590	$15.00	$8,850.00	
14	Minor Concrete (Curb Ramp)					
	237310	CY	12	$2,780.00	$33,360.00	
15	Minor Concrete (Miscellaneous Construction)					
	237310	CY	930	$580.00	$539,400.00	
16	Minor Concrete (Textured Paving)					
	237310	SY	550	$90.00	$49,500.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
17	Asphaltic Emulsion (Fog Seal Coat)					
	237310	TON	2	$1,400.00	$2,800.00	
18	Tack Coat					
	237310	TON	6	$800.00	$4,800.00	
19	Rock Blanket					
	237990	SF	1080	$16.50	$17,820.00	
20	Remove Concrete					
	237310	CY	370	$59.00	$21,830.00	
21	Remove Concrete - Sidewalk					
	237310	LF	1980	$5.50	$10,890.00	
22	Remove Concrete - Curb & Gutter					
	237310	LF	3490	$6.50	$22,685.00	
23	Construction Area Signs					
	237310	EA	622	$225.00	$139,950.00	
24	Traffic Plastic Drums					
	237310	EA	723	$10.00	$7,230.00	
25	Flashing Arrow Signs					
	237310	EA	12	$2,700.00	$32,400.00	
26	Portable Changeable Message Signs (PCMS) - Type I					
	237310	EA	3	$25,000.00	$75,000.00	
27	Type III Barricade					
	237310	EA	163	$45.00	$7,335.00	
28	Temporary Railing (Type K)					
	237310	LF	14700	$13.00	$191,100.00	
29	Temporary Crash Cushion Module (P)					
	237310	EA	54	$180.00	$9,720.00	
30	Temporary Alternative Crash Cushion (P)					
	237310	EA	2	$41,000.00	$82,000.00	
31	Temporary Pavement Markings (Tape)					
	237310	SF	930	$13.50	$12,555.00	
32	Temporary Traffic Stripe (Tape)					
	237310	LF	30760	$3.50	$107,660.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
33	Temporary Pavement Markers (Retroreflective and Non-retroreflective) (P)					
	237310	EA	647	$5.00	$3,235.00	
34	Temporary Hydraulic Mulch					
	561730	SY	6980	$0.50	$3,490.00	
35	Temporary Straw Blanket					
	561730	SY	4960	$2.00	$9,920.00	
36	Temporary Fiber Rolls					
	561730	LF	7250	$3.60	$26,100.00	
37	Temporary Drainage Inlet Protection					
	561730	EA	18	$300.00	$5,400.00	
38	Temporary Silt Fence					
	561730	LF	7540	$4.00	$30,160.00	
39	Treated Wood Waste					
	238910	LB	8570	$0.80	$6,856.00	
40	Roadway Excavation (Includes Export of Surplus)					
	237310	CY	12400	$55.00	$682,000.00	
41	Roadway Excavation (Type R1) (Aerially Deposited Lead)					
	237310	CY	1320	$53.00	$69,960.00	
42	Class II Base					
	237310	CY	4800	$45.00	$216,000.00	
43	Cement Treated Base					
	238910	CY	2640	$114.00	$300,960.00	
44	Curb Inlet Type OL-21 (P)					
	237110	EA	1	$14,900.00	$14,900.00	
45	Curb Inlet Type C-1 (P)					
	237110	EA	1	$9,500.00	$9,500.00	
46	Drainage Inlet Type G1 (P)					
	237110	EA	4	$6,300.00	$25,200.00	
47	Catch Basin Type I (P)					
	237110	EA	7	$4,100.00	$28,700.00	
48	Cast In Place Junction Structure (P)					
	237110	EA	2	$7,800.00	$15,600.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
49	Cleanout Type A4 (P)					
	237110	EA	6	$10,800.00	$64,800.00	
50	Cleanout Type A6 (P)					
	237110	EA	1	$14,500.00	$14,500.00	
51	Curb Outlet (Type A) (P)					
	237110	EA	3	$3,400.00	$10,200.00	
52	Replace OCP Inlet/Riser Lid (P)					
	237110	EA	1	$2,450.00	$2,450.00	
53	Remove Sign Structure (EA)					
	238210	EA	3	$10,500.00	$31,500.00	
54	Furnish Sign Structure (Truss) (F)					
	237310	LB	111500	$3.60	$401,400.00	
55	Install Sign Structure (Truss) (F)					
	237310	LB	111500	$0.50	$55,750.00	
56	18 Inch Reinforced Concrete Pipe (P)					
	237110	LF	840	$240.00	$201,600.00	
57	24 Inch Reinforced Concrete Pipe (P)					
	237110	LF	105	$350.00	$36,750.00	
58	30 Inch Reinforced Concrete Pipe (P)					
	237110	LF	140	$200.00	$28,000.00	
59	48 Inch Reinforced Concrete Pipe (P)					
	237110	LF	16	$935.00	$14,960.00	
60	12 Inch Steel Pipe (P)					
	237110	LF	500	$215.00	$107,500.00	
61	18 Inch Flared End Section (P)					
	237110	EA	4	$1,385.00	$5,540.00	
62	Geotextiles for Drainage (P)					
	237990	SY	3700	$2.20	$8,140.00	
63	Rip Rap					
	237110	TON	6	$70.00	$420.00	
64	Salvage and Relocate Existing Rip Rap					
	237110	TON	2150	$68.00	$146,200.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
65	Drainage Inlet Markers (P)					
	237110	EA	12	$230.00	$2,760.00	
66	Remove Pipe (P)					
	237110	LF	250	$112.00	$28,000.00	
67	Remove Inlet (P)					
	237110	EA	7	$850.00	$5,950.00	
68	Chain Link Fence (Type CL-4) (P)					
	238990	LF	160	$70.00	$11,200.00	
69	Chain Link Fence (Type CL-6) (P)					
	238990	LF	250	$55.00	$13,750.00	
70	Protective Railing (P)					
	238990	LF	390	$120.00	$46,800.00	
71	Remove Chain Link Fence (P)					
	238910	LF	470	$15.50	$7,285.00	
72	Install Sign (Strap and Saddle Bracket Method)					
	237310	EA	2	$95.00	$190.00	
73	Metal Post (Roadside Sign)					
	237310	EA	4	$250.00	$1,000.00	
74	Install Sign (Mast-arm Hanger Method)					
	237310	EA	2	$770.00	$1,540.00	
75	Install Roadside Sign (Wood Post)					
	237310	EA	56	$400.00	$22,400.00	
76	Remove Metal Post					
	238210	EA	11	$85.00	$935.00	
77	Remove Roadside Sign (Wood Post)					
	238210	EA	44	$85.00	$3,740.00	
78	Guardrail (Midwest Guardrail System 6" Wood Post)					
	237310	LF	190	$76.00	$14,440.00	
79	Transition Railing (Type WB-31)					
	237310	EA	1	$5,500.00	$5,500.00	
80	End Anchor Assembly (Type SFT)					
	237310	EA	4	$1,265.00	$5,060.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
81	In-line Terminal System					
	237310	EA	1	$5,360.00	$5,360.00	
82	Flared Terminal System					
	237310	EA	5	$5,035.00	$25,175.00	
83	Crash Cushion Module (Alternative) (P)					
	237310	EA	1	$49,300.00	$49,300.00	
84	Crash Cushion Modules (SMART) (P)					
	237310	EA	3	$49,000.00	$147,000.00	
85	Crash Cushion Module (TAU-II (W)) (P)					
	237310	EA	1	$49,300.00	$49,300.00	
86	Concrete Barrier (Type 60)					
	237310	LF	1285	$84.00	$107,940.00	
87	Mod Concrete Barrier (Type 60)					
	237310	LF	560	$110.00	$61,600.00	
88	Concrete Barrier (Type 60R)					
	237310	LF	320	$435.00	$139,200.00	
89	Remove Guardrail					
	238910	LF	380	$10.00	$3,800.00	
90	Remove Concrete Barrier					
	238910	LF	650	$34.00	$22,100.00	
91	Remove Crash Cushion					
	238910	EA	1	$1,300.00	$1,300.00	
92	Thermoplastic Crosswalk and Pavement Marking (Enhanced Wet Night Visibility)					
	237310	SF	600	$4.20	$2,520.00	
93	Pavement Markers (P)					
	237310	EA	1005	$4.00	$4,020.00	
94	Paint Traffic Stripe (2-Coat)					
	237310	LF	23300	$0.60	$13,980.00	
95	Painted Pavement Markings (2-Coat)					
	237310	SF	1520	$3.00	$4,560.00	
96	Removal of Pavement Marker (P)					
	237310	EA	660	$1.50	$990.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
97	Remove Thermoplastic Pavement Markings					
	237310	SF	1030	$2.50	$2,575.00	
98	Remove Painted Traffic Stripe					
	237310	LF	15080	$0.70	$10,556.00	
99	Signal and Lighting (P)					
	237310	LS	1	$365,000.00	$365,000.00	
100	Video Inspecting Pipelines and Culverts for Acceptance					
	237110	LF	8600	$3.50	$30,100.00	
101	Pedestrian Barricade					
	237310	EA	9	$1,500.00	$13,500.00	
102	Bioretention Soil Mix					
	561730	CY	1960	$130.00	$254,800.00	
103	Palm Tree Removal (P)					
	561730	EA	160	$775.00	$124,000.00	
104	Tree Removal (P)					
	561730	EA	5	$775.00	$3,875.00	
105	Agave Cuttings & Planting (F)					
	561730	EA	50	$0.50	$25.00	
106	Remove Agave Shrubs (F)					
	561730	EA	90	$32.00	$2,880.00	
107	Groundcover Removal (P)					
	561730	SF	313865	$0.40	$125,546.00	
108	Torrey Pine Tree Relocation (P)					
	561730	EA	2	$145,000.00	$290,000.00	
109	Remove Existing Irrigation Systems (F)					
	561730	LS	1	$17,900.00	$17,900.00	
110	Tree Protection Fencing (F)					
	561730	LF	881	$5.00	$4,405.00	
111	Cultivation (F)					
	561730	SY	26545	$1.00	$26,545.00	
112	Incorporate Compost (P)					
	561730	CY	715	$35.00	$25,025.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
113	Weed Germination (P)					
	561730	SY	26545	$0.20	$5,309.00	
114	Iron Sulfate (F)					
	561730	LB	1068	$1.50	$1,602.00	
115	Soil Amendment (F)					
	561730	CY	25	$100.00	$2,500.00	
116	Commercial Fertilizer-Slow Release (F)					
	561730	LB	875	$2.00	$1,750.00	
117	Commercial Fertilizer (Packet) (F)					
	561730	EA	4552	$0.25	$1,138.00	
118	EC-Type 1 (Native Shrubs Mix-City RW) (F)					
	561730	SF	13540	$0.15	$2,031.00	
119	EC-Type 2 (Native Grasses Mix) (F)					
	561730	SF	65000	$0.15	$9,750.00	
120	EC-Type 3 (Native Shrubs Mix-Caltrans RW) (P)					
	561730	SF	160450	$0.14	$22,463.00	
121	Erosion Control (BFM); Part 2 Application (P)					
	561730	SF	238900	$0.05	$11,945.00	
122	24" Box Tree (F)					
	561730	EA	7	$420.00	$2,940.00	
123	48" Box Tree (F)					
	561730	EA	18	$1,940.00	$34,920.00	
124	1 Gallon (P)					
	561730	EA	2276	$14.75	$33,571.00	
125	90-Day Maintenance Period (P)					
	561730	LS	1	$80,000.00	$80,000.00	
126	34-Month Extended PEP Maintenance (P) (LTMM Agreement 1)					
	541330	LS	1	$240,000.00	$240,000.00	
127	Wood (Bark) Mulch (F)					
	561730	CY	162	$50.00	$8,100.00	
128	Wood (Bark) Mulch (North Laydown Yard) (F)					
	561730	CY	751	$34.00	$25,534.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
129	Root Barrier (F)					
	561730	LF	60	$7.00	$420.00	
130	Decomposed Granite (F)					
	561730	SF	5730	$2.10	$12,033.00	
131	Rock Mulch Type 1 (P)					
	561730	SF	36900	$5.50	$202,950.00	
132	Rock Mulch Type 2 (P)					
	561730	SF	10000	$5.80	$58,000.00	
133	Rock Mulch Type 3 (P)					
	561730	SF	9900	$6.80	$67,320.00	
134	Check and Test Existing Irrigation Facilities (P)					
	561730	EA	10	$1,520.00	$15,200.00	
135	Maintain Existing Irrigation Facilities (P)					
	561730	EA	8	$5,000.00	$40,000.00	
136	Operate Existing Irrigation Facilities (P)					
	561730	EA	4	$5,000.00	$20,000.00	
137	Control Neutral Conductors (P)					
	561730	LS	1	$39,000.00	$39,000.00	
138	Flow Sensor Cable (F)					
	561730	LS	1	$14,800.00	$14,800.00	
139	3/4" Electric Remote Control Valves - Brass (P)					
	561730	EA	8	$345.00	$2,760.00	
140	1" Electric Remote Control Valves - Brass (P)					
	561730	EA	12	$400.00	$4,800.00	
141	1-1/2" Electric Remote Control Valves - Brass (P)					
	561730	EA	26	$550.00	$14,300.00	
142	2" Electric Remote Control Valves - Brass (P)					
	561730	EA	3	$600.00	$1,800.00	
143	1" Electric Remote Control Valve - Brass (Master) (F)					
	561730	EA	1	$345.00	$345.00	
144	3" Electric Remote Control Valve - Brass (Master) (F)					
	561730	EA	2	$1,600.00	$3,200.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
145	Wye Strainer Assembly (F)					
	561730	EA	1	$215.00	$215.00	
146	Irrigation Controller: 24-Station (Pedestal) (P)					
	561730	EA	1	$13,400.00	$13,400.00	
147	Irrigation Controller: 32-Station Upgrade (P)					
	561730	EA	1	$16,500.00	$16,500.00	
148	Irrigation Controller: 40-Station Upgrade (P)					
	561730	EA	1	$19,600.00	$19,600.00	
149	Irrigation Controller: 8-Station (Pedestal) (P)					
	561730	EA	1	$10,500.00	$10,500.00	
150	2" Copper Line (F)					
	561730	LF	30	$30.00	$900.00	
151	Irrigation Controller Enclosure Cabinet (P)					
	561730	EA	2	$1,825.00	$3,650.00	
152	Water Meter (Irrigation) (P)					
	561730	EA	1	$5,000.00	$5,000.00	
153	Irrigation Sleeve - 2" PVC (F)					
	561730	LF	78	$14.00	$1,092.00	
154	Irrigation Sleeve - 3" PVC (F)					
	561730	LF	25	$48.00	$1,200.00	
155	Irrigation Sleeve - 6" PVC (F)					
	561730	LF	830	$48.00	$39,840.00	
156	Low Voltage Electrical Sleeve - 1" (P)					
	561730	LF	700	$14.00	$9,800.00	
157	Low Voltage Electrical Sleeve - 2" (P)					
	561730	LF	1050	$14.00	$14,700.00	
158	Certify Backflow Preventers (F)					
	561730	EA	1	$450.00	$450.00	
159	Certify Existing Backflow Preventers (F)					
	561730	EA	9	$450.00	$4,050.00	
160	Backflow Preventer Assembly - 1" (F)					
	561730	EA	1	$5,000.00	$5,000.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
161	Backflow Preventer Assembly Enclosure (F)					
	561730	EA	1	$2,400.00	$2,400.00	
162	Flow Sensor - 1" (F)					
	561730	EA	1	$1,300.00	$1,300.00	
163	Flow Sensor - 2" (F)					
	561730	EA	1	$1,550.00	$1,550.00	
164	Flow Sensor - 3" (F)					
	561730	EA	1	$1,240.00	$1,240.00	
165	Tree Well Sprinkler Assembly (P)					
	561730	EA	50	$30.00	$1,500.00	
166	Pop-up Sprinkler Assembly (Gear Driven) (P)					
	561730	EA	219	$40.00	$8,760.00	
167	Sprinkler (Type A-11) (P)					
	561730	EA	8	$45.00	$360.00	
168	Sprinkler (Type A-7) (P)					
	561730	EA	14	$45.00	$630.00	
169	Sprinkler (Type A-8) (P)					
	561730	EA	79	$70.00	$5,530.00	
170	Sprinkler (Type A-6) (P)					
	561730	EA	25	$45.00	$1,125.00	
171	Sprinkler (Type A-5) (P)					
	561730	EA	7	$70.00	$490.00	
172	Low Voltage Electrical Pull Box (P)					
	561730	EA	21	$430.00	$9,030.00	
173	3" Gate Valve (F)					
	561730	EA	7	$1,010.00	$7,070.00	
174	2" Gate Valve (F)					
	561730	EA	15	$540.00	$8,100.00	
175	3/4" Gave Valve (F)					
	561730	EA	8	$225.00	$1,800.00	
176	3/4" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	3600	$4.00	$14,400.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
177	1" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	3450	$4.10	$14,145.00	
178	1-1/4" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	2850	$4.30	$12,255.00	
179	1-1/2" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	750	$4.40	$3,300.00	
180	2" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	2220	$4.60	$10,212.00	
181	2-1/2" Plastic Pipe (SCH 40) (Supply Line) (P)					
	561730	LF	1250	$5.00	$6,250.00	
182	1-1/4" Plastic Pipe (SCH 40) (Supply Line) MAIN (P)					
	561730	LF	420	$4.30	$1,806.00	
183	2-1/2" Plastic Pipe (CL 315) (Supply Line) MAIN (P)					
	561730	LF	1165	$6.80	$7,922.00	
184	3" Plastic Pipe (CL 315) (Supply Line) MAIN (P)					
	561730	LF	3405	$7.60	$25,878.00	
185	Pressure Regulating Valve (F)					
	561730	EA	1	$2,170.00	$2,170.00	
186	1" Quick Coupling Valve (F)					
	561730	EA	11	$350.00	$3,850.00	
187	1" Ball Valve (F)					
	561730	EA	11	$375.00	$4,125.00	
188	2" Flow Control Valve (F)					
	561730	EA	1	$1,560.00	$1,560.00	
189	8" CHDPE Conduit (P)					
	561730	LF	311	$90.00	$27,990.00	
190	Extend Existing Conduit - 8" CHDPE (F)					
	561730	LF	31	$245.00	$7,595.00	
191	Bridge Removal					
	237310	LS	1	$10,850,000.00	$10,850,000.00	
192	Structure Excavation (Bridge) (F)					
	237310	CY	3749	$307.00	$1,150,943.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
193	Structure Excavation (Type D) (F)					
	237310	CY	201	$1.00	$201.00	
194	Structure Backfill (Bridge) (F)					
	237310	CY	1691	$103.00	$174,173.00	
195	72" Permanent Steel Casing (P)					
	237310	LF	2335	$1,115.00	$2,603,525.00	
196	120" Permanent Steel Casing (P)					
	237310	LF	1732	$1,950.00	$3,377,400.00	
197	60" Cast-In-Drilled-Hole Concrete Piling					
	237310	LF	819	$1,130.00	$925,470.00	
198	70" Cast-In-Drilled-Hole Concrete Piling					
	237310	LF	2335	$1,130.00	$2,638,550.00	
199	108" Cast-In-Drilled-Hole Concrete Piling					
	237310	LF	1928	$2,405.00	$4,636,840.00	
200	118" Cast-In-Drilled-Hole Concrete Piling					
	237310	LF	1732	$3,045.00	$5,273,940.00	
201	Prestressing Cast-In-Place-Concrete (P)					
	237310	LS	1	$938,000.00	$938,000.00	
202	Structural Concrete, Bridge Footing (F)					
	237310	CY	565	$336.00	$189,840.00	
203	Structural Concrete, Bridge (F)					
	237310	CY	14326	$1,022.00	$14,641,172.00	
204	Structural Concrete, Bridge (Polymer Fiber) (F)					
	237310	CY	5656	$520.00	$2,941,120.00	
205	Structural Concrete, Approach Slab (Type N) (F)					
	237310	CY	659	$728.00	$479,752.00	
206	PTFE Spherical Bearing (P)					
	237310	EA	10	$9,900.00	$99,000.00	
207	Joint Seal Assembly (MR 4") (P)					
	237310	LF	356	$350.00	$124,600.00	
208	Joint Seal Assembly (MR 9") (P)					
	237310	LF	159	$580.00	$92,220.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
209	Bar Reinforcing Steel (Bridge) (P-F)					
	237310	LB	2182613	$1.00	$2,182,613.00	
210	Bar Reinforcing Steel (Epoxy Coated) (Bridge) (P-F)					
	237310	LB	5370158	$1.30	$6,981,205.40	
211	Bar Reinforcing Steel (Dual Coated) (Bridge) (P-F)					
	237310	LB	96682	$1.70	$164,359.40	
212	Headed Bar Reinforcement (P-F)					
	237310	EA	392	$335.00	$131,320.00	
213	Prepare and Stain Concrete					
	237310	SF	221560	$2.75	$609,290.00	
214	Miscellaneous Metal (Restrainer - Pipe Type) (P-F)					
	237310	LB	64984	$1.50	$97,476.00	
215	Miscellaneous Metal (Bridge) (P-F)					
	237310	LB	60685	$4.00	$242,740.00	
216	Bridge Deck Drainage System (P-F)					
	237310	LB	40029	$8.00	$320,232.00	
217	Cable Railing (P-F)					
	237310	LF	222	$75.00	$16,650.00	
218	Cconcrete Barrier (Type 80) (F)					
	237310	LF	2720	$265.00	$720,800.00	
219	Concrete Barrier (Type 80SW Modified) (F)					
	237310	LF	2720	$525.00	$1,428,000.00	
220	Handrailing					
	237310	LF	2720	$765.00	$2,080,800.00	
221	Bridge Lighting					
	238210	LS	1	$1,770,000.00	$1,770,000.00	
222	Sidewalk Surface Texture and Color					
	237310	LS	1	$100,000.00	$100,000.00	
223	Temporary Construction Trestle					
	237310	LS	1	$11,300,000.00	$11,300,000.00	
224	Test Pile					
	237310	LS	1	$1,200,000.00	$1,200,000.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
225	Benches					
	237310	LS	1	$99,700.00	$99,700.00	
226	Slope Paving Removal					
	237310	SY	1214	$20.00	$24,280.00	
227	Structure Excavation (Ground Anchor Wall) (F)					
	237310	CY	868	$60.00	$52,080.00	
228	Structure Backfill (Ground Anchor Wall) (F)					
	237310	CY	67	$142.00	$9,514.00	
229	Ground Anchor Wall (Subhorizontal) (P)					
	237310	EA	161	$4,520.00	$727,720.00	
230	Structural Concrete, Retaining Wall (F)					
	237310	CY	254	$1,210.00	$307,340.00	
231	Architectural Treatment (F)					
	237310	SF	6975	$8.00	$55,800.00	
232	Bar Reinforcing Steel, (Retaining Wall) (P-F)					
	237310	LB	175396	$1.50	$263,094.00	
233	Structural ShotcreteTE (F)					
	237310	CY	250	$625.00	$156,250.00	
234	Slope Paving (Concrete)					
	237310	CY	38	$955.00	$36,290.00	
235	Minor Concrete (Gutter)					
	237310	LF	815	$39.00	$31,785.00	
236	Cable Railing (P-F)					
	237310	LF	815	$58.00	$47,270.00	
237	Eastern Mitigation Site - Tree Removal					
	561730	EA	18	$5,775.00	$103,950.00	
238	Eastern & Western Mitigation SiteS - Shrub Removal					
	561730	LS	1	$212,000.00	$212,000.00	
239	Eastern & Western Mitigation Sites - Revegetation					
	561730	LS	1	$190,000.00	$190,000.00	
240	Eastern and Western Mitigation Sites - Maintenance, Monitoring & Reporting (LTMM Agreement 2)					
	541330	LS	1	$424,000.00	$424,000.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
241	Sewage Bypass and Pumping Plan (Diversion Plan)					
	237110	LS	1	$55,000.00	$55,000.00	
242	Adjusting Existing Sewer Manhole Frame & Cover to Grade					
	237310	EA	7	$1,280.00	$8,960.00	
243	Abandon and Fill Existing 14-Inch Sewer Main Outside of Trench Limit					
	237110	LF	160	$44.00	$7,040.00	
244	Remove Existing Sewer Main Outside of Trench Limit					
	237110	LF	3080	$36.00	$110,880.00	
245	Steel Casing (30-Inch)					
	237110	LF	360	$380.00	$136,800.00	
246	Sewer Isolation Gate Valve (14-Inch)					
	237110	EA	4	$10,900.00	$43,600.00	
247	Sewer Force Main (14-Inch, PVC DR 18 Class 235)					
	237110	LF	1320	$390.00	$514,800.00	
248	Sewer Force Main (14-Inch, DI Class 250 with Restrained Joints)					
	237110	LF	2780	$230.00	$639,400.00	
249	Sewer Force Main (14-Inch, DI Class 53 with Flanged Joints)					
	237110	LF	100	$460.00	$46,000.00	
250	Thrust Blocks and Anchor Blocks (Sewer Force Mains)					
	237110	EA	6	$800.00	$4,800.00	
251	Access Manhole (5' x 3')					
	237110	EA	4	$10,000.00	$40,000.00	
252	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit					
	237110	LF	900	$19.00	$17,100.00	
253	Removal or Abandonment of Existing Water Facilities					
	237110	LF	2380	$71.00	$168,980.00	
254	Handling and Disposal of Non-friable Asbestos Material					
	237110	LF	210	$65.00	$13,650.00	
255	Water Main (4-Inch)					
	237110	LF	35	$178.00	$6,230.00	
256	Water Main (12-Inch)					
	237110	LF	470	$273.00	$128,310.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
257	Water Main (12-Inch, Class 305)					
	237110	LF	20	$225.00	$4,500.00	
258	Water Main (20-Inch)					
	237110	LF	830	$510.00	$423,300.00	
259	Water Main (20-Inch, CML&C Steel)					
	237110	LF	1440	$245.00	$352,800.00	
260	Gate Valve (4-Inch)					
	237110	EA	1	$2,600.00	$2,600.00	
261	Water Service (2-Inch)					
	237110	EA	1	$3,700.00	$3,700.00	
262	Air & Vacuum Valve (Air Release) Assembly (2-Inch)					
	237110	EA	3	$5,200.00	$15,600.00	
263	Thrust Blocks and Anchor Blocks (16 Inch and Larger Water Mains)					
	237110	EA	7	$3,150.00	$22,050.00	
264	Cathodic Protection					
	237110	LS	1	$38,300.00	$38,300.00	
265	Double Ball Flex Joints at Bridges					
	237110	LS	1	$151,000.00	$151,000.00	
				Subtotal	**$110,670,335.00**	
	Alternate Items					
266	Cut and Plug Existing System by the Contractor					
	237110	EA	4	$9,600.00	$38,400.00	
267	12 Inch Connections to the Existing System by the Contractor					
	237110	EA	2	$8,000.00	$16,000.00	
268	20 Inch Connections to the Existing System by the Contractor					
	237110	EA	2	$9,125.00	$18,250.00	
				Subtotal	**$72,650.00**	
				Total	**$110,742,985.00**	

Subcontractors

Name & Address	Description	License Num	CADIR	Amount	Type
Select Electric, Inc. 2790 Business Park Drive Vista, CA 92081 United States	Electrical and Related (Partial) CONSTRUCTOR	297034	1000001036	$2,201,419.00	LAT,MALE,MBE,CADIR
Rupert Construction Supply 3941 Park Dr., #20-487 El Dorado Hills, CA 95762 United States	PTFE Bearing and Bridge Bearing Pad and Joint Seal Material Supply SUPPLIER (60% supplier) DBE (CALTRANS)	N/A	1000008293	$397,648.00	CAU,FEM,DBE,SDB,WBE,WOSB
ATP General Engineering Contractors 13025 Danielson Street Suite 260	Asphalt Paving, Asphalt Dike and Cold Plane and Related (Partial) CONSTRUCTOR	502506	1000012615	$998,454.00	PQUAL

Bid Results

Name & Address	Description	License Num	CADIR	Amount	Type
Condon Johnson 9685 Via Excelencia Suite 106 San Diego, CA 92126 United States	CIDH Piling and Shotcrete and Ground Anchors Related (Partial) CONSTRUCTOR	300068	100000443	$21,865,520.00	
Diversified Landscape Co. 21730 Bundy Canyon Road Wildomar, CA 92595 United States	Landscape and Irrigation and Mitigation and Related (Partial) CONSTRUCTOR DBE (CALTRANS) (DBE credit for Irrigation Items only)	576183	1000009249	$2,197,221.00	
Dywidag Systems International 2154 South Street Long Beach, CA 90805 United States	Prestressing and Related (Partial) CONSTRUCTOR	273710	1000006705	$914,400.00	
Integrity Rebar Placers 1345 Nandina Avenue Perris, CA 92571 United States	Reinforcing Steel and Related (Partial) CONSTRUCTOR	533729	1000005302	$10,172,641.00	LAT,MALE,MBE
Cook + Schmid 740 13th Street Suite 502 San Diego, CA 92101 United States	Community Liaison CONSULTANT DBE (CALTRANS)	N/A	1000030490	$250,000.00	LAT,MALE,ELBE,DBE,MBE,CADIR,SDB
Silverado Contractors,Inc. 13804 Oaks Ave. Chino, CA 91710 United States	Bridge Demolition and Related (Partial) CONSTRUCTOR	782547	1000006758	$5,865,800.00	
Payco Specialties Inc. 120 North Second Ave Chula Vista, CA 91910 United States	Striping and Related (Partial) CONSTRUCTOR DBE (CALTRANS)	298637	1000003515	$165,550.00	CAU,FEM,PQUAL,SLBE,MBE,SDB,WBE,WOSB
Ace Fence Company 727 Glendora Ave La Puente, CA 91744 United States	Fencing, Metal Railing, Guardrail and Crash Cushions and Related (Partial) CONSTRUCTOR DBE (LA)	996577	1000004092	$3,727,097.00	
LA Steel Services, Inc 1760 California Avenue Corona, CA 92881 United States	Rebar (Labor Only) CONSTRUCTOR DBE (MTA) (Lower tier to Integrity Rebar Placers)	998917	1000012901	$2,000,000.00	
Coral Construction Company PO Box 347 Wilsonville, OR 97070 United States	Overhead Signs and Related (Partial) CONSTRUCTOR	332441	1000005868	$522,950.00	
Alameda Construction Services, In. 2528 East 125th Street Compton, CA 90222 United States	Furnish and Place Pile Concrete CONSTRUCTOR DBE (LA) (Lower tier to Condon Johnson)	740423	1000008383	$1,400,000.00	
CNJ Enterprises, Inc. P.O. Box 15727 Scottsdale, AZ 85267 United States	Prepare and Stain Concrete and Related (Partial) CONSTRUCTOR	967058	1000048881	$610,297.00	