City of San Diego

CONTRACTOR'S NAME: Abhe & Svoboda, Inc.
ADDRESS: 880 Tavern Road, Alpine, CA 91901
TELEPHONE NO.: 619-659-1320 **FAX NO.:** 619-659-1325
CITY CONTACT: Michelle Muñoz - Contract Specialist, Email: MichelleM@sandiego.gov
Phone No. (619) 533-3482, Fax No. (619) 533-3633
M.Liaghat/H.McLintock/Lad

BIDDING DOCUMENTS

e - Bidding

FOR ORIGINAL

ROSE CANYON TRUNK SEWER JOINT REPAIR

BID NO.: K-17-1437-DBB-3
SAP NO. (WBS/IO/CC): B-11025
CLIENT DEPARTMENT: 2000
COUNCIL DISTRICT: 1
PROJECT TYPE: JA, JB

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- PHASED-FUNDING
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- PREVAILING WAGE RATES: STATE ☒ FEDERAL ☐
- APPRENTICESHIP

BID DUE DATE:

2:00 PM
JANUARY 31, 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:

12/21/2016

1) Registered Engineer — Date — Seal:

12-21-16

2) For City Engineer — 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 **Rose Canyon Trunk Sewer Joint Repair** 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 **$9,600,000.**

4. **BID DUE DATE AND TIME ARE: JANUARY 31, 2017 at 2:00pm.**

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 has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1. SLBE participation **6.7%**
2. ELBE participation **15.6%**
3. Total mandatory participation **22.3%**

7.2. The Bid may be declared non-responsive if the Bidder fails the meet the following requirements:

7.2.1. Attend the Pre-Bid Meeting as described herein.

7.2.2. Include SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; **OR**

7.2.3. Submit 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 SLBE-ELBE Subcontractors required in this document within 3 Working Days of the Bid opening if the overall mandatory participation percentage is not met.

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 the Design-Builder's Bid being deemed non-responsive. The Pre-Bid meeting is scheduled as follows:

Date: **January 10, 2017**
Time: **10:00am.**
Location: **1010 Second Avenue, 14th floor, San Diego, CA 92101**

Attendance at the Pre-Submittal 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. AWARD PROCESS:

9.1. 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.

9.2. 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.

9.3. 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.

9.4. The low Bid will be determined by Base Bid alone.

Once the low bid has been determined, the City may, at its sole discretion, award the contract for the Base bid alone; or for the Base bid plus one or more alternates.

10. SUBMISSION OF QUESTIONS:

10.1. The Public Works Department is 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: Michelle Muñoz -Contract Specialist

OR:

MichelleM@sandiego.gov

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

10.3. 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.

10.4. 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.

11. SUPPLEMENTAL AGREEMENTS: Supplemental agreements attached to this contract for the items of Work such as extended revegetation maintenance and monitoring and emulsion aggregate slurry 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.

12. 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 H**.

13. PHASED FUNDING: For Phased Funding Conditions, see Attachment B.

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 fiduciary requirement to safeguard vendor data, 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

Title	Edition	Document Number
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.

Bond No. 30007718

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Abhe & Svoboda, Inc. , a corporation, as principal, and Western Surety Company , 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 **Six Million Nine Hundred Thirty Three Thousand Two Hundred Fifty Four Dollars and Zero Cents ($6,933,254.00)** for the faithful performance of the annexed contract, and in the sum of **Six Million Nine Hundred Thirty Three Thousand Two Hundred Fifty Four Dollars and Zero Cents ($6,933,254.00)** 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 060617

Approved as to Form

Mara W. Elliott, City Attorney

By _____

Deputy City Attorney

Approved:

By: _____

Albert P. Rechany
Deputy Director
Public Works Department

Abhe & Svoboda, Inc.

Principal

By _____

Gail Svoboda
President

Printed Name of Person Signing for Principal

Western Surety Company

Surety

By _____

Michelle Halter
Attorney-in-fact

333 So. Wabash Ave.,

Local Address of Surety

Chicago, IL 60604

Local Address (City, State) of Surety

763 302-7100

Local Telephone No. of Surety

Premium $ 49,850

Bond No. 30007718

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~~ Minnesota
County of Hennepin)

On June 6, 2017 before me, Jill N Swanson, Notary
(insert name and title of the officer)

personally appeared Michelle Halter,
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~~ Minnesota that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Jill N Swanson (Seal)

JILL N. SWANSON
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Laurie Pflug, Jill N. Swanson, Brian D. Carpenter, Nicole Langer, Craig Olmstead, Jessica Hoff, Heather R. Goedtel, Michelle Halter, Individually

of Minneapolis, MN, 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 it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 17th day of February, 2017.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 17th day of February, 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 the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; 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 corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 23, 2021

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation 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 corporation this 6th day of June, 2017.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

ATTACHMENTS

ATTACHMENT A

SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works, appurtenances for the construction of the Project as described below: Rehabilitation of 23,000' of 54" and 60" trunk sewer using mechanical seals with PVC liners repairs and installations of 32" bypass and pumping system and stop logs junction structure for diversion of flow to 42" trunk sewer during the construction. Also includes rehabilation of 50 linear feet of 48-inch trunk sewer and MH 27 per **Appendix M** of this specification.

1.1 The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **38791-01-D** through **38791-36-D**, inclusive.

2. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **$9,600,000.**

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

See **Appendix E** for Location Map.

4. **CONTRACT TIME:** The Contract Time for completion of the Work, including the Plant Establishment Period, shall be **405 Working Days**.

4.1. **CONTRACTOR'S LICENSE CLASSIFICATION:** In accordance with the provisions of California Law, the Contractor shall possess valid, appropriate license(s) at the time that the Bid is submitted. Failure to possess the specified license may render the Bid as **non-responsive** and ineligible for award.

4.2. The City has determined that the following licensing classification are required for this contract:

- CLASS A

ATTACHMENT B

PHASED FUNDING PROVISIONS

PHASED FUNDING PROVISIONS

1. PHASED FUNDING:

1.1. For phased funded contracts, the City typically secures enough funds for the first 90 days of the contract prior to award. Within 10 Working Days after Bid opening date the Apparent Low Bidder must contact the Project Manager to discuss fund availability and the duration of the first phase and submit the Pre-Award Schedule to the City for approval and preparation of the first Phased Funding Schedule Agreement.

1.2. The Apparent Low Bidder will be required to provide a Pre-award Schedule in accordance with 6-1, "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK" and 9-3, "PAYMENT" prior to award of Contract.

1.3. If the Bid submitted by the Apparent Low Bidder is rejected by the City for any reason, the next Apparent Low Bidder is to provide the Pre-Award Schedule within 5 Working Days after receiving notice. This process will continue until the City selects an Awardee or rejects all Bids.

1.4. The first Phased Funding Schedule Agreement must show the fund availability for the first phase. Upon selection of the Awardee and acceptance by the City of the Pre-Award Schedule, the City will present the first Phased Funding Schedule Agreement to you.

1.5. At the City's request, meet with the City's project manager before execution of the first Phased Funding Schedule Agreement to discuss their comments and requests for revision to the Pre-Award Schedule.

1.6. Your failure to perform the any of the following may result in the Bid being rejected as non-responsive:

1. Meet with the City's project manager, if requested to do so, to discuss and respond to the City's comments regarding the Pre-Award Schedule,
2. Revise the Pre-Award Schedule as requested by the City within the specified 22 Working Days timeframe, or
3. Execute the first Phased Funding Schedule Agreement within a day after receipt.

PHASED FUNDING SCHEDULE AGREEMENT

Check one:

X First Phased Funding Schedule Agreement

☐ Final Phased Funding Schedule Agreement

BID NUMBER: K-17-1437-DBB-3

CONTRACT TITLE: Rose Canyon Trunk Sewer Joint Repair

CONTRACTOR: ABHE & SVOBODA, INC

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1	Mobilization and demobilization, biological monitoring, WPCP, fencing, traffic control, stop logs, bypass pumping, video inspection, Joint Repairs.	NTP	8/29/2018	$3,933,254
2	Mobilization and demobilization, stop logs, joint repairs, video inspection, re-vegetation and maintenance.	8/31/2018	NOC	$3,000,000
			Total	$6,933,254

Notes:

(1) City Supplement 9-3.6, "PHASED FUNDING COMPENSATION" applies.

(2) The total of all funding phases shall be equal to the TOTAL BID PRICE as shown on BID SCHEDULE 1 - PRICES.

(3) This PHASED FUNDING SCHEDULE AGREEMENT will be incorporated into the CONTRACT and shall only be revised by a written modification to the CONTRACT.

CITY OF SAN DIEGO

By: Maryam Liaghat

Name: Maryam Liaghat
Project Manager

Department Name: Public Works-ROW

Date: 7-27-17

CONTRACTOR Abhe & Svoboda, Inc

By: Don Holle

Name: Don Holle

Title: Vice President

Date: 7-27-17

END OF PHASED FUNDING SCHEDULE AGREEMENT

ATTACHMENT C

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ATTACHMENT D

PREVAILING WAGES

ATTACHMENT D

PREVAILING WAGES

1. 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.

1.1. 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.

1.1.1. 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.

1.1.2. 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.

1.2. 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.

1.3. **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.

1.3.1. 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.

1.4. **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.

1.5. **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.

1.6. **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.

1.7. **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."

1.8. **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.

1.9. 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.

1.9.1. 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.

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") currently in effect.
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 City Supplement, item 54, "Normal Working Hours", ADD the following:

The **Normal Working Hours** are 8:00 AM to 3:30 PM.

SECTION 2 - SCOPE AND CONTROL OF WORK

2-3.2 **Self Performance.** DELETE in its entirety and SUBSTITUTE with the following:

1. You shall perform, with your own organization, Contract Work amounting to at least 50% of the base Bid **AND** 50% of any alternates.

2-5.3.4 **Supporting Information. To the City Supplement,** 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 City Supplement, ADD the following:

2. Other adjacent City projects are scheduled for construction for the same time period. See **Appendix F**. Coordinate the Work with the adjacent projects as listed below:
   a) SANDAG Coastal Rail Trail Rose Creek Bikeway Santa Fe Street, Chris Carterette, AICP, Active Transportation Planner, Phone: (619) 699-7319, Email: chris.carterette@sandag.org
   b) SANDAG Mid-Coast Corridor Transit Project, David Hicks, Communications Manager, Phone: (619) 699-6939, Email: david.hicks@sandag.org

c) SANDAG Elvira to Morena Double Track, Sharon Humphreys, Senior Engineer, Phone: (619) 595-5305, Email: sharon.humphreys@sandag.org

d) SDG&E Dry Utility Undergrounding Santa Fe Street, David J. Emerson, Phone: (858) 654-1136, Email: demerson@semprautilities.com

2-15 TECHNICAL STUDIES AND DATA. To the City Supplement, 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:

    1. Water Pollution Control Plan dated September 20, 2015 by GHD Inc.

4. The report listed above is available for review by contacting the Contract Specialist or Appendix N. This report is for reference purposes.

2-16 CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM. To the City Supplement, item 1, DELETE in its entirety.

SECTION 4 - CONTROL OF MATERIALS

ADD:

4-1.3.4 Inspection Paid For By the Contractor. To the City Supplement, ADD the following:

2. The special inspections required are listed as follows:

    a. Copolymer Lining

    b. Internal Pipe Seals

4-1.3.6 Preapproved Materials. To the City Supplement, 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.

4-1.3.5 Special Inspection. To the City Supplement, 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”.

4-1.6 Trade Names or Equals. To the City Supplement, ADD the following:

11. You shall submit your list of proposed substitutions for an “equal” item **no less than 10 Working Days prior to the Bid due date.**

a. Proposed substitutions for "an equal" ("or equal") for the "Internal Pipe Seals" specified herein shall be submitted prior to the Bid.

12. All proposed subsatutions shall be submitted 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 City Supplement, item 2, ADD the following:

a) Refer to **Appendix L** for more information on the protection of AMI devices.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-1.1 Construction Schedule. To the City Supplement, item 20, ADD the following:

The 120 Calendar Day for the Plant Establishment Period is included in the stipulated Contract Time.

6-2.1 Moratoriums. To the City Supplement, ADD the following:

a) Any construction activities during wet seasons (October through April) shall be subject to approval by the City.

ADD:

6-3.2.1.1 Environmental Document.

1. This activity is addressed in the Programmatic Environmental Impact Report (PEIR) No. 42-0077, and is consistent with the Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program, Master SDP No. 13507/CDP No. 13506, certified by the CC on July 15, 2004 and is part of a series of subsequent discretionary actions, and therefore not considered to be a separate project for purposes of CEQA review as defined in State CEQA Guidelines Section 15378(c). Pursuant to Section 15162 of CEQA, there is no change in circumstance, additional information, or project changes to warrant additional environmental review. The City of San Diego Development Services Department and Public Utilities Department have prepared Consistency Review Memos for Rose Canyon Trunk Sewer Joint Repair (RCTS) Project as referenced in the Contract **Appendix A.**

2. Compliance with the City's environmental document shall be included in the Contract Price.

6-8.3 **Warranty.** To the City Supplement, item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. Warranty and repair all defective materials and workmanship for a period of 1 year. This call back warranty period shall start on the date that the Work was accepted by the City. Additionally, you shall warranty the Work against all latent and patent defects for a period of 10 years.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3 **INSURANCE.** DELETE in its entirety and SUBSTITUTE with the following:

7-3 **INSURANCE.**

2. 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.

7-3.3 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.

7-3.6 **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.** 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 City Supplement, ADD the following:

2. The City will obtain, at no cost to you, the following permits:

   a) Caltrans Encroachment Permit

ADD

7-8.7 **Flow Bypass System.**

7-8.7.1 **Description.**

1. It is essential to the operation of the existing sewer collection system that there be no interruption in the flow of sewage throughout the duration of the Project. Provide, maintain, and operate all temporary facilities such as bulkheads, plugs, flow-through plugs, pumping equipment (both primary and backup units as required), piping and valves, controls, and all necessary power, to intercept the sewage flow before it reaches the point where it would interfere with the Work, carry it past the Work, and return it to the existing sewer downstream of the Work.

2. The flow bypass system consists of the following elements:

   a. Two bypass pump stations with peripheral sound barriers (Decoro and Nobel)

   b. HDPE force mains conveying bypassed flows around the work zone

   c. Fabricated stop logs inserted into Junction Structure No. 1

3. The two bypass pump stations and HDPE force mains will bypass flows around the 54-inch PLRCP between Junction Structure No. 1 and the upstream limits of the Work. This will allow completion of all joint repairs within this reach of the trunk sewer and the installation of the stop logs inside Junction Structure No. 1.

4. When the stop logs have been installed and accepted by the City, the bypass pump stations and HDPE force mains can be removed from service. The stop logs will then divert flows from the 54-inch PLRCP into the 42-inch PLRCP. With the stop logs deployed, the joint repairs can proceed in the trunk sewer downstream from Junction Structure No. 1. Stop logs will be removed when all joint repairs are complete and the work is accepted by the City.

5. The flow bypass system is only intended to operate during dry weather. If rain is forecast, the stop logs shall be removed and all bypass operations will temporarily cease operation until the rain has stopped and flows in the sewers have returned to normal dry weather flow rates. Removal of the stop logs and their re-deployment (as necessary for rain events) will require coordination with the City to temporarily shut down the tributary sewer pump station and the temporary use of a bulkhead in the Nobel Bypass suction manhole.

6. Contractor shall provide temporary bulkheads and pipeline plugs as necessary for all shutdowns and temporary bypass operations.

7. Vegetation removal at the bypass pump station sites will be based on direction from the Resident Engineer. All clearing and grubbing of coastal sage habitat for the bypass pump stations that is within the MHPA must occur outside the nesting season for the California Gnatcatcher (between March 1 to August 15). All coastal sage scrub habitat impacted must be restored.

7-8.7.2 Related Sections.

1. Section 7-8.8 Sound Barriers

2. Section 209-5 High Density Polyethylene (HDPE) Solid Wall Pressure Pipe

3. Section 304-7 Stop Logs

7-8.7.3 Submittals.

1. Detailed design of complete flow bypass pumping system for flow rerouting. Bypass system plan shall include detailed descriptions of backup systems that will be utilized in the event of a failure of any part of the bypass system, and shall outline in detail the proposed sequencing for all proposed system outages and system startup and switchovers, including time of day and amount of time required. All plans shall be submitted to the City at least 10 working days prior to required operation of bypass system. All plans shall be stamped and signed by a California Registered Professional Engineer.

2. Design calculations for NPSH, friction and minor losses, and system curves with pump curves overlaid for single and multiple pump operation.

3. Product data for pumps, piping, valves and appurtenances, pump controls, generators, plugs and bulkheads.

4. Site layout for Decoro and Nobel bypass pump stations.

5. Name and contact information for designated bypass system supervisor.

7-8.7.4 Quality Assurance.

1. Maintain sewage flow around the Work area in a manner that will not cause surcharging of sewers, damage to sewers, and that will protect public and private property from damage. Use of temporary bulkhead for removal and re-deployment of stop logs must be coordinated with the City prior to installation.

2. Contractor to be completely responsible for any overflow or spillage of raw sewage due to failure of any bypass system. Contractor to pay any fines or costs associated with such spillages. Contractor to be responsible for any cleanup or restoration resulting from such spillages.

3. Protect water resources, wetlands, and other natural resources.

4. All bypass pumping equipment shall be tested for low noise rate compliance. Decibels of the equipment shall not exceed 60 dBA at 30 feet. Additional sound mitigation shall be provided by the sound barriers.

5. Contractor shall demonstrate that flow bypass system performs in conformance with these requirements prior to putting into full-time operation.

7-8.7.5 Site Conditions.

1. Bypass pumping facilities are located near the Pacific coast at an elevation of about 235 feet above sea level.

2. The estimated peak daily sewer flows for required bypass pumping operations at the Decoro Bypass Pump Station and Nobel Bypass Pump Station are outlined below:

TABLE 7-8.7

Location	Estimated Peak Dry Weather Flow
Decoro Bypass Pump Station	150 gpm
Nobel Bypass Pump Station	32 MGD

7-8.7.6 System Startup.

1. The flow bypass system shall be in place, operational, and accepted by the City before work can proceed in the trunk sewer.

2. Contractor is responsible for operating and maintaining the flow bypass system 24 hours per day and seven days a week, including holidays, throughout the entire time that the bypass system is required for the Work.

7-8.7.7 Equipment.

1. Pumps shall be diesel engine driven, end-suction, and solids handling with the capacity to pass a 3-inch sphere. Pumps shall be auto-primed and shall be capable of running dry.

2. Pump suction and discharge piping shall be rubber gasketed, with a minimum pressure rating of 100 psi and no visible leaks under operating conditions. Pipe supports, thrust restraints and valves shall be provided, including an air valve at the high point. Piping shall be sufficiently restrained and supported to prevent movement during pump cycling. Pump discharge piping shall connect to the HDPE force mains shown on the contract drawings.

3. Contractor shall provide temporary fencing, gates, locks and screening shall be provided to protect and screen the equipment from the public. Contractor shall provide City with keys to locks.

7-8.7.7.1 Temporary Bypass Pump Station Requirements.

1. Decoro Bypass Pump Station

    a. Two (2) dry suction pumps (one duty, one standby).

    b. Suction lift > 15 ft static

c. Sound attenuating enclosures (≤ 60 dBA at 30 ft)

d. Fuel tank holding ≥ 24 hours at peak dry weather flow

e. Godwin CD103M Dri-Prime Pump or equal

f. Controls

i. Level transducer in perforated stilling well in suction manhole

ii. PLC controller with pump that adjusts pump speed, provides alarms, and can communicate remotely

iii. Automatic switchover to standby pump on high level with alarm

iv. Backup float switches for pump control and alarms

2. Nobel Bypass Pump Station

a. Four (4) equal sized dry suction pumps (three duty, one standby).

b. Suction lift > 25 ft static

c. Sound attenuating enclosures (≤ 60 dBA at 30 ft)

d. Fuel tank holding ≥ 24 hours at peak dry weather flow

e. Godwin CD500M Dri-Prime Pump or equal

f. Controls

i. Level transducer in perforated stilling well in suction manhole

ii. PLC controller with pump that adjusts pump speed, provides alarms, and can communicate remotely

iii. Automatic switchover to standby pump on high level with alarm

iv. Backup float switches with alarm

7-8.7.8 Execution.

1. If pumping is required across a street or driveway that cannot be closed to traffic, the discharge piping shall be temporarily buried, including gravel

access roads used by park rangers, the railroad and electric utility vehicles. Pipe shall be protected from H20 wheel loads.

2. Bypass pumping shall be continuously monitored on-site at all times (24 hours per day, 7 days a week) by a designated supervisor familiar with the pumping equipment. Alarms shall be sent to an autodial system to notify the designated supervisor.

3. Contractor shall conform to all safety provisions pertaining to confined space entry when entering any manhole.

4. All bypassing will require coordination with City staff at least 48 hours in advance in advance of startup, shutdown, or interruption of flow.

5. If closure of the existing trail system within Rose Canyon to pedestrians and bike users is required, signage will need to be provided at the project site a minimum of one month prior to inform the public of the pending trail closure. Sign language and location shall be coordinated with Parks and Recreation Department Senior Ranger Matt Sanford at (858) 581-9952.

7-8.7.9 Payment

1. Payment for the rental of the bypass pumping equipment, the required maintenance and monitoring of the bypass pumping facilities and the diesel fuel required to operate the bypass pumps, will be made at the bid price per month for Bypass Pumps Rental, Maintenace and Monitoring, and Diesel Fuel.
2. Payment for the bypass manifold piping and valves along with the bypass piping connections to the existing sewers will be made at the lump sum bid price for Bypass Manifold Piping and Valves including Air & Vaccuum Valves and Bypass Piping Connections to Sewers.
3. Payment for the HDPE sewer bypass piping will be made at the bid price per linear foot for 32-Inch Sewer Bypass Piping and 4-Inch Sewer Bypass Piping.
4. Payment for the bid items above shall be full compensation for all equipment installation and removal, cleanup, labor, materials and incidentals required to satisfy the requirements of this subsection, 7-8.7.

ADD:

7-8.8 Sound Barriers.

7-8.8.1 General. The intent of this Section is to minimize construction noise within the temporary bypass pumping station areas for the communities adjacent to the site. To this end, the Contractor shall furnish and install a sound barrier system for the temporary bypass pumping stations consisting of noise control curtains and shall furnish all labor, materials accessories and equipment necessary to cover all areas shown on the Plans and specified herein. The Contractor shall be required to

comply with all applicable noise regulations, specification requirements and the noise level limits specified herein.

7-8.8.2 Submittals. Submit shop and working drawings, computations, material data, and other descriptions for abatement measures to be used as noise control curtains. Drawings and computations shall be stamped by a California Registered Professional Engineer.

7-8.8.3 Construction Limitations.

7-8.8.3.1 Noise Levels.

1. Daytime, evening, and nighttime construction noise levels shall not exceed the lot-line noise limits specified in Table 7-8.9. The lot-line criteria shall apply to all points on a given lot-line of an affected receptor.

2. Work shall be performed in a manner to prevent nuisance conditions such as noise which exhibits a specific audible frequency or tone (e.g., backup alarms, unmaintained equipment, brake squeal) or impact noise (e.g., jackhammers, hoe rams). The Resident Engineer will make any final interpretation concerning whether or not nuisance noise conditions exist. The Resident Engineer has the authority to stop the Work until nuisance noise conditions are resolved, without additional time or compensation for the Contractor.

TABLE 7-8.8

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
Single Family Residential	7 am to 7 pm 7 pm to 10 pm 10 pm to 7 am	50 45 40
Multi-Family Residential	7 am to 7 pm 7 pm to 10 pm 10 pm to 7 am	55 50 45
All other Residential	7 am to 7 pm 7 pm to 10 pm 10 pm to 7 am	60 55 50
Commercial	7 am to 7 pm 7 pm to 10 pm 10 pm to 7 am	65 60 60
Industrial or Agricultural	Any time	75

7-8.8.4 **Noise Control Curtains.** The noise control curtain shall consist of durable, flexible composite material featuring a noise barrier layer bonded to sound-absorptive material on one side. The noise barrier layer shall consist of a rugged, impervious material with a surface weight of at least one pound per square foot. The sound absorptive material shall include a protective face and be securely attached to one side of the flexible barrier over the entire face.

The noise curtain material used shall be weather and abuse resistant, and exhibit superior hanging and tear strength during construction. The curtain's noise barrier layer material shall have a minimum breaking strength of 120 lb/in. per FTMS 191 A-M5102 and minimum tear strength of 30 lb/in. per ASTM D117. Based on the same test procedures, the noise curtain absorptive material facing shall have a minimum breaking strength of 100 lb/in. and a minimum tear strength of 7 lb/in.

The noise curtain material shall be corrosion resistant to most acids, mild alkalies, road salts, oils, and grease. It also shall be mildew resistant, vermin proof, and non-hygroscopic.

The noise curtain material shall be fire retardant.

The noise control curtain shall have a Sound Transmission Class of STC-32 or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90. It shall also have a Noise Reduction Coefficient rating of NRC-0.85 or greater, based on certified sound absorption coefficient data taken according to ASTM Test Method C423.

The Contractor shall submit the name of the manufacturer, properties of the material to be furnished, and two one-foot square samples to the Engineer for review prior to submittal of the design and detailed engineering drawings as specified in paragraph 7-8.8.2.

7-8.8.4.1 **Construction Details**

1. The curtains shall be secured above, at the ground, and at intermediate points by framework and supports designed to withstand seismic loads and 80 mph wind loads plus a 30 percent gust factor.

2. The curtains shall be installed in vertical and horizontal segments with the vertical segments extending the full curtain height to the ground. All seams and joints shall have a minimum overlap of 2 inches and be sealed using Velcro or double grommets spaced 12 inches on center. Curtains shall be fastened to framework and guardrails with wire cable 12 inches on center. Construction details shall be performed according to the manufacturer's recommendations.

3. The curtain height shall be designed to break the line-of-sight and provide at least a 5 dBA insertion loss between the noise producing equipment and the upper-most story of the receptor(s) requiring noise mitigation. If for practicality or feasibility reasons, which are subject to the review and approval of the Engineer, a curtain system cannot be built to provide noise relief to all stories, then it must be built to the tallest achievable height.

4. The Contractor shall be responsible for the design, detailing, and adequacy of the framework and supports, ties, attachment methods, and other appurtenances required for the proper installation of the noise control curtains.

5. The design and details for the noise control curtains framework and supports shall be prepared and stamped by a California Registered Professional Engineer. The Contractor shall submit the design and detailed engineering drawings to the Engineer as specified in paragraph 7-8.8.2.

7-8.8.5 **Installation, Maintenance and Removal.** The sound barrier system shall mitigate construction noise at the locations specified on the Plans and be installed such that the noise-absorptive surfaces face the construction noise source. The Contractor shall maintain the sound barrier system and repair all damage that occurs, including, but not limited to, keeping barriers clean and free from graffiti and maintaining structural integrity. Gaps, holes and weaknesses in the barriers, and openings between or under the panels, shall be repaired promptly or replaced by the Contractor with new material.

The Contractor shall remove and dispose of the sound barriers at the end of the bypass pumping operations.

7-8.8.6 **Payment.** Payment for the sound barrier system will be made at the lump sum bid price for Sound Barriers.

7-20 **ELECTRONIC COMMUNICATION.** To the City Supplement, ADD the following:

2. Virtual Project Manager shall be used on this Contract.

7-21.1 **General.** To the City Supplement, item 3, DELETE in its entirety and SUBSTITUTE with the following:

2. 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 attached as an appendix, and evidence of recycling and reuse of materials to meet the waste reduction goals specified.

SECTION 209 – PRESSURE PIPE

209-1.1.2 Materials.

To the City Supplement, item 10, ADD the following:

a) The interior of bells shall be lined with a ceramic epoxy, Protecto 401 as manufactured by Induron Coatings, Inc. or approved equal.

To the City Supplement, ADD the following:

14. Flange gaskets shall be 3.2mm (1/8") thick acrylic or aramid fibers bound with nitrile for all sizes of pipe. Gaskets shall be full-face type with pre-punched holes free of asbestos material. All insulating flange kits require full face gaskets

SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENANCES

212-11 PRESSURE GAUGES.

DELETE in its entirety and SUBSTITUTE with the following:

212-11.1 General. Pressure Pressures gauges shall be industrial quality, liquid-filled type with Type 316 stainless steel movement and stainless steel case. Unless otherwise shown or specified, gauges shall have 2-1/2-inch minimum diameter faces with black graduations on white background and a clear acrylic window with Buna-N gasket.

1. Gauges shall be calibrated to read in ten psi increments with an accuracy of plus or minus 1 percent, to 150 percent of the working pressure or vacuum of the pipe or vessel to which they are connected.

2. The gauge shall have a 1/4-inch MNPT lower mount process connection and Type 316 stainless steel snubber. Connect to the pipe with Type 316 stainless steel nipple, isolation ball valve, and air release cock. Fill the diaphragm seal and gauge with glycerin and provide a fitting for refilling.

3. Gauges shall be manufactured by Ashcroft, U.S. Gauge (Ametek), Marshalltown or equal.

4. Snubber shall be manufactured by Ashcroft, Weksler Instrument Corporation, or equal.

SECTION 304 –METAL FABRICATION AND CONSTRUCTION

304-5 **PAYMENT.** To the City Supplement, REVISE section "**304-5**" to "**304-6**".

ADD:

304-7 STOP LOGS

304-7.1 **General.** The Contractor shall furnish all labor, materials, equipment and incidentals required to install and ready for operation aluminum stop logs, guide frames and stop log lifters as shown on the Plans and as specified herein. Stop logs shall be used by the Contractor to divert flow from the 54-inch PLRCP and into the 42-inch PLRCP at Junction Structure No. 1 near upstream limits of work (Sta. 224+25 +/-), thereby allowing for isolation of the 60-inch PLRCP for joint repairs downstream of the stop logs. See also Section 7-8.7 Flow Bypass System for bypass that allows joint repairs upstream of Junction Structure No. 1 and for installation of the stop logs.

Junction Structure No. 1 is located in a dense mixed riparian sycamore willow woodland habitat area with a portion of the proposed access route within state, federal and city jurisdictionally protected waters and wetlands. The access route is also along a slope from a dirt access road. Contractor shall be responsible for all equipment necessary to safely traverse the slope. Vehicles will not be allowed or physically able to access this manhole. All equipment required to install the stop logs must be hand carried.

304-7.2 **Submittals.**

1. Drawings showing dimensions and essential details required to locate and install the stop logs shall be submitted for the Engineer's approval.

2. Complete description of all materials including the material thickness of all structural components of the stop logs, guide frames and stop log lifter.

3. Installation drawings showing all details of construction, details required for installation, dimensions and anchor bolt locations.

4. Maximum bending stress and deflection of the stop logs under the maximum design head.

5. The location of the company headquarters and the location of the principle manufacturing facility. Provide the name of the company that manufactures the equipment if the supplier utilizes an outside source.

304-7.3 Materials.

1. Stop log assemblies shall be as specified herein and have the characteristics and dimensions shown on the Plans and measured in the field.

2. Leakage shall not exceed 0.05 gpm/ft of wetted seal perimeter.

3. The stop logs shall be provided with a continuous resilient seal along the bottom and both sides. The guide frames shall not incorporate seals.

4. Stop logs shall be of the height as shown in the Plans and they shall be designed to function properly when stacked in any order.

5. Stop logs shall be designed to drop into place under their own weight without any downward pressure necessary. Stacking stop plates are not acceptable in lieu of stop logs.

6. All structural components of the stop logs shall be fabricated of aluminum and shall have adequate strength to prevent distortion during normal handling, during installation and while in service.

7. All structural components of the guide frames shall be fabricated of 316 stainless steel and shall have adequate strength to prevent distortion during normal handling, during installation and while in service.

8. All welds shall be performed by welders with AWS certification.

9. Finish: Mill finish on aluminum and stainless steel. All aluminum in contact with concrete shall be shop coated with a heavy coat of bitumastic paint. Welds on aluminum shall be cleaned to provide a uniform finish. Welds on stainless steel shall be sandblasted to remove weld burn and scale.

10. Materials:

Components	Materials
Frame Guides and Invert	Stainless Steel, Type 316L, ASTM A240
Stop Logs	6061-T6 Aluminum
Lip Seal	Urethane, EPDM or Neoprene ASTM D-2000
Anchor Studs, Fasteners	Stainless Steel, Type 316, ASTM A276 and Nuts

304-7.3.1 **Frame Guides.** The frame guides or grooves and invert member shall be constructed of 316 stainless steel with a minimum thickness of 1/4-inch.

1. Frame design shall allow for embedded mounting or mounting directly to a wall with stainless steel anchor bolts and grout.

2. An invert member shall be provided across the bottom of the guides. The invert member shall be of the flushbottom type.

3. Frame mounted seals are not acceptable.

304-7.3.2 **Stop Logs.** The stop logs shall be constructed of extruded aluminum shapes with a minimum thickness of 5/16-inch.

1. Each stop log shall be 6, 12 or 18 inches tall.

2. Maximum bending stress shall not exceed 7600 psi at the maximum operating head.

3. Adequate drainage shall be provided for each stop log.

4. Two slots shall be provided in the top of each stop log for removal and installation via the stop log lifter.

5. Each stop log shall be outfitted with an identification tag indicating the manufacturer, width of the opening and maximum head rating at a minimum. Additional tags shall be included on each stop log that indicates “dry side” and “wet side”. Tags shall be welded to each log.

304-7.3.3 **Seals.** Each stop log shall be outfitted with a continuous resilient lip seal along the bottom and both sides to restrict leakage in accordance with the requirements listed in this specification.

1. The continuous lip seal shall be constructed of urethane or rubber and shall be mechanically retained to the stop log.

2. The lip seal shall be activated by a combination of the weight of the stop log and the differential water pressure, which pushes the seal against the inside of the groove assembly.

3. Stop logs that utilize rubber “J” seals or “P” seals are not acceptable.

304-7.3.4 **Lifter.** One stop log lifter shall be provided for each different guide frame width.

1. The lifter shall be constructed of aluminum and shall be outfitted with UHMW guide bars and stainless steel fasteners.

2. The lifter shall be provided with lifting hooks designed to engage the slots in the top of the stop logs. A lanyard release will be incorporated into the design.

3. The lifter shall be capable of installing and removing all stop logs of the same width whether they are installed or at the operating floor level.

304-7.3.5 Anchor Bolts. Anchor bolts shall be provided by the stop log manufacturer for mounting the guide frames.

1. Quantity and location shall be determined by the stop log manufacturer.

2. If epoxy type anchor bolts are provided, the stop log manufacturer shall provide the studs and nuts.

3. Anchor bolts shall have a minimum diameter of 1/2-inch.

304-7.4 Installation.

1. Installation of the stop logs, guide frames and appurtenances shall be done in a workmanlike manner. It shall be the responsibility of the Contractor to handle, store and install the equipment specified in this Section in strict accordance with the manufacturer's recommendations.

2. The Contractor shall review the installation drawings and installation instruction prior to installing the guide frames.

3. The guide frames shall be installed in a true vertical plane, square and plumb.

4. The Contractor shall fill the void in between the guide frames and the wall with non-shrink grout as shown on the installation drawing and in accordance with the manufacturer's recommendations.

304-7.5 Field Testing. After installation, all stop logs shall be field tested in the presence of the City to ensure that all items of equipment are in full compliance with this subsection. The stop logs shall be inserted into the guide frames to confirm that they operate in accordance with this special provision. Each stop log assembly shall be water tested by the Contractor, at the discretion of the City, to confirm that leakage does not exceed the specified allowable leakage.

304-7.6 Payment. Payment for the fabrication of the stop logs along with the installations and removals during the rehabilitation of the Rose Canyon Trunk Sewer will be made at the lump sum bid price for Bypass Stop Logs for Junction Structure #1 and Stop Logs Installation for Dry Season #1 and Dry Season #2. Payment for these bid items shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 304-7.

SECTION 500 – PIPELINE, MANHOLE, AND STRUCTURE REHABLITATION

500-1.1.1 General. To the City Supplement, ADD the following:

3. The Contractor shall furnish and install, between the limits shown on the Plans, internal pipe seals at all joints, as directed by the Engineer, following the pre-construction CCTV inspection. The Contractor shall also be required to furnish and install patch repairs of the existing PVC liner with a copolymer lining system, as required.

   The manholes in Rose Canyon are located within or adjacent to environmentally sensitive areas. The Contractor is not authorized to trim any vegetation along the paths or manholes. All clearing and grubbing at those locations shall be completed by the City of San Diego Wastewater Collection – Canyons North Crew. City shall coordinate all clearing and grubbing coordinate with Engineer prior to the start of work. Access to Manhole No's 479, 466 and 460 is not allowed due to their location within state, federal and city jurisdictional waters and wetlands. Access to Manhole No.'s 452, 451, 455 and 449 will be along a slope. All equipment required to construct repairs must be hand carried as vehicles will not be allowed or physically able to access the manholes. Contractor shall be responsible for all equipment necessary to safely traverse the slope

500-1.1.2.1 Initial Submittals. To the City Supplement, ADD the following:

4. Within 3 Working Days of the Bid opening date, the 3 apparent low bidders shall submit the following:

   a) Contractor's Experience; past project documentation

   b) Manufacturer Certification

   c) Authorize Installer Certificates

ADD:

500-1.14 Internal Pipe Seals.

500-1.14.1 General. The work covered under this subsection includes the furnishing of all materials, tools, equipment and labor related to furnish and install internal pipe joint seals of 54-inches to 60-inches in diameter.

The seals are meant for installation in pipelines with operating pressures of up to 45 psi.

500-1.14.2 Codes and Standards. Materials used in the fabrication, assembly, and installation of internal pipe seals shall comply with the following ASTM and AWS Standards:

ASTM A240	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
ASTM C150	Standard Specification for Cement Mortar
ASTM D395	Standard Test of Rubber Compression Set
ASTM D412	Standard Test Method for Rubber Properties in Tension
ASTM D573	Standard Test Method for Rubber Deterioration in Air Oven
ASTM D1171	Standard Test Method for Rubber Deterioration Surface Ozone Cracking Outdoors or Chamber
ASTM D2000	Standard Classification System for Rubber Products in Automotive Application
ASTM D2240	Standard Test Method for Rubber Property Durometer Hardness
ASTM D3568	Standard Test Method for Rubber Evaluation for EPDM
ASTM D3900	Standard Test Methods for Rubber Determination of Ethylene Units in Ethylene- Propylene Copolymers (EPM) and in Ethylene-Propylene- Diene Terpolymers (EPDM) by Infrared Spectrometry
AWS A5.4	Specification for Stainless Steel Electrodes for Shielded Metal Arc Welding
AWS D1.6	Structural Welding Code - Stainless Steel

500-1.14.3 Qualifications. The Contractor shall engage either the pipe seal manufacturer or any other entity accepted by the seal manufacturer (as fully trained for installing the seals) for the installation of the seals. The manufacturer or qualified entity shall provide continuous field inspection, instruction, and direction to the Contractor during the installation of the pipe seals to insure that the work, including but not limited to, the surface preparation, installation procedures and seal testing, are performed per the manufacturer's recommendations. A reference list of at least ten (10) such installations shall be submitted. All personnel involved with the direct placement, installation and testing of the internal seal shall have proper training and shall, upon request, provide training certification.

Internal pipe seals shall have an approved testing device or mechanism to allow pressure (leak) testing after installation.

500-1.14.4 Submittals. Plans, Specifications, installation procedures and schedules, installer qualifications, testing procedures and details, safety training and other data showing complete details of the fabrication, construction, and installation of internal pipe seals, together with complete data covering all materials proposed for use, shall be submitted in accordance with General Requirements. A copy of the Contractor's and Foreman's factory training certificate shall be provided with the bid.

Submittals shall indicate the ASTM designation for the material from which each component is fabricated.

500-1.14.5 Shipping, Handling, and Storage. Internal pipe seals shall at all times be shipped, handled and stored in a manner that will ensure installation in sound, undamaged condition.

1. Delivery schedules shall be controlled to minimize long-term storage at the site and overcrowding of construction spaces.
2. Materials and equipment shall be transported and stored in supplier's unopened containers or packaging and in accordance with supplier's written instructions, with seals and labels intact and legible.

    a) Rubber membranes shall be individually sealed in plastic bags and packaged in a manner that will not damage or deform them. Rubber membranes shall not be removed from plastic bag until time of use and shall be stored in a cool dry environment.

    b) Labels shall indicate contents and expiration date of material.

500-1.14.6 Acceptable Seal Manufacturers and Installers.

500-1.14.6.1 Acceptable Seal Manufacturers. Internal pipe seals shall be manufactured by Cretex Specialty Products, HydraTech Engineered Products or approved equal. For considering as equal, the manufacturer shall demonstrate that they meet or exceed the minimum dimensions in 500-1.14.7. Reference lists including project name, seal sizes, application, year of installation and contact details shall be submitted.

500-1.14.6.2 Acceptable Seal Installers. Installers shall install internal pipe seals similar to the sizes required for this Project. Reference lists including project name, seal sizes, application, year of installation and contact details shall be submitted. Installers must provide proof of current certification from the seal manufacturer for the installation of the seals supplied by the manufacturer.

500-1.14.7 Materials and Equipment.

500-1.14.7.1 General. Each internal pipe seal shall consist of an EPDM rubber membrane, stainless steel 316 bands to hold the rubber membrane, shims, wedges and other items in place to make it a complete assembly. The bearing surface of the rubber membrane shall have a minimum of 4 lip seals at each end. The minimum inside diameter (ID) width and overall width of the seals for the four seal types shall be as indicated below:

Standard seal:	5.75 inches ID; 11.17 inches overall; 4 lip seals on each end with 2 stainless steel bands
Extra-wide seal:	9.00 inches ID; 14.44 inches overall; 4 lip seals on each end with 3 stainless steel bands
Double-wide seal:	16.00 inches ID; 21.44 inches overall; 4 lip seals on each end with 4 stainless steel bands
Double-wide sleeve:	53.44 inches ID; 58.88 inches overall; 4 lip seals on each end with 10 stainless steel bands (Join three double-wide seals)

500-1.14.7.2 EPDM Rubber Joint Liner. The EPDM rubber membrane used for the pipe seal shall fully comply with ASTM D2000, ASTM D3900 and ASTM D3568 and shall meet the following requirements:

1. Ingredients of the EPDM polymer shall be listed in FDA Title 21 Code of Federal Regulations Section 177.2600 with the final material not supporting microbiological growth when used in potable or sea water or in humid aerobic conditions.

2. The volume change of the rubber shall not exceed 3 percent after immersion in fresh or sea-water at 212°F for 70 hours.

3. The stress relaxation shall not exceed 12 percent when tested from a time of 30 minutes to 24 hours.

4. No voids, cracks, or similar defects shall be witnessed during visible inspection.

5. The EPDM material shall have the following Physical Properties:

Durometer ASTM D 2240	65 +/- 5
Tensile (psi) ASTM D 412	1,450 min
Elongation (%) ASTM 0412	250 min.
Heat Aged ASTM 0573	70 hours @ 158ºF
Durometer	+/- 15

Tensile change (%)	+/- 30
Elongation change (%)	50 max.
Compression set ASTM D395B	22 hours 158ºF
Permanent Set (%)	25 max.
Ozone Resistance (%)	85 min.

500-1.14.7.3 EPDM Joint Splicing.

1. The splice in the EPDM rubber seal shall be made using compression molding method with virgin rubber of the same compound with which the seal is manufactured. A minimum width of 1/4 inch shall be maintained at the interface.

2. The joint shall be vulcanized at 330ºF minimum temperature with 2000 psi pressure.

3. The joint shall not be manufactured with any glue, adhesive or equivalent.

4. While gripping the seal at approximately 6 inches on each side of the spliced joint and bending around a 3-inch min., diameter, mandrel should not produce any visible separation. No voids, cracks, or similar defect shall be witnessed during this bend test.

5. The number of joint splices shall be minimized per the manufacturer's equipment capabilities.

500-1.14.7.4 Bands, Shims and Wedges.

1. Retaining bands shall be stainless steel 316L conforming to ASTM A240 and shall be at least 2 inches wide. Thickness of retaining bands shall be selected by the manufacturer depending on seal diameter. The weld wire shall conform to AWS A5.4.

2. All materials such as push tabs, shims, wedges, and hardware shall be made of the same material as the base material.

3. The retaining bands shall be rolled to the radius of the pipe. The radius shall be obtained based on field measurements.

4. Shims shall be manually finished to the required radius and all edges shall be deburred.

500-1.14.7.5 Physical Requirements of Retaining Bands.

Tensile Strength (min.)	70,000 psi
Yield Strength (min.)	25,000 psi

Elongation in 2 inch (min.)	40%
Brinell Hardness (max.)	217
Weld Wire	70,000 psi
Finish/ condition	annealed

500-1.14.7.6 Design Consideration. The retaining band shall not buckle under installation loading. The maximum stress in the push tab welds shall conform to AWS D1.6. The maximum stress in the push tab welds shall not exceed the ultimate tensile strength in the weld wire or stick. The compressive force created in the retaining band due to thermal expansion shall not buckle under installation loading. The hydrodynamic pressure shall not exceed the minimum friction force created by the hydraulic expander under installation loading.

500-1.14.7.7 Test Valve. A test valve shall be installed in the rubber seal to enable pressure test after pipe seals have been installed. The test valve shall be made of stainless steel 316 material and shall be equipped with a means to seal or plug the valve after testing. Means of sealing with a threaded 316 stainless steel plug or equivalent shall include a non-toxic Teflon thread sealant.

500-1.14.8 Execution.

500-1-14.8.1 General. All work associated with the installation and testing of internal pipe seals shall comply with the applicable Federal, State, and local codes and standards. All workers shall be properly trained in the hazards and risk associated with working in confined spaces. Contractor shall provide and operate a safe working environment for the crews working inside the pipelines including adequate ventilation, extra fuel onsite for the blowers, atmospheric monitoring, fall protection and retrieval wenches. Prior to installation, pipe seals should be visually inspected by a qualified installer to ensure that seal material is free of defects. If quality or condition of material is in doubt, the seals shall not be used.

Areas of the pipeline where the PVC liner has been damaged shall be photographed and measured. This information shall be presented to the Engineer for their evaluation. If directed by the Engineer, an additional seal shall be installed over the damaged area and paid for at the unit bid price if the Contractor is working in the same manhole to manhole section of the pipeline.

Active infiltration that will interfere with the internal pipe seal installation shall be evaluated by the Engineer and when directed by the Engineer, chemically grouted by the Contractor and paid for as extra work. See Section 201-7 for grout specifications.

500-1.14.8.2 Site Preparation Work. The following steps shall be followed:

1. Installation work shall be performed with the pipeline isolated from service and an adequate safety boundary has been established and approved by all parties. The pipeline shall have been dewatered (if applicable) and are maintained at atmospheric pressure throughout the duration of the installation work.

2. All permits, as required by the local and state codes, or by the City shall have been processed and received and shall be available for review.

3. All pipe seals, materials, consumables and tools required for completion of work shall be verified as in good working condition. All equipment and tools required for installation and testing shall have valid calibration certificates.

4. Means of providing continuous forced air ventilation shall be provided and maintained to establish a safe oxygen level for confined space entry.

500-1.14.8.3 Cleaning. Remove all dirt, scale and other debris from pipe walls in area where pipe seals are to be installed. The cleaned area shall extend a minimum of 1 inch beyond the required sealing area. Cleaning operations shall be accomplished by hand brushing, pneumatic brushing, and/or oil-free air jet.

All materials removed by the cleaning operation shall be intercepted and removed at the nearest manhole and disposed of at an approved location.

All projections at the location of the seal installation or those hindering access to the seal location shall be removed by mechanical means.

During cleaning, protect pipeline and coating system from damage. Any damage that may occur during the cleaning process shall be repaired at no cost to the City of San Diego by an acceptable and approved method.

500-1.14.8.4 Joint Preparation. Joint preparation shall be performed in accordance with the manufacturer's installation instructions. The following general guidelines are provided for reference:

1. Provide photographic documentation of the joint before and after joint preparation. A location or joint number shall be clearly visible in the photograph.

2. The pipe shall be pre-marked with a grease chalk to properly define the seal position and the area of pipe to be surface prepared.

3. The area of the pipe on either side of the joint, where the seal makes contact with the pipe shall be prepared to a finish which will allow the seal

to interface consistently for providing a tight and permanent seal. In general, the loose PVC liner that is not locked into the concrete pipe shall be cut and removed.

4. High and low surface imperfections in the areas of the sealing surface shall be removed. Loose cement shall be removed using a high pressure water blaster or mechanical means. Low areas shall be filled with a suitable non-toxic filler material as described in Section 201-3.

5. Gaps at the joints that are produced by offset, separated or misaligned pipes shall be filled to the full depth and rendered flush with the surface of the pipe with a suitable non-toxic filler material as described in Section 201-3 .

6. The exposed edge of the PVC liner shall be sealed using Sikadur 31, Sikaflex 1A, or equal to prevent leaking during the air test of the joint.

7. Measurement of the repair width and selecting the type of seal required shall be per Table 1. The pipe seal ID must exceed a minimum of 1/2 inch beyond the damaged section of the PVC liner. A minimum of four lip seals on each side of the repair shall be pressed on the PVC liner against a sound area of the pipe.

Table 1: Internal Pipe Seal Minimum Dimensions

Seal Type	Repair Width	OD Width	ID Width	SS Bands	Pipe Size
Standard	4 3/4″	11 3/16″	5 3/4″	2	60″
Extra-Wide	8″	14 7/16″	9″	3	60″
Double-Wide	15″	21 7/16″	16″	4	54-60″
Double-Wide Sleeve	51 9/16″	58″	52 9/16″	10	60″

500-1.14.8.5 Seal Installation. Installation of the seal shall be performed in accordance with the manufacturer's installation instructions. The following steps are general installation guidelines any are not exhaustive.

1. Install the type of EPDM rubber seal that complies with Table 1 in accordance with the manufacturer’s installation procedure.

2. Clean the area around the joint where the joint seal will make contact with the PVC liner and mark the leading and trailing edges on the PVC liner. The

inside edge of the interior lip seal shall be positioned a minimum of 1/2 inch beyond the edge of the repair section and shall be pressed on the PVC liner against sound concrete pipe.

3. Lubricate the prepared seal area with an approved lubricant. The lubricant functions as an aid in fitting the seal and is not credited with seal tightness.

4. Verify that the seating surface of the rubber seal is free of any dirt, scale or other debris.

5. Position the seal such that the lip seals run parallel with the joint and are located per the markings on the pipe. The pressure test valve should be located at either the 9:00 or 3:00 position.

6. Install metal shims underneath the wedge area in the seal grooves for each band prior to installing the metal retaining bands in the seal. These shims enable radial loads to be transmitted evenly to the rubber seal as the bands are expanded.

7. Position the retaining bands in the seal grooves.

8. Position the seal expander in line with the retaining band and ensure that the retaining band remains in the groove. Expand the bands using the hydraulic expander.

9. Install a locking piece (wedge) in the exposed gap between the expanded band ends. The wedge size shall be selected so as to provide interference fit.

10. Repeat "5" through "7" for subsequent bands on the same seal.

11. Perform a second expansion of each of the retaining bands a minimum of 30 minutes after the first expansion using the same pressure range as the first expansion.

12. Replace wedge pieces with larger sizes if required to provide interference fit.

500-1.14.8.6 Seal Testing. Testing of the seal shall be performed in accordance with the manufacturer's installation instructions. The following general guidelines are not intended to be inclusive of all testing procedures.

1. A pressure test shall be performed to assure the seal has been installed correctly. After a minimum of 30 minutes has elapsed, the test shall be conducted.

2. Pressure test shall be performed through the air test valve to check the air tightness around the leading and trailing edges of the seal on both outside

edges. Pressurize to 10 psig (± 2 PSIG) through the seal test valve. Apply an approved soap test solution to the seal ends and inspect for leakage.

3. If the pressure test indicates leakage, determine cause and repeat installation steps.

4. In the event a second pressure test fails, notify manufacturer for evaluation and direction before performing additional work on the failed seal.

5. Depressurize the seal and isolate the test port.

6. Remove all installation hardware, pressure gauges, and consumables from the pipe.

7. Photographic documentation shall be provided of the installed seal. A location or joint number shall be clearly visible in the photograph.

500-1.14.8.7 Quality Control and Documentation. The documentation described below is based on using a hydraulic expander. If a different method is used for installing the bands, relevant details like the torque to be applied shall be documented.

1. The seal manufacturer shall provide to installer documentation detailing seal installation and forms to be used as a checklist that all steps required for proper seal installation and testing have been completed.

2. The manufacturer shall provide a manufacturer's representative on the project site for a minimum of two days at the start of the installation of each diameter size liner and two days every other week from then on. If installations are postponed for over 30 days, at the restart of the installations, the manufacturer's representative shall restart the schedule on the first week of installations.

3. The manufacturer shall appoint a qualified technician the responsibility of recording all data associated with seal installation and testing including, but not limited to, the following:

    a) Pipe sealing surface condition has been properly prepared and all voids have been filled and high areas removed.

    b) The sealing surface area of the seal is free of debris.

    c) The seal has been properly located over the joint.

    d) Record the time of day in which each band is installed.

    e) Record the pressure of hydraulic expander for each band and confirm expander is maintained at correct pressure.

f) Record the time of day of second expansion of each band and confirm that 30 minutes has elapsed between the first and second expansion.

g) Record the pressure of hydraulic expander for each band and confirm expander is maintained at correct pressure during second expansion.

h) Record whether larger wedge was installed for each band.

i) Record the time of day to confirm that 30 minutes has elapsed from second expansion prior to start of pressure test.

j) Record time and pressure for first pressure test.

k) Record status of first pressure test.

l) Record that seal is depressurized and test plug has been plugged.

m) Record that all tools, equipment, hardware and consumables have been removed from piping.

4. The Contractor shall present a copy of a signed and dated "Installation and Testing Verification" form to the City for each seal installed.

500-1.14.10 **Payment.** Payment for the material and installation of internal pipe seals for the rehabilitation of the Rose Canyon Trunk Sewer will be made at the per unit bid price based on pipe diameter and seal type. Payment for these bid items shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 500-1.14.

ADD:

500-1.15 Copolymer Lining for Piping.

500-1.15.1 **General.** This subsection sets forth the requirements for the structural polymer PVC Co-Lining system manufactured by Linabond Inc. or equal for rehabilitating pipes in accordance with the limits shown on the Plans and CCTV inspection results.

The Contractor shall furnish and install all labor, equipment, materials and incidentals required to rehabilitate existing reinforced concrete pipe as shown on the Plans and the CCTV inspection results. Work shall include, but not be limited to, cleaning of concrete surfaces, reinforcing steel treatment and repair, application of a primer, Structural Polymer, activator, PVC Lining System, seam material and testing. Rehabilitation shall be continuous and shall connect to

existing PVC lining and to manhole lining without any gaps, holes, or defects that may allow corrosion of cementitious material.

500-1.15.2 Quality Assurance.

500-1.15.2.1 Qualifications. The work shall be performed by a lining Contractor or subcontractor who is licensed and certified by the manufacturer of the protective lining system specified. Each applicator who will be applying the protective lining system shall be certified by the manufacturer.

500-1.15.2.2 Standardization. Materials and supplies provided shall be the standard products of manufacturers. The standard products of manufacturers other than those specified will be accepted when it is demonstrated to the Engineer that they are equal in composition, durability, and usefulness for the purpose intended. Requests for substitution shall be in accordance with 4-1.6 and shall include directions for application and descriptive literature on safe storage, handling and disposal of the product.

500-1.15.2.3 Quality Control by Contractor. To demonstrate conformance with the specified requirements for the materials, the Contractor shall provide the services of an independent testing laboratory which complies with the requirements of ASTM E329. The testing laboratory shall sample and test PVC and structural polymer materials as required in this subsection. Costs of testing laboratory services shall be borne by the Contractor.

500-1.15.2.4 References. This subsection contains references to the following documents. They are a part of this subsection as specified and modified. In case of conflict between the requirements of this subsection and those of the listed documents, the requirements of this subsection shall prevail.

ASTM C501 Test Method for Relative Resistance of Unglazed Tile by the Taber Abraser

ASTM C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

ASTM C881 Specification for Epoxy-Resin Base Bonding Systems for Concrete

ASTM C920 Specification for Elastomeric Joint Sealants

ASTM D256 Test Methods for Impact Resistance of Plastics

ASTM D412 Test Method for Rubber Properties in Tension

ASTM D638 Test Method for Tensile Properties of Plastics

ASTM D695 Test Method for Compressive Properties of Rigid Plastics

ASTM D792	Test Methods for Specific Gravity and Density of Plastics
ASTM D1004	Test Method for Initial Tear Resistance of Plastic Film and Sheeting
ASTM D1044	Test Method for Resistance of Transparent Plastics to Surface Abrasion
ASTM D1621	Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
ASTM D1653A	Test Method for Water Vapor Transmission of Organic Film
ASTM D1752	Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2240	Test Method for Rubber Property - Durometer Hardness
ASTM D4060	Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D4258	Standard Practice for Surface Cleaning Concrete for Coating
ASTM D4259	Standard Practice for Abrading Concrete
ASTM D4262	Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces
ASTM E329	Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
ASTM F1249	Method for Water Transmission Rate through Plastic Film and Sheeting
ICRI 310.2	Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
SSPWC	Standard Specification for Public Works Construction Section 210-2 Plastic Liner

500-1.15.2.5 Performance and Design Requirements. The PVC sheet liner, sealant material and surface activator shall act as a cured seam sealant through molecular bonding and shall conform to the chemical resistance test requirements of SSPWC Subsection 210-2.3.3 for chemical solutions at listed concentrations.

The installed PVC lining shall remain leak proof up to a minimum hydrostatic pressure that is equivalent to 15 feet above the invert of the manhole. PVC liner shall meet the requirements of 210-2.3.

500-1.15.2.6 Training Certification. Manufacturer certification shall be required of applicators used for the liner and structural polymer installation work, including pumping and computer equipment operators.

500-1.15.2.7 Services of Manufacturer. The Contractor shall require the coating manufacturers to furnish the following services:

1. The manufacturer's representative shall provide at least three 8-hour days of on-site observation and site specific recommendations relative to surface preparation, mixing, application, curing, and final testing of its product on test areas.

2. Manufacturer shall have a technical representative on site during liner installation and structural polymer application. Representative shall confirm that cleaning and surface preparation meet manufacturer's requirements and installation is in accordance with manufacturer's recommendations.

3. The manufacturer's representative shall provide technical support to resolve field problems associated with the manufacturer's products furnished under this Contract or the application thereof throughout the duration of the Work.

4. The lining manufacturer shall provide written certification that the lining subcontractor's Supervisor and each applicator performing work on the project has been trained and approved to apply the selected lining system.

500-1.15.3 Submittals.

1. The Contractor should provide 5 references for each specified or comparable coating systems. Include the name, address, and the telephone number for the owner of each installation for which the Contractor applied the protective coating.

2. The manufacturer shall provide written certification that the coating Contractor's supervisor and each applicator performing Work on the project have been trained and approved by the manufacturer to apply the selected coating system. The manufacturer shall state whether or not it has verified that the Contractor is going to use the proper mixing, coating application, heating, and environmental control equipment for the specified coating products.

3. Provide a written letter from the Contractor stating that they are certified by the manufacturer in the application of the specified coating systems.

The letter shall state the manufacturer and model number of mixing, heating, and pumping equipment to be used to apply the specified coating system.

500-1.15.3.1 Product Data Sheet.

1. For each concrete rehabilitation product to be used the Contractor shall submit the following product data.

    a) Technical data sheet for each product used, including statements on the suitability of the material for the intended use.

    b) Instructions and recommendations for surface preparation, mixing, handling, application, curing and proper storage.

    c) Material safety data sheet for each product used.

    d) Plastic liner proof of compliance with requirements of 210-2.3.

    e) Written certification from the manufacturer(s) of the selected rehabilitation products that the rehabilitation materials are compatible with each other.

    f) The manufacturer(s) shall provide written certification that the concrete repair subcontractor's Supervisor and each of the applicators performing work on the project has been trained and is an approved applicator for the repair materials selected.

    g) Test reports on previously tested polymer mortar materials shall be accompanied by the manufacturer's statement that the previously tested material is the same type, quality, manufacture, and make as that proposed for use in this project. Test reports are required for epoxy resin and aggregates. The evidence shall show that deficiencies mentioned in the report of that inspection have been corrected.

2. The following submittals are required:

    a) Lining system design details and system materials.

    b) Manufacturer's application instructions, including:

        i. Product Material Safety Data Sheets.

        ii. Certified laboratory test reports for structural polymer density and pipe pH.

        iii. Maximum storage life and storage requirements.

iv. Mixing and proportioning requirements (as applicable).

v. Environmental requirements for application and worker safety, including ventilation, humidity, and temperature ranges.

vi. Information and data on adhesive products and cleaners used in the repair of the existing and installation of the new liner.

vii. Thickness of activator and structural polymer or mastic applied over the surface of the PVC sheet and at joints, respectively.

viii. Curing time.

ix. Proof that the chemical resistance test specified in Subsection 210-2.3.3 will be met.

x. Shape, size and type of material of forms used for the installation of the PVC lining system. Description of the forms installation and removal procedure.

3. A layout and application sequencing plan which includes PVC individual sheet dimension and order of application. This plan shall be approved by the Engineer before starting work specified in this Subsection.

500-1.15.3.2 Daily Project Records. The Contractor shall maintain an accurate written daily record of the amount of each material used for the protective lining system that is delivered to the job each day, and the amount used in the lining system each day. At the end of each work shift, the Contractor shall furnish to the Engineer a signed copy of the daily record, along with the amount (square feet) of protective lining system installed during that shift.

500-1.15.4 Products.

500-1.15.4.1 Material Delivery. Approved materials shall be shipped in original manufacturer's containers and such additional packaging as needed to protect the materials from damage during transport. Containers shall be plainly labeled to show manufacturer's name, product name, batch number, date of manufacture, quantity of contents and storage requirements.

500-1.15.4.2 Material Storage. Stored materials shall be protected from excessive heat, cold and weathering. Activator treated PVC sheeting delivered to the job site shall be protected from debris contamination and maintained at 70°F minimum.

500-1.15.4.3 **Structural Polymer.** Structural polymer shall be a high solids polyurethane. It shall be non-flow and shall be resistant to weathering, aging, dilute (10%) solutions of sulfuric acid and intermittent wetting by raw sewage. Structural Polymer shall be Linabond Structural Polymer Mastic as manufactured by Linabond, Inc., Los Angeles, CA, or equal. The testing of the structural polymer material shall comply with the requirements specified in ASTM D1621.

500-1.15.4.4 **PVC Sheet Liner.** Polyvinyl chloride lining material shall be a homogenous thermoplastic sheet recommended by the manufacturer of the structural polymer; Vinylthane liner by Linabond, Inc., or equal. Liner shall conform to Subsection 210-2 (except paragraphs 210-2.4.2 and 210-2.4.4.) and shall exhibit the following minimum physical properties:

Specific gravity, ASTM D792	1.33
Hardness, Shore A ASTM D2240	84
Tensile, ASTM D882	2,300 psi
Elongation, ASTM D882	300%
Brittle Point, Model E ASTM D746	-22ºF
Tear Strength, ASTM D1004	250 psi
Thickness	40 mils
Color	White

500-1.15.4.5 **Surface Activator.** Surface activator shall be a catalytic polyurethane providing cross linking with the PVC sheet liner and the structural polymer and shall be Linabond CLA-2 as manufactured by Linabond, Inc., Los Angeles, CA, or equal. At this time.

500-1.15.4.6 **Seam Material.** This component is an expansionless version of structural polymer which retains the chemical and adhesive properties of the structural polymer while permitting relatively flat, smooth laps between adjacent PVC sheets. Seam material shall be of the type manufactured by Linabond, Inc., Los Angeles, CA, or equal.

500-1.15.4.7 **Water Infiltration Cement Plug.** This material is a single component, extremely fast setting, non-shrink, expansive type, hydraulic cement for repair of underwater concrete or concrete subject to hydrostatic water pressure. Approved products include the following:

1. Hydroplug as manufactured by Nox-Crete Products Group or equal.

2. Subac Underwater Cement as manufactured by Subac Underwater Cement or equal.

500-1.15.4.8 Concrete Resurfacer. Repair mortar with voids between ¼ inch and 2 inches in depth or width shall be a pneumatically or troweled cementitious, silica fume, fiber-reinforced, high strength shrinkage-compensated portland cement mortar. Approved products include the following:

1. Mortar Mix as manufactured by Rapid Set Construction Cement Products.

2. Cement All as manufactured by Rapid Set Construction Cement Products.

3. Five Star Structural Concrete V/O as manufactured by Five Star Products, Inc.

4. Or approved equal

500-1.15.4.9 Stainless Steel Fasteners. All counter sunk anchor bolts for anchoring the upstream termination strips shall be Type 316 stainless steel, similar to the 1/4-inch diameter Rawl Flat Head Steel Spike, No. 5632 or approved equal. All anchor bolts shall provide a minimum 3 inches of embedment into the concrete pipe wall. Each anchor bolt shall be installed with Rawl/Sika Foil Fast two-part epoxy injection gel or equal. Anchor bolts shall be spaced 18 inches on center. Stainless steel 316 anchor bolts are a special order item and must be ordered as the first item of work.

500-1.15.4.10 Termination Strip. Termination (Batten) strips shall be 1/4-inch thick by 1 1/2-inches wide Type 316 stainless steel with counter sunk holes 18 inches on center to fit the anchor bolts specified.

500-1.15.4.11 Corrosion Inhibitor. Reinforcing steel, exposed by corrosion or during surface preparation operations, shall be treated with a water-based epoxy resin, anticorrosion coating and bonding agent such as Armatec 110 EpoCem, manufactured by the Sika Corporation, or equal.

500-1.15.5 Execution.

500-1.15.5.1 General. The Contractor shall follow the requirements of this subsection and the manufacturer's recommendations in terms of surface preparation, application equipment and techniques, and environmental limitations.

After the Contractor has cleaned all concrete surfaces, the Contractor shall thoroughly inspect all surfaces. The Contractor shall notify the Engineer, in writing, of any defects or discrepancies which will not allow him to complete his work properly. Commencement of work shall be construed as acceptance of the

surfaces and it shall be the responsibility of the Contractor to correct any defect appearing in the surfaces, once the work has begun.

The general limits for PVC lining shall be as specified and shown with minor adjustments as directed by the Engineer based upon conditions observed. The Contractor's work shall result in the interior of the pipe designated for rehabilitation having a continuous PVC lining as shown on the Plans without holes, gaps, breaks, or unsealed seams. The PVC lining shall be sealed to existing PVC liners and manhole rehabilitation material as shown or recommended by the manufacturer.

500-1.15.5.2 Environmental Limits. Lining and concrete repair shall not be performed if environmental conditions are not within the manufacturer(s) recommended limits. No lining work shall be performed under the following conditions:

1. Temperatures exceeding the manufacturer's recommended maximum and minimum allowable.

2. Dust or smoke laden atmosphere.

3. Damp or humid weather where relative humidity is above manufacturer's maximum allowable or greater than 85%.

The project is located in a sanitary sewer environment where the work will be exposed to hydrogen sulfide laden air and extended periods of high relative humidity. These "normal atmospheric conditions" may restrict the application and inhibit the cure of the specified lining systems. The Contractor shall provide facilities to maintain substrate and atmospheric conditions within the controlled environment, with respect to temperature and relative humidity, within the limits established by the manufacture of the product(s) selected to ensure proper application and cure of the lining systems.

500-1.15.5.3 Safety Requirements. In addition to the requirements of Section 7-10.4, Safety, a "breathing air" apparatus and compressor shall be provided for structural polymer spray and hydroblast cleaning operators, if ventilation air flows towards the operators or is required to meet Cal/OSHA breathing air requirements. The compressor shall be equipped with high temperature and carbon monoxide alarms and shall use an in-line filter bed to remove moisture. The Contractor shall provide compressed air breathing equipment for the Engineer and any other personnel, if working in close proximity to mist produced by the structural polymer application and hydroblast cleaning.

500-1.15.5.4 Sequence of Work.

1. Structural Polymer

a) The Contractor shall perform the work in the following sequence:

i. Construction of temporary platform

ii. Cleaning of pipe interior

iii. Reinforcing steel treatment (if necessary)

iv. Structural Reinforcement Repair (as directed by Engineer)

v. Repair of concrete defects

vi. Installation of welded wire mesh

vii. Structural Polymer application

viii. Installation of liner

ix. Testing

2. Self-Forming Structural Polymer

b) The Contractor shall perform the work in the following sequence:

i. Construction of temporary platform

ii. Cleaning of pipe interior

iii. Reinforcing steel treatment (if necessary)

iv. Structural Reinforcement Repair (as directed by Engineer)

v. Repair of concrete defects

vi. Installation of welded wire mesh

vii. Installation of liner

viii. Structural Polymer application

ix. Testing

500-1.15.5.5 Surface Preparation of Concrete. All loose, brown carbonated, deteriorated, or unsound concrete shall be removed in the immediate vicinity of the damaged documented areas to provide a substrate that is tightly adhered to the surfaces of the structure.

The Contractor shall cut and remove any loose existing delaminated PVC liner and the remaining edge of the liner shall be at an embedded locking (T-Lock) anchor that is tightly adhered to the wall.

Concrete surfaces shall be prepared per SSPC SP13 abrasive blasting to remove the top 0.125 inches of existing concrete and to produce a surface roughness equivalent to that of ICRI 310.2 Concrete Surface Profile 5.

All surfaces shall be cleaned using high pressure water. Water cleaning equipment including pumps, hoses, connectors, valves and nozzles shall be capable of producing a blast pressure of 5,000 psi. Contractor shall remove all grease, dirt, rocks, rust, spalled masonry (including mortar, concrete, and brick), and other deleterious materials and debris from the interior of the pipe. The finished interior surface shall consist of sound concrete with exposed aggregate.

In accordance with ASTM D4262, test to determine the pH of the concrete surface after the surface has been thoroughly blasted and cleaned. If the pH is outside the range recommended by the coating manufacturer, then the surface must be neutralized by removing concrete until a surface pH of 7 or greater is obtained prior to any coating application. One pH test shall be performed every 50 square feet, or less, and at locations determined by the Coating Inspector.

The Contractor shall test for capillary moisture in accordance with ASTM D4263. Moisture tests shall be taken every 200 square feet or less and at locations determined by the Coating Inspector. If capillary moisture is present, the coating manufacturer shall be consulted to determine primer requirements and special coating application criteria.

The Contractor shall use a concrete mortar to rebuild the existing concrete to 2 inches in depth following abrasive blasting. Concrete mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against the edge of repair, working toward center. The Contractor shall use a trowel to repair the existing concrete with a high early strength mortar, as specified, prior to the installation of the epoxy primer. Hand application is not acceptable. The repaired concrete shall be finished with a masonry brush with 4-inch long Tampico fibers, completely cured, and dried according to the manufacturer's recommendations.

As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, and a fine mist of water. Moist curing should commence immediately after finishing.

After curing, and prior to coating, the repaired concrete shall be lightly abrasive blast cleaned to remove curing agents, laitance, surface contaminants and to produce a surface roughness equivalent to that of ICRI 310.2 Concrete Surface Profile 3.

Surfaces shall be cleaned of all dust and residual particles by dry air blast cleaning, vacuuming, or other approved methods prior to lining application as approved by the Coating Inspector.

The resurfaced concrete shall be examined by the Coating Inspector by tapping with a 1 pound hammer over the repair areas. If hollow and soft areas are present, the Contractor shall chip out the area and reapply the mortar.

500-1.15.5.6 Surface Preparation of Existing Liner. The Contractor shall cut and remove any existing delaminated PVC liner and the remaining edge of the liner shall be at an embedded locking (T-Lock) anchor that is tightly adhered to the wall.

The existing PVC liner shall be abraded with 60 Grit sandpaper and be detergent cleaned per SSPC SP1 when the new PVC liner will overlap it. Formula 409, or equal, shall be used to clean the existing liner prior to applying the material.

500-1.15.5.7 Reinforcing Steel Treatment. Where corrosion or surface preparation activities have exposed reinforcing steel the following procedure shall be used:

1. If half the diameter of the reinforcing steel, or more, is exposed, chip out behind the reinforcing steel a minimum of ½ inch for placement of grout or polymer concrete.

2. Abrasive blast all exposed reinforcing steel surfaces to remove all contaminants and corrosion products.

3. Determine section area loss of reinforcing steel. Perform structural reinforcement repair as directed by the Engineer. Directed structural reinforcement repair is a unit price bid item, and measurement and payment is separate from all other concrete repair. Structural reinforcement repair shall include providing and installing wire fabric and mortar as directed by the Engineer.

4. Structural reinforcement repair shall be used only when directed by the Engineer. Engineer shall determine and identify the area over which such repair shall be performed, and the quantities and limits of wire mesh to be placed.

5. If the reinforcing steel has more than 50% of the cross sectional area lost along its exposed length, the reinforcing steel shall be replaced and spliced to sound, adjacent reinforcing steel. The Contractor shall remove enough of the concrete around the circumference of the reinforcing bar to accommodate the splices and/or coupler installation and to allow for bonding between the reinforcing steel and the new cementitious mortar material. Removals shall allow for a ½-inch gap around the circumference of the reinforcing steel or coupler.

6. Apply a 20 mil (wet) coat of corrosion inhibitor to all surfaces of the clean, exposed reinforcing steel with stiff brush or spray equipment. Cure to tack-free 2 to 3 hours.

7. Apply a second 20 mil (wet) coat of corrosion inhibitor and allow for 2-hour to 3-hour cure prior to placement of polymer mortar, cementitious mortar, or grout.

500-1.15.5.8 Repair of Concrete Defects. Cracks shall be filled with the specified polymer mortar according to the following procedure:

1. Deepen the crack as necessary to ensure a minimum depth of 1/8 inch.

2. Apply a scrub coat of the polymer mortar, prepared according to the manufacturer's recommendations, to the prepared substrate.

3. While the scrub coat is still wet, force the polymer mortar into the cavity.

500-1.15.5.9 Lining System Application. The application of the lining system shall be as follows:

1. Proportioning and Mixing: materials shall be mixed and proportioned in accordance with the manufacturer's written instructions with the equipment specified by the manufacturer. Pumping equipment and computer equipment utilizing an integrated DAQ system with built in alarms shall be approved manufactor. prior to use. All equipment shall be maintained and operated per the manufacturer's written instructions. Filters shall be checked twice daily (if operated) and cleaned as necessary. At all times during use, the spray equipment shall be attended by a qualified operator certified by the manufacturer.

2. Structural Polymer: structural polymer shall only be applied to a clean, prepared and dry sound concrete surface, as specified above. Structural polymer shall cover all exposed aggregate, and provide a smooth surface for application of the PVC liner. Prior to application of the PVC sheets and rolling of same, the mastic shall provide a minimum of 1-inch thick cover over the surface of the exposed concrete aggregate material. In areas where the pipe reinforcing bars are exposed, the net cover over the reinforcement, before application and rolling of the PVC sheets, shall be 2

inches minimum. Structural polymer shall be applied in lifts not to exceed 1-inch thickness. The maximum thickness of the cumulative lifts shall be no more than 2 inches.

3. Application of the PVC liner after the installation of the structural polymer shall be in accordance with manufactor specifications, but in any event not later than 45 minutes after application of the structural polymer, after which the area must be resprayed and allowed to tack again.

4. Activator: Apply activator to clean, dry PVC sheets in accordance with manufacturer's instructions. Allow to dry "tack-free" prior to embedding sheet in the structural polymer. Activator shall be applied to sheets in a warm (70 degree F minimum), protected environment and allowed to dry prior to shipment to the job site. Protect prepared sheet from debris contamination.

5. Sheet Liner: The activator prepared surface of the PVC sheet liner shall be pressed into the structural polymer and rolled to remove trapped air. Seams shall overlap a minimum of 4 inches in the downstream direction. Maximum size of sheets along the length of the pipe shall not exceed 8 feet in any dimension, and the PVC shall be in one continuous piece to cover the crown and sides of the pipe as shown on the Plans. PVC sheets shall be applied while the structural polymer is still tacky. Following the removal of the support system, the 4-inch overlapping seams shall be embedded in seam material as shown on the Plans.

6. Fiberglass Support Panels: A support system of the type used by manufactor consisting of sections of flexible but stiff 4-foot wide by 12-foot long fiberglass panels, shall be pressed up by jacks into the new PVC liner surface while the structural polymer is finishing its exothermic reaction with the pipe. Each fiberglass panel section using four jack supports shall ensure that a very uniform flat finish formed pipe interior from the termination edges of the liner near the bottom of the pipe to the crown of the pipe is attained.

7. The form work shall be made of activated PVC liner sheets and shall provide a complete seal of all the concrete surfaces to be lined in accordance with the limits as shown on the Plans. Care shall be taken to keep the activated PVC liner sheets clean and free of dust and protected from debris contamination. The Contractor shall utilize the maximum size PVC liner sheets possible with a minimum number of seams. The vertical and horizontal seams shall be joined with the "H" channels and the intersecting walls shall be joined using the preformed angles. The bottom, leading or terminating edges of the liner sheets shall be inserted in "J" Channels or joiner strips and sealed in accordance with the details shown in the Plans. All the PVC liner sheets, channels, and angles shall be activated and allowed to dry to tack free prior to joining. An adequate

amount of sealant shall be applied to form a bead along the seam after joining.

8. Sheet Liner Terminations. The PVC lining system shall extend to the limits shown on the Plans. Where the new lining meets the existing lining, the new liner shall overlap the existing liner by a minimum of 4 inches. Methods for overlapping the existing liner at the downstream and leading (upstream) edge of the liner are shown on the Plans. Along the length of the pipe, on both sides, and on the upstream end where the end of the liner will terminate, saw-cut into the wall of the concrete pipe and embed the liner in structural polymer covered with seam material, as shown on the Plans.

500-1.15.6 Inspection and Testing. The surface of the installed liner will be visually inspected by the Coating Inspector for proper adhesion, air pockets, edge or seam defects, rips, tears, and punctures. The newly applied PVC liner shall be spark tested per NACE SP0188 and any defect that is identified by the spark test shall be properly repaired and retested. The spark testing shall be done with a Tinker and Rasor Holiday Detector (Model AP-W) or equal set at 20,000 volts.

To assure proper adhesion of the PVC lining to the structural polymer and the structural polymer to the concrete surface, the protective lining system shall have a "peel test" performed at locations previously designated by the Coating Inspector and prepared by the lining Contractor. The test shall be the "Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants" per ASTM C794 Designation ASTM C794 and modified for field test conditions. Preparation of the 1-inch wide pulling strips, during the Contractor's lining installation, shall be as directed by the Coating Inspector. The allowable minimum value for the peel strength test shall be per the protective lining system Manufacturer's recommendation but shall not be less than 16 pounds per linear inch after 3 days of curing at a minimum ambient temperature of 55°F.

500-1.15.6.1 Repair of Defects. The Contractor shall repair all defects found in the lining system. Areas with poor adhesion or air inclusions, edge or seam defects, punctures or other defects, shall be repaired. The repair may include cutting and removing all the defective areas and relining; drilling and injecting polyurethane seam material into defective areas and lining with a flexible PVC liner. The protective lining system used in the relining or the flexible PVC lining to be applied shall overlap the adjacent lined areas a minimum of 4 inches in all directions and shall be reinspected.

500-1.15.8 Payment. Payment for the material and application of copolymer lining for the rehabilitation of the Rose Canyon Trunk Sewer will be made at the per unit bid price based on the total square footage of the lining. Payment for these bid items

shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 500-1.15.

SECTION 700 – MATERIALS

700-9.1 **Pedestrian Barricade.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

3. Pedestrian barricades shall be constructed in accordance with the City of San Diego Standard Drawing SDE-103, "Pedestrian Barricade".
4. Curb ramp barricades shall be constructed in accordance with the City of San Diego Standard Drawing SDG-140, "Curb Ramp Barricade".
5. Assembly shall be commercial quality galvanized material.

SECTION 800 - MATERIALS

ADD:

800-1.1.1 **General**.

1. Contractor shall take soil samples from final graded areas to receive new planting. Soil samples shall be submitted to an agricultural soils testing lab and follow the process outlined under Item 4 of Section 800-1.1.2 for Class A Topsoil.

2. Soil test(s) shall be performed by an agricultural soil testing laboratory. Approved agricultural soil testing laboratories are indicated below:

   Wallace Laboratories
   365 Coral Circle
   El Segundo, CA 90245
   Phone: 310 615-0116 Fax: 310 640-6863
   http://www.bettersoils.com

   Soil & Plant Laboratory, Inc.
   1594 N. Main Street
   Orange, CA 92667
   Phone: 714 282-8777 Fax: 714 282-8575
   http://www.soilandplantlaboratory.com

   Fruit Growers Laboratory, Inc.
   853 Corporation Street
   Santa Paula, CA 93061-0272
   Phone: 805 659-0910 Fax: 805 525-4172 http://www.fglinc.com

800-1.2.4 Organic Soil Amendment. DELETE in its entirety and SUBSTITUTE with the following:

1. Organic soil amendment shall be selected from Type 1 products.

2. Type 1 organic soil amendment shall be an organic product, ground or processed wood product derived from fir or pine and shall comply with the requirements shown in Table 800-1.2.4. Redwood, Cedar and all fines shall be excluded.

Table 800-1.2.4: Organic Soil Amendment Specifications

Gradation: Sieve Size	**Percent Passing (minimum)**
1/4 inch	95
No. 8	80
No. 35	30
Nitrogen Content	**%, Dry Weight**
Fir	0.56 – 0.84
Pine	0.56 – 0.84
Salinity: Maximum saturation extract conductivity: 6.35 millimhos/inch at 77°F.	
Wettability: When one teaspoon of tap water is applied to 4 cubic inches (volumetic ratio of 1:15) of the air-dry product, the material shall become completely damp in a period not exceeding 2 minutes. Any wetting agent added shall be guaranteed non-phyto-toxic at the rate used.	

800-1.6 Erosion Control Matting, ADD the following:

Install biodegradable erosion control blankets or other slope protection methods on slopes 3:1 or greater prior to the installation of the re-vegetation, or in the event of erosion, 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 approved by the Resident Engineer or certified by the supplier, as applicable.

Correct any occurrences of soil erosion and repair and/or replace 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 following acceptance by the Resident Engineer and Project Biologist at the end of the PEP.

SECTION 801 – INSTALLATION

ADD:

801-1.1 Protection of Existing Trees.

Several mature trees occur onsite and adjacent to the site and are slated to remain. Contractor shall take every precaution to protect and preserve the health, vigor, and welfare of these mature trees, including but not limited to the measures described herein, throughout the duration of construction and maintenance. This includes their root systems and critical root zones. For the purposes of this specification, the critical root zone (CRZ) shall be any area under or near the drip line of the existing trees to remain where roots are encountered, or any area where a significant buttressing root (greater than 2" diameter) may extend even further than the drip line.

Prior to construction, the Contractor shall meet onsite with the Resident Engineer, the Project Biologist, the Project Manager and the design consultant. The City shall determine if any pruning or other remedial measures need to be taken and the Contractor shall perform these tasks before the start of construction.

As a first item of work for trees whose canopies lie within the work area, the Contractor shall embark upon a root discovery and protection program as listed herein. The Contractor shall probe (with a soil probe), hand excavate and/or otherwise determine the location and extent of all substantial roots (greater than 2" diameter) near the surface of the existing tree or trees within the work area, and mark out all of the above. The mark out locations shall be clearly visible throughout the course of the work, and shall be reviewed and found to be sufficient by the Resident Engineer.

Contractor shall then install a tree protection fence (and signs) per plans and detail. Protection fencing shall remain in place for the entire duration of construction, unless specifically approved in writing to be temporarily removed for specific tasks, and short durations only, by the Resident Engineer. No construction workers, materials, equipment, including construction equipment, debris, or any other items shall be allowed within these fenced and protected areas, throughout the entire duration of construction, without the express written approval of the Resident Engineer, except for the sole purpose of watering or fertilizing the trees and as listed herein.

Under the critical root zone of the existing trees, a ¾" steel plate cover shall be placed over the entire ground area before machinery is allowed to enter that zone. The Contractor shall expedite the work operations in this zone, so as to minimize the time that the steel plate will be required. If for any reason the operation requires that the steel plate be in place for more than one month, Contractor shall remove the plates, and proceed with a root aeration program as described herein.

All trunks, boles, and branches and limbs within the reach of man or machine shall be protected. When/if the contractor has a machine operating near any of the

above, there shall be a supervisor on constant standby to keep said equipment away from the trees. Additional measures may be required by the Resident Engineer. Scarring on trees, tree trunks, boles, branches or limbs will not be tolerated. Contractor is to refer to the damages paragraph of this section. All construction traffic will be kept as far away from the trees as is possible to avoid soil compaction problems.

At any location where people will walk or use wheelbarrows or similar equipment repeatedly, an elevated-walking surface should be installed to protect the tree's roots and soil from compaction. Do not stockpile dirt or construction materials under the drip line or within 25' of the trunk of the tree, whichever is more restrictive.

Installation of all protection devices should be inspected and verified before the start of work and maintained until all construction is complete on the site.

SECTION 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE, AND MONITORING

802-3.4 **Topsoil.** To the "Whitebook", DELETE in its entirety and SUBSTITUTE the following:

The Project Biologist shall be responsible for determining suitability of on-site topsoil material. Class B topsoil, salvaged from the project site, shall be provided and tested, as specified. Topsoil source and quality shall be approved by the Project Biologist prior to delivery and/or placement. Topsoil shall be weed free upon delivery, or treated as specified for weed eradication. Topsoil stockpiled for later installation shall not be stockpiled for more than 1 week.

If Class B topsoil is determined by the results of the soils test, as interpreted by the Project Biologist or Engineer, to be unsuitable, or if Class B topsoil is not available in a sufficient quantity to achieve the required topsoil depth, Class A topsoil shall be required.

ADD

802-3.4.3.1 **Herbicides and Pesticides.**:

Monitor insects and plant diseases and use biological control whenever possible. Remove and replace plants that are severely diseased to prevent the spread of disease and insects. Rodent control, if necessary, will be restricted to the use of traps with no secondary poisoning effects. All specific pest control measures will be recommended by a state-licensed Agricultural Pest Control Advisor with specific review and approval by the Resident Engineer.

Herbicides or pesticides shall not be used unless specifically authorized by all reviewing agencies and only after other means or materials (such as soapy water,

power washing or organic controls) have been used without success or deemed inappropriate. When/if they are approved, they shall be used in accordance with all state and local requirements, in an Integrated Pest Management program (IPM) and appropriate applications with strict adherence to manufacturers' specifications and instructions.

802-3.5 Seed. To the "Whitebook", ADD the following:

1. Imported seed shall be mixed by the seed company and delivered to the project site in sealed containers that have been labeled by the seed company in accordance with State and Federal laws.

802-3.7 Installation. To the "Whitebook", ADD the following:

9. The Contractor shall replant unpaved areas that are disturbed by the construction activity and as recommended by the Resident Engineer or Project Biologist.

802-3.8 Hydro Seeding. To the "Whitebook", ADD the following:

2. Hydroseed Mixture shall consist of:

   a) Water - Water shall be free of impurities, excess chlorine and salts. The use of purified water or filters may be required when directed. General precautions should be observed when drawing water from sources other than the irrigation main line.

   b) Seed - All seed shall comply with SSPWC Subsection 800-1.3 and all applicable City, County, State, and Federal regulations. Seed shall be thoroughly mixed by the dealer. The CONTRACTOR shall furnish dealer's guaranteed germination percentage of each variety.

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP) SECTION A – GENERAL REQUIREMENTS

4.1 Nondiscrimination in Contracting Ordinance. To the City Supplement, 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)

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

ENVIROMENTAL DOCUMENTS

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: December 19, 2016

TO: Keli Balo, Project Officer II, Public Utilities Department
Angela Nazareno, Development Project Manager, Development Services Dept.

FROM: Juan Baligad, Senior Planner, Public Works Department

SUBJECT: Consistency Review for the (Rose Canyon Trunk Sewer Joint Repair Project)

The Public Works Department requests the preparation of a Consistency Review for the Rose Canyon Trunk Sewer Joint Repair (RCTS) under the Master Canyon Sewer Permit 013507 and Canyon Sewer Program PEIR No. 42-0077.

The list below is contained within the attached Biological Resources Report are project information and exhibits to assist you in making a determination of consistency.

BIOLOGICAL RESOURCES RESOURCES FIGURES
Figure 1 – Vicinity Map
Figure 2a-2b – Project Habitat Maps
Figure 3a-3p – MHPA and Observed Sensitive Species Maps
Figure 4a-4m – Project Impact Maps
BIOLOGICAL RESOURCES REPORT APPENDICES
Appendix A – Site Plans
Appendix B – Species List
Appendix C – Presence/Absence List
Appendix D - Jurisdictional Delineation Report
Appendix E – Site Photographs

Project Location
This project is located in Rose Canyon within the Clairemont and University Community Planning Areas and is either within or adjacent to the Multiple Habitat Planning Area (MHPA). The repairs encompass 4.5 miles of the 4.7-mile long trunk sewer. The pipeline extends from Manhole No. 343, which is located approximately 550 feet east of Genesee Avenue next to Manhole No. 374, south of the Rose Canyon Creek Bridge, which runs along Santa Fe Street through Rose Canyon.

Project Description
The RCTS Joint Repair project would repair the PVC liner at the pipe joints for the Plastic-lined Reinforced Concrete Pipe (PLRCP) on the RCTS. The T-lock lining weld strips in the RCTS pipe joints are loose and pulling away from the pipe walls. The cement mortar has

started to deteriorate behind the T-lock lining as a result of attack from hydrogen sulfide and sulfuric acid. Failures of welds exist throughout the pipeline and, consequently, repair of the PVC liner at these pipe joints is required. Approximately 402 days have been considered for construction, which would take place primarily during two dry seasons (April to October). It is possible that construction take less than the 18 months anticipated in the construction contract. The actual construction time will depend on the frequency and length of time wet conditions occur in the canyon. Wet conditions would require stoppage of construction activities. The start of construction is planned for May 2017, and completed by Nov of 2018. The RCTS Joint Repair Project involves installation of the following:

- 60-inch-diameter sleeve from Manhole No. 374 to Manhole No. 455, quantity 1,114, approximately 22,271 feet of pipe joint.
- 54-inch-diameter sleeve from Manhole No. 455 to Manhole No. 343, quantity 36, approximately 708 feet of pipe joint.

A temporary bypass system consisting of two bypass pump stations with a 32 million gallon per day (MGD) capacity with approximately 2,100 linear feet of 32-inch, high density polyethylene (HDPE) pipe and approximately 560 linear feet of 4-inch HDPE pipe installed above ground within existing dirt access roads and Genesee Avenue. The bypass pump is planned to be operational for three months, from July to September of 2017. Fabricated aluminum stop logs within Manhole No. 449 (Junction Structure No. 1 to completely bypass the flows within the Rose Canyon Trunk Sewer to the existing parallel 42-inch trunk sewer.

Methods
Hernandez Environmental Services (HES) On February 11, 2015, February 12, 2015, April 2, 2015, and September 3, 2015, conducted biological surveys of the project areas. The survey areas were walked and all plant species observed were identified and documented. Current conditions and potential impacts to biological resources within and adjacent to the project activity areas were analyzed.

Existing Conditions
Vegetation communities found in the project area include coastal sage scrub, coastal sage scrub/chaparral transition area, coast live oak riparian forest, eucalyptus grove, mixed willow riparian/wetland, non-native grassland, and disturbed habitat. Developed areas and cement lined channel was also observed in the project area. The project has the potential to impact threatened and endangered species of plants and animals, based on their presence and their potential to be present. *The California gnatcatcher and least Bell's vireo was observed in the project area.*

Impacts

The repair project requires access to a number of manholes to repair pipe joints. Access to the manholes will use existing access paths, path maintenance may be necessary prior to the start of project work and will be completed by PUD's Wastewater Collections division. Maintenance to existing access paths is accommodated by the Master Canyon Sewer Permit 013507 and Canyon Sewer Cleaning Program PEIR No. 42-0077 and will not require mitigation. Construction Crews will access the manholes using existing vehicle access paths and footpaths. Construction crews will walk all equipment to the manholes from the nearest access road, using existing footpaths. As a result, no impacts to habitat are anticipated as

result of accessing the manholes. However, this project requires installation and operation of a temporary bypass pump, and involves work outside the maintenance access paths. Installation of the bypass pump will temporarily impact approximately 0.30 acres of Diegan coastal sage scrub. All impacts to Diegan coastal sage scrub will occur outside the MHPA. All other work activities would occur on designated maintenance access paths that is regularly maintained by PUD.

No impacts to sensitive animal species are expected as a result of this project, in part due to the short-term nature of the project, and due to prevention measures described below.

Mitigation
Impacts through the utilization of the maintenance access paths to repair and maintain the sewer pipeline, as accommodated by the Master Canyon Sewer Permit 013507 and Canyon Sewer Cleaning Program PEIR No. 42-0077, will not require mitigation. Mitigation for temporary impacts to Diegan coastal sage scrub associated with installation and operation of the temporary bypass pump will be mitigated at a 1:1 ratio for a total of 0.3 acre at the Rose Canyon Mitigation Site.

Mitigation Measures
The proposed project area overlaps approximately 156.5 acres of existing MHPA lands. The MSCP Subarea Plan prohibits impacts to coastal sage scrub habitat located within the MHPA. In order to avoid impacts to coastal sage scrub habitat located within and outside MHPA boundaries during the bird breeding season, the following measures shall be implemented:

- Prior to the start of project activities within, or immediately adjacent to, an MHPA, a qualified biologist shall verify that all MHPA boundaries and limits of work have been delineated on all project plans.
- A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records or site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant to the protocol survey guidelines established by the USFWS. When other sensitive species are known or suspected to be present, all appropriate protocol surveys and mitigation measures shall be implemented.
- Prior to construction activities, a qualified biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to MHPA lands and verify compliance with any other project conditions. This shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats, plants and animal species, including nesting birds) during construction.
- Prior to the start of construction activities, a qualified biologist shall meet with the project proponent and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive habitat, plants, and animals (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).
- All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed. A

qualified biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys.

- A qualified biologist shall note/act to prevent any new disturbances to habitat, plants, and/or animals onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the qualified biologist.

To avoid any direct impacts to raptors and/or any native/migratory birds, the following mitigation measures shall be implemented:

- A qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance during the bird breeding season (February 1 to September 15). The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities.
- If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

In addition, the Biological Resources Study, pursuant to the Master Canyon Sewer Permit 013507 and Canyon Sewer Cleaning Program PEIR No. 42-0077, recommends additional measures to further reduce project impacts:

- Noise attenuation measures shall be implemented around the temporary pump station to prevent indirect impacts to listed species during the nesting season.
- No grading is permitted.
- Predefined staging areas will be used for parking vehicles, equipment, and stockpiling of materials.
- Photographs will be taken of the project area before, during, and after the work to document the condition of the site and the extent of any impacts to the surrounding area.
- All equipment must utilize existing access roads and work areas within the authorized limits of work. No work activities may occur outside the preapproved limits of disturbance without approval from Public Works Environmental & Permitting staff and Development Services Department's MMC staff.
- Appropriate Best Management Practices (BMPs) will be used during and after construction to address erosion and sediment control.
- All work will be conducted during daylight hours only; lighting is prohibited.

- No construction activities will occur during a rain event; all activities will be suspended following a rain event until the soil has dried.
- Habitat impacted by the project shall be restored pursuant to the City's Canyon Sewer Cleaning Program Including the preparation of a habitat restoration plan, installation of native plant material, and maintaining the site for a minimum of 25 months.
- All restoration areas shall obtain a minimum 30% native cover or equal to the adjacent habitat (whichever is greater) and not have more than 1% perennial weed cover or 10% annual weed cover.
- The hydroseed mix shall include Artemisia.

Restoration
Following completion of the project, habitat impacted by the project shall be restored pursuant to the City's Canyon Sewer Cleaning Program Including the preparation of a habitat restoration plan, installation of native plant material, and maintaining the site for a minimum of 25 months. All restoration areas shall obtain a minimum 30% native cover or equal to the adjacent habitat (whichever is greater) and not have more than 1% perennial weed cover or 10% annual weed cover.

Justification Pursuant to Program
All activities, access and staging would occur within designated Public Utilities Department (PUD) maintenance access roads as identified in the Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program (Program), with the exception of activities related bypass system. Impacts resulting from the bypass system would be mitigated and restored as shown on the revegetation plan and the mitigation measures stated above. No impacts on cultural resources are anticipated.

The RCTS Joint Repair project will utilize existing maintenance access paths. The pump stations and associated appurtenances may be placed outside the designated access paths only when necessary and all efforts must be made to avoid or minimize any impacts to coastal sage scrub. Placement of the pump stations and appurtenances would be conducted at the discretion of the project biologist.

The access paths would accommodate all work activities not associated with the pump stations, and are regularly maintained by the Public Utilities Department (PUD), pursuant to the Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077. Impacts within access paths have been addressed and mitigated during as part of the PEIR process. These access paths are regularly maintained by PUD crews, pursuant to the SDP and PEIR, to allow the cleaning and maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands.

All proposed manhole maintenance/repair activities are covered under the EIR and are consistent with the Program and Master SDP (Site Development Permit) objectives *to provide for the long-term maintenance of canyon sewer infrastructure, recognizing that availability of access to the infrastructure is essential for an effective long-term program.*

If you have any questions or need additional information, please contact me at jbaligad@sandiego.gov or at (619) 533-5473.

Sincerely,

Juan Baligad
Senior Planner, Public Works Department

jb

Attachments: 1. Approval Memo
2. PUD Canyon Sewer PEIR Consistency Approval
3. Checklist
4. Biological Resources Report
5. Project Plans

cc: Carrie Purcell, Assistant Deputy Director, PWD
Sean Paver, Biologist III, PUD, Engineering & Program Management Division
Michael Ninh, Senior Engineer, PWD, ROW Division
Maryam Liaghat, Project Manager, PWD, ROW Division
Bobak Madgedi, Project Engineer, PWD, ROW Division

THE CITY OF SAN DIEGO

MEMORANDUM

DATE: December 16, 2016

TO: Maryam Liaghat, Project Manager, Public Works Department

SUBJECT: Consistency Review Approval for the Rose Canyon Trunk Sewer Joint Repair Project, pursuant to the Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program (Program), Master Site Development Permit (SDP) No. 13507/Coastal Development Permit (CDP) No. 13506, and Programmatic Environmental Impact Report (PEIR) No. 42-0077.

Under the authority of the CEQA Authority MOU (July 30, 2015) the Public Utilities Department has completed a consistency review for the subject project, and has determined, in accordance with CEQA Section 15162, the Project is consistent with the general intent, terms, and conditions of the Program PEIR No. 42-0077. All applicable and relevant conditions and findings of approval as specified in the approved PEIR No. 42-0077, shall remain in full effect for this site, unless otherwise specified. All project issues and mitigation for significant impacts have been adequately addressed pursuant to CEQA for the proposed project.

Signature
Keli Balo, Project Officer II
Public Utilities Department

The Development Services Department has completed a consistency review for the Project, and has determined, the Project is consistent with the general intent, terms, and conditions of the Master SDP No. 13507/ CDP No. 13506. In addition, the Development Services Department has determined the Project is consistent with other applicable regulations, development standards and guidelines of the Municipal Code in effect for the site. All applicable and relevant conditions and findings of approval as specified in the approved Master SDP No. 13507/CDP No. 13506, shall remain in full effect for this site, unless otherwise specified by the Development Services Department.

Signature
Angela Nazareno, Development Project Manager
Development Services Department

Canyon Sewer Program
Consistency Review Checklist

Project Name: Rose Canyon Trunk Sewer Joint Repair Project

Project Manager: Maryam Liaghat, Project Manager, Public Works Department

Date: December 19, 2016

Brief Project Description:
The proposed project is a City Public Works Department trunk sewer joint repair project. All work and staging would occur within existing maintenance access paths, pursuant to the Canyon Sewer Access Program. The project site is located on public properties and/or within existing sewer easements within Rose Canyon in the Clairemont and University Community Planning Areas in the City of San Diego.

General					
		Yes	**No**	**N/A**	**Comments**
1	Is the Project within the Canyon Sewer Program Area?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
2	Does the Project scope include sewer inspection, cleaning, maintenance, and/or access to manholes?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
3	Does Project include access and maintenance to sewer segments between manholes?	☐	X	☐	[If answered Yes provide explanation as to why a consistency review is appropriate for project]
4	Is the Project within or adjacent to the MHPA?	X	☐	☐	MHPA Land Use Adjacencies will be employed
5	Is the Project located in ESL? (steep slopes, sensitive habitat, coastal area, etc)	X	☐	☐	All work will occur within existing access paths, except for pump station and connecting pipelines

Avoidance/Minimization of Environmental Impacts					
		Yes	**No**	**N/A**	**Comments**

6	Does Project avoid and minimize impacts to environmental resources?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
7	Does the design of the project follow the following order of impact preference? a. Areas devoid of vegetation b. Areas of non-native vegetation, disturbed habitat, and eucalyptus woodlands. c. Areas of chamise or mixed chaparral, and non-native grasslands. d. Areas containing coastal scrub communities. e. All other upland communities. f. Occupied habitat of listed species, narrow endemic species, and all wetlands. g. All areas necessary to maintain the viability of wildlife corridors (e.g. linear areas of the MHPA less than 1000 feet wide.)	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
8	Does Project minimize ground disturbance? (mow or trim vegetation in lieu of grading)	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
9	Does Project use existing access roads/paths?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
10	Is environmental monitoring being conducted?	X	☐	☐	Yes

Access					
		Yes	**No**	**N/A**	**Comments**
11	Does project include the creation of new access?	☐	X	☐	

12	Does Project use multiple ingress/egress routes to minimize impacts and circumvent sensitive habitats/resources?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
13	Using the following order of preference, does access minimize the removal of vegetation? a. If access can be adequately obtained without cutting, mowing, or trimming vegetation, do not cut, mow, or trim vegetation. b. If grading is not required, native vegetation shall be trimmed at ground level rather than removed by the roots. c. If access can be adequately obtained without disturbing the soil via grading, do not grade. d. Grading shall occur only in areas where access cannot otherwise be adequately obtained. Grading is preferable to directly impacting narrow endemic species.	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
14	Is new access path designed consistent with the Program? a. 8 foot path width b. drainage diversions c. appropriate path surface materials d. incorporated turn-around areas e. slope	☐	☐	X	[If answered No provide explanation as to why a consistency review is appropriate for project]

Sensitive Species					
		Yes	**No**	**N/A**	**Comment**
15	Will sensitive species be impacted by the Project?	☐	X	☐	[If answered Yes provide explanation as to why a consistency review is appropriate for project]

16	Would wart-stemmed ceanothus, snake cholla, coast barrel cactus, or cactus wren habitat be impacted by the Project? If yes, does Project include transplantation and onsite restoration?	☐	X	☐	
17	Would the Project impact burrowing owls or burrows?	☐	X	☐	[If answered Yes provide explanation as to why a consistency review is appropriate for project]
18	Does project include an impact avoidance area as follows: 1. 300 feet from nesting site of Cooper's hawk (*Accipiter cooperii*) 2. 1,500 feet from known locations of the southern pond turtle(*Clemmys marmorata pallida*) 3. 900 feet from nesting site of northern harrier (*Circus cyaneus*) 4. 4000 feet from nesting site of golden eagle (*Aquila chrysaetos*) 5. 300 feet from any occupied burrow or burrowing owls (*Speotyto cunicularia hypugaea*)	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]

Bird Nesting					
		Yes	**No**	**N/A**	**Comments**
19	Will work be conducted during the bird nesting season?	X	☐	☐	A qualified biologist will monitor work to ensure no nest or sensitive bird species are impacted
20	Will nesting surveys be conducted no more than 72 hours prior to work if work is to occur during the nesting season?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]

21	Are sensitive bird species documented to be present within or adjacent to the project area?	X	☐	☐	A qualified biologist will monitor work to ensure no nest or sensitive bird species are impacted

Wetland Impacts					
		Yes	**No**	**N/A**	**Comments**
22	Does project include impacts to wetlands?	☐	X	☐	
23	Are access spurs incorporated or impacts designed over sewer line where wetland impacts are unavoidable?	☐	☐	X	[If answered No provide explanation as to why a consistency review is appropriate for project]
24	Does the Project include impacts to vernal pools or their watersheds?	☐	X	☐	[If answered Yes provide explanation as to why a consistency review is appropriate for project]
25	Does Project minimize impacts to wetlands using the least intrusive method based on the following order or preference? a. Trimming and removal of vegetation b. Temporary bridge/fill c. Bridge d. Ford (paver crossing) e. Culvert	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]

Erosion Control/Revegetation/Restoration					
		Yes	**No**	**N/A**	**Comments**
26	Is restoration or revegetation of impact areas proposed?	X	☐	☐	Impact areas outside designated maintenance access paths would be revegetated.
27	Is Planting/Seeding palette limited to appropriate native species and follow the Sewer Design Guidelines?	X	☐	☐	Impact areas outside designated maintenance access paths would be revegetated with appropriate native species, pursuant to the Sewer Design Guidelines.

28	Will appropriate storm water BMP's be used during and after construction?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
29	Will physical erosion control measures be installed post construction as needed?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]

Mitigation					
		Yes	**No**	**N/A**	**Comments**
30	Is habitat mitigation required	X	☐	☐	Required, and mitigated pursuant to Program
31	Has mitigation credit been assigned and at the appropriate ratios?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]
32	Is mitigation within the MHPA, within the impact watershed, within the same P&R Park, and within the coastal zone if project is within the coastal zone?	☐	X	☐	Temporary impacts to 0.3 acre of css from the bypass pump will be mitigated at a 1:1 ratio at theRose Canyon Mitigation Site, pursuant to the Program.
33	Is mitigation project consistent with the City Guidelines and the Canyon Sewer Program?	X	☐	☐	[If answered No provide explanation as to why a consistency review is appropriate for project]

Archeological/Historical Resources					
		Yes	**No**	**N/A**	**Comments**
34	Does Project include ground disturbance to native or undisturbed soils?	☐	X	☐	
35	Has a Historical Resources Inventory (records search and pedestrian survey) been conducted?	☐	☐	X	[If answered No provide explanation as to why a consistency review is appropriate for project]
36	If cultural resources are identified that would be impacted are appropriate minimization and mitigation measures incorporated into project design?	☐	☐	X	[If answered No provide explanation as to why project falls under Program]

Paleontological Resources					
		Yes	No	N/A	Comments
37	Does Project include excavations to depths greater than 10 feet in undisturbed soils?	☐	X	☐	
38	If excavating more than 10 feet in undisturbed soils does the Project include a Paleo Mitigation and Monitoring Protocol?	☐	☐	X	[If answered No provide explanation as to why a consistency review is appropriate for project]

Steep Slopes					
		Yes	No	N/A	Comments
39	Do cut and fill slopes less than 10 feet in height exceed a gradient of 66%?	☐	☐	X	[If answered Yes provide explanation as to why project falls under Program]

Coastal Bluffs/Beaches					
		Yes	No	N/A	Comments
40	If plan would impact sensitive coastal bluffs/beaches, does design address the following: a. The proposed grading shall minimize the alteration of natural landforms and graded areas shall topographically resemble natural landforms of the surrounding area. b. Essential public facilities including drainage facilities, stairways, ramps, and other physical beach access facilities may be permitted on a coastal bluff face only if identified in an approved land use plan or if located in areas historically used by the public. These facilities shall	☐	☐	X	

	be designed to minimize impacts to the bluff face and beach area. c. Public views shall be preserved pursuant to Section 132.0403 of the San Diego Municipal Code d. The coastal development shall be designed in such a manner as to preserve, enhance or restore the designated public view. e. Open fencing and landscaping may be permitted within the view corridors and visual access ways, provided such improvements do not significantly obstruct public views to the ocean. Landscaping shall be planted and maintained to preserve public views.				

Significant Impacts					
		Yes	**No**	**N/A**	**Comments**
41	Will Project significantly affect vernal pools, sensitive species, mitigation sites, cultural resource sites or areas within Marian Bear Park?	☐	X	☐	[If answered Yes provide explanation as to why project falls under Program]

Hernandez Environmental Services

Memorandum

Date: December 12, 2016

To: Juan Baligad, City of San Diego, Public Works Department

From: Juan J. Hernandez, Principal Biologist

Subject: Rose Canyon Trunk Sewer Joint Repair Project Coastal Sage Scrub Habitat Avoidance and Minimization During the Bird Breeding Season

This memorandum provides recommended avoidance and minimization measures for potential impacts to coastal sage scrub habitat resulting in implementation of the Rose Canyon Trunk Sewer Joint Repair Project during the bird breeding season.

According to the Biological Resources Study prepared for the project, the proposed temporary bypass pump station has the potential to result in temporary impacts to 0.30 acre of coastal sage scrub habitat. The following mitigation measures will avoid impacts to coastal sage scrub habitat during the bird breeding season:

- Although the proposed bypass pump station is anticipated to result in temporary impacts to coastal sage scrub habitat, the ultimate location of the bypass pump station should be within disturbed areas, and avoid or minimize removal of coastal sage scrub habitat. Mitigation for temporary impacts to coastal sage scrub associated with the bypass pump will be mitigated at a 1:1 ratio at the Rose Canyon Mitigation Site.

- Currently, the proposed Project area overlaps approximately 156.5 acres of existing MHPA lands. Coastal sage scrub habitat located within the MHPA boundaries shall not be impacted during the bird breeding season. In order to avoid impacts to coastal sage scrub habitat located within the MHPA boundaries during the bird breeding season, the following measures shall be implemented:

    - Prior to the commencing of Project activities within, or immediately adjacent to, an MHPA, a qualified biologist shall verify that all MHPA boundaries and limits of work have been delineated on all Project plans.

    - A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical

records or site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant to the protocol survey guidelines established by the USFWS. When other sensitive species are known or suspected to be present, all appropriate protocol surveys and mitigation measures shall be implemented.

- Prior to construction activities, a qualified biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to MHPA lands and verify compliance with any other project conditions. This shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats, plants and animal species, including nesting birds) during construction.

- Prior to the commencement of construction activities, a qualified biologist shall meet with the project proponent and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive habitat, plants, and animals (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

- All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed. A qualified biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys.

- A qualified biologist shall note/act to prevent any new disturbances to habitat, plants, and/or animals onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the qualified biologist.

- To avoid any direct impacts to raptors and/or any native/migratory birds, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance during the bird breeding season (February 1 to September 15). The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

- Noise monitoring will be required during the bird breeding season for California gnatcatchers and least Bell's vireo (March 1 to September 15).

- A biological monitor or City staff will be on site periodically to ensure compliance with environmental regulations.

- A pre-construction meeting will take place onsite to identify any sensitive resources additional parameters for work prior to construction.

- Work limits will be flagged and/or fenced prior to start of work to avoid additional impacts.

- Predefined staging areas will be used for parking vehicles, equipment, and stockpiling of materials.

- Photographs will be taken of the project area before, during, and after the work to document the condition of the site and the extent of any impacts to the surrounding area.

- All equipment must utilize existing access roads and work areas within the authorized limits of work. No work activities may occur outside the preapproved limits of disturbance without approval.
- Appropriate Best Management Practices (BMPs) will be used during and after construction to address erosion and sediment control.
- All work will be conducted during daylight hours only, eliminating the need for nighttime lighting.

BIOLOGICAL RESOURCES STUDY
FOR THE
ROSE CANYON TRUNK SEWER JOINT REPAIR PROJECT

CITY OF SAN DIEGO, CALIFORNIA

Prepared by:
Hernandez Environmental Services
29376 North Lake Drive
Lake Elsinore, California 92530
(909) 772-9009

Prepared for:
City of San Diego
Engineering and Capital Projects Department
202 C Street
San Diego, CA 92101

May 2015
(Revised September 2016)

*"**CERTIFICATION**: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."*

Signature: 

Juan Hernandez
Principal Biologist

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FIGURES

APPENDICES

ATTACHMENTS

ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

USACE	Army Corps of Engineers
BRS	Biological Resources Study
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CIPP	Cured-In-Place Pipe
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
ESL	Environmentally Sensitive Lands
GIS	Geographic Information System
GPS	Global Positioning System
HES	Hernandez Environmental Services
HDPE	High-Density Polyethylene
MGD	Million Gallon per Day
MHPA	Multi-Habitat Planning Area
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Planning
OHWM	Ordinary High Water Mark
PLRCP	Plastic Lined Reinforced Concrete Pipe
Project	Rose Canyon Trunk Sewer Joint Repair Project
RCTS	Rose Canyon Trunk Sewer
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WUS	Waters of the United States

1.0 Introduction

This Biological Resources Study (BRS) describes the results of the Biological Resource Survey conducted within the proposed Rose Canyon Trunk Sewer Joint Repair project approximate 4.7-mile project area. This report provides the necessary biological data and background information required for an environmental analysis according to guidelines set forth in the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997), the City of San Diego Biology Guidelines (City of San Diego 2012a), and the City of San Diego's Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program (Program) Master Site Development Permit (SDP) No. 13507/Coastal Development Permit (CDP) No. 13506 and Programmatic Environmental Impact Report (PEIR) No. 42-0077.

1.1 Project Location

The Rose Canyon Trunk Sewer (RCTS) Joint Repair Project area is located within the city of San Diego, San Diego County, California. The repairs to the RCTS encompass 4.5 miles of the 4.7-mile long trunk sewer (Figure 1). The pipeline extends from Manhole No. 343, which is located approximately 550 feet east of Genesee Avenue next to Manhole No. 374, south of the Rose Canyon Creek Bridge, which runs along Santa Fe Street through Rose Canyon (Appendix A). Specifically, the project area is located within Township 15 South, Range 3 West of the *La Jolla* United States Geological Survey (USGS) 7.5' topographic quadrangle.

1.2 Project Description

The RCTS Joint Repair project includes repair of the PVC liner at the pipe joints for the Plastic-lined Reinforced Concrete Pipe (PLRCP) on the RCTS. The T-lock lining weld strips in the RCTS pipe joints are loose and pulling away from the pipe walls. The cement mortar has started to deteriorate behind the T-lock lining as a result of attack from hydrogen sulfide and sulfuric acid. Failures of welds exist throughout the pipeline and, consequently, repair of the PVC liner at these pipe joints is required. The RCTS Joint Repair Project involves installation of the following:

- 60-inch-diameter sleeve from Manhole No. 374 to Manhole No. 455, quantity 1,114, approximately 22,271 feet of pipe joint.
- 54-inch-diameter sleeve from Manhole No. 455 to Manhole No. 343, quantity 36, approximately 708 feet of pipe joint.
- A temporary bypass system consisting of two bypass pump stations capable of a 32 million gallons per day (MGD) capacity with approximately 2,100 linear feet of 32-inch, high density polyethylene (HDPE) pipe and approximately 560 linear feet of 4-inch HDPE pipe installed above ground within existing dirt access roads and Genesee Avenue.

- Fabricated aluminum stop logs within Manhole No. 449 (Junction Structure No. 1) to completely bypass the flows within the Rose Canyon Trunk Sewer to the existing parallel 42-inch trunk sewer.

The RCTS Joint Repair project will be implemented in compliance with the City of San Diego's Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program (Program) Master Site Development Permit (SDP) No. 13507/Coastal Development Permit (CDP) No. 13506 and Programmatic Environmental Impact Report (PEIR) No. 42-0077. The Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 accommodates the cleaning and maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands, and the construction of access paths where necessary. The City of San Diego's existing maintenance access paths would accommodate all work activities and are regularly maintained by the Public Utilities Department (PUD). The RCTS Joint Repair project will utilize existing maintenance access paths for all proposed sewer repair activities.

Joint Repair Activities

Joint repair activities will include the removal of the existing PVC liner at the pipe joints, cleaning and joint preparation using grout, and installation of an internal mechanical pipe seal. Internal mechanical pipe seals are a trenchless remediation system for the repair of pipe joints and consist of an EPDM rubber sleeve and stainless steel retaining bands. The EPDM rubber sleeve is centered over the joint with the stainless steel retaining bands expanded against the surface until tight.

The detailed scope of work for the installation of the mechanical pipe seals will begin with inspection of the joint and surface preparation. The contractor will provide photographic documentation of the joint before and after joint preparation with a location or joint number assigned and clearly identified in the photograph. Preparation of the joint will typically include: cutting off and removing the loose PVC T-lock liner that is not locked into the concrete pipe, removing loose cement using a high pressure water blaster or mechanical means, sealing the exposed edge of the PVC material with Sika DUR 31 or 1A to prevent leaking during the air testing of the joint, and measurement of the joint for selection of the properly sized mechanical pipe seal. There are four different sizes of mechanical pipe seals that can be used depending on the extent of the damage at the joint: standard, extra-wide, double-wide and sleeve. The mechanical pipe seal must exceed a minimum of 1/2-inch beyond the damaged section of the T-lock liner.

Once the joint has been inspected, properly prepared and a mechanical pipe seal has been sized for the repair, the Contractor will clean the area around the joint where the mechanical pipe seal will make contact with the PVC T-lock liner. The Contractor will then install the EPDM rubber seal width along with the stainless steel joint seal retaining bands, each installed and tightened according to the manufacturer's written installation procedure. The seal will be allowed to relax for a minimum of 30 minutes before being retightened again. An air test will be performed through the air test valve on the mechanical pipe seal to check for air tightness around the edges of the seal. Soapy water is applied to the edges to

indicate the presence of air. If bubbles appear, indicating an air test failure, the outer retaining bands are retightened and air tested until it passes. Once the mechanical pipe seal has been installed correctly and passes the air test, the Contractor will provide additional photographic documentation of the installed seal.

There may be areas of the trunk sewer where the PVC T-lock liner has been damaged outside of the joint locations. These areas will be photographed and measured for evaluation by the Engineer. The Engineer may direct the Contractor to install an additional mechanical pipe seal over the damaged area or install a new PVC liner using a structural polymer PVC co-lining system manufactured by Linabond, Inc. The Linabond Co-Liner system consists of a polyurethane structural polymer and a flexible PVC sheet that are bonded together through a chemical reaction.

The detailed scope of work for the installation of the PVC lining repairs will begin with the cleaning of the concrete surfaces within the pipe and the repair of any concrete defects present using mortar, if necessary. The Linabond structural polymer is then applied and the PVC sheet is rolled and smoothed over the surface to be repaired. To form the composite co-liner, pressure from fiberglass support panels are then applied to finish the exothermic reaction within the pipe. The resultant membrane adheres well to existing PVC liners and primed concrete. To assure proper adhesion of the PVC lining to the structural polymer and the structural polymer to the concrete surface, the protective lining system shall have a "peel test" performed. If there are areas with poor adhesion found or any other installation defects, the Contractor is required to make the repairs necessary.

The manhole access activities associated with the installations of the mechanical pipe seals and the repairs of the existing liner with the Linabond co-lining system will include human access with hand-carried equipment. The Contractor will be permitted to use their utility construction trucks on the existing dirt access roads to travel between the manhole sites along the Rose Canyon Trunk Sewer. From the existing dirt access roads, equipment will be hand carried along the existing maintenance access paths to the manholes. Vegetation removal immediately surrounding the manholes and along the access paths will be completed by the City of San Diego Wastewater Collection – Canyons North Crew and must be coordinated prior to the start of work.

The equipment which will be hand carried to the manholes will include: fuel powered confined space blowers to provide adequate ventilation along with extra fuel on site, confined space ventilation ducting, atmospheric monitoring devices, confined space tripods for fall protection along with retrieval wenches, high pressure water blaster, the mechanical pipe seal materials, compressor for the air tests, Linabond co-lining system materials, and a breathing air apparatus with compressor for the installers of the Linabond co-lining system.

There are 35 manholes that will be accessed for the joint repairs along the Rose Canyon Trunk Sewer. The manholes include the following, listed from upstream to downstream: Manhole No. 343, Manhole No. 454, Manhole No. 321, Manhole No. 449, Manhole No. 455, Manhole No. 451, Manhole No. 452, Manhole No. 462, Manhole No. 464, Manhole No. 467, Manhole No. 469, Manhole No. 480, Manhole No. 481, Manhole No. 482, Manhole No. 483,

Manhole No. 485, Manhole No. 486, Manhole No. 487, Manhole No. 489, Manhole No. 490, Manhole No. 494, Manhole No. 496, Manhole No. 499, Manhole No. 500, Manhole No. 501, Manhole No. 502, Manhole No. 507, Manhole No. 508, Manhole No. 382, Manhole No. 375, Manhole No. 377, Manhole No. 378, Manhole No. 379, Manhole No. 380, and Manhole No. 374. Access will be restricted to Manhole No. 479, Manhole No. 466 and Manhole No. 460 due to their location north of Rose Creek.

It is estimated that the Contractor is capable of installing a total of 8 internal mechanical pipe seals per day. Therefore, the Contractor will require a total of 144 construction days to complete the repairs. Construction will not be permitted during the wet weather season due to the capabilities of the temporary bypass system proposed below and the environmental impacts within Rose Canyon. Therefore, the Contactor will complete the repairs over two separate dry weather seasons for a total period of 13 months, which includes 120 construction days for mobilization activities.

Temporary Bypass System

A temporary bypass system is proposed to completely bypass the flows within the Rose Canyon Trunk Sewer to complete the necessary repairs of the PVC liner at the joints. The flow bypass system consists of the following elements:

- Two bypass pump stations with peripheral sound barriers (Decoro and Nobel)
- HDPE force mains conveying bypassed flows around the work zone
- Fabricated aluminum stop logs inserted into Manhole No. 449 (Junction Structure No. 1)

The two bypass pump stations and HDPE force mains will bypass flows around the 54-inch Rose Canyon Trunk Sewer between Junction Structure No. 1 and the upstream limits of the repairs (between Manhole No. 343 and Manhole 449). This will allow the completion of the joint repairs within this reach of the trunk sewer and the installation of the stop logs inside Junction Structure No. 1.

Once the joint repairs between this upper reach are complete and the stop logs have been installed and accepted by the City, the bypass pump stations and HDPE force mains can be removed from service. The stop logs will then divert flows from the 54-inch Rose Canyon Trunk Sewer into the parallel 42-inch trunk sewer. With the stop logs deployed, the joint repairs can proceed in the trunk sewer downstream of Manhole No. 449 (Junction Structure No. 1). The stop logs will be removed when all the joint repairs are complete and the work is accepted by the City.

As mentioned above, the flow bypass system is only intended to operate during dry weather. If the start of the wet weather is forecast, the stop logs will be removed and all bypass and repair operations will cease until the flows in the sewers have returned to normal dry weather flow rates. Removal of the stop logs and their re-deployment will require coordination with the City to temporarily shut down the tributary sewer pump station and the temporary use of a bulkhead in the Nobel Bypass suction manhole. The Contractor will provide temporary bulkheads and pipeline plugs as necessary for all shutdowns and

temporary bypass operations.

The temporary bypass pump stations will consist of the following components:

- Decoro Bypass Pump Station
    - Two dry suction pumps (one duty, one standby) capable of pumping an estimated peak dry weather flow of 150 gallons per minute (gpm), Godwin CD103M Dri-Prime Pump or equal
    - Approximately 560 linear feet of HDPE force main pipe installed above ground adjacent to the dirt access road between Manhole No. 313 and Manhole No. 342
    - Sound attenuating enclosures to provide less than 60 dBA at 30 feet
    - Fuel tank with a capacity of at least 24 hours at peak dry weather flow
    - Controls for level, speed, automatic switchover to standby pump and alarms

- Nobel Bypass Pump Station
    - Four equal sized dry suction pumps (three duty, one standby) capable of pumping an estimated peak dry weather flow of 32 MGD, Godwin CD500M Dri-Prime Pump or equal
    - Approximately 2,100 linear feet of HDPE force main pipe installed above ground within the existing dirt access road north of the railroad tracks and into the Genesee Avenue sidewalk between Manhole No. 343 and Manhole No. 314
    - Sound attenuating enclosures to provide less than 60 dBA at 30 feet, including a 24 feet tall by 60 feet wide sound wall
    - Fuel tank with a capacity of at least 24 hours at peak dry weather flow
    - Controls for level, speed, automatic switchover to standby pump and alarms

The Contractor will be required to continuously monitor the bypass pumping operations at all times (24 hours per day, 7 days per week) for the entire time that the bypass system is required to complete the repairs. Using the estimated duration for the installation of the internal mechanical pipe seals, the two temporary bypass pump stations are estimated to be in operation for approximately 3 months.

The temporary bypass pump stations are located south of Nobel Drive near Manhole No.'s 313, 342, 343 and 454 and will require vegetation removal within the approximate 15,400 square feet working area. The vegetation will be removed in accordance with the City's Canyon Sewer Program. Following the completion of the temporary bypass pump station operations, the Contractor will be responsible for the revegetation of the work area. An upland hydroseed mix will be used at the site and the procedures, maintenance and success criteria will be in accordance with the City's standards and the revegetation plan.

1.3 Physical Description and Land Use

The RCTS Joint Repair Project area is located within the middle and lower Rose Canyon areas. Rose Canyon consists of a well-defined valley floor bordered on the south by steep slopes. Vegetation in the canyon includes mature sycamore, oak trees, and other riparian vegetation in the valley bottom, native chaparral species (particularly on the north-facing slopes), and grasses (Figures 2a and 2b). Land uses within the project area include park, open space, and recreational uses. Surrounding land uses include park, open space, recreational, residential, and public/institutional uses along the northern portion of the project area and park, open space, recreational, and industrial uses along the southern portion of the project area. The majority of the project areas occur within or adjacent to the City's MHPA (Figures 3a through 3p).

1.4 Purpose of Biological Study

The purpose of this BRS is to identify biological resources within and surrounding the project areas. This report describes:

- Vegetation habitat types
- Sensitive animal and plant species
- General animal species
- State and federally protected streams
- Wildlife corridors

2.0 Methodology

2.1 Biological Study Scope of Work

The BRS reviewed existing project plans, environmental documents, existing studies for projects in the surrounding area, the California Natural Diversity Database (CNDDB), the California Native Plant Society Inventory of Rare, Threatened, and Endangered Plants (CNPS), and the United States Fish and Wildlife Service (USFWS) San Diego County list. Hernandez Environmental Services (HES) also conducted a field survey to evaluate all the habitat types, vegetation types, plant and animal species observed, presence of habitat associated with state and federally listed species, and riparian resources. HES evaluated the RCTS Joint Repair Project plans and the impacts the RCTS Joint Repair Project will have on existing resources. HES used observed data, data from literature, and Geographic

Information System (GIS) to calculate permanent and temporary impacts, to evaluate the effect those impacts will have on existing resources, and to evaluate the RCTS Joint Repair Project's compatibility with the City's Canyon Sewer Program. Finally, recommendations to avoid or minimize impacts or fully compensate for unavoidable impacts will be presented.

2.2 Plant and Animal Assessments

On February 11, 2015, February 12, 2015, April 2, 2015, and September 3, 2015, HES conducted biological surveys of the project areas. The survey areas were walked and all plant and animal species observed were identified and documented. Transects were planned using aerial and satellite imagery and waypoints were established using a Global Positions System (GPS) to position transects in the field.

The CNDDB was referenced to establish sensitive species which have been historically observed within the RCTS Joint Repair Project areas and a five-mile radius around the project areas. Specific attention was paid to habitat types located within the study area that may have a potential for the presence of sensitive species.

2.3 Jurisdictional Delineation

On September 3, 2015, HES conducted a jurisdictional delineation of the project areas. Field surveys were conducted to delineate jurisdictional drainages and wetlands resources associated with jurisdictional drainages (Appendix D).

Jurisdictional drainages were identified by looking for features such as a bed, bank or channel. Where riparian vegetation was present, the drip line of the outer edge of the vegetation was used as the measuring criteria. Furthermore, the presence of an ordinary high water mark (OHWM) was recorded. The OHWM is defined as:

> [O]n non-tidal rivers, the line on the shore established by the fluctuations of water and indicated by the physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area (USACE 1987).

Where the presence of an OHWM was evident, a measurement was taken for the width of the OHWM and the measurement was recorded. Areas measured were also recorded using hand-held GPS for accurate location reference.

Where changes in plant community composition were apparent, the area was examined for

the possibility of wetlands. Whether or not adjacent to Waters of the United States (WUS), the potential wetland area was evaluated for the presence of the three wetland indicators: hydrology, hydric soils and hydrophytic vegetation. The guidelines followed are those established in the 1987 Army Corps of Engineers Manual.

2.4 Survey Limitations

Site visits were conducted during daylight hours. No focused plant or animal surveys were conducted. Complete inventories of biological resources present requires various focused surveys at different times of the day during different seasons. Some species such as annual plants are present in only spring or summer, and nocturnal animals are difficult to detect during the day. Due to timing and seasonal variations, the results presented within this report are not an absolute list of all species that the study area may support. Sensitive species with potential to occur are described in Sections 3.4 and 3.5 of this report.

3.0 Results

3.1 Vegetation Communities

A total of nine habitat types were observed in the 347-acre study area (Figures 3a and 3b). The study area was selected to give a general description on the overall habitat types associated with the RCTS Joint Repair Project. Aerials and field observations were used to identify the habitat types and special focus was placed on the areas directly associated with the RCTS Joint Repair Project. The nine habitat types observed are:

Coastal Sage Scrub

The RCTS Joint Repair Project alignment contains areas described as coastal sage scrub. These areas can be categorized as Diegan sage scrub and the dominant shrub species observed in this habitat type was California Sage. Specific series observed as described in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf) were California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and broom baccharis thickets dominated by broom baccharis (*Baccharis sarothroides*). Coastal sage scrub is a sparsely to densely spaced, low-growing, drought-deciduous shrub; it frequently occurs on south-facing slopes and ridges below 3000 feet above mean sea level. Common species found in this habitat type are California sagebrush, California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laurel sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*).

Coastal Sage Scrub/Chaparral

The RCTS Joint Repair Project alignment contains areas that can be described as a transition between coastal sage scrub and southern mixed chaparral. Chaparral is made up of shrubs with small, hard, evergreen leaves that are adapted to prevent wilting during dry periods. Chamise *(Adenostoma fasciculatum*) is the indicator species that defines chaparral vegetation types. Dominant species associated with this habitat include California sage, California buckwheat, white sage, black sage, chamise, laurel sumac, lemonade berry, and scrub oak (*Quercus dumosa*).

Coast Live Oak Riparian Forest

Riparian areas within the RCTS Joint Repair Project alignment contained habitat that is classified as coast live oak riparian forests. These are areas where more than 25% of the tree canopy is coast live oak (*Quercus agrifolia*). The understory may contain species such as toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus mexicana*), and poison oak (*Toxicodendron diversilobum*).

Eucalyptus Grove

Some areas along the RCTS Joint Repair Project alignment contain stands of eucalyptus trees (*Eucalyptus* sp.). These trees are not native, but can provide habitat for nesting bird species. Eucalyptus woodlands are identified when greater than 25% of the tree canopy is *Eucalyptus* species.

Mixed Willow Riparian/Wetland

The RCTS Joint Repair Project alignment contains many areas classified as Riparian/Woodland. More specifically these areas can be further classified as:

- Southern Willow Scrub

  Southern willow scrub, was found along the RCTS Joint Repair Project area and are classified as dense, broadleaved, winter-deciduous riparian thickets dominated by several S*alix* species, with scattered emergent Fremont cottonwoods (*Populus fremontii*) and sycamore (*Platanus racemosa*). The dominant willow species observed in the Project area were red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepsis*).

- Southern Sycamore Riparian Woodland

  Sections within the riparian/wetland areas of the RCTS Joint Repair Project alignment were dominated by southern sycamore riparian woodland. These are tall, open, broad-leafed, winter-deciduous streamside woodland dominated by sycamore (*Platanus racemosa*). These stands seldom form closed canopy forests, and may even appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species.

Non-native Grassland

The RCTS Joint Repair Project alignment contains areas that are classified as non-native grasslands. These are areas that may have been previously disturbed and are now dominated by non-native grass species such as ripgut brome (*Bromus diandrus*), rescue grass (*Bromus catharticus*), foxtail brome (*Bromus madritensis ssp. rubens*), slim oats (*Avena barbata*), wild oats (*Avena fatua*), and foxtails (*Hordeum sp*.). These grasslands also have large areas dominated by mustard (*Hirschfeldia incana*).

Disturbed Habitat

Portions of the RCTS Joint Repair Project alignment contain areas that are described as disturbed habitat. These areas have been altered to form trails or vehicle parking areas, or have been mechanically disturbed. These areas are devoid of vegetation, or if small amounts of vegetation are present, the vegetation is predominantly non-native plant species. The Rose Canyon hiking trail is described as disturbed habitat as it is found in vegetated areas, but the dirt trail itself is maintained to exclude vegetation.

Developed

Developed areas are areas that have been developed with commercial or residential structures. The dominant vegetation in these areas are ornamental plant species.

Cement-Lined Channel

Some areas along the RCTS Joint Repair Project alignment are cement-lined channels where the existing intermittent stream has been channelized with concrete. These channels contain no vegetation, or are areas where silt deposits have allowed certain riparian species to get established. These cement lined channels are routinely maintained to remove any existing vegetation.

3.2 Project Areas

Temporary Bypass System

The proposed bypass pump stations are located within an area vegetated by California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*). The proposed temporary bypass pump station is not located within the boundaries of the San Diego MHPA (Figure 3a). In addition, the approximately 2,100 linear feet of 32-inch, high density polyethylene (HDPE) pipe and approximately 560 linear feet of 4-inch HDPE pipe installed above ground within existing dirt access roads (maintenance access paths) and Genesee Avenue.

Manhole No. 343

Vegetation within the area of Manhole No. 343 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 343 and the access area are not located within the boundaries of the San Diego MHPA (Figure 3a).

Manhole No. 454

Vegetation within the area of Manhole No. 454 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 454 and the access area are not located within the boundaries of the San Diego MHPA (Figure 3a).

Manhole No. 321

Vegetation within the area of Manhole No. 321 is characterized as disturbed habitat. This area has been altered to form trails and has been mechanically disturbed. This area is predominantly comprised of non-native plant species, such as western ragweed (*Ambrosia psilostachya*) and sweet fennel (*Foeniculum vulgare*).

Manhole No. 321 is not located within the boundaries of the San Diego MHPA; however, the access area will cross within the MHPA boundaries (Figure 3a).

Manhole No. 449

Vegetation within the area of Manhole No. 449 is characterized as mixed riparian sycamore willow woodland. This habitat is dominated by thickets of several S*alix* species, including red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepsis*), intermixed with scattered emergent Fremont cottonwoods (*Populus fremontii*) and sycamore (*Platanus racemosa*).

Manhole No. 449 and the access route are located within the boundaries of the San Diego MHPA (Figure 3a).

Manhole No. 455

Vegetation within the area of Manhole No. 455 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia*

apiana), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laurel sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*). This area also contains stands of eucalyptus trees (*Eucalyptus* sp.). Eucalyptus woodlands are identified when greater than 25% of the tree canopy is *Eucalyptus* species.

Manhole No. 455 and the access route are located within the boundaries of the San Diego MHPA (Figure 3a).

Manhole No. 451

Vegetation within the area of Manhole No. 451 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laurel sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*). This area also contains stands of eucalyptus trees (*Eucalyptus* sp.). Eucalyptus woodlands are identified when greater than 25% of the tree canopy is *Eucalyptus* species.

Manhole No. 451 and the access route are located within the boundaries of the San Diego MHPA (Figure 3a).

Manhole No. 452

Vegetation within the area of Manhole No. 452 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laurel sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*).

Manhole No. 452 and a portion of the access route are located within the boundaries of the San Diego MHPA (Figure 3b).

Manhole No. 462

Vegetation within the area of Manhole No. 462 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 462 and the access route are located within the boundaries of the San Diego MHPA (Figure 3b).

Manhole No. 464

Vegetation within the area of Manhole No. 464 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 464 and the access route are located within the boundaries of the San Diego MHPA (Figure 3c).

Manhole No. 467

Vegetation within the area of Manhole No. 467 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 467 and the access route are located within the boundaries of the San Diego MHPA (Figure 3c).

Manhole No. 469

Vegetation within the area of Manhole No. 469 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 469 and the access route are located within the boundaries of the San Diego MHPA (Figure 3d).

Manhole No. 480

Vegetation within the area of Manhole No. 480 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 480 and the access route are located within the boundaries of the San Diego MHPA (Figure 3d).

Manhole No. 481

Vegetation within the area of Manhole No. 481 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum*

fasciculatum), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 481 and the access route are located within the boundaries of the San Diego MHPA (Figure 3e).

Manhole No. 482

Vegetation within the area of Manhole No. 482 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 482 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3e).

Manhole No. 483

Vegetation within the area of Manhole No. 483 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 483 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3f).

Manhole No. 485

Vegetation within the area of Manhole No. 485 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 485 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3f).

Manhole No. 486

Vegetation within the area of Manhole No. 486 is characterized as California sagebrush series. This series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 486 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3g).

Manhole No. 487

Vegetation within the area of Manhole No. 487 is characterized as non-native grasslands. This area has been previously disturbed and is now dominated by non-native grass species such as ripgut brome (*Bromus diandrus*), rescue grass (*Bromus catharticus*), foxtail brome (*Bromus madritensis ssp. rubens*), slim oats (*Avena barbata*), wild oats (*Avena fatua*), and foxtails (*Hordeum sp.*), and mustard (*Hirschfeldia incana*).

Manhole No. 487 and the access route are located within the boundaries of the San Diego MHPA (Figure 3g).

Manhole No. 489

Vegetation within the area of Manhole No. 489 is characterized as non-native grasslands. This area has been previously disturbed and is now dominated by non-native grass species such as ripgut brome (*Bromus diandrus*), rescue grass (*Bromus catharticus*), foxtail brome (*Bromus madritensis ssp. rubens*), slim oats (*Avena barbata*), wild oats (*Avena fatua*), and foxtails (*Hordeum sp.*), and mustard (*Hirschfeldia incana*).

Manhole No. 489 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3g).

Manhole No. 490

Vegetation within the area of Manhole No. 490 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 490 is not located within the boundaries of the San Diego MHPA (Figure 3h).

Manhole No. 494

Vegetation within the area of Manhole No. 494 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 494 is not located within the boundaries of the San Diego MHPA (Figure 3h).

Manhole No. 496

Manhole No. 496 is located within an area characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum*

fasciculatum), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 496 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3i).

Manhole No. 499

Manhole No. 499 is located within an area characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 499 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3j).

Manhole No. 500

Manhole No. 500 is located within an area characterized as disturbed habitat. This area has been altered to form a trail and has been mechanically disturbed. A small amount of vegetation is present, which is comprised predominantly of non-native plant species. The dirt trail itself is maintained to exclude vegetation.

Manhole No. 500 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3k).

Manhole No. 501

Manhole No. 501 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 501 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3k).

Manhole No. 502

Manhole No. 502 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 502 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3l).

Manhole No. 507

Manhole No. 507 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 507 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3l).

Manhole No. 508

Manhole No. 508 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 508 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3m).

Manhole No. 382

Manhole No. 382 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 382 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3m).

Manhole No. 375

Manhole No. 375 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 375 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3n).

Manhole No. 377

Manhole No. 377 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 377 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3n).

Manhole No. 378

Manhole No. 378 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 378 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3n).

Manhole No. 379

Manhole No. 379 is located within the paved right-of-way of Santa Fe Street. This area is

already developed and surrounded by urban uses.

Manhole No. 379 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3o).

Manhole No. 380

Manhole No. 380 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 380 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3o).

Manhole No. 374

Manhole No. 374 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 374 and the access route are not located within the boundaries of the San Diego MHPA (Figure 3p).

3.3 Species Observed

Plant Species Observed

A total of 243 plant species were observed within the study area. A list of plant species observed during the site visits is provided in Appendix B.

Animal Species Observed

A total of 67 animal species were observed/detected within the study area: 6 invertebrates, 4 amphibians, 3 reptiles, 49 birds, and 5 mammals (Appendix B). All animal species were identified by direct observation or vocalizations, the presence of scat and/or tracks, or other signs.

3.4 Threatened and Endangered Species

A total of 76 sensitive species of plants and 60 sensitive species of animals have the potential to occur on or within the vicinity of the Project area. These include those species listed or candidates for listing by the USFWS, California Department of Fish and Wildlife (CDFW), and CNPS. All habitats for use by these species were evaluated during the site visit and a determination has been made for the presence, absence or potential for presence in this report. This section will address those species listed as candidate, rare, threatened, or endangered under the state and federal endangered species laws. Species listed under the Rare Plants of California List (April 2015) will also be discussed here. Other special status

species will be reported in Appendix C and those with a potential to be present, or those that are present, will be discussed in Section 5.0 of this report.

3.4.1 Threatened and Endangered Plants

Sixteen species of plants which are listed as state and/or federal threatened, endangered, candidate species were found to have the potential to be present. The following is a description of the sixteen plant species and their potential to occur within the Project areas. Presence potential for all other special status plants will be described in Appendix C.

San Diego Thornmint

San Diego thornmint (*Acanthomintha ilicifolia*) is a federally threatened and state endangered plant species found in wetland/riparian areas in chaparral, grasslands, and coastal sage scrub. It blooms in April, May, and June. The Project alignment areas do contain potential habitat for this species. **This species has a potential to be present.**

San Diego Ambrosia

San Diego ambrosia (*Ambrosia pumila*) is a federally endangered and CNPS 1B.1 listed plant species found in wetland/riparian areas in chaparral, grasslands, and coastal sage scrub. It blooms from April through October. The Project alignment areas do contain potential habitat for this species. **This species has a potential to be present.**

Del Mar Manzanita

Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*) is a federally endangered and CNPS 1B.1 listed plant species found in coastal chaparral areas. It blooms from December through June. The Project alignment area and areas where manhole work will occur does not contain potential habitat for this species. **This species is not present.**

Coastal Dunes Milk-vetch

Coastal dunes milk-vetch (*Astragalus tener* var. *titi)* is a federally endangered, state endangered, and CNPS 1B.1 listed plant species found in coastal dunes. It blooms from March through May. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

Encinitas Baccharis

Encinitas baccharis (*Baccharis vanessae*) is a federally threatened, state endangered and CNPS 1B.1 listed plant species found in coastal chaparral. It blooms from August through November. The Project alignment area and areas where manhole work will occur do not

contain potential habitat for this species. **This species is not present.**

Thread-leaved Brodiaea

Thread-leaved brodiaea (*Brodiaea filifolia*) is a federally threatened, state endangered and CNPS 1B.1 listed plant species found in vernal pools of valley grasslands, foothill woodlands, coastal sage scrub, and wetland/riparian areas. It blooms from March through June. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

Salt Marsh Bird's-beak

Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) is a federally endangered, state endangered and CNPS 1B.2 listed plant species found in coastal salt marshes. It blooms from May through October. The Project alignment area and areas where manhole work will occur do not contain habitat for this species. **This species is not present.**

Orcutt's Spineflower

Orcutt's spineflower (*Chorizanthe orcuttiana*) is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in coastal areas of closed pine forests, chaparral, and coastal sage scrub. It blooms from March through May. Records from San Diego County have been observed along the coast in Point Loma and Torrey Pines. The Project alignment area and areas where manhole work will occur do not contain habitat for this species. **This species is not present.**

Otay Tarplant

Otay tarplant (*Deinandra conjugens*) is a federally threatened, state endangered and CNPS 1B.1 listed plant species found in clay soils of coastal sage scrub openings, and grasslands. It blooms from May through June. The Project alignment area and areas where manhole work will occur do not contain habitat for this species. **This species is not present.**

Short-leaved Dudleya

Short-leaved dudleya (*Dudleya brevifolia*) is a state endangered and CNPS 1B.1 listed plant species found in bare sandstone terraces. It blooms from April through May. The Project

alignment area and areas where manhole work will occur do not contain habitat for this species. **This species is not present.**

San Diego Button Celery

San Diego button celery (*Eryngium aristulatum var. parishii*) is a federally endangered, state

endangered and CNPS 1B.1 listed plant species found in vernal pool habitat. It blooms from April through June. The Project alignment area and areas where manhole work will occur do not contain habitat for this species. **This species is not present.**

Willowy Monardella

Willowy monardella (*Monardella viminea*) is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in rocky washes with cobbles and alluvial benches. It blooms from June through August. The Project alignment area and areas where manhole work will occur do contain potential habitat for this species. **This species has a potential to be present.**

Spreading Navarretia

Spreading navarretia (*Navarretia fossalis*) is a state threatened and CNPS 1B.1 listed plant species found in vernal pool habitat. It blooms from April through June. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

California Orcutt Grass

California orcutt grass (*Orcuttia californica*) is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in vernal pool habitat. It blooms from April through June. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

San Diego Mesa Mint

San Diego mesa mint (*Pogogyne abramsii*) is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in vernal pool habitat. It blooms from March through July. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

Otay Mesa Mint

Otay Mesa mint (*Pogogyne nudiuscula*) is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in vernal pool habitat. It blooms from May through July. The Project alignment area and areas where manhole work will occur do not contain potential habitat for this species. **This species is not present.**

3.4.2 Threatened and Endangered Animals

A total of fifteen animal species potentially found in the survey area are listed as state

and/or federal threatened, endangered, candidate species. Species of special concern (SSC) or those which have other regulatory considerations have been evaluated and results are presented in Appendix C. The following is a description of the fifteen species and their potential to occur in the survey area.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a state threatened species found in wide open areas. They nest in grassland areas, or sage flats in trees. The CNDDB states that the breeding population in San Diego County has been extirpated. **The species is not present.**

Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*) is a federally endangered bird species found on coastal beaches from southern Washington to southern Baja California, Mexico. It uses sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans and estuaries. The Project alignment does not have habitat for this species. **This species is not present.**

Green Turtle

The green turtle (*Chelonia mydas*) is a federally threatened species found in sub-tropical and tropical open oceans of the Pacific. The Project alignment does not have habitat for this species. **This species is not present.**

Western Yellow-billed Cuckoo

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally threatened and state endangered bird. It is found in cottonwood-willow forests. The Project alignment area does contain habitat for this species. **This species has the potential to be present.**

Townsend's Big-eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a state candidate threatened species. It is found in caves and mines, and may use old buildings and trees. There is no suitable habitat for this species within the Project area. **This species is not present.**

Quino Checkerspot Butterfly

The Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally endangered species found in coastal sage scrub in southern California and northern Baja California. The larvae of this species uses either *Plantago erecta* or *Castilleja exserta*. No habitat for this

species was observed during the general biological survey. **This species is not present.**

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is a state threatened species. It is found in saltwater marshes. There is no suitable habitat for this species within the Project area. **This species is not present.**

Hermes Copper Butterfly

Hermes copper butterfly (*Lycaena hermes*) is a federal candidate species. It is found in coastal sage scrub and coast live oak woodlands. The Project alignment area does contain habitat for this species. **This species has the potential to be present.**

Belding's Savannah Sparrow

The Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) is a state endangered species. It is found in grasslands, marsh habitat, and farmlands, but prefers salt marshes. The Project alignment area does not contain habitat for this species. **This species is not present.**

Pacific Pocket Mouse

The Pacific pocket mouse (*Perognathus longimembris pacificus*) is a federally endangered species. They are found within 2.5 miles from the coast in fine-grained sandy substrates in coastal sage scrub, coastal strand, and river alluvium. The Project alignment area does not contain the fine sandy soils preferred by this species. **This species is not present.**

Coastal California Gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*) is a federally threatened species. It is found in coastal sage scrub, southern maritime chaparral, non-native grasslands, and willow scrub. Three gnatcatchers were heard during the general biological survey. **This species is present.**

Light-footed Clapper Rail

The light-footed clapper rail (*Rallus longirostris levipes*) is a federally endangered and state endangered bird species. It is found in coastal salt marsh habitat. The Project alignment area does not contain habitat for this species. **This species is not present.**

California Least Tern

The California least tern (*Sternula antillarum browni*) is a federally endangered and state

endangered bird species. It is found in coastal salt marsh habitat, beaches, bays, and banks of rivers or lakes. The Project alignment area does not contain habitat for this species. **This species is not present.**

Riverside Fairy Shrimp

The Riverside fairy shrimp (*Streptocephalus woottoni*) is a federally endangered species and is found in vernal pool habitat. The Project alignment area does not contain habitat for this species. **This species is not present.**

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a federally endangered and state endangered species found in willow and mulefat scrub. This species was heard during the general biological survey. **This species is present.**

3.5 Species with Other Special Status Listings

Species which are listed as California SSC or are on the CDFW List of Rare Plants have all been evaluated. The results can be reviewed in Appendix C to this report. Any of these species which have a potential to be present or are considered to be present within the survey areas will have mitigation measures to avoid or minimize impacts in Section 5.0 of this report.

3.6 Critical Habitats

The Project alignment is not located within or adjacent to any federal critical habitat.

3.6 Nesting Birds

The Project alignment does contain nesting bird habitat. Nesting bird habitat is found in the Project areas that contain coastal sage scrub, coastal sage scrub/chaparral, southern coast live oak riparian forest, eucalyptus woodland, riparian/wetland, non-native grassland, disturbed areas, and trees and shrubs associated with developed areas.

3.7 Wildlife Movement Corridors

Wildlife movement corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species present. Wildlife corridors represent areas where wildlife movement is concentrated due to natural or anthropogenic constraints. Local corridors provide access to resources such as food, water, and shelter. Animals use these corridors, which are often hillsides or riparian areas, to move between different habitats. Regional corridors provide these functions and link two or more large

habitat areas. They provide avenues for wildlife dispersal, migration, and contact between otherwise distinct populations.

The majority of the northern portion of the Project alignment occurs within the City's MHPA, which provides connectivity through several creeks and tributaries as well as the San Diego River corridor. The Rose Creek/Canyon channel is also likely to function as a wildlife corridor.

3.8 Other City, County, Regional, State, or Federal Conservation Plans

3.8.1 City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan

The City's MSCP Subarea Plan has been prepared to meet the requirements of the California Natural Communities Conservation Planning (NCCP) Act of 1992. The Subarea Plan is consistent with the NCCP and describes how the evaluation of proposed development projects relative to the City's portion of the MSCP Preserve MHPA will be implemented. The Plan was adopted in 1997, allowing the City to issue species take permits at the local level. Approximately 56,831 acres of habitat are designated as the City's portion of the MHPA, of which approximately 90 percent is to be preserved and the remaining 10 percent may be developed.

The MSCP identifies an MHPA that is intended to link all core biological areas into a regional wildlife preserve. Because the project area encompasses Rose Creek/Canyon and associated wetland/riparian corridors, portions of the proposed Rose Canyon Trunk Sewer Joint Repair Project alignment lie within the MHPA. As illustrated in Figure 5, approximately 156.5 acres of the Project study area are within the MHPA, including portions of Rose Creek/Canyon. The Peñasquitos hydrologic unit supports habitat within the MHPA for the Project area. The proposed Project is evaluated for consistency with applicable MSCP policies and guidelines in Section 6.1.7.

3.8.2 General Planning Policies and Guidelines

The MSCP establishes specific guidelines that limit activities that occur within the MHPA. In general, activities occurring within the MHPA must conform to these guidelines and, wherever feasible, should be located in the least sensitive areas.

Because of their importance and difficulty finding alternate locations, public infrastructure projects are given special consideration by the MSCP. MSCP Section 1.4.2 outlines planning policies and design guidelines for various potential usages. The following policies listed under Roads and Utilities - Construction and Maintenance Policies found in Section 1.4.2 of the City's MSCP Subarea Plan would apply to the proposed project:

- All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or

minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.

- All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species and wetlands. If avoidance is infeasible, mitigation will be required.

- Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.

- Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure the avoidance of impacts outside of the approved construction areas and to protect sensitive plant and animal species (e.g., explain the need for buffer areas, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

3.8.3 MHPA Land Use Adjacency Guidelines

The City's MSCP Subarea Plan also contains policies found in Section 1.4.3, Land Use Adjacency Guidelines, which are designed to help limit the impact of activities located adjacent to MHPAs. Applicable guidelines include:

- Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species.

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA.

3.8.4 General Management Directives

The following management directives are in addition to the General Planning Policies and Guidelines outlined in Section 3.8.2 above.

- Mitigation, when required as part of project approvals, shall be performed in accordance with the City's Environmentally Sensitive Lands (ESLs) Regulations and Biology Guidelines.

- Restoration or revegetation undertaken within the MHPA shall be performed in a manner acceptable to the City. Wetland restoration/revegetation proposals are subject to permit authorization by federal and state agencies.

- Keep wildlife corridor undercrossings free of debris, trash, homeless encampments, and all other obstructions to wildlife movement.

- Do not introduce invasive non-native species into the MHPA.

- Remove giant reed, tamarisk, pampas grass, castor bean, artichoke thistle, and other exotic invasive species from creek and river systems, canyons and slopes, and elsewhere within the MHPA as funding becomes available. Avoid removal activities during reproductive seasons of sensitive species and avoid/minimize impacts to sensitive species or native habitats.

3.8.5 Community Plan Objectives

Clairemont Mesa

- Preserve and enhance Marian Bear Memorial Park, Tecolote Canyon Natural Park, Stevenson Canyon and the designated finger canyons as important features providing visual open space and community identity.

- Reduce runoff and the alteration of the natural drainage system.

- Minimize the damage to Rose Creek and Tecolote Creek by urban pollutants, erosion and siltation.

- Protect the resource value of canyon areas and plant and animal wildlife within the community.

- Maintain water and sewer facilities to adequately serve the community.

University

- Preserve the present amenities of San Clemente, Rose Canyon and other primary canyons within the community.
- Preserve the natural environment including wildlife, vegetation and terrain.
- Ensure that all public improvements such as roads, drainage channels, utility services and all private lessee developments are compatible with the natural environment.

3.9 Jurisdictional Resources

Rose Creek is a perennial drainage that flows southwesterly through the Project study area. Rose Creek then flows south to Mission Bay and ultimately into the Pacific Ocean. The Jurisdictional Delineation report prepared for the project identified the extent of jurisdictional wetlands, waters, and riparian resources within the project area (Appendix D).

4.0 Direct Impact Analysis

4.1 Impacts to Habitat Types

Direct impacts to habitat types are summarized in Table 1 and shown in Figures 4a through 4m.

Table 1.
Impacts to Habitat Types

Manhole No.	Coastal Sage Scrub	Coast Live Oak Riparian	Mixed Willow Riparian/Wetland	Disturbed Habitat	Eucalyptus Grove	Grassland Habitat	Developed Habitat
By-pass Area							2.75
343	0.3			0.001			
454	0.001						
321				0.001			
449			0.006				
455					0.01		
451					0.01		
452				0.006			
314	0.001			0.005			
464	0.004						
466	0.009						
467	0.01						
469	0.007						
480	0.005						
481	0.001						
482	0.001						
483		0.002					
485	0.001						
486	0.03						
487	0.0007					0.0007	
489						0.0003	
490	0.003						
494	0.002						
496	0.001						
499	0.001						
500				0.001			
501							0.001
502							0.001
507							0.001
508							0.001
382							0.001
375							0.001
377							0.001
378							0.001
379							0.001
380							0.001
374							0.001
Total	**0.38**	**0.002**	**0.006**	**0.01**	**0.02**	**0.001**	**2.76**

These impacts indicated above are considered temporary and are limited to vegetation removal around the manholes, manhole access areas, staging areas, temporary bypass pump station, and the bypass line laydown areas. Impacts to habitat at each manhole is associated with access to that manhole. Impacts that may occur as a result of path maintenance will be carried out by PUD in accordance with the City's Canyon Sewer Program. The proposed bypass pump will result in temporary impacts to approximately 0.3 acre of coastal sage scrub, which are required to be mitigated.

4.2 Threatened and Endangered Species

4.2.1 Impacts to State or Federally Listed Plant Species

The Project alignment will have the potential to impact the following state and federally listed plants:

San Diego Thornmint

San Diego thornmint is a federally threatened and state endangered plant species found in wetland/riparian areas in chaparral, grasslands, and coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

San Diego Ambrosia

San Diego ambrosia is a federally endangered and CNPS 1B.1 listed plant species found in wetland/riparian areas in chaparral, grasslands, and coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

Willowy Monardella

The willowy monardella is a federally endangered, state endangered and CNPS 1B.1 listed plant species found in rocky washes with cobbles and alluvial benches. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

4.2.2 Impacts to State or Federally Listed Animal Species

Western Yellow-billed Cuckoo

The western yellow-billed cuckoo is a federally threatened and state endangered bird. It is found in cottonwood-willow forests. The Project alignment may impact this species if vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment is performed during the bird breeding season between March 15 and September 15.

Hermes Copper Butterfly

The Hermes copper butterfly is a federal candidate species. It is found in coastal sage scrub and coast live oak woodlands. The Project alignment may impact this species due to vegetation removal around manholes, vegetation removal for staging areas, vegetation

removal for manhole access, and operation of equipment. The Hermes butterfly relies on the spiny redberry (*Rhamnus crocea*) as its larval host plant and adults nectar almost exclusively on California buckwheat. If California buckwheat or spiny redberry will be removed, there is a potential for impact to this species.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally threatened species. It is found in coastal sage scrub, southern maritime chaparral, non-native grasslands, and in willow scrub, and is present within the Project area. The Project alignment may impact this species if vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment is performed during the bird breeding season between March 15 and September 15. This species is covered by the City's MSCP.

Least Bell's Vireo

The least Bell's vireo is a federally endangered and state endangered species found in willow and mulefat scrub, and is present within the Project area. The Project alignment may impact this species if vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment is performed during the bird breeding season between March 15 and September 15. This species is covered by the City's MSCP.

4.3 Impacts to Sensitive Plant and Animal Species

The Project alignment will have the potential to impact the following sensitive plant and animal species:

Nuttall's Acmpison

Nuttall's acmpison (*Acmispon prostratus*) is a CNPS 1B.1 listed plant. It is found in chaparral, grasslands, and disturbed areas within the Project area. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

California Adolphia

California adolphia (*Adolphia californica*) is a CNPS 2B.1 listed plant. It is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential

to affect this species.

Shaw's Agave

Shaw's agave (*Agave shawii var. shawii*) is a CNPS 2B.1 listed plant. It is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

San Diego Sagewort

San Diego sagewort (*Artemesia palmeri*) is a CNPS 4.2 listed plant. It is found in riparian floodplains and lower slopes mixed with chaparral. It is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

San Diego Golden Aster

San Diego golden aster (*Bloomeria clevendii*) is a CNPS 1B.1 listed plant. It is found in non-native grasslands, and disturbed areas within the Project area. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Round-leaved Filaree

Round-leaved filaree (*California macrophylla*) is a CNPS 1B.1 listed plant. It is found in non-native grasslands, coastal sage scrub and disturbed areas within the Project area. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Wart-stemmed Ceanothus

Wart-stemmed ceanothus (*Ceanothus verrucosus*) is a CNPS 2B.2 listed plant. It is found in chaparral and coastal sage scrub. It has been found within the Project area. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Long-spined Spineflower

Long-spined spineflower (*Chorizanthe polygonoides* var. *longspina*) is a CNPS 1B.2 listed plant. It is found in meadow communities and grasslands. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Delicate Clarkia

Delicate clarkia (*Clarkia delicata*) is a CNPS 1B.2 listed plant. It is found in chaparral and coastal sage scrub burnt communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Summer Holly

Summer holly (*Comarostaphylis diversifolia* ssp. *Diversifolia*) is a CNPS 1B.2 listed plant. It is found in chaparral communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

San Diego Sand Aster

San Diego sand aster (*Corethrogyne filaginifolia* var. *incana*) is a CNPS 1B.1 listed plant. It is found in chaparral and coastal sage scrub communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Snake Cholla

Snake cholla (*Cylindropuntia californica* var. *californica*) is a CNPS 1B.1 listed plant. It is found in chaparral and coastal sage scrub communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Orcutt's Bird's Beak

Orcutt's bird's beak (*Dicranostegia orcuttiana*) is a CNPS 2B.1 listed plant. It is found in

coastal sage scrub communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Variegated Dudleya

Variegated dudleya (*Dudleya variegata*) is a CNPS 1B.2 listed plant. It is found in grasslands. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Palmer's Goldenbush

Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*) is a CNPS 1B.1 listed plant. It is found in coastal sage scrub communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Palmer's Grapplinghook

Palmer's grapplinghook (*Harpagonella palmeri*) is a CNPS 4.2 listed plant. It is found in coastal sage scrub communities. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Decumbent Goldenbush

Decumbent goldenbush (*Isocoma menziesii var. decumbens*) is a CNPS 1B.2 listed plant. It is found in riparian areas in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Robinson's Pepper Grass

Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*) is a CNPS 4.3 listed plant. It is found in dry disturbed areas. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Little Mousetails

Little mousetails (*Myosurus minimus* ssp. *Apus*) is a CNPS 3.1 listed plant. It is found in chaparral communities. Vegetation removal around manholes, vegetation removal for

staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Mud Nama

The mud nama (*Nama stenocarpum*) is a CNPS 2B.2 listed plant. It is found on the banks of ponds or streams with standing water. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Nuttall's Scrub Oak

Nuttall's scrub oak (*Quercus dumosa*) is a CNPS 1B.1 listed plant. It has been observed in the Project area. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Chaparral Ragwort

Chaparral ragwort (*Senecio aphanactis*) is a CNPS 2B.2 listed plant. It is found on foothill woodlands and chaparral. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Bottle Liverwort

Bottle liverwort (*Sphaerocarpos drewei*) is a CNPS 1B.1 listed plant. It is found under the shade of coastal sage brush. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Purple Stemodia

Purple stemodia (*Stemodia durantifolia*) is a CNPS 2B.1 listed plant. It is found in riparian area with willow and mulefat scrub. Vegetation removal around manholes, vegetation

removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is a CDFW SSC. It is found is riparian areas with stands of willow and cottonwoods. It nests in trees and its nesting season is between February 15 and August 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

Southern California Rufous Crowned Sparrow

The southern California rufous crowned sparrow (*Aimophila ruficeps canescens*) is a CDFW SSC. It is found in arid and semi-arid habits in Diegan sage scrub. Its nesting season is between March 15 and September 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment during the nesting season will have the potential to affect this species. This species is covered by the City's MSCP.

Pallid Bat

The pallid bat (Antrozous pallidus) is a CDFW SSC. It roosts in caves, crevices, mines, and occasionally hollow trees. Noise from the Project, vegetation removal, or any work done at night may have the potential to impact this species.

Bell's Sage Sparrow

The Bell's sage sparrow (*Artemisiospiza belli belli*) is a CDFW SSC. It is found in dense stands of chaparral and coastal sage scrub. Their nesting season is between March 15 and September 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment during the nesting season will have the potential to affect this species.

Orangethroat Whiptail

The orangethroat whiptail (*Aspidoscelis hyperythra*) is a CDFW SSC. It is found in coastal sage scrub, chaparral, and valley foothill hardwood habitat. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered

by the City's MSCP.

Coastal Whiptail

The coastal whiptail (*Aspidoscelis tigris stejnegeri*) is a CDFW SSC. It is found in coastal sage scrub, chaparral, and valley foothill hardwood habitat. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a CDFW SSC. It is found in open coastal sage scrub, grasslands, desert washes and areas with small mammal burrows. Burrowing owls' nesting season is between March 1 and August 31. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment during the nesting season will have the potential to affect this species. This species is covered by the City's MSCP.

Coastal Cactus Wren

The coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) is a CDFW SSC. It is found in chaparral and coastal sage scrub. Their nesting season is between March 15 and September 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment during the nesting season will have the potential to affect this species. This species is covered by the City's MSCP.

Northwestern San Diego Pocketmouse

The northwestern San Diego pocketmouse (*Chaetodipus fallax fallax*) is a CDFW SSC. It is found in chaparral and coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment during the nesting season will have the potential to affect this species.

Mexican Long-eared Bat

The Mexican long-eared bat (*Choeronycteris mexicana*) is a CDFW SSC. It is found in the San Diego area during the summer months of June through September. It feeds on nectar and pollen from plants, and roosts in caves, mines, and old buildings. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and

operation of equipment during the evening hours may have the potential to affect this species.

San Diego Ringsnake

The San Diego ringsnake (*Diadophis punctatus similis*) is a CDFW SSC. It is found in coastal sage scrub, and chaparral under rocks, wood bark, boards, and other surface debris. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a CDFW SSC and is found in coastal and valley lowlands. It forages in grasslands, wetlands, and meadows and nests in oak trees, willows, or other tree stands between February and October. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

California Horned Lark

The California horned lark (*Eremophila alpestris actia*) is a CDFW SSC and is found in grasslands along the coast and in deserts. Nests are built on the ground between March 15 and September 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is a CDFW SSC and roosts in edge habitats adjacent to streams, fields, or urban areas in trees. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Hoary Bat

The hoary bat (*Lasiurus cinereus*) is a CDFW SSC and is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

San Diego Black-tailed Jackrabbit

The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is a CDFW SSC and is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Yuma Myotis

The Yuma myotis (*Myotis yumanensis*) is a CDFW SSC and is found in open forests and woodlands with sources of water over which to feed. It roosts in buildings, mines, caves, bridges, or crevices. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*) is a CDFW SSC and is found in coastal sage scrub. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is a CDFW SSC. It is found in coastal sage scrub, chaparral, and valley foothill hardwood habitat. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

Coronado Island Skink

The Coronado Island skink (*Plestiodon skiltonianus interparietalis*) is a CDFW SSC. It is found in coastal sage scrub, chaparral, and valley foothill hardwood habitat. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Coast Patched-nosed Snake

The coast patched-nosed snake (*Salvadora hexalepis virgultea*) is a CDFW SSC. It is found in coastal sage scrub, chaparral, and valley foothill hardwood habitat. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Yellow Warbler

The yellow warbler (*Setophaga petechia*) is a CDFW SSC. It is found in riparian areas with stands of willow and cottonwoods. It nests in trees and its nesting season is between March 15 and September 15. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

Western Spadefoot Toad

The western spadefoot toad (*Spea hammondii*) is a CDFW SSC. It is found in grasslands. They breed in shallow temporary pools of water formed by seasonal rains. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

American Badger

The American badger (*Taxidea taxus*) is a CDFW SSC and is found in drier open areas of most shrub forests, and herbaceous habitat with friable soils. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species. This species is covered by the City's MSCP.

Two-striped Garter Snake

The two-striped garter snake (*Thamnophis hamondii*) is a CDFW SSC. It is found in areas associated with permanent or semi-permanent sources of water. Vegetation removal around manholes, vegetation removal for staging areas, vegetation removal for manhole access, and operation of equipment will have the potential to affect this species.

4.5 Impacts to Critical Habitats

No impacts to federal critical habitat are expected.

4.6 Impacts to Nesting Birds

The project has the potential to impact nesting birds if the project will remove vegetation between March 15 and September 15. Potential nesting habitat is located in the Project areas that contain coastal sage scrub, coastal sage scrub/chaparral, southern coast live oak riparian forest, eucalyptus woodland, riparian/wetland, non-native grassland, disturbed areas, and trees and shrubs associated with developed areas. Impacts to migratory or nesting birds would be considered significant and require mitigation, including biological monitoring and avoidance of typical nesting periods. Further details are outlined in Section 5.0.

4.7 Impacts to Wildlife Corridors

Significant long-term impacts to wildlife corridors are not anticipated to occur from proposed Project. The northern Project alignment is located within Rose Creek/Canyon and the City's MHPA, which may be used as local wildlife movement corridors. In these areas, the MHPA incorporates wide swaths of habitat. Project activities in these areas could temporarily disrupt animal movement during vegetation removal and sewer repair activities, but are not expected to have a significant impact over the long term due the fact that Project activities would only occur for a short period of time and would be restricted to a relatively small portion of wildlife corridor areas.

4.8 Impacts within the MHPA

Currently, the proposed Project area overlaps approximately 156.5 acres of existing MHPA (Figures 3a through 3p). All potential impacts to the MHPA would be mitigated as outlined below and in Section 6.0 of this report.

4.9 Impacts to ESLs

The Project area is located within Rose Canyon, which is designated as an ESL due to its steep hillsides and sensitive biological resources. All potential impacts to ESLs would be mitigated as outlined below and in Section 6.0 of this report.

4.10 Impacts to Jurisdictional Resources

Rose Creek is a perennial drainage that flows southwesterly through the project study area. The Jurisdictional Delineation Report prepared for the project identified the extent of jurisdictional wetlands, waters, and riparian resources within the project area (Appendix D).

The RCTS Joint Repair Project activities at Manhole No. 449 and Manhole No. 483 and the access routes are located within state and federally jurisdictional waters and wetlands and City of San Diego jurisdictional wetlands. The RCTS Joint Repair project will utilize existing maintenance access paths. Project activities within jurisdictional areas will be limited to the trimming of vegetation within existing access paths (Appendix D). An 8-foot wide utility truck will be utilized to travel between the manhole sites along the Rose Canyon Trunk Sewer. From the existing dirt access roads, equipment will be hand carried along the existing maintenance access paths to the manholes. All trimming and maintenance of the existing maintenance access paths would be performed by PUD in accordance with the City's Canyon Sewer Cleaning Program and would accommodate all work activities. Therefore, the RCTS JR project is consistent with the City of San Diego's Canyon Sewer Cleaning Program Master Site Development Permit (SDP) No. 13507/Coastal Development Permit (CDP) No. 13506 and Programmatic Environmental Impact Report (PEIR) No. 42-0077. The Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 accommodates the cleaning and maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands, and the construction of access paths where necessary. Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 also include performance criteria and procedural guidelines to avoid and/or minimize environmental impacts, which are identified in Section 6.6 below.

5.0 Indirect Impact Analysis

5.1 Noise Sources

The proposed RCTS Joint Repair Project has a potential to generate noise levels of over 70 dBA during project activities due to use of the following equipment:

- Pumps
- Fuel powered confined space blowers
- High pressure water blaster
- Compressor for air tests
- Compressor for breathing air apparatus

Noise generated during construction activities has the potential to affect special status

wildlife during the breeding season.

5.2 Lighting

Minimal lighting will be required at the temporary pump station sites. All lighting at construction areas will be such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; illumination of the project facilities, vicinity, and nighttime sky is minimized; and lighting is directed down, away from potentially occupied habitat.

5.3 Human Activity

Human disturbances associated with the proposed RCTS Joint Repair Project include the following:

- Manned access via the manholes into the trunk sewer for the repairs, installation of stop logs, installation of plugs and bulkheads, installation of bypass piping and supports.
- Installation of the fused HDPE bypass piping.
- Operation and maintenance of pumps.

The RCTS Joint Repair project will utilize existing maintenance access paths for all proposed sewer repair activities.

6.0 Recommendations

The RCTS Joint Repair Project activities will include the removal of the existing PVC liner at the pipe joints, cleaning and joint preparation using grout, and installation of an internal mechanical pipe seal. Manhole access activities will include human access with hand-carried equipment and utility truck access, which may require vegetation removal immediately surrounding the manholes and to create access to the manholes.

The RCTS Joint Repair project will utilize existing maintenance access paths. Project activities would involve the use of an 8-foot wide utility truck and hand-held equipment. The access paths would accommodate all work activities and are regularly maintained by the PUD. Therefore, the RCTS Joint Repair project is consistent with the City of San Diego's Canyon Sewer Cleaning Program Master SDP No. 13507/CDP No. 13506 and PEIR No. 42-0077. The Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 accommodates the cleaning and maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands, and the construction of access paths where necessary. Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 also include performance criteria and procedural guidelines to avoid and/or minimize environmental impacts, as identified below.

To reduce indirect impacts that might occur as a result of the RCTS Joint Repair project the following measures shall be implemented:

1. Noise monitoring will be required during the bird breeding season for California gnatcatchers and least Bell's vireo (March 1 to September 15).
2. A biologist will verify that no nesting birds or nests occur in the project foot print if construction occurs during the general avian breeding season (February 1 through September 15).
3. A biological monitor or City staff will be on site periodically to ensure compliance with environmental regulations.
4. A pre-construction meeting will take place onsite to identify any sensitive resources additional parameters for work prior to construction.
5. Work limits will be flagged and/or fenced prior to start of work to avoid additional impacts.
6. Predefined staging areas will be used for parking vehicles, equipment, and stockpiling of materials.
7. Photographs will be taken of the project area before, during, and after the work to document the condition of the site and the extent of any impacts to the surrounding area.
8. All equipment must utilize existing access roads and work areas within the authorized limits of work. No work activities may occur outside the preapproved limits of disturbance without approval.
9. Appropriate Best Management Practices (BMPs) will be used during and after construction to address erosion and sediment control.
10. All work will be conducted during daylight hours only, eliminating the need for nighttime lighting.
11. No construction activities will occur during a rain event; all activities will be suspended following a rain event until the soil has dried.

6.1 Impacts to Habitat

The RCTS Joint Repair Project bypass pump will result in temporary impacts to approximately 0.3 acre of coastal sage scrub. Mitigation for temporary impacts to coastal sage scrub associated with the bypass pump will be mitigated at a 1:1 ratio for a total of 0.3 acre at the Marron Valley Cornerstone Lands Conservation Bank.

Impacted habitat shall be restored per the City's Canyon Sewer Cleaning Program. A restoration plan shall be prepared and submitted to the City for approval following the

completion of work. The revegetation plan may include installation of native container plants, hydroseeding, and 25 months of monitoring.

Impacts associated with maintenance access paths will not require mitigation. Per the Canyon Sewer Cleaning Program, the PUD has existing established sewer maintenance access paths to sewer manholes. Manholes where access paths are overgrown or no longer distinguishable will be re-established during regular maintenance activities conducted by PUD in accordance with the Canyon Sewer Cleaning Program. Access to the manholes associated with this project will not result in additional impacts to habitat outside of previously approved and established sewer maintenance access paths and will not require additional mitigation.

6.2 Listed and Sensitive Plant Species

Impacts to listed and sensitive plant species can be mitigated by conducting rare plant surveys for these species on the project site during their blooming periods. If species are not found, further mitigation is not required. If species are found, the boundaries of the plant populations will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity. If avoidance is not feasible, impacts to listed or sensitive plant species shall be offset through implementation of one or a combination of the following actions:

- Impacted plants would be salvaged and relocated;
- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected onsite; and/or
- Comparable habitat at an off-site location shall be preserved.

Mitigation which involves relocation, enhancement or transplanting sensitive plants shall include the following:

- Conceptual planting plan including grading and, if appropriate, temporary irrigation;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

6.3 Listed and Sensitive Animal Species

A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a)

recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records or site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant the protocol survey guidelines established by the USFWS. When other sensitive species are known or suspected to be present, all appropriate protocol surveys and mitigation measures shall be implemented.

If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence which demonstrates whether or not mitigation measures are necessary for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

6.4 Nesting Birds

To avoid any direct impacts to raptors and/or any native/migratory birds, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance during the bird breeding season (February 1 to September 15). The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

6.5 MHPA

Prior to the commencing of Project activities within, or immediately adjacent to, an MHPA, a qualified biologist shall verify that all MHPA boundaries and limits of work have been delineated on all Project plans.

A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records or site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate

species shall be conducted pursuant to the protocol survey guidelines established by the USFWS. When other sensitive species are known or suspected to be present, all appropriate protocol surveys and mitigation measures shall be implemented.

Prior to construction activities, a qualified biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions. This shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats, plants and animal species, including nesting birds) during construction.

Prior to the commencement of construction activities, a qualified biologist shall meet with the project proponent and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive habitat, plants, and animals (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed. A qualified biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys.

A qualified biologist shall note/act to prevent any new disturbances to habitat, plants, and/or animals onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the qualified biologist.

In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with the Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077. A qualified biologist shall submit a final report to the satisfaction of the City within 30 days of construction completion.

6.6 Jurisdictional Resources

As previously discussed, manhole access activities will include human access with hand-carried equipment and utility truck access, which may require vegetation removal

immediately surrounding the manholes and along existing access paths. Vegetation removal activities will occur immediately surrounding Manhole No. 449 and along the access path within state jurisdictional waters and City of San Diego jurisdictional wetlands.

The Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 accommodates the cleaning and maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands and maintenance and construction of access paths, where necessary. Implementation of the performance criteria and procedural guidelines identified within the Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 will avoid and/or minimize environmental impacts.

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FIGURES

Figure 1 - Rose Canyon Trunk Sewer
Vicinity Map

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Hernandez Environmental Services

Legend

Project Alignment

Vicinity Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

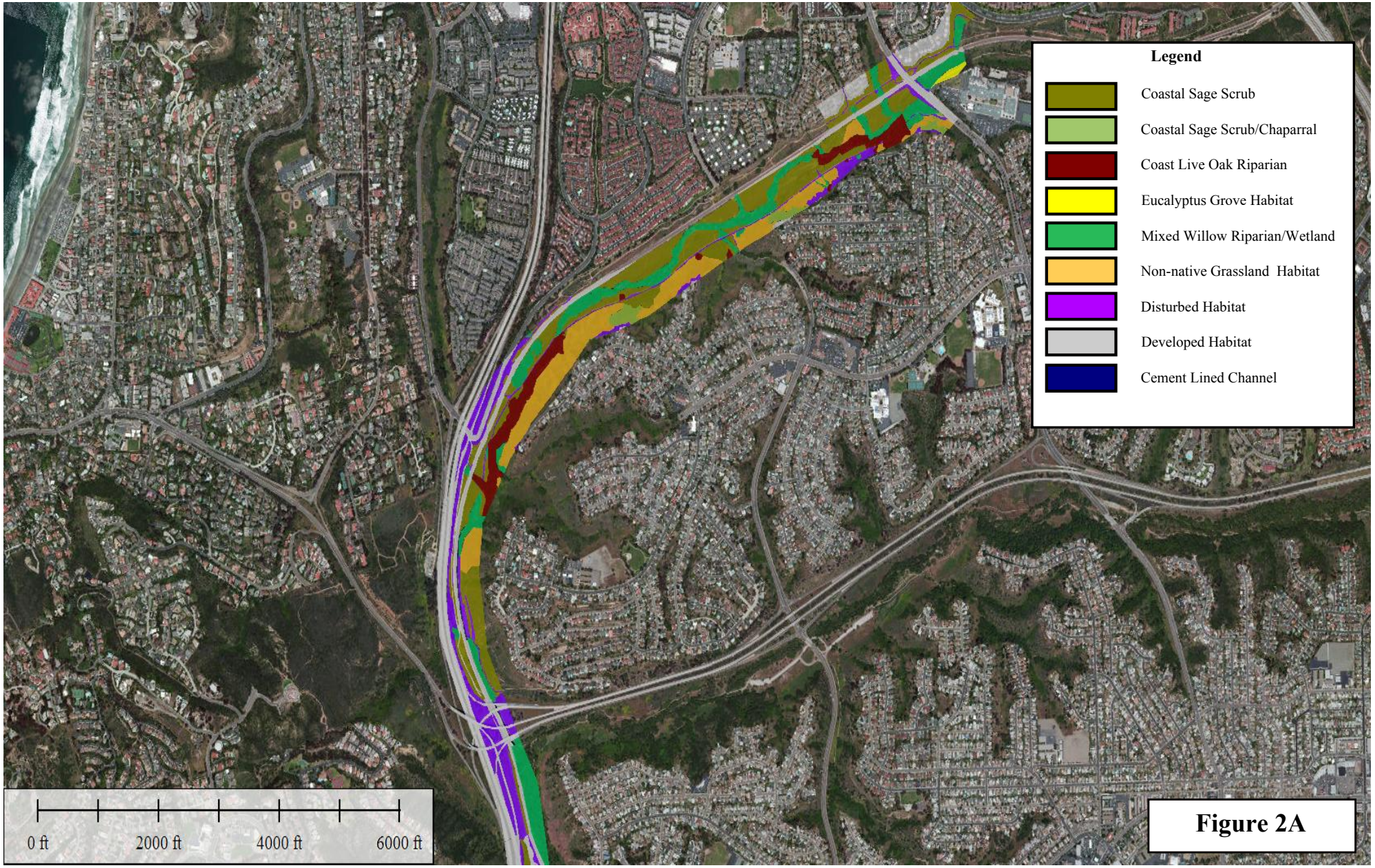

Figure 2A

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Habitat Map North

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

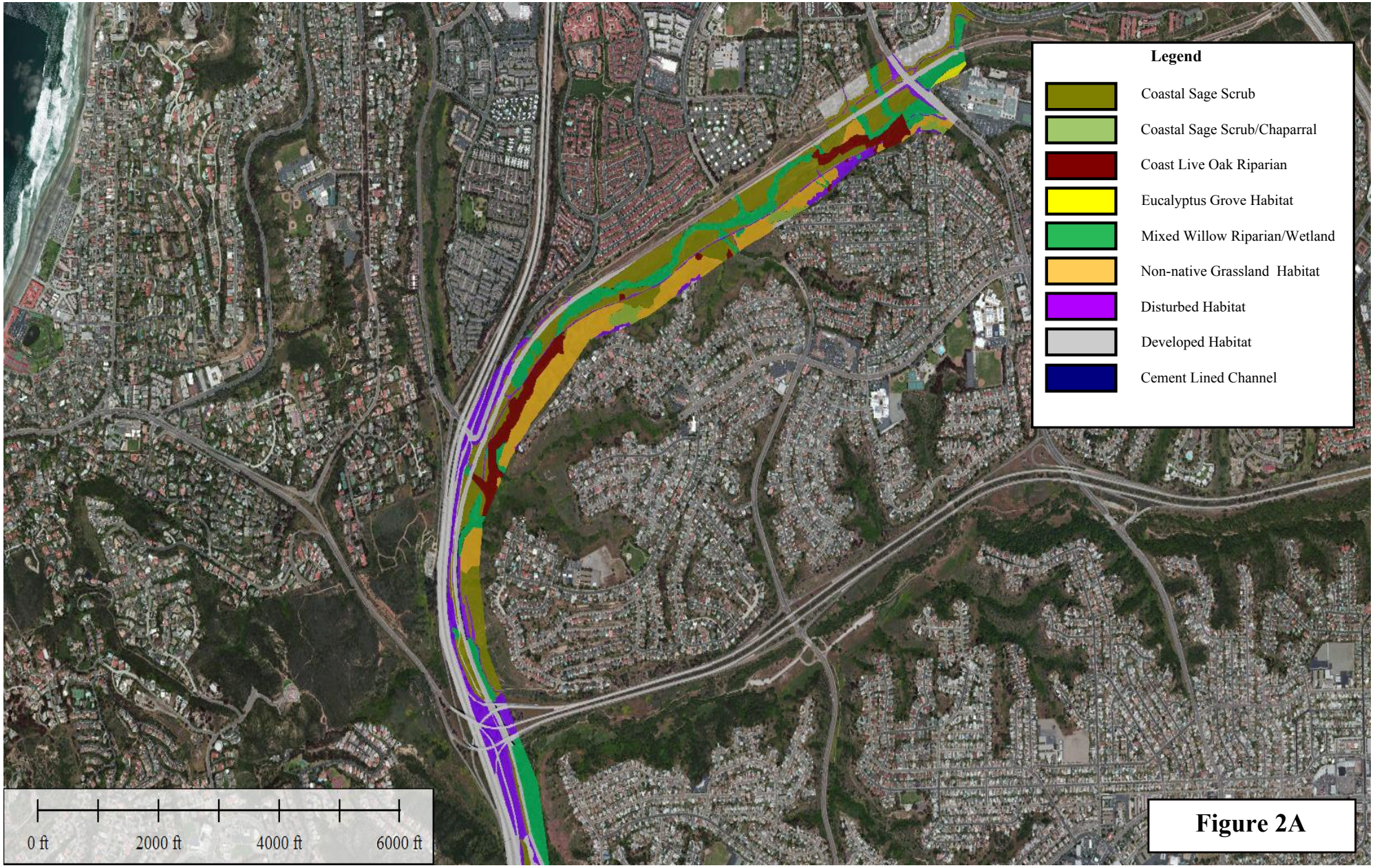

Figure 2A

Prepared By:

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Habitat Map North

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

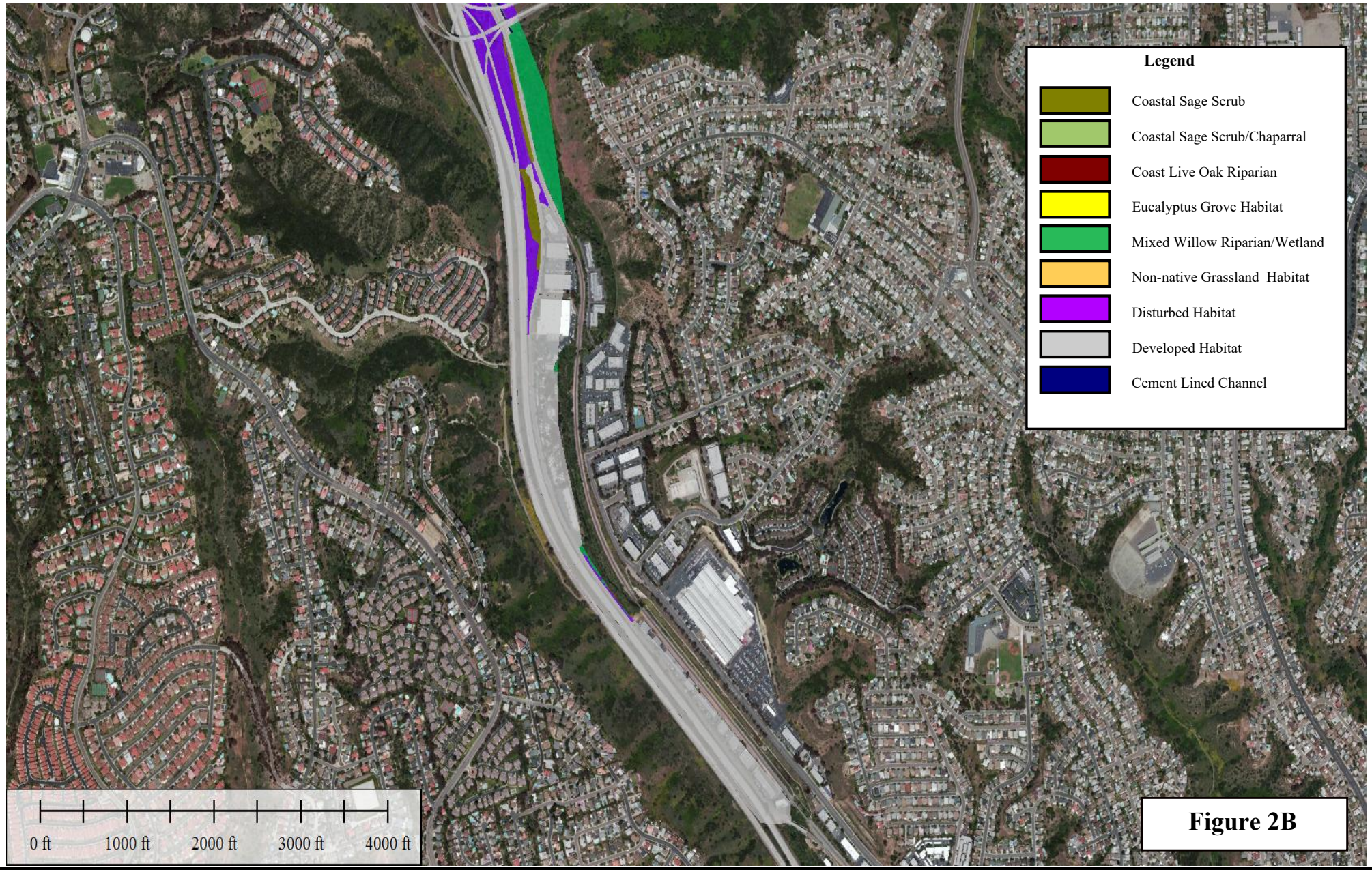

Figure 2B

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Habitat Map South

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

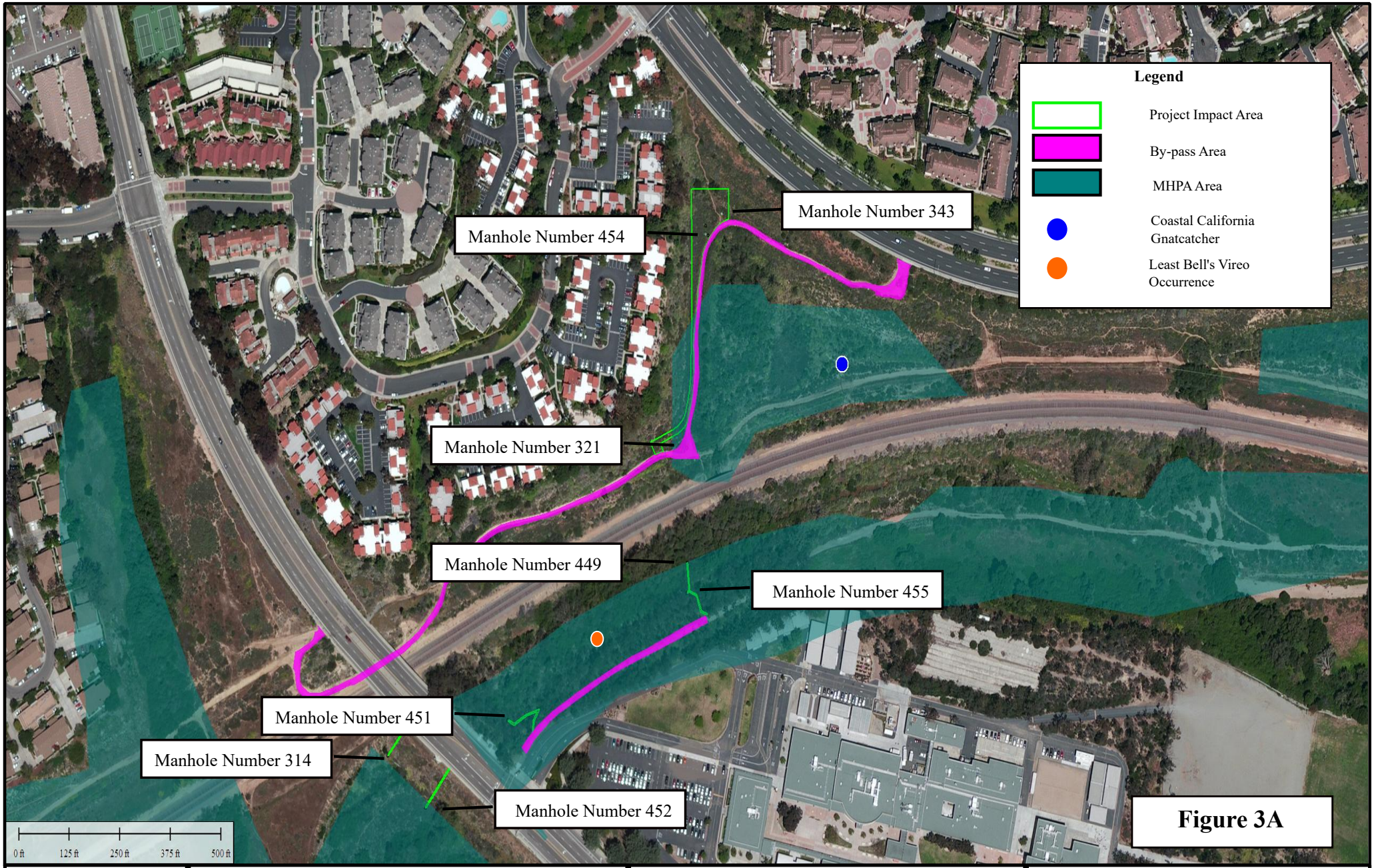

Figure 3A

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MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Figure 3B

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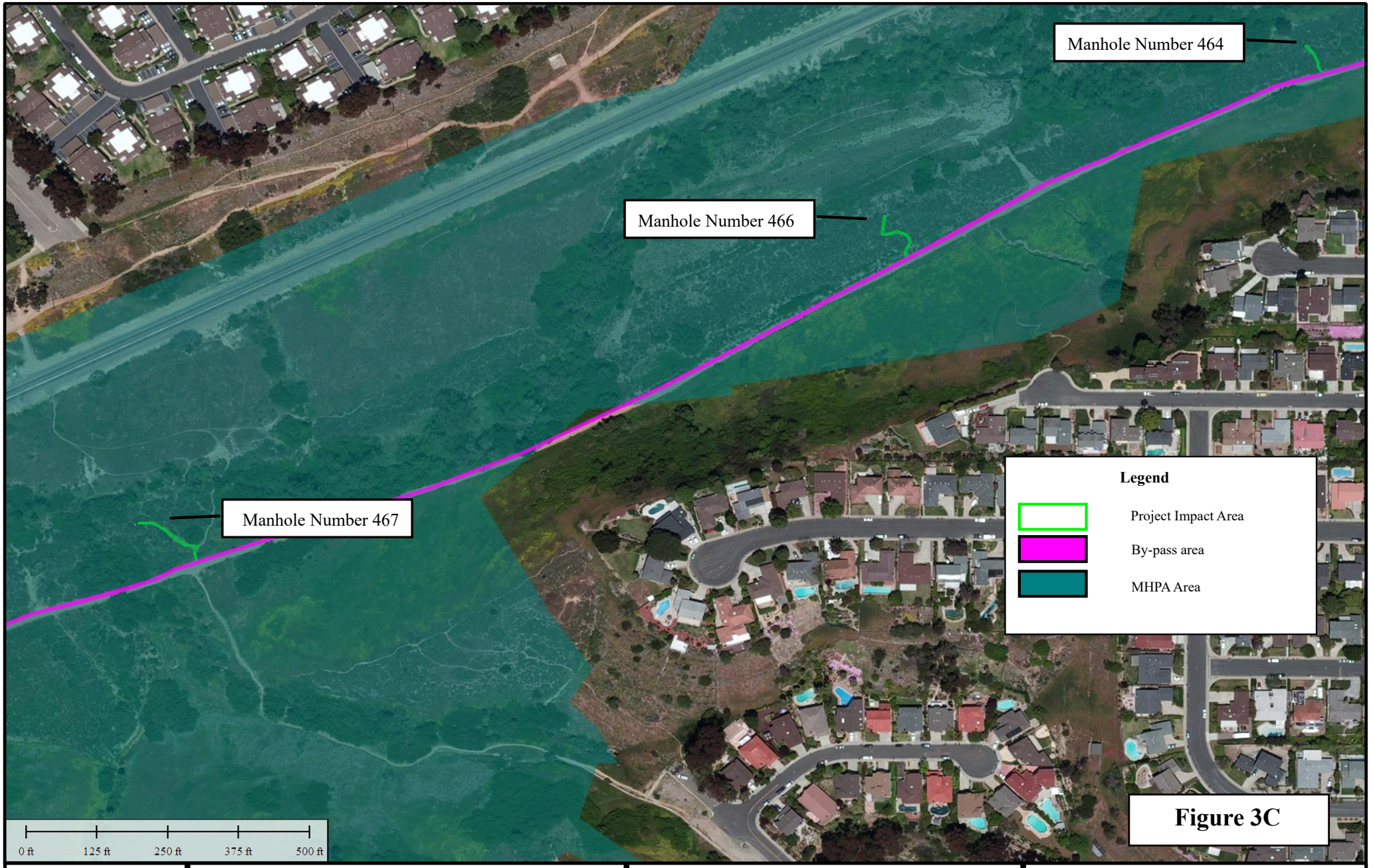
MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA



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Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

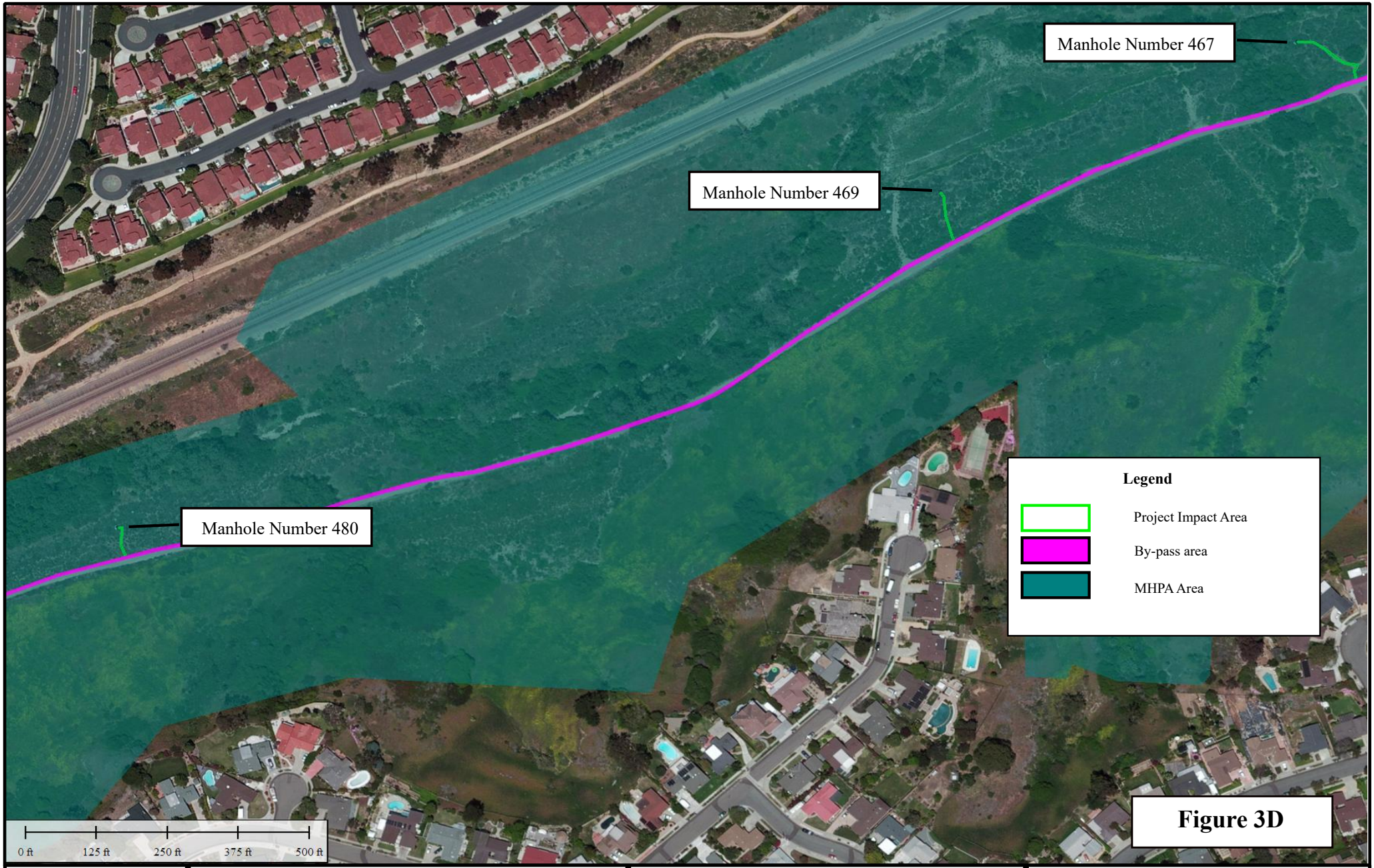

Figure 3D

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MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

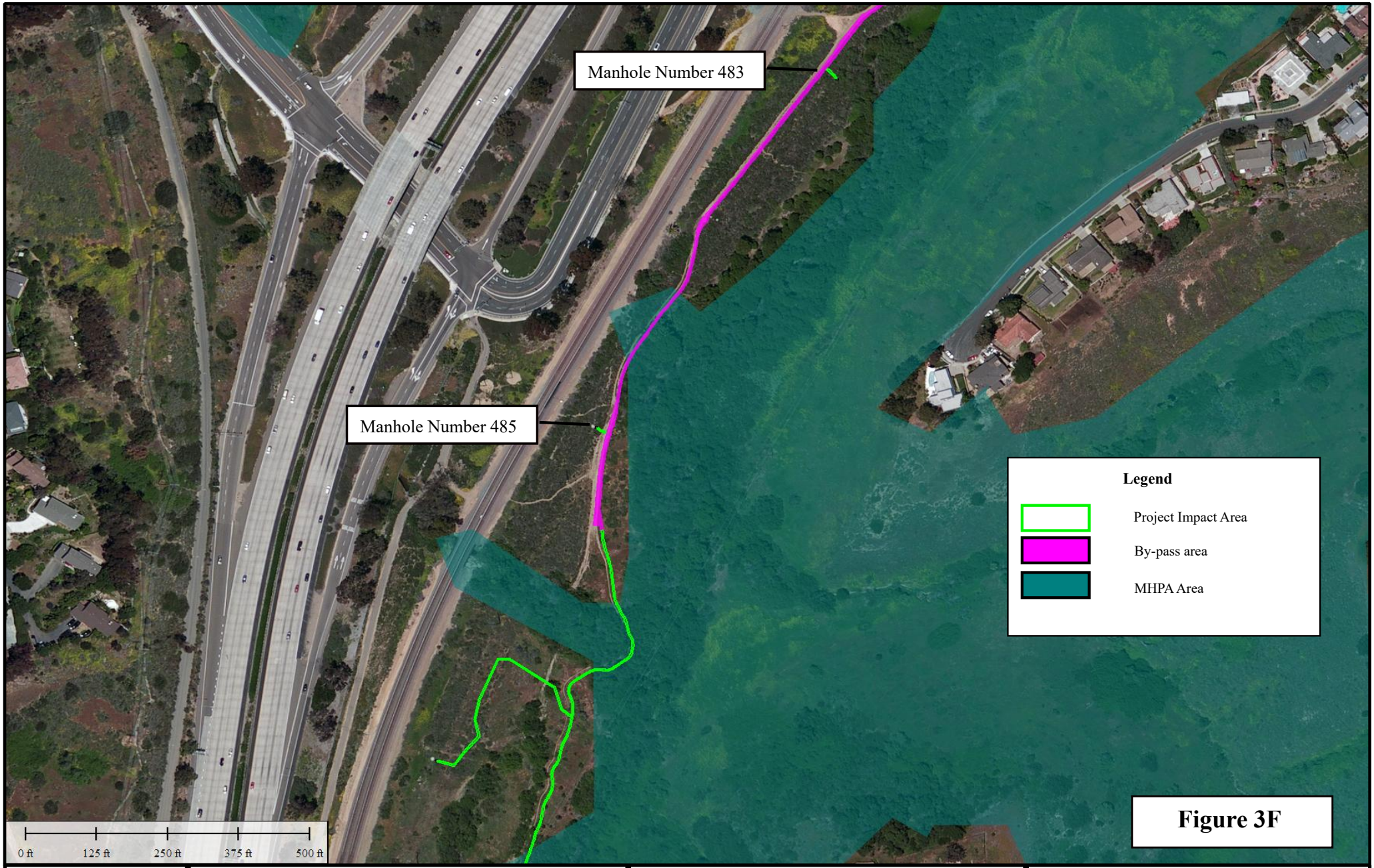
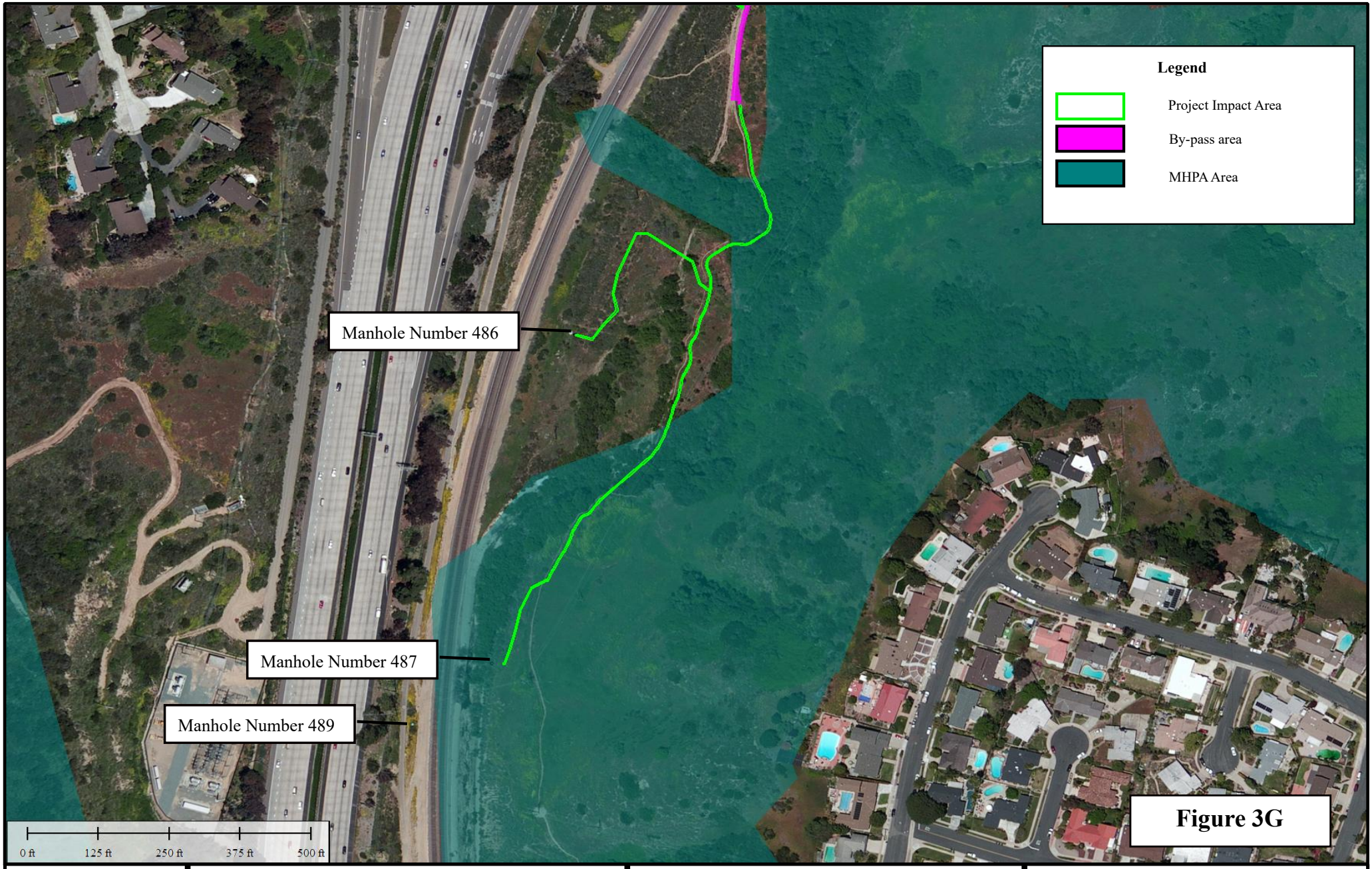


Figure 3F

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA



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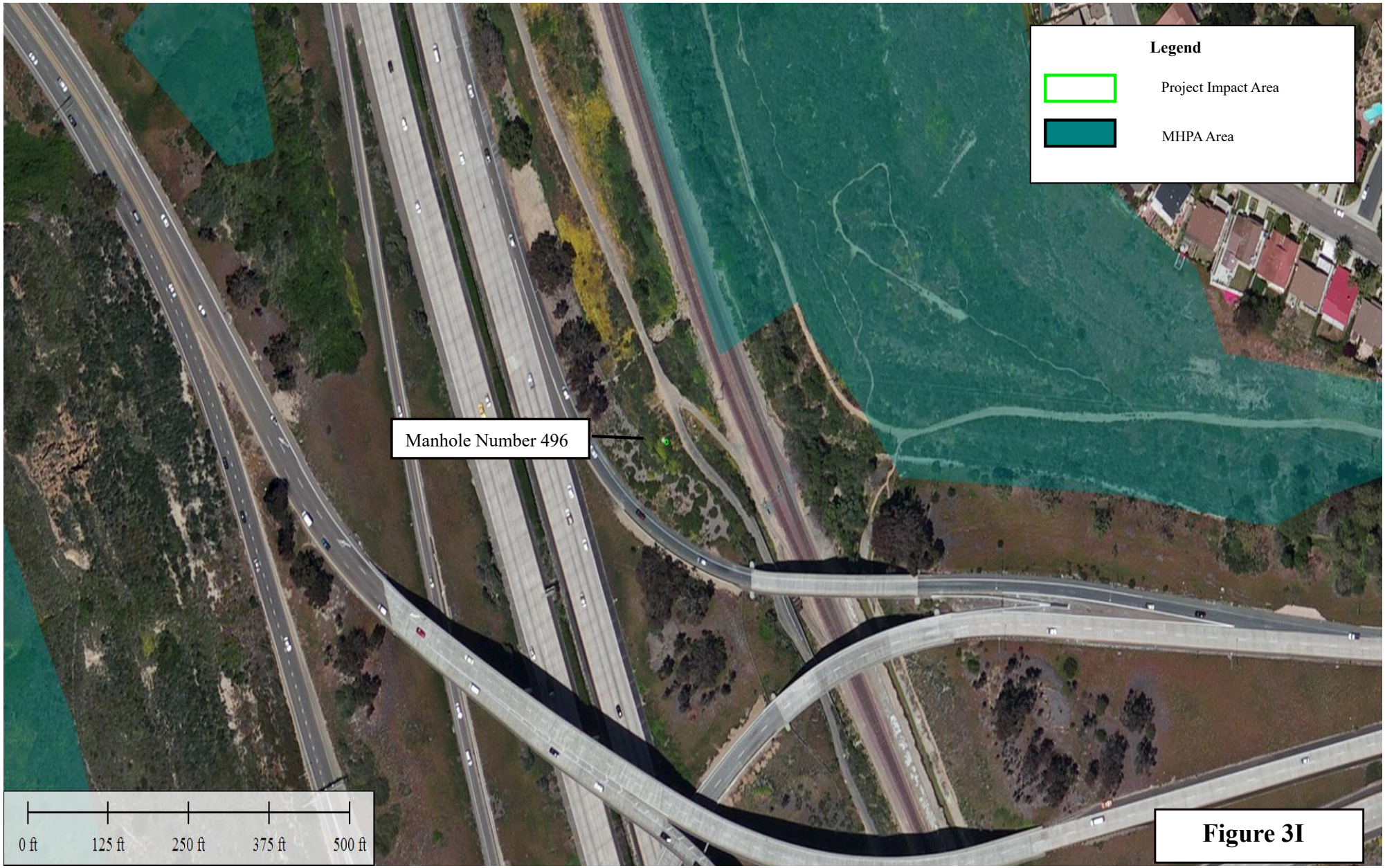
MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Figure 3H

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA



Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

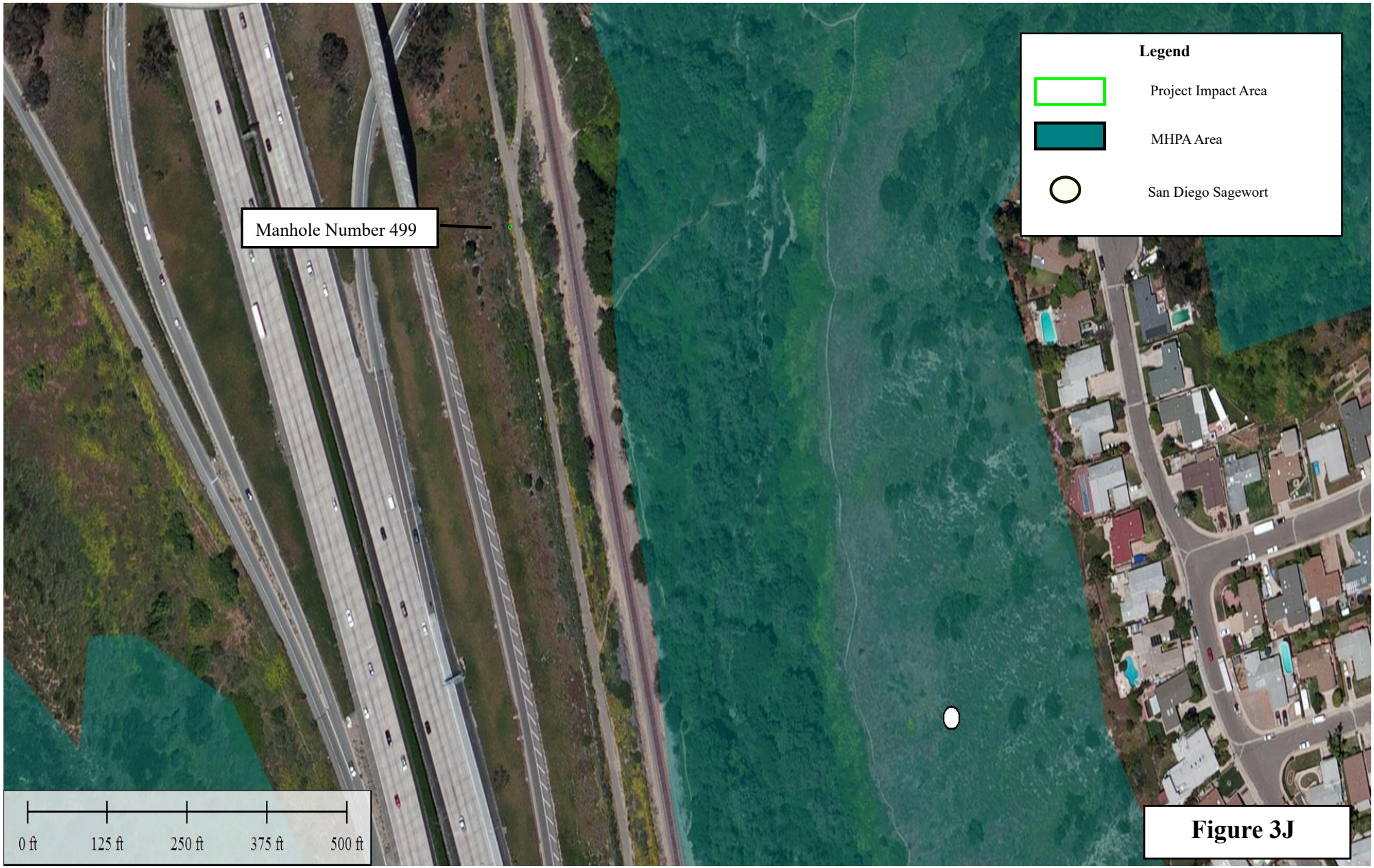


Figure 3J

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Prepared By:

Hernandez Environmental Services

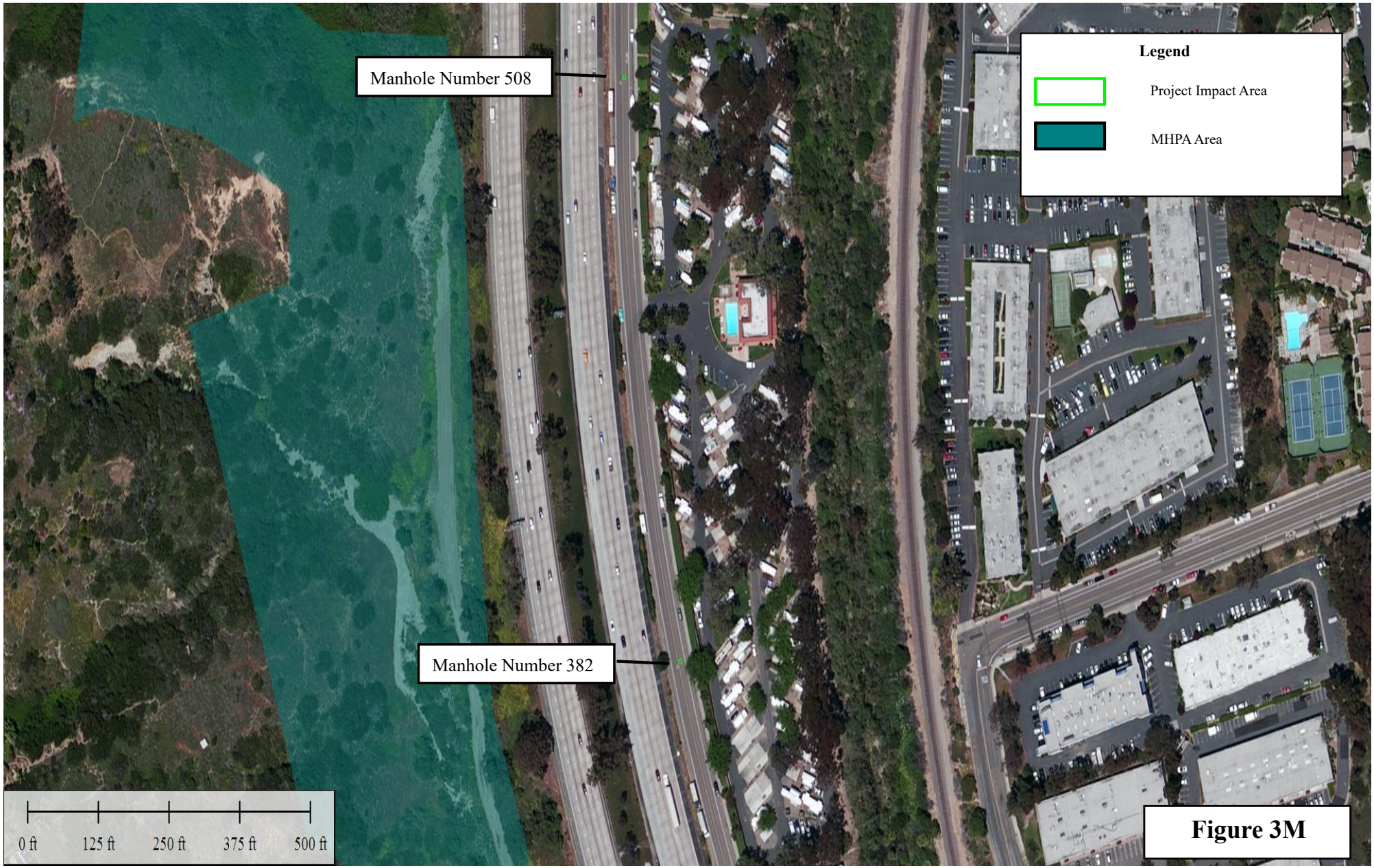
MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Figure 3L

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA



Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Figure 3N

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

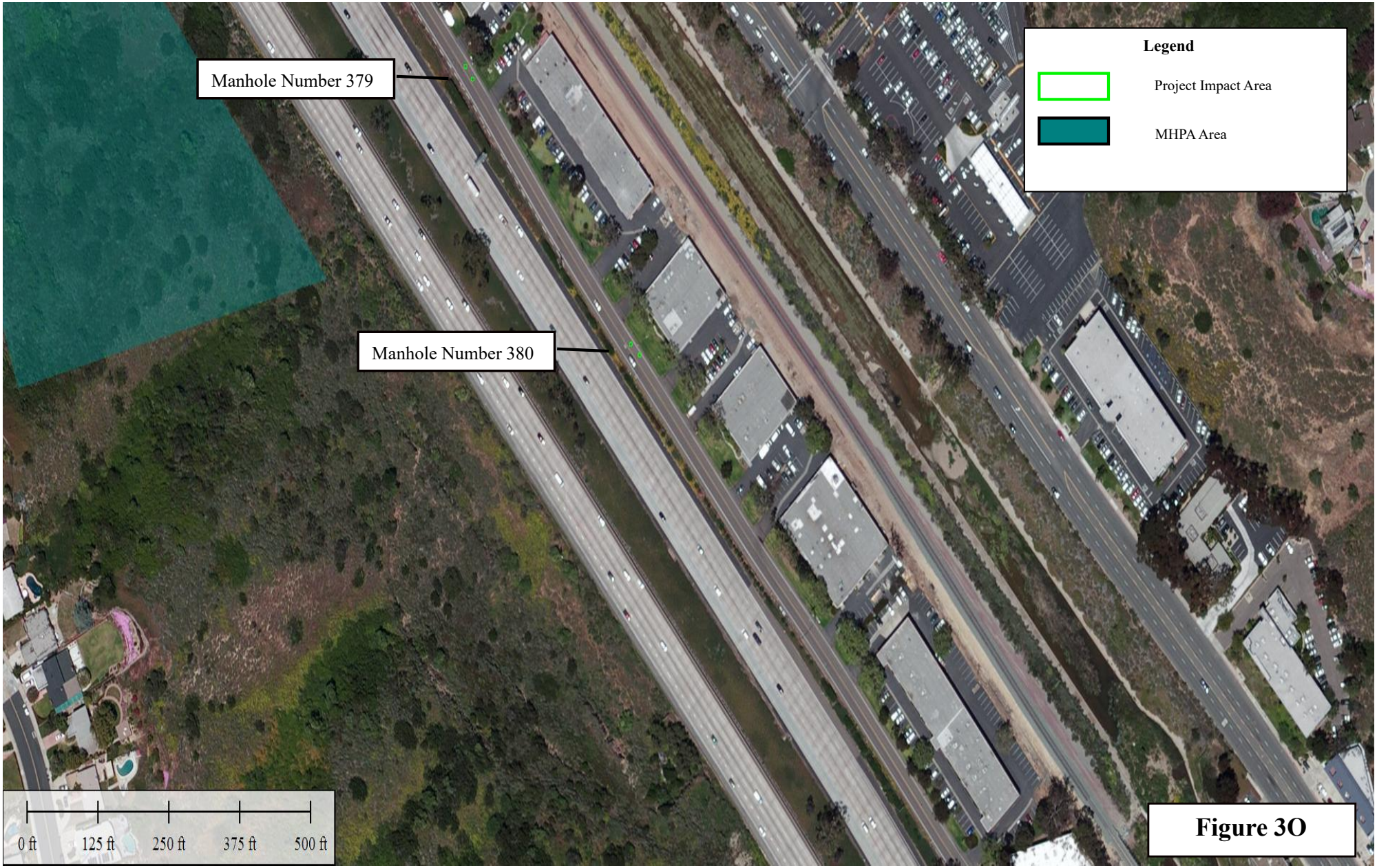


Figure 3O

Prepared By:

Hernandez Environmental Services

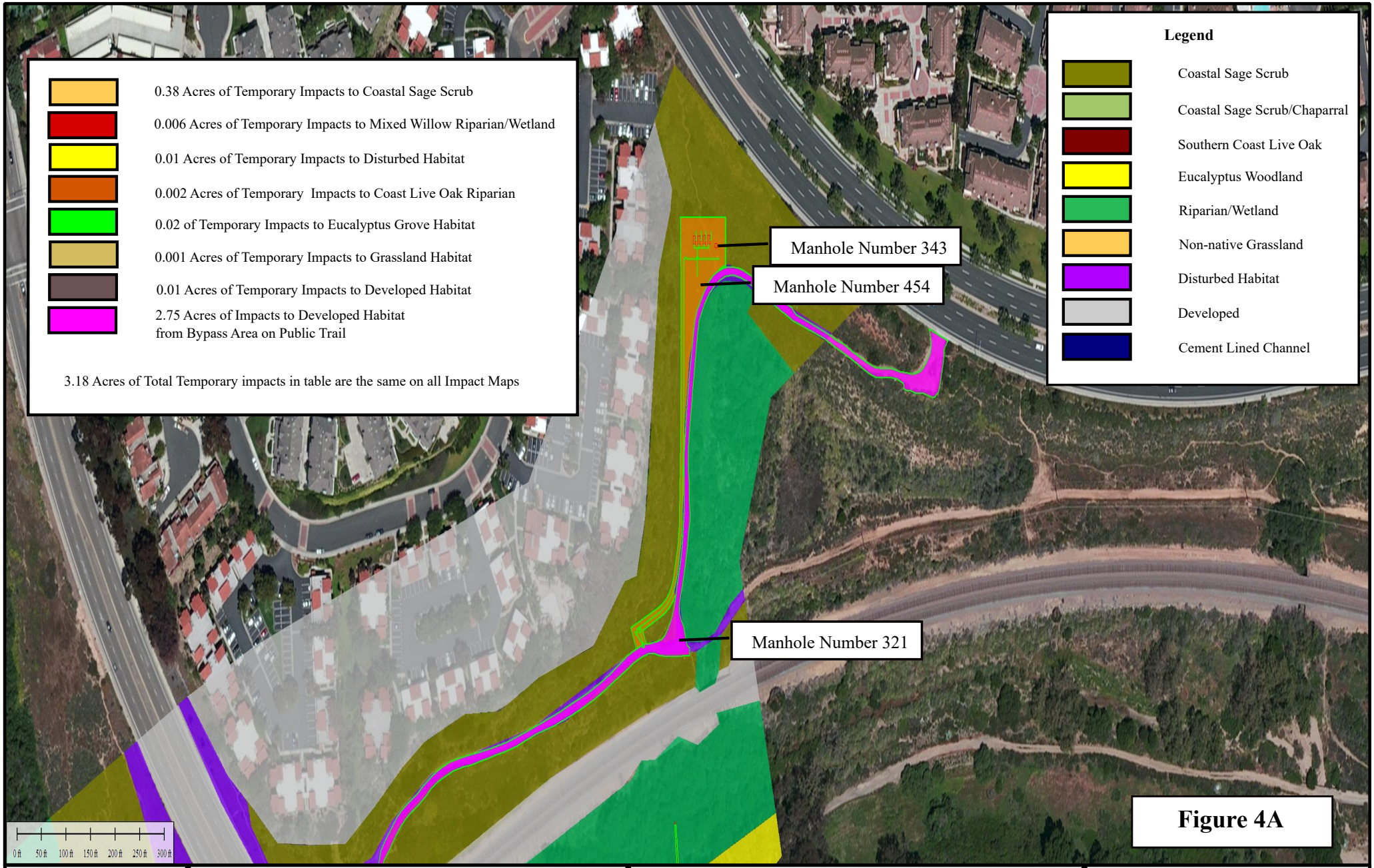
MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA

Figure 3P

Prepared By:

Hernandez Environmental Services

MHPA and Observed Sensitive Species Map
Rose Canyon Trunk Sewer
Joint Repair Project
San Diego, CA



Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

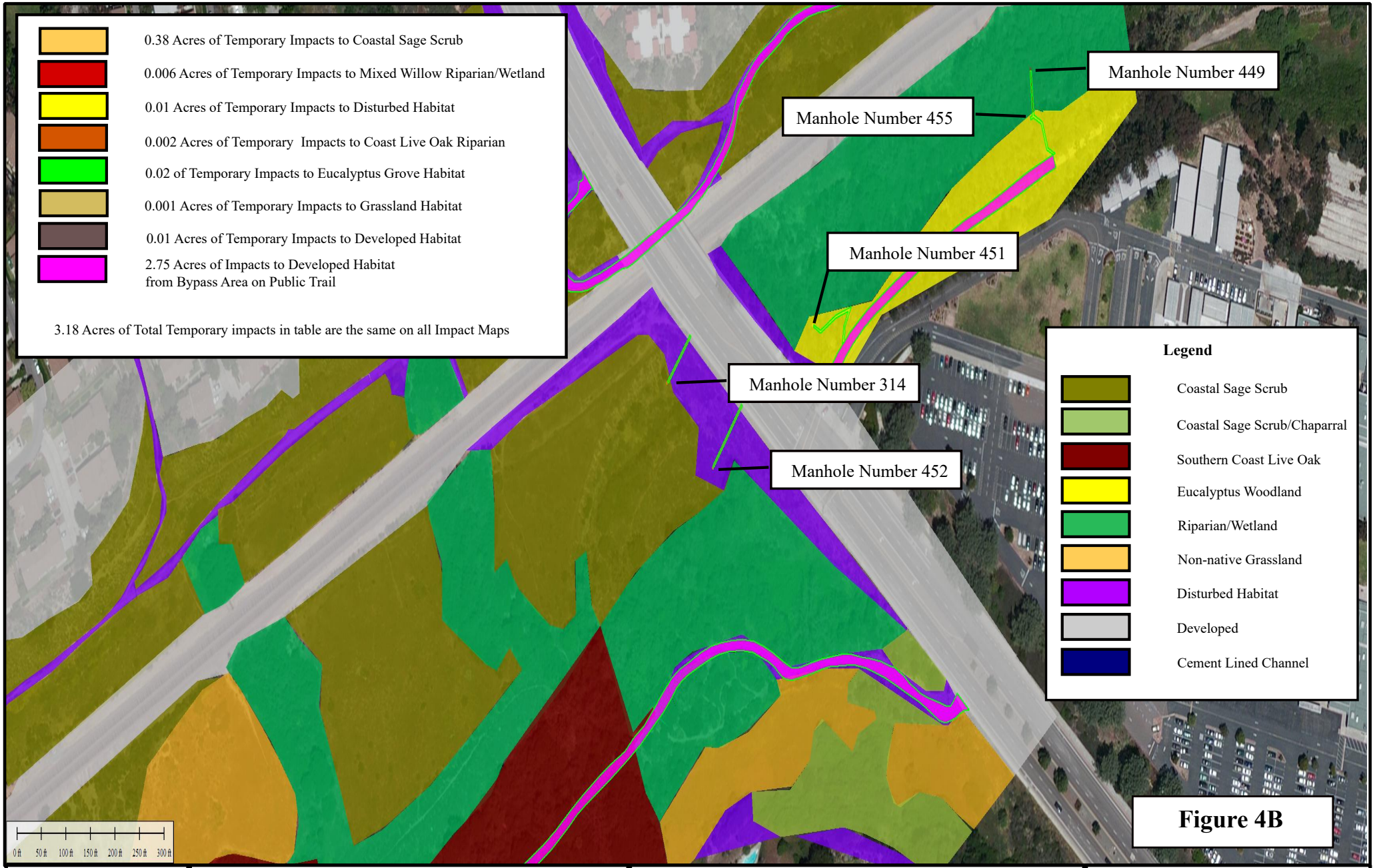


Figure 4B

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

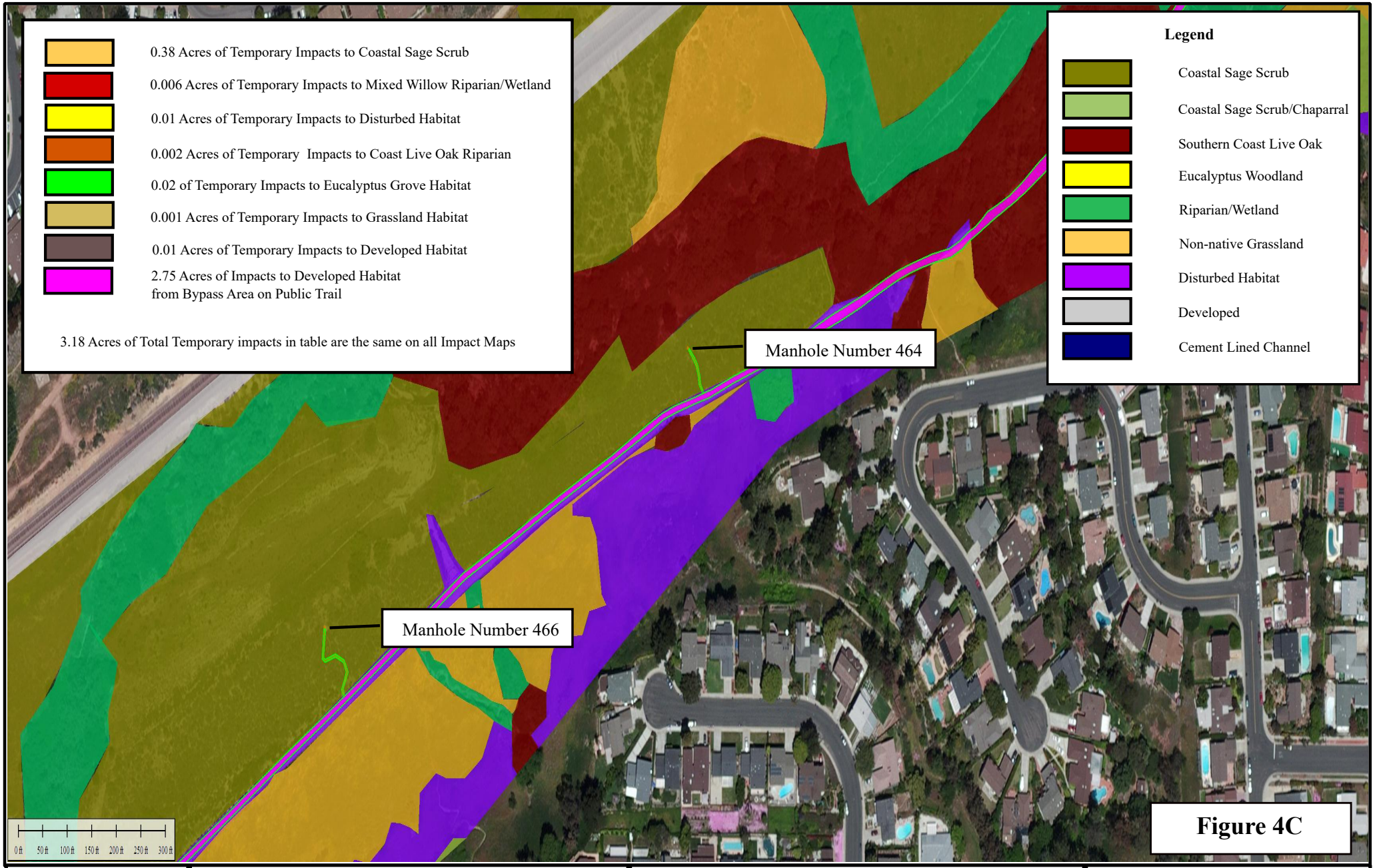


Figure 4C

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

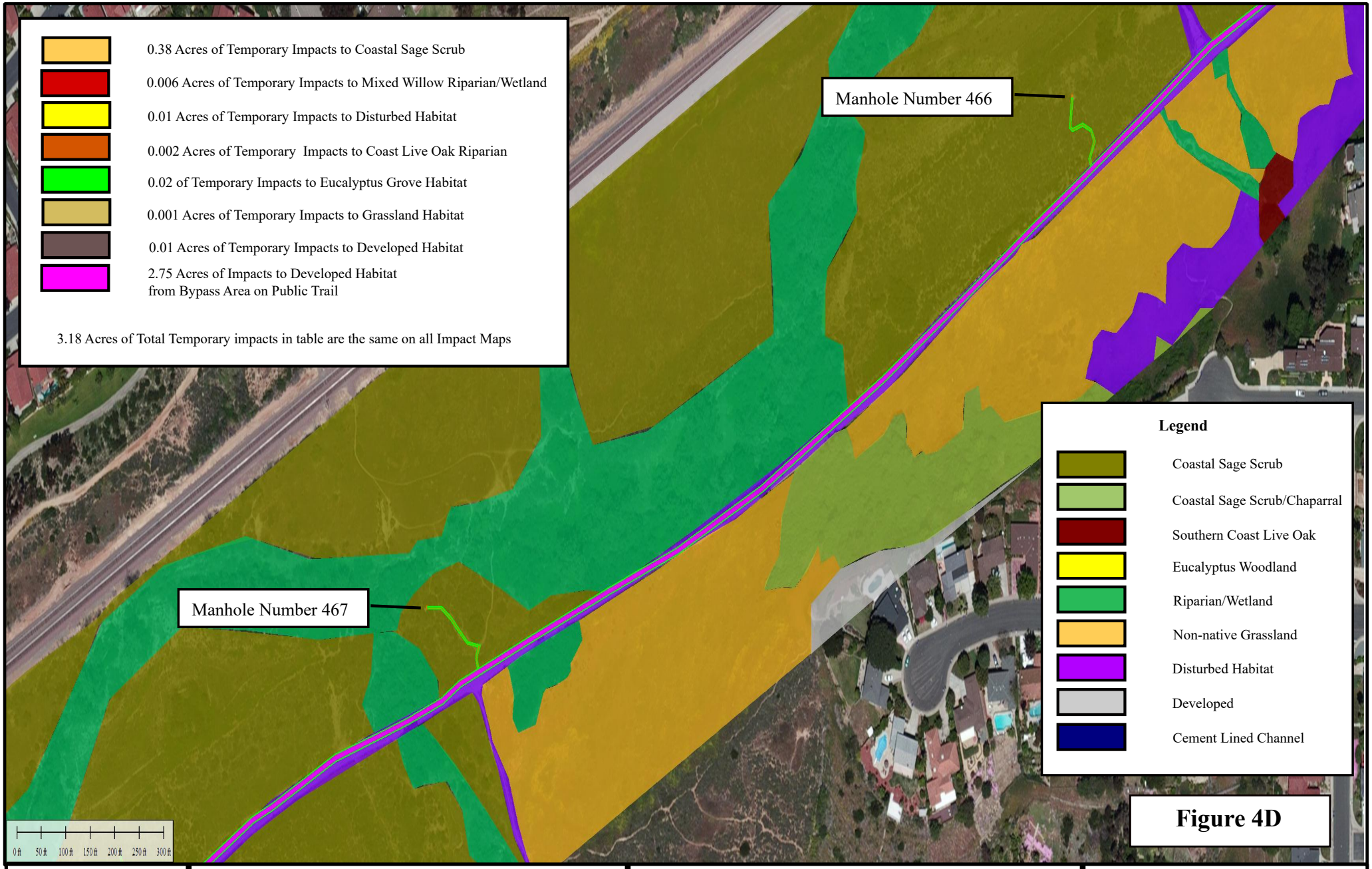


Figure 4D

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

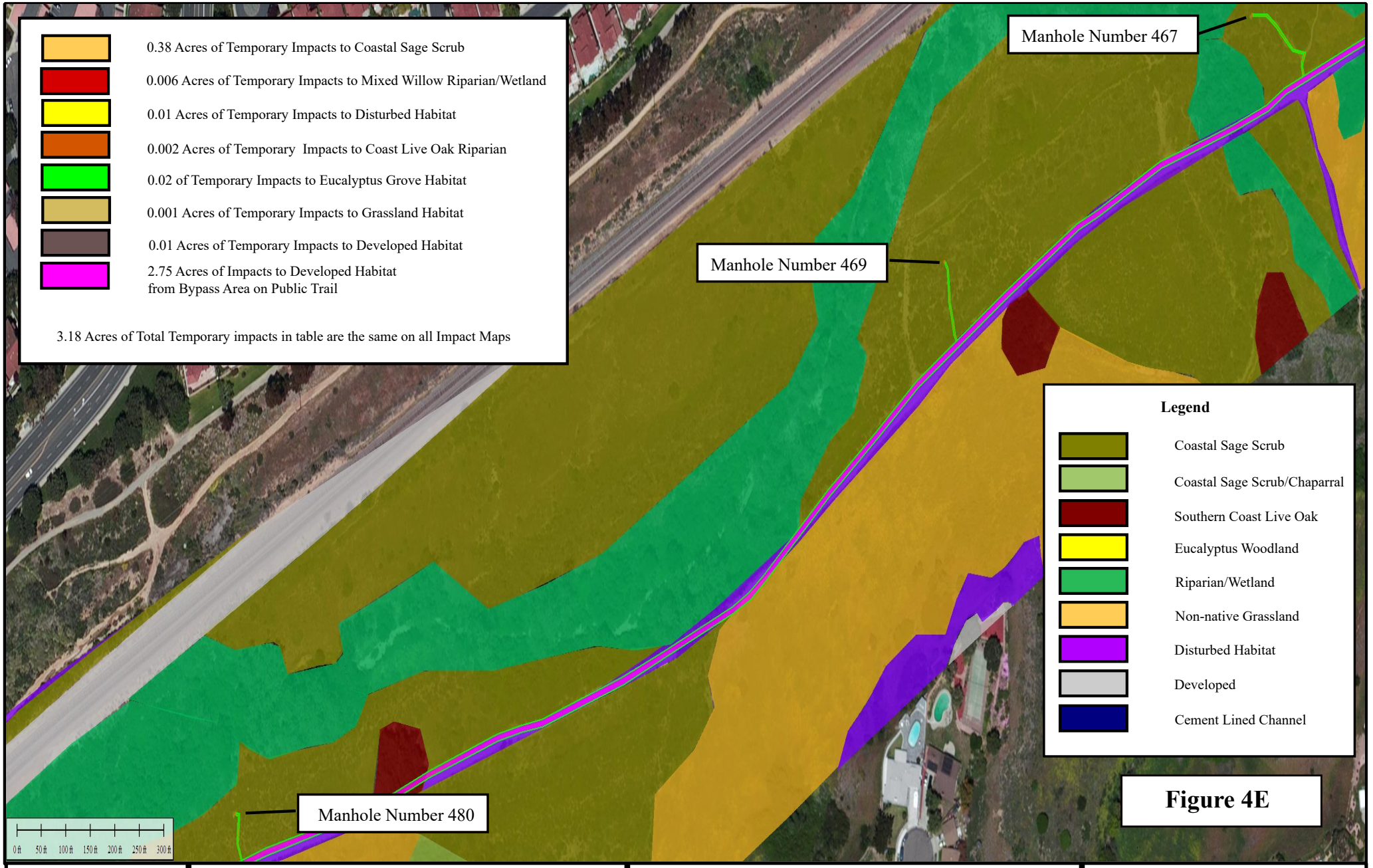


Figure 4E

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

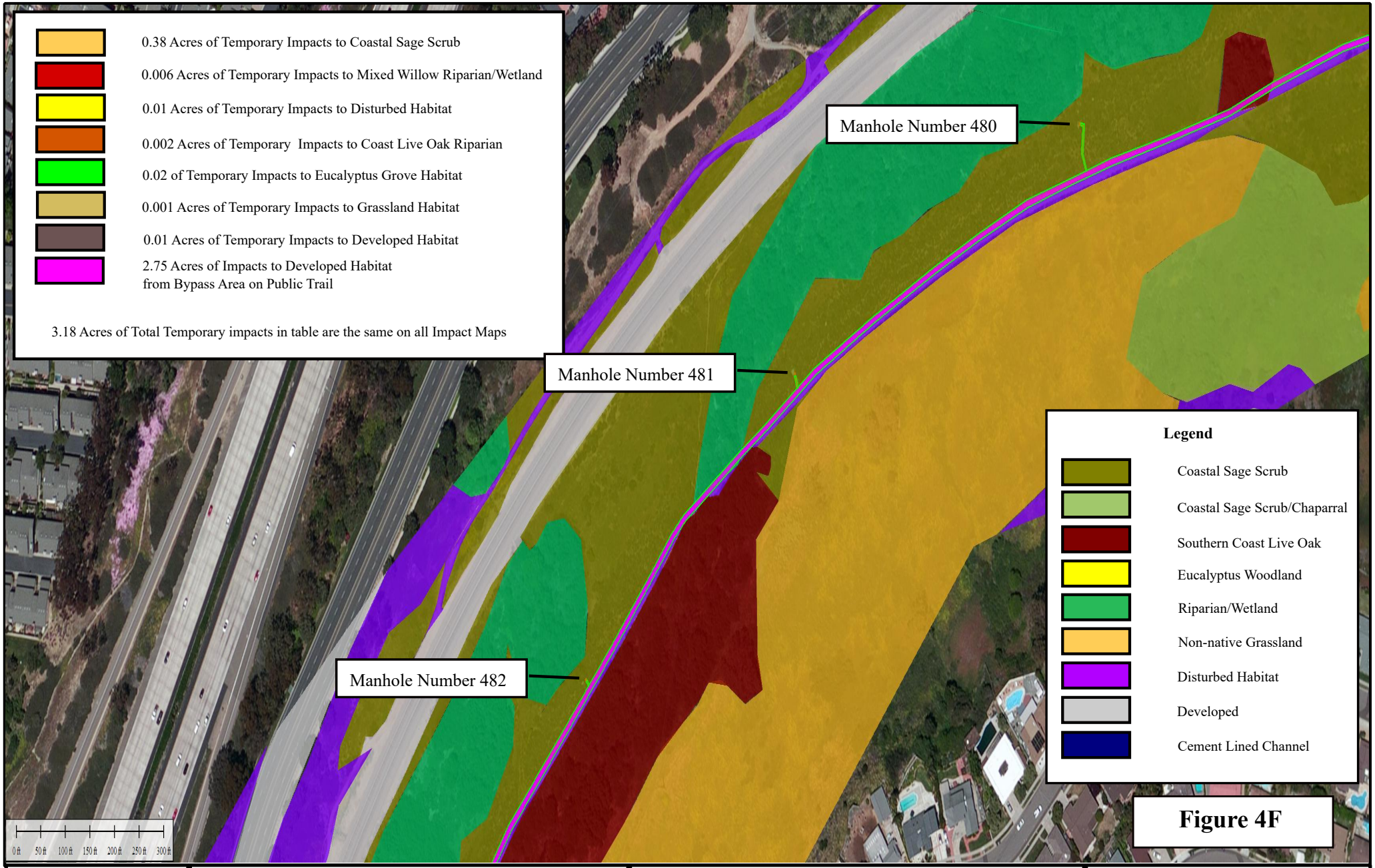


Figure 4F

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

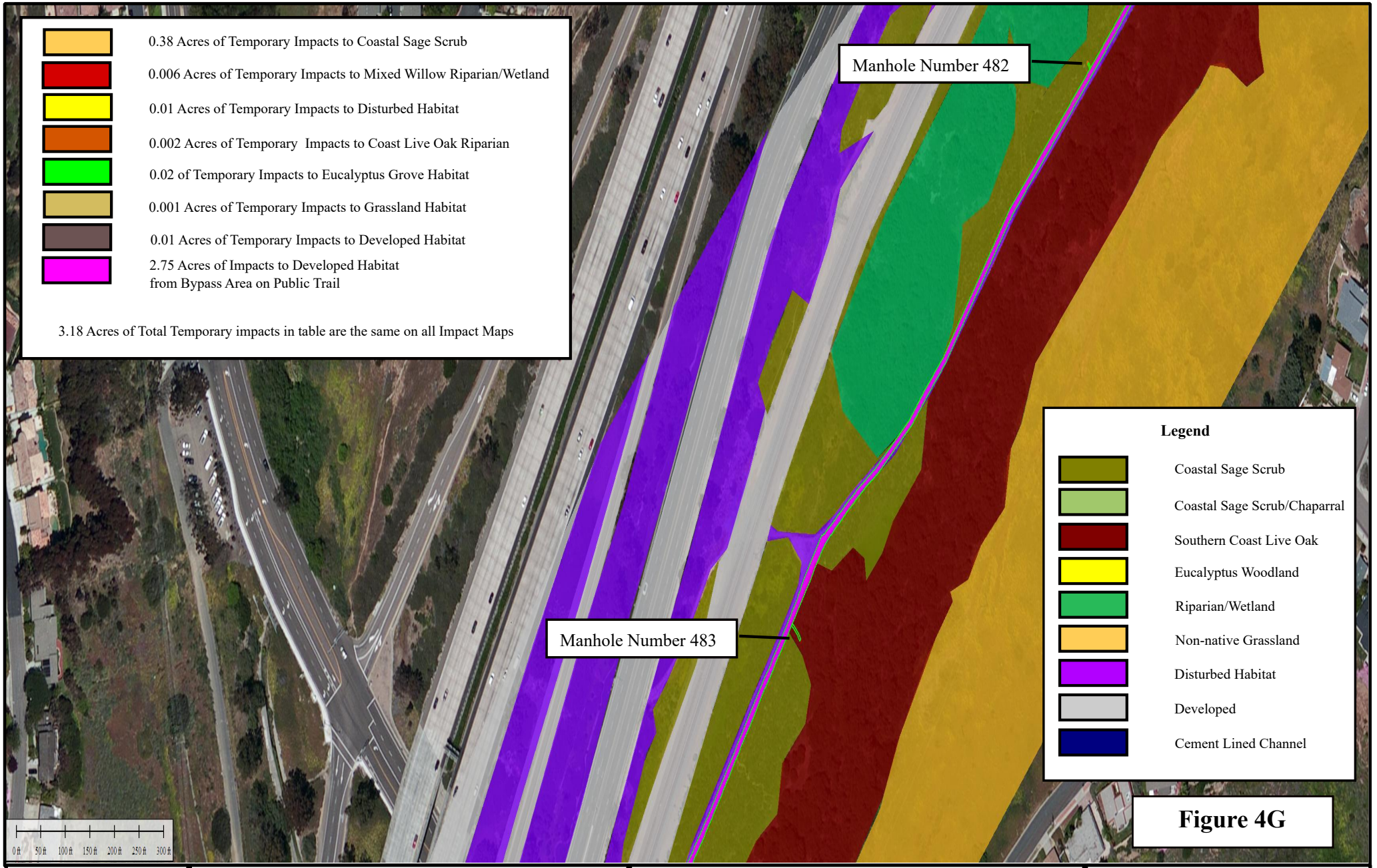


Figure 4G

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

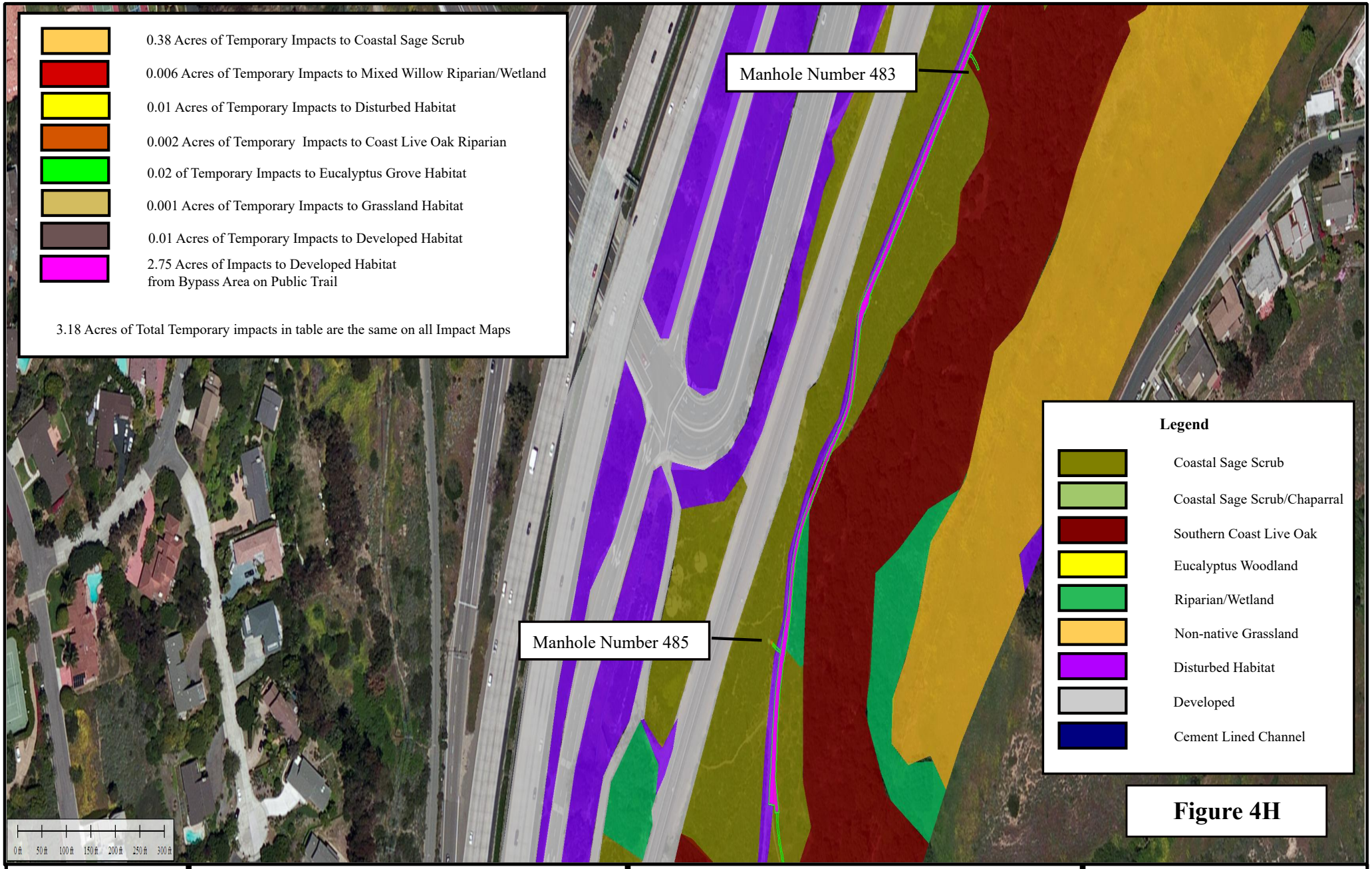


Figure 4H

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

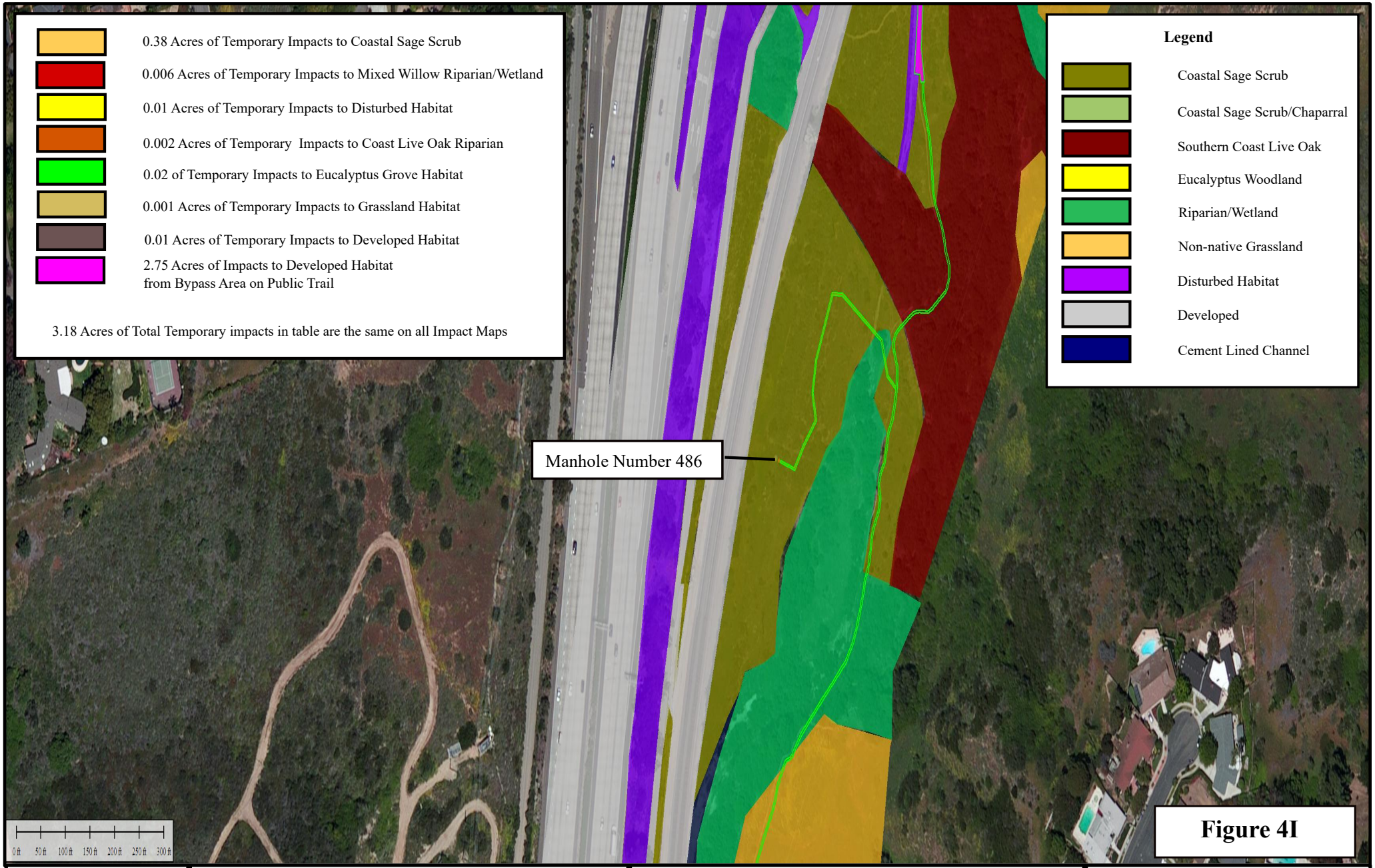


Figure 4I

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

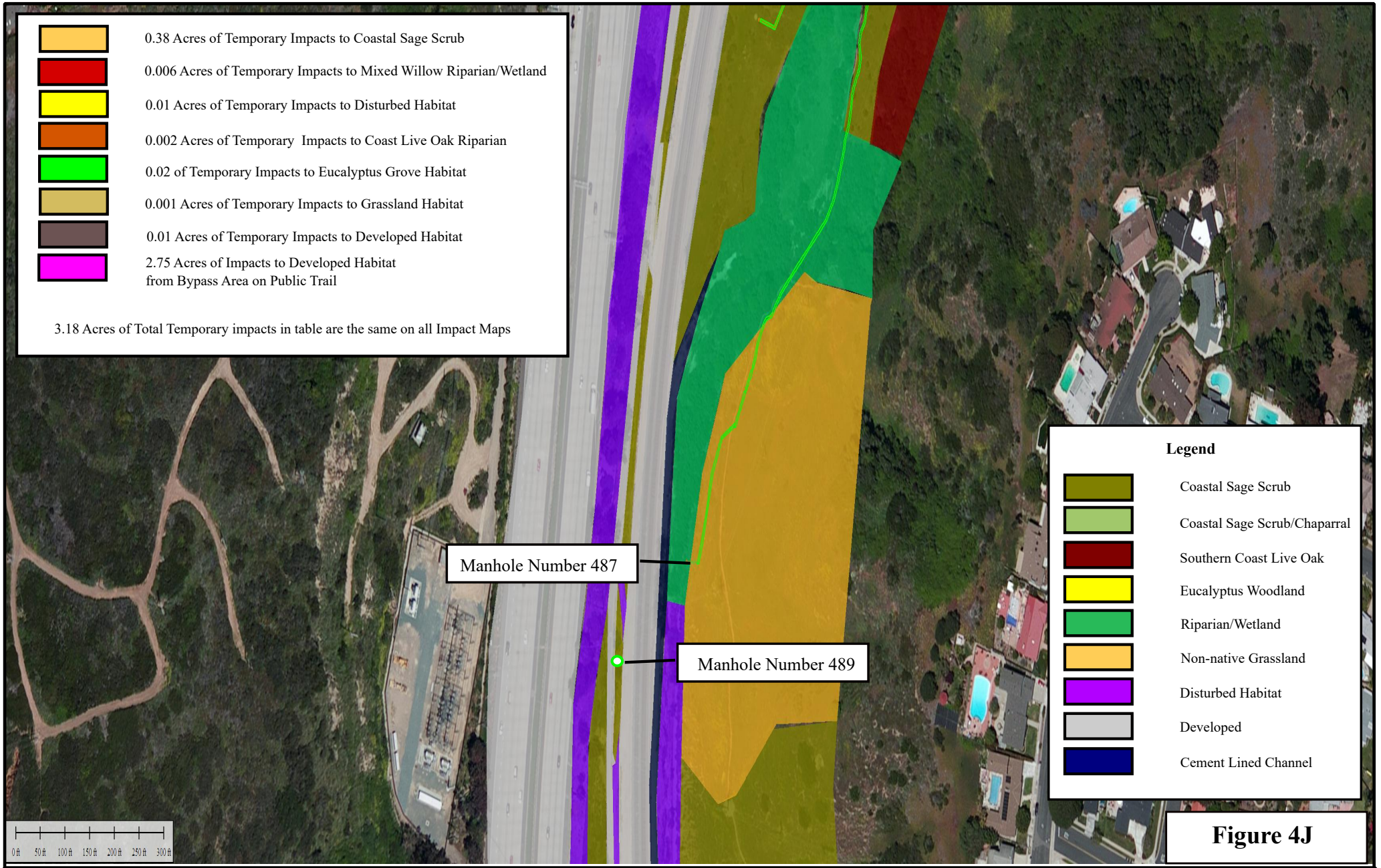


Figure 4J

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

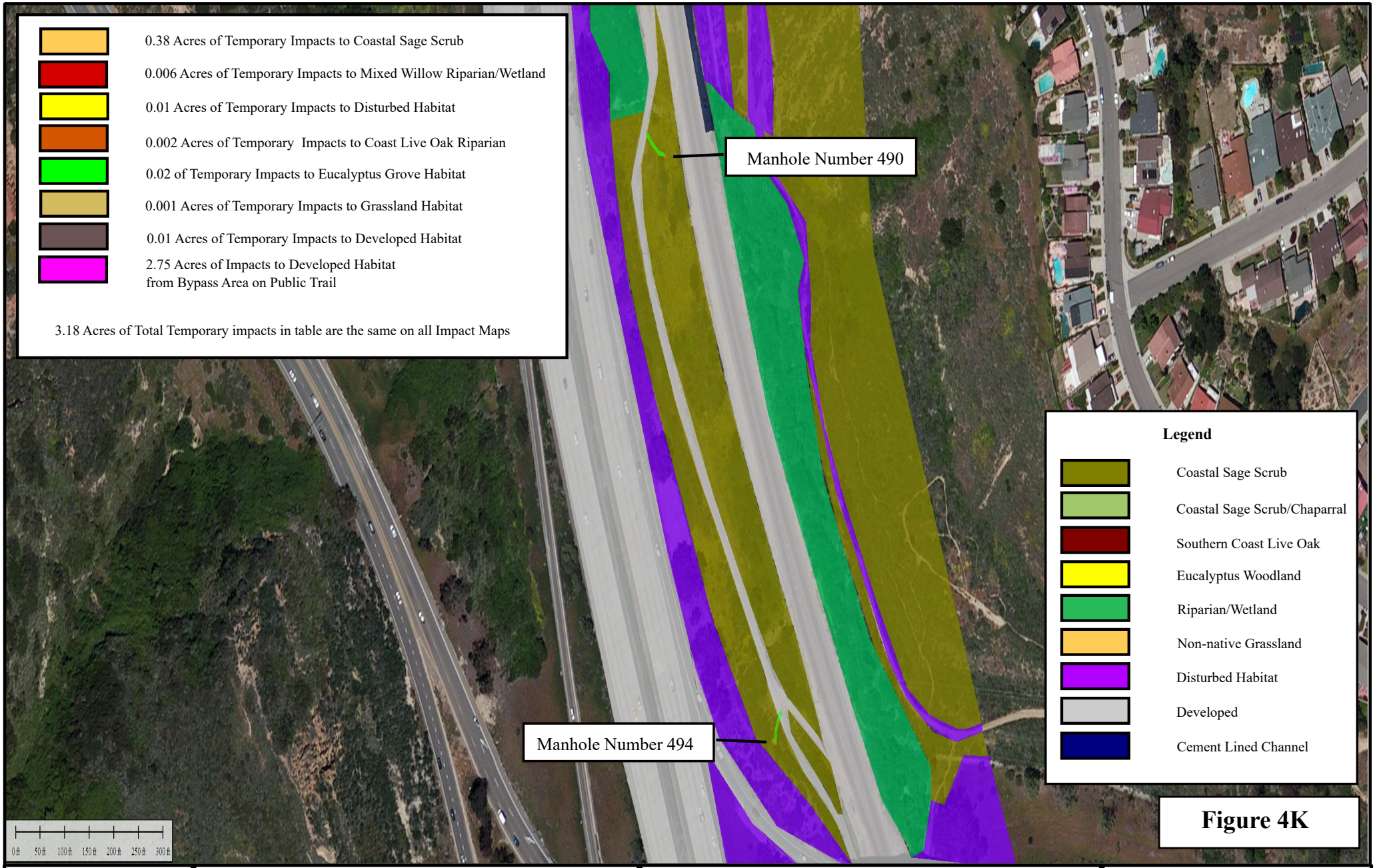


Figure 4K

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

Figure 4L

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

Figure 4M

Prepared By:

Hernandez Environmental Services

Project Impact Map

Rose Canyon Trunk Sewer Joint Repair Project

San Diego, CA

APPENDIX A

ROSE CANYON TRUNK SEWER JOINT REPAIR

CONTRACTOR'S RESPONSIBILITIES

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. LOCATE AND RECONNECT ALL SEWER LATERALS. LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY, LATERAL RECORDS ARE AVAILABLE TO THE CONTRACTOR AT THE WATER DEPARTMENT, 2797 CAMINITO CHOLLAS. LOCATE THE IMPROVEMENTS THAT WILL BE AFFECTED BY LATERAL REPLACEMENTS.
4. EXCAVATE AROUND WATER METER BOX (CITY PROPERTY SIDE) TO DETERMINE IN ADVANCE, THE SIZE OF EACH SERVICE BEFORE TAPPING MAIN.
5. CITY FORCES, WHEN SPECIFED OR SHOWN ON THE PLANS, WILL MAKE PERMANENT CUTS & PLUGS AND CONNECTIONS.
6. KEEP EXISTING MAINS IN SERVICE IN LIEU OF HIGH-LINING, UNLESS OTHERWISE SPECIFIED SHOWN ON PLANS.
7. THE LOCATIONS OF EXISTING BUILDINGS AS SHOWN ON THE PLAN ARE APPROXIMATE.
8. STORM DRAIN INLETS SHALL REMAIN FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION.
9. 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-UTILITIES.
10. EXISTING UTILITY CROSSING AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE NOT REPRESENTATIVE OF ACTUAL LENGTH AND LOCATION OF CONFLICT AREAS. SEE PLAN VIEW.
11. ALL ADVANCE METERING INFRASTRUCTURE (AMI) DEVICES ATTACHED TO THE WATER METER OR LOCATED IN OR NEAR WATER METER BOXES, COFFINS, OR VAULTS SHALL BE PROTECTEDAT ALL TIMES IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
12. SIGNAGE WILL NEED TO BE PROVIDED AT THE PROJECT SITE A MINIMUM OF ONE MONTH PRIOR TO ANY REQUIRED CLOSURE OF THE EXISTING ROSE CANYON TRAIL SYSTEM TO PEDESTRIANS AND BIKE USERS. SIGNAGE SHALL INFORM THE PUBLIC OF THE PENDING PROJECT TRAIL CLOSURE WITH LANGUAGE AND LOCATION TO BE COORDINASTED WITH PARKS AND RECREATION DEPARTMENT SENIOR RANGER MATT SANFORD AT (858) 581-9952

STORM WATER PROTECTION

1. TOTAL SITE DISTURBANCE AREA (ACRES) 0.515
   HYDROLOGIC UNIT/ WATERSHED LOS PENSAQUITOS CREEK
   HYDROLOGIC SUBAREA ROSE CREEK
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

WORK TO BE DONE

CONSTRUCTION CONSISTS OF THE REHABILITATION OF 22,979 LF OF 54" AND 60" PLRCP TRUNK SEWER USING MECHANICAL SEALS WITH PVC LINER REPAIRS. CONSTRUCTON ALSO CONSISTS OF THE SEWER BYPASS NECESSARY TO COMPLETE THE REHABILITATION WHICH INVOLVES THE INSTALLATION OF 2,109 LF OF A 32" HDPE DR17 SEWER BYPASS PIPING ALONG THE SURFACE OF EXISTING DIRT ACCESS ROADS AND THE SIDEWALK IN GENESEE AVENUE, INSTALLATION OF 560 LF OF 4" HDPE DR17 SEWER BYPASS PIPING, CONSTRUCTION OF A TEMPORARY SEWER BYPASS PUMP STATION SOUTH OF NOBEL DRIVE FOR THE ROSE CANYON TRUNK SEWER, CONSTRUCTION OF A TEMPORARY SEWER BYPASS PUMP STATION FOR THE DECORO APARTMENTS SEWER AND CONSTRUCTION OF STOP LOGS FOR THE ROSE CANYON TRUNK SEWER JUNCTION STRUCTURE.

LIMITS OF WORK

SHEET NO.	DISCIPLINE CODE	TITLE	LIMITS	PIPE SIZE (IN)	MATERIAL	LENGTH (FT)
1	G-1	COVER SHEET				
2	G-2	KEY MAP				
3	C-1	JOINT REPAIR - SANTA FE STREET	STA 1+00 TO 19+00	60"	REHAB	1800
4	C-2	JOINT REPAIR - SANTA FE STREET	STA 19+00 TO 37+00	60"	REHAB	1800
5	C-3	JOINT REPAIR - SANTA FE STREET	STA 37+00 TO 55+00	60"	REHAB	1800
6	C-4	JOINT REPAIR - SANTA FE STREET	STA 55+00 TO 73+00	60"	REHAB	1800
7	C-5	JOINT REPAIR - BICYCLE PATH	STA 73+00 TO 91+00	60"	REHAB	1800
8	C-6	JOINT REPAIR - BICYCLE PATH	STA 91+00 TO 109+00	60"	REHAB	1800
9	C-7	JOINT REPAIR - BICYCLE PATH	STA 109+00 TO 127+00	60"	REHAB	1800
10	C-8	JOINT REPAIR - HIKING TRAIL	STA 127+00 TO 144+00	60"	REHAB	1700
11	C-9	JOINT REPAIR - HIKING TRAIL	STA 144+00 TO 163+00	60"	REHAB	1900
12	C-10	JOINT REPAIR - HIKING TRAIL	STA 163+00 TO 181+00	60"	REHAB	1800
13	C-11	JOINT REPAIR - HIKING TRAIL	STA 181+00 TO 199+00	60"	REHAB	1800
14	C-12	JOINT REPAIR - HIKING TRAIL	STA 199+00 TO 217+00	60"	REHAB	1800
15	C-13	JOINT REPAIR - GENESEE AVENUE	STA 217+00 TO 230+79	60"/54"	REHAB	671/708
16	C-14	BYPASS PLAN AND PROFILE - GENESEE AVENUE	STA 300+00 TO 302+00	32"	SEWER	200
17	C-15	BYPASS PLAN AND PROFILE - GENESEE AVENUE	STA 302+00 TO 309+00	32"	SEWER	700
18	C-16	BYPASS PLAN AND PROFILE - HIKING TRAIL	STA 309+00 TO 315+00	32"	SEWER	600
19	C-17	BYPASS PLAN AND PROFILE - HIKING TRAIL	STA 315+00 TO 321+09	32"/4"	SEWER	609/560
20	C-18	NOBEL BYPASS PUMP STATION	SITE PLAN			
21	C-19	BYPASS PUMP STATION	SCHEMATICS			
22	C-20	BYPASS MANHOLE	DETAILS			
23	C-21	JUNCTION STRUCTURE AND SOUND WALL	DETAIL			
24	C-22	INTERNAL PIPE SEAL	DETAIL			
25	C-23	PVC LINER REPAIR	DETAILS			
26	C-24	EROSION CONTROL PLAN	SITE PLAN 1			
27	C-25	EROSION CONTROL PLAN	SITE PLAN 2			
28	C-26	EROSION CONTROL PLAN	SITE PLAN 3			
29	C-27	EROSION CONTROL PLAN	SITE PLAN 4			
30	C-28	EROSION CONTROL PLAN	SITE PLAN 5			
31	T-1	TRAFFIC CONTROL PLAN	GENESEE AVENUE			
32	T-2	TRAFFIC CONTROL PLAN	GENESEE AVENUE			
33	T-3	PEDESTRIAN DETOUR PLAN	SITE PLAN 1			
34	T-4	PEDESTRIAN DETOUR PLAN	SITE PLAN 1			
35	L-1	PLANTING LEGEND AND NOTES	PLANTING LEGEND AND NOTES			
36	L-2	PLANTING PLAN	PLANTING PLAN			

TOTAL REHAB.	22979
TOTAL SEWER	2109/560

DISCIPLINE CODE

G	GENERAL
C	CIVIL
T	TRAFFIC CONTROL
L	LANDSCAPE
I	IRRIGATION

DECLARATION OF RESPONSIBLE CHARGE

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.

6/24/2016

GREG WATANABE, PE — DATE

LEGEND

IMPROVEMENTS	REFERENCE	SYMBOL
TRENCH RESURFACING	SDG-107, SDG-108	
SEWER BYPASS FORCE MAIN	SEE PLANS & SPECS, SDS-110 TYPE A	
SEWER MAIN REHAB	SEE PLANS & SPECS	REHAB
AIR & VACUUM VALVE	SDW-159	

EXISTING STRUCTURES

EX WATER MAIN & VALVES
EX WATER METER
EX FIRE HYDRANT
EX SEWER MAIN & MANHOLES
EX DRAINS
EX PAVEMENT (PROFILE)
EX GROUND LINE (PROFILE)
EX TRAFFIC SIGNAL — TS
EX STREET LIGHT — SL
EX POWERPOLE
EX FENCE — X
GAS MAIN
FIBER OPTIC CONDUIT — FO
ELEC. COND., TEL. COND., CATV — E T C
RAILROAD, TROLLEY TRACKS

STANDARD DRAWINGS

1. THE CITY OF SAN DIEGO STANDARD DRAWINGS LATEST EDITION, INCLUDING ALL REGIONAL STANDARD DRAWINGS.
2. STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, THE 2010 U.S. CUSTOMARY UNIT STANDARD PLANS.

STANDARD SPECIFICATIONS

1. STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, (GREENBOOK) LATEST EDITION.
2. CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITEBOOK) LATEST EDITION.
3. STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD 2012) INCLUDING THE CALIFORNIA SUPPLEMENT AND THE CITY OF SAN DIEGO SIGN BOOK, 2012 EDITION.
4. STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, THE 2010 U.S. CUSTOMARY SPECIFICATIONS.

GHD Inc.
175 Technology Drive Suite 200
Irvine California 92618 USA
T 1 949 585 5200 F 1 949 648 5299 W www.ghd.com

100% SUBMITTAL — G-1

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR
COVER SHEET

CONSTRUCTION CHANGE / ADDENDUM

CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

The City of SAN DIEGO Public Works

AS-BUILT INFORMATION

MATERIALS	MANUFACTURER
PIPE CL 235 (WATER)	-
PIPE SDR 35 (SEWER)	-
GATE VALVES	-
FIRE HYDRANTS	-
SEWER MANHOLES	-
REHABILITATE SEWER MANHOLES	-
REHABILITATE SEWER MAIN	-

SPEC. NO.

REGISTERED PROFESSIONAL ENGINEER — GREGORY W. WATANABE — No. 067618 Exp. 6-30-17 CIVIL — STATE OF CALIFORNIA

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER MIKE NINH — PRINT NAME — DATE — RCE#

SUBMITTED BY: MARYAM LIAGHAT — PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI — PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

SEE SHEETS — CCS27 COORDINATE
SEE SHEETS — CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-1-D

ROSE CANYON TRUNK SEWER JOINT REPAIR

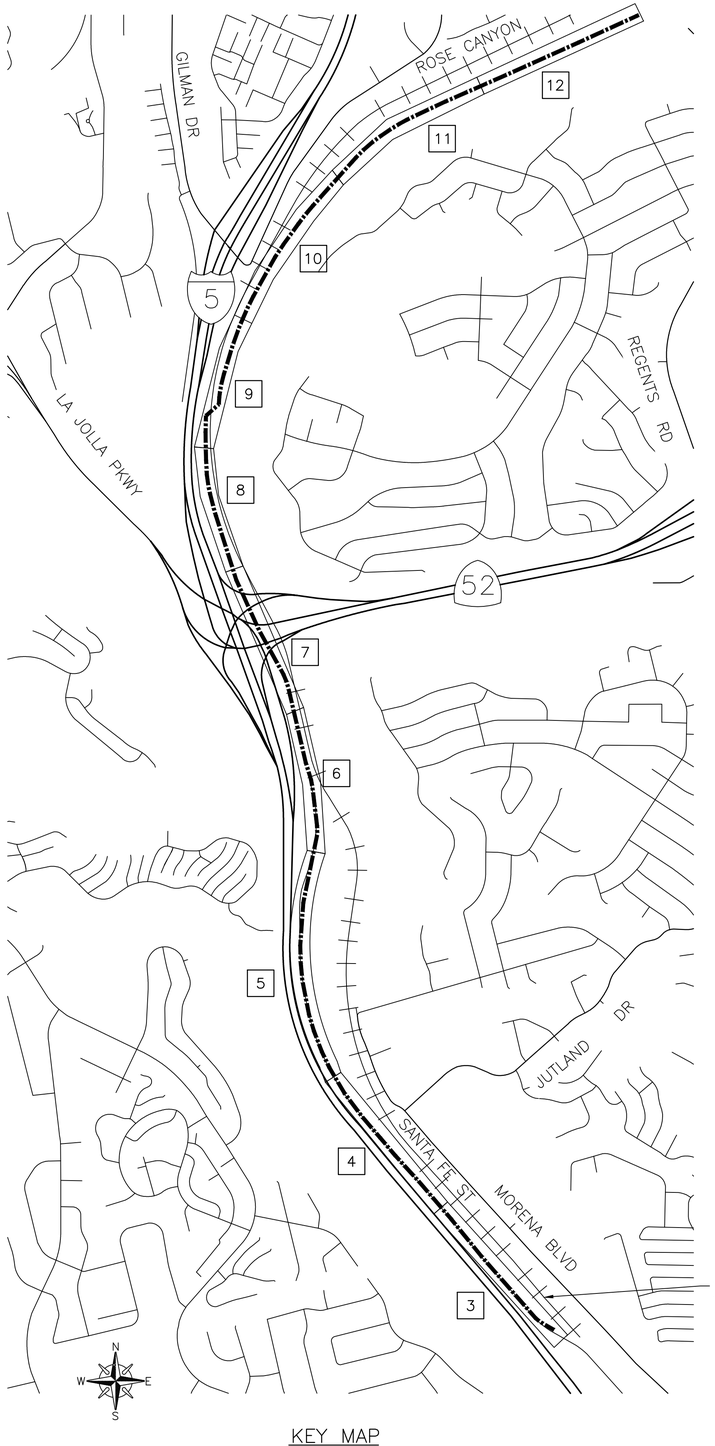
Plot Date: 11 July 2016 - 10:48 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - G1.dwg

ABBREVIATIONS

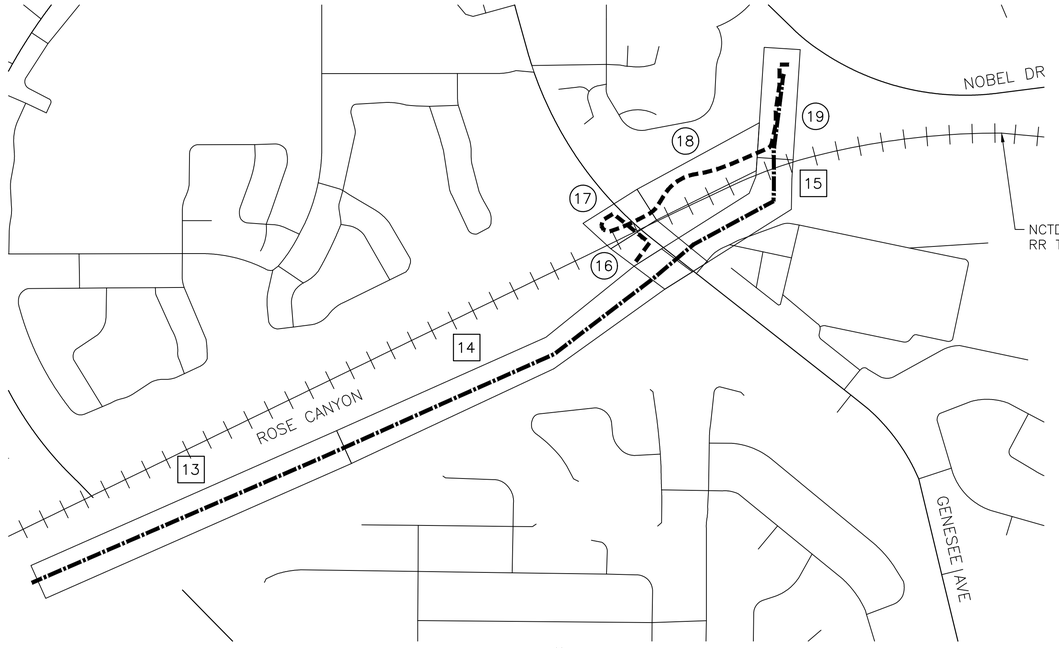
ABAND	ABANDON	PLRCP	PVC LINED REINFORCED CONCRETE PIPE
AC	ASBESTOS CEMENT PIPE		
AHD	AHEAD		
ASPH	ASPHALT	PVC	POLYVINYL CHLORIDE
ASSY	ASSEMBLY		
BFV	BUTTERFLY VALVE	PROP	PROPOSED
BK	BACK	RED	REDUCER
BTWN	BETWEEN	ROW	RIGHT-OF-WAY
CATV	CABLE TV	RR	RAILROAD
CAV	COMBINATION AIR VACUUM/ AIR RELEASE VALVE	RT	RIGHT
		R/W	RIGHT OF WAY
CI	CAST IRON PIPE	$	SURVEY LINE
℄	CENTER LINE	SO	STUB OUT
COND	CONDUIT	S/O	SOUTH OF
CONT	CONTINUED	SSP	SUPPLEMENTARY SPECIAL PROVISIONS
CONTR	CONTRACTOR		
DB	DIRECT BURIED	SWR	SEWER
DI	DUCTILE IRON	TEL	TELEPHONE
EB	ENCASED BURIED	UNK	UNKNOWN
EL, ELEV	ELEVATION	VC	VITRIFIED CLAY PIPE
ELEC	ELECTRIC	WM	WATER METER
EX,EXIST	EXISTING	WTR	WATER
E/O	EAST OF	W/O	WEST OF
F	FLANGE		
FH	FIRE HYDRANT		
FO	FIBER OPTIC		
FS	FIRE SERVICE		
GV	GATE VALVE		
HDPE	HIGH-DENSITY POLYETHYLENE		
HP	HIGH PRESSURE		
IE	INVERT ELEVATION		
LT	LEFT		
MJ	MECHANICAL JOINT		
MTD	MULTIPLE TELEPHONE DUCT		
NCTD	NORTH COUNTY TRANSIT DISTRICT		
N/O	NORTH OF		
OVHD	OVER HEAD		
PE	POLYETHYLENE		

NCTD GENERAL NOTES

1. FOR ALL EMERGENCIES AFFECTING THE TRACK AND TRAIN SAFETY, CALL NORTH COUNTY TRANSIT DISTRICT'S (NCTD) 24 HOUR SECURITY OFFICE AT (760) 966-6700.
2. PRIOR TO THE START OF CONSTRUCTION AND AT THE CONTRACTOR'S EXPENSE, ALL PERSONNEL ENTERING THE ROW, INCLUDING SUBCONTRACTORS AND THIRD PARTIES, SHALL COMPLETE NCTD'S ROADWAY WORKER PROTECTION (RWP) TRAINING COURSE. CONTACT TRANSIT AMERICA'S SERVICE, INC. (TASI) AT (760) 966-6514 TO ARRANGE FOR TRAINING.
3. ALL PERSONS ENTERING THE RAILROAD ROW SHALL HAVE THE RWP STICKER AFFIXED TO THEIR HARD HAT AND RWP BADGE IN THEIR POSSESSION.
4. ALL PERSONNEL ENTERING THE RAILROAD RIGHT-OF-WAY (ROW) SHALL COMPLY WITH NCTD SAFETY REQUIREMENTS. FAILURE TO COMPLY SHALL BE GROUNDS FOR TERMINATION OF WORK AND REVOCATION OF THE RIGHT TO ENTER NCTD'S RIGHT-OF-WAY AND/OR RIGHT-OF-ENTRY (ROE) PERMIT.
5. THE CONTRACTOR OR ENTITY BEING ISSUED AUTHORIZATION BY NCTD TO WORK IN THE ROW (CONTRACTOR) SHALL COMPLY WITH ALL APPLICABLE TERMS, CONDITIONS AND REQUIREMENTS OF NCTD'S POLICIES REGARDING NCTD'S ROW AND OTHER NCTD ORDINANCES, RULES, AND REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS OF THE FEDERAL, STATE COUNTY, LOCAL GOVERNMENTS AND ALL ADMINISTRATIVE AGENCIES WHICH MAY HAVE JURISDICTION OVER THE CONTRACTOR'S WORK OR WORK AREA.
6. THE CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH RWP TRAINING, FLAGGING, INSPECTIONS, AND REVIEWS AS REQUIRED IN THE ROE PERMIT, THE WORK AUTHORIZATION LETTER, PROJECT PLANS AND SPECIFICATIONS, AND THE JOB SITE RAILROAD FLAGMAN/EMPLOYEE-IN-CHARGE (EIC). FAILURE TO COMPLY MAY RESULT IN WORK STOPPAGE OR REMOVAL FROM NCTD PROPERTY.
7. NO WORK SHALL BE PERFORMED WITHIN THE RAILROAD RIGHT-OF-WAY WITHOUT A ROE PERMIT AND/OR WORK AUTHORIZATION LETTER, AS APPLICABLE. THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS SET FORTH BY NCTD, THE ROE PERMIT, THE WORK AUTHORIZATION LETTER, PROJECT PLANS AND SPECIFICATIONS, AND THE JOB SITE RAILROAD FLAGMAN/EMPLOYEE-IN-CHARGE (EIC). FAILURE TO COMPLY MAY RESULT IN WORK STOPPAGE OR REMOVAL FROM NCTD PROPERTY.
8. ONLY AN NCTD AUTHORIZED RAILROAD FLAGMAN (RAILROAD FLAGMAN) IS PERMITTED TO PERFORM FLAGGING OPERATIONS WITHIN THE RAILROAD RIGHT-OF-WAY. NO PERSONNEL SHALL CROSS ANY TRACK WITHOUT THE APPROVAL FROM THE RAILROAD FLAGMAN. NO MEN OR EQUIPMENT SHALL BE ACTIVELY WORKING, PARKED OR STATIONARY ON NCTD'S ROW WITHOUT PRIOR APPROVAL FROM THE RAILROAD FLAGMAN.
9. A RAILROAD FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION RELATED ACTIVITIES. THE RAILROAD FLAGMAN/EIC HAS SOLE RESPONSIBILITY TO PROTECT THE RAILROAD INFRASTRUCTURE AND OPERATIONS. AT ALL TIMES, THE CONTRACTOR SHALL FOLLOW THE RAILROAD FLAGMAN/EIC'S DIRECTION.
10. CONTRACTOR IS RESPONSIBLE TO REQUEST RAILROAD FLAGMAN SERVICES WITH ADEQUATE NOTICE TO MEET CONTRACTOR'S CONSTRUCTION SCHEDULE.
11. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR EACH EQUIPMENT OPERATOR TO HAVE CONSTANT AND DIRECT RADIO CONTACT WITH THEIR FOREMAN. THE FOREMAN WILL IN TURN HAVE CONSTANT AND DIRECT CONTACT WITH THE RAILROAD FLAGMAN/EIC.
12. THE CONTRACTOR SHALL HAVE THE PERMITTED STAMPED SET OF PLANS ON-SITE. WORK WILL BE TERMINATED BY NCTD SHOULD NO STAMPED PLANS BE ON-SITE.
13. IF APPLICABLE, ALL WORK ON OR ADJACENT TO THE SAN DIEGO TROLLEY SHALL ALSO ADHERE TO METROPOLITAN TRANSIT SYSTEM (MTS) REQUIREMENTS.
14. THE MOVEMENT OF TRAINS IS UNPREDICTABLE. TRAINS MAY APPROACH THE JOB SITE IN ANY DIRECTION, AT ANY SPEED, AT ANY TIME, AND MAY STOP AND OCCUPY THE TRACK WITHIN THE CONTRACTOR'S WORK ZONE FOR AN UNDETERMINED PERIOD OF TIME.
15. CONTRACTORS MUST CONTACT CALL BEFORE YOU DIG (811) BEFORE ANY EXCAVATION OCCURS WITHIN THE ROW.
16. NCTD RAILROAD UTILITIES ARE NOT A PART OF CALL BEFORE YOU DIG. CONTRACTOR MUST REQUEST RAILROAD UTILITIES LOCATED BEFORE ANY EXCAVATIONS CAN OCCUR BY CALL NCTD AT (760) 967-2883 FOR SIGNALING AND PTC FIBER MARK-OUTS WITHIN THE ROW AT LEAST SEVEN (7) WORKING DAYS BEFORE DIGGING.
17. THE CONTRACTOR SHALL CONTACT NCTD AT (760) 967-2883, 72-HOURS IN ADVANCE FOR ANY INSPECTIONS REQUIRED IN THE ROE PERMIT AND/OR WORK AUTHORIZATION LETTER, AS APPLICABLE.
18. UPON PROJECT COMPLETION, THE NCTD ROW SHALL BE LEFT IN AS GOOD IF NOT BETTER CONDITION. NCTD PROPERTY SHALL NOT BE USED FOR SPOILS.
19. ALL TEMPORARY WORK INCLUDING SEWER BYPASS LINE MUST BE REMOVED FROM RAILROAD R/W PRIOR TO CLOSEOUT.



KEY MAP
NOT TO SCALE



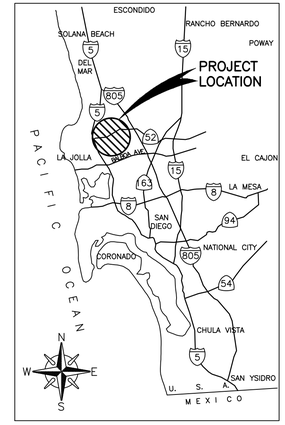
LEGEND

- TRUNK SEWER
- SEWER BYPASS
- X — SEWER REHAB SHEET NO.
- (X) — SEWER BYPASS SHEET NO.
- RAILROAD TRACKS

KEY MAP
NOT TO SCALE

FIELD DATA

BENCHMARK: CITY OF SAN DIEGO 4" BRASS DISK IN WELL MONUMENT ALONG THE CENTERLINE OF NOBEL DRIVE 200 FEET EAST OF GENESSE AVENUE NAVD 88 ELEVATION 340.62 (FEET), POINT NO. 675 OF RECORD OF SURVEY NO. 14492
FIELD NOTES: THE BASIS OF BEARINGS FOR THIS PROJECT WAS DERIVED FROM HOLDING POINT NO. 675 AND POINT NO. 251 PER RECORD OF SURVEY 14492
DATUM: MEAN SEA LEVEL
STREETS REQUIRING 12" TRENCH CAP: NONE



VICINITY MAP
NOT TO SCALE

KEY MAP

100% SUBMITTAL

G-2

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR
KEY MAP

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 2 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

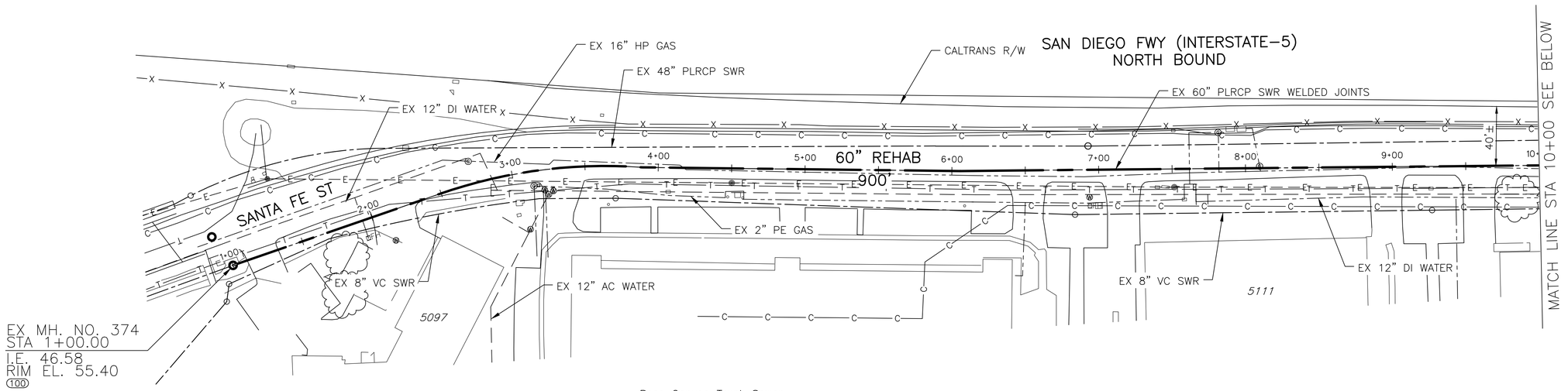
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

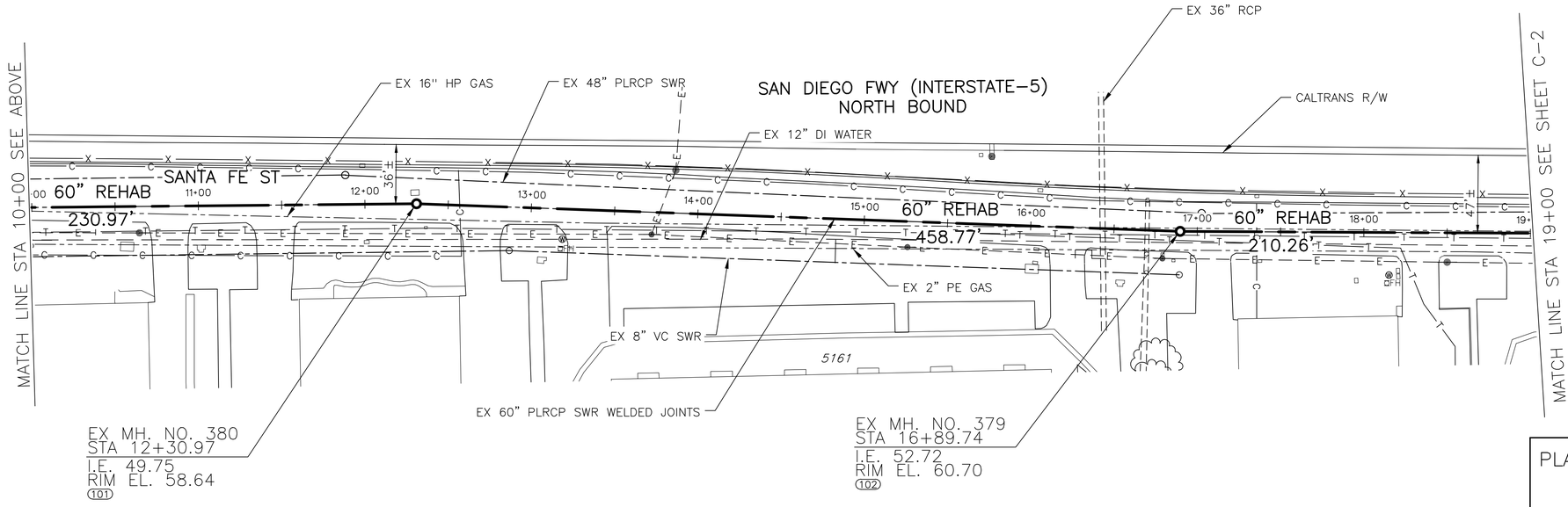
38791-2-D

Plot Date: 11 July 2016 - 11:12 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - G2.dwg



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt#	Station	Northing (Y)	Easting (X)
100	1+00.00	1878528.7333	6262658.7713
101	12+30.97	1879328.2147	6261870.4562
102	16+89.74	1879685.1144	6261582.1961



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STORM DRAIN: 14809-72-L
ELECTRIC: SDG&E
THOMAS BROS: 1248-B3, 1248-C4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 15451-3-D, 15451-4-D, 15451-5-D

SCALE 1"=40'

100% SUBMITTAL

C-1

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 1+00 TO STA 19+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 3 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

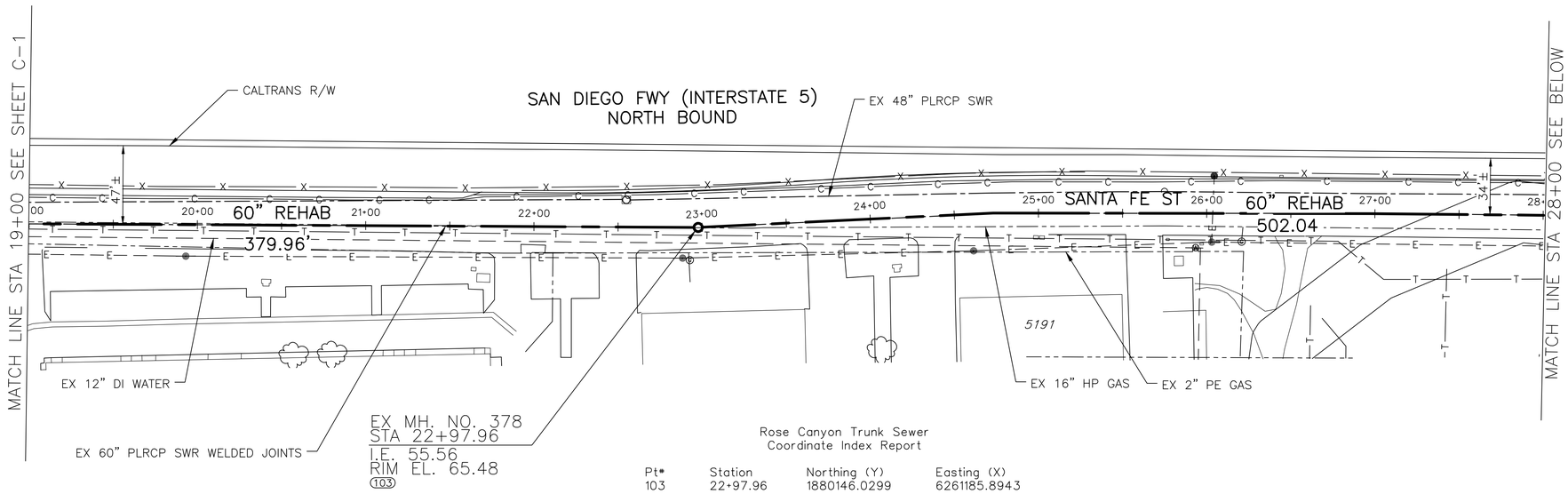
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-3-D

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

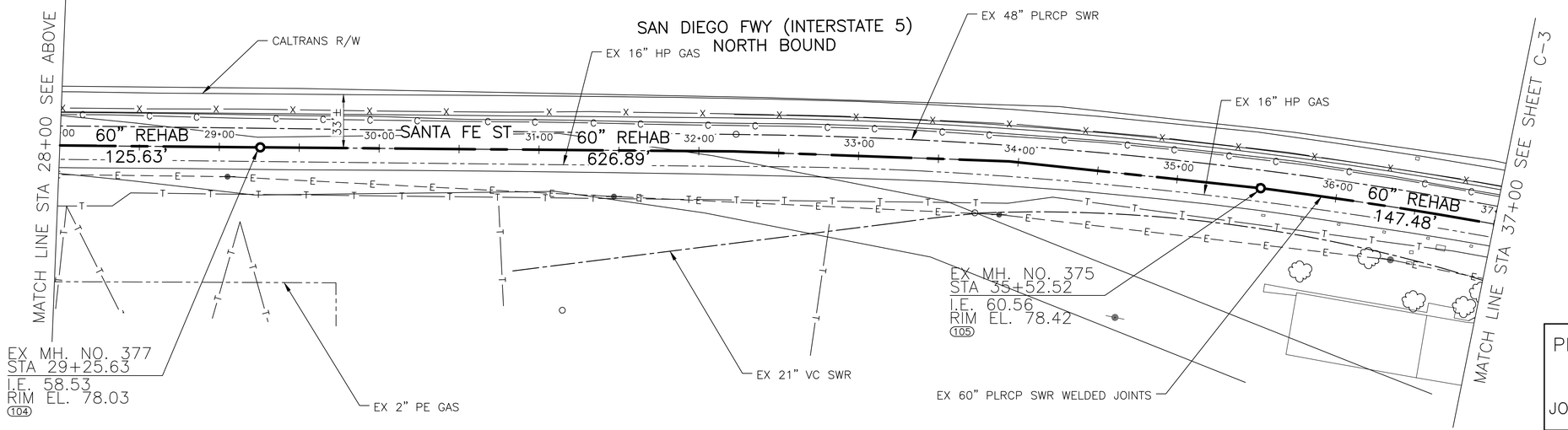
SANTA FE STREET

Plot Date: 5 July 2016 – 2:06 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C01.dwg



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
103	22+97.96	1880146.0299	6261185.8943
Pt*	Station	Northing (Y)	Easting (X)
104	29+25.63	1880615.8834	6260769.4607
Pt*	Station	Northing (Y)	Easting (X)
105	35+52.52	1881105.0094	6260378.1428



REFERENCE:
SEWER: 26734-7-D, 26734-8-D, 11246-2-D, 13699-8-D, 13699-9-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1248-B2
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 15454-2-D, 15451-4-D

SCALE 1"=40'

100% SUBMITTAL C-2

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 19+00 TO STA 37+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 4 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. 067618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

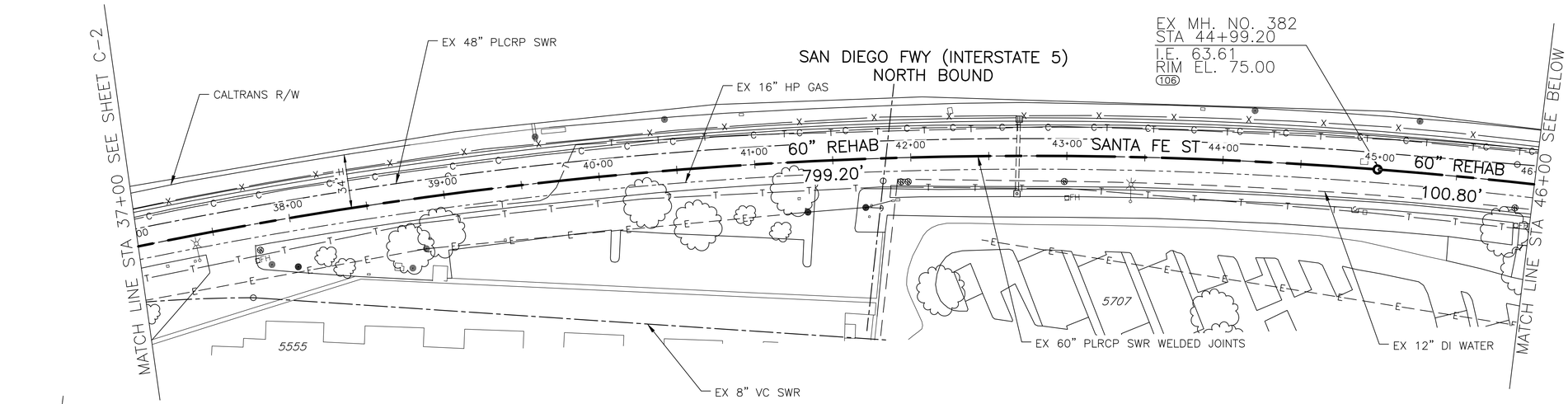
CCS83 COORDINATE

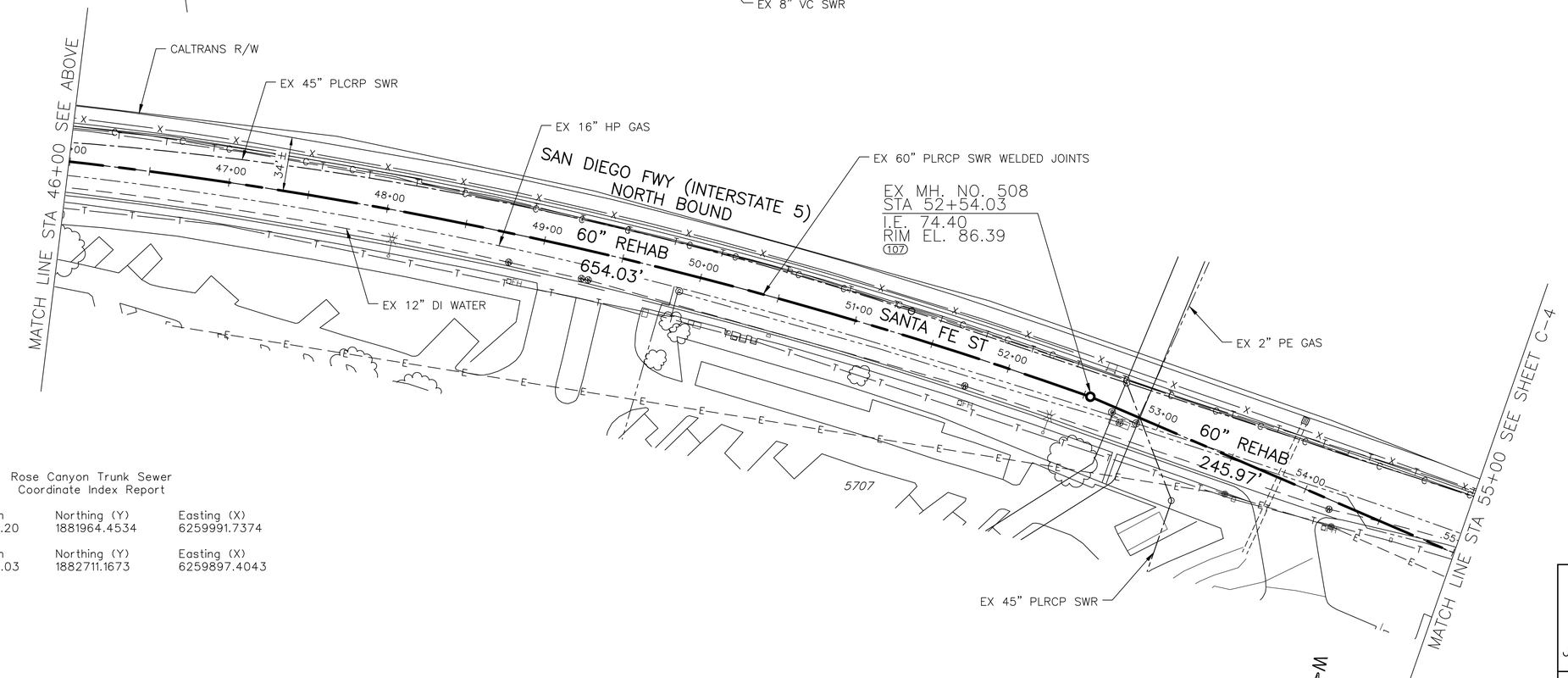
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-4-D

SANTA FE STREET

Plot Date: 8 July 2016 – 1:02 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C02.dwg





Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
106	44+99.20	1881964.4534	6259991.7374
Pt*	Station	Northing (Y)	Easting (X)
107	52+54.03	1882711.1673	6259897.4043

REFERENCE:
SEWER: 26734-8-D, 26734-9-D,
26734-10-D, 4570-D, 13699-7-D, 18306-34-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1248-B1, 1248-B2
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 13904-2-D, 13904-4-D

SCALE 1"=40'

100% SUBMITTAL

C-3

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 37+00 TO STA 55+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 5 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER
MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

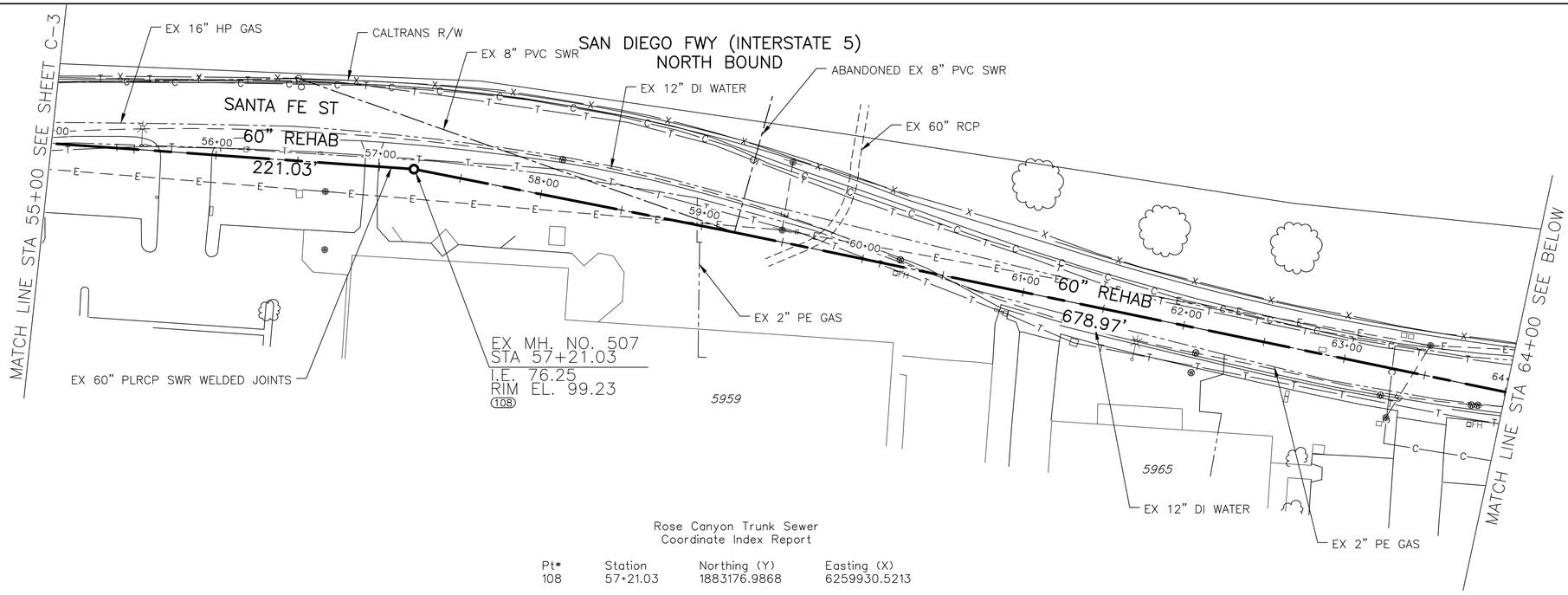
CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

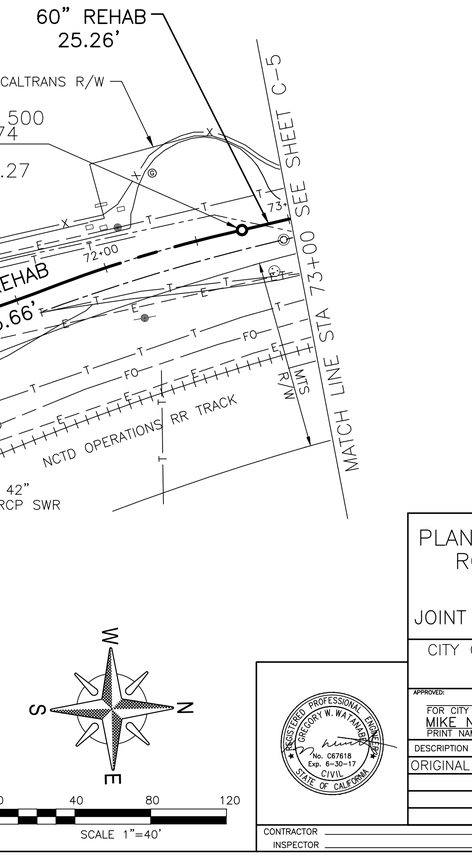
38791-5-D

SANTA FE ST



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
108	57+21.03	1883176.9868	6259930.5213
Pt*	Station	Northing (Y)	Easting (X)
109	64+83.58	1883924.0802	6260083.2564
Pt*	Station	Northing (Y)	Easting (X)
110	69+89.08	1884426.5890	6260031.2716
Pt*	Station	Northing (Y)	Easting (X)
111	72+74.74	1884701.9276	6259957.6366



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STORM DRAIN: 11246-8-D, 18655-2-D
ELECTRIC: SDG&E
THOMAS BROS: 1248-A1, 1248-B1
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 13904-2-D

100% SUBMITTAL

C-4

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 55+00 TO STA 73+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 6 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

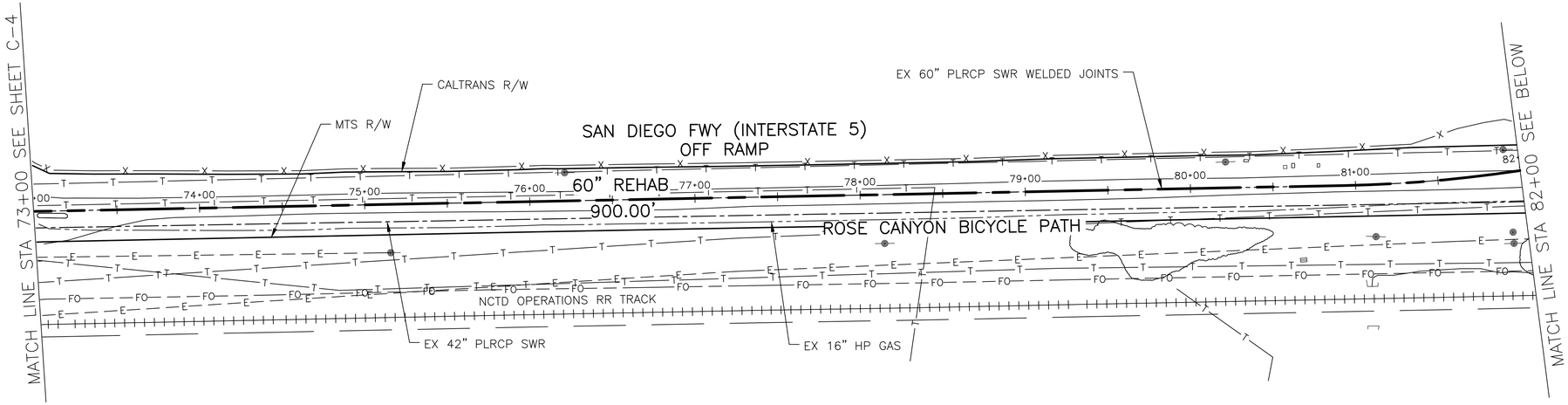
38791-6-D

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

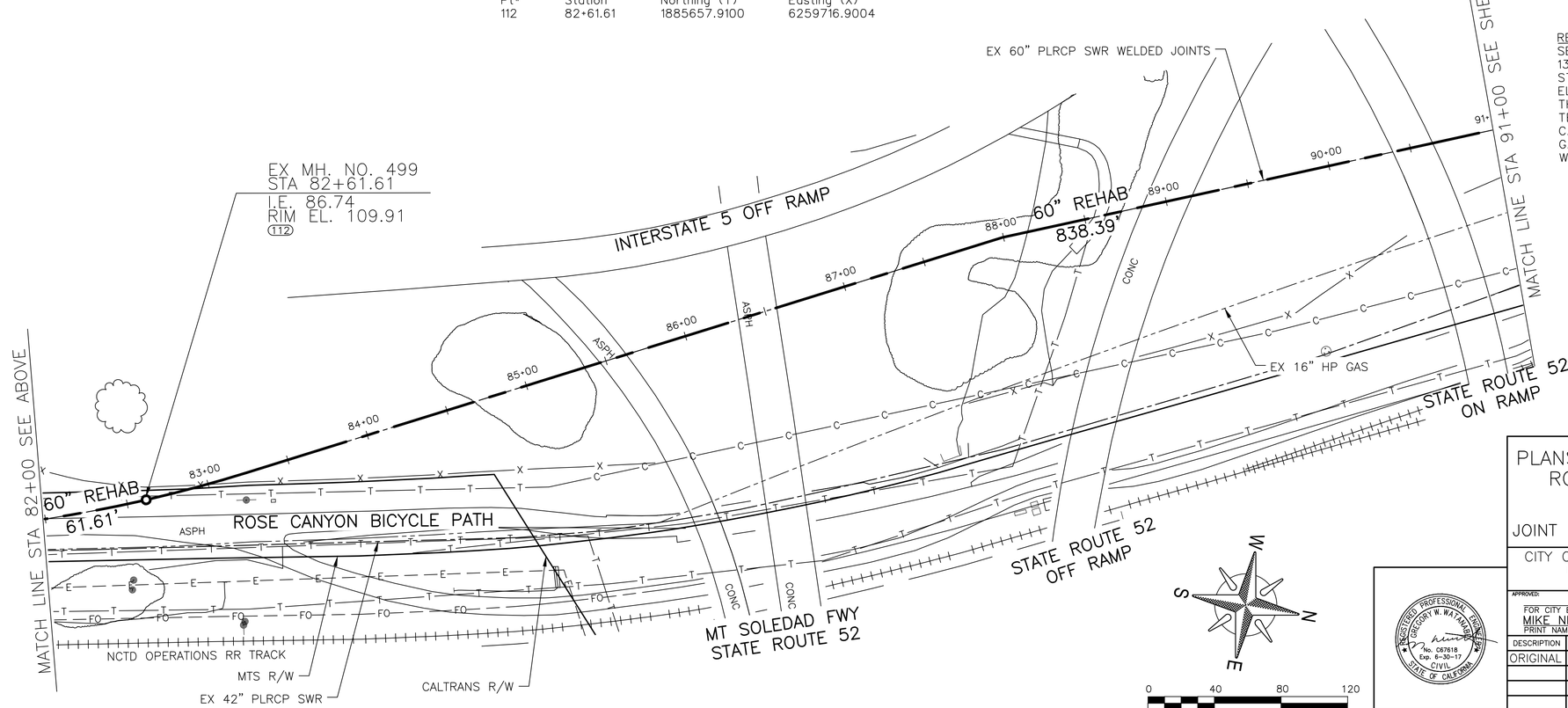
SANTA FE STREET

Plot Date: 5 July 2016 – 2:11 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C04.dwg



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
112	82+61.61	1885657.9100	6259716.9004



REFERENCE:
SEWER: 26734-12-D, 26734-13-D, 26734-14-D, 13699-4-D, 13699-5-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-A7
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: NONE

100% SUBMITTAL

C-5

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 73+00 TO STA 91+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 7 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

CCS27 COORDINATE

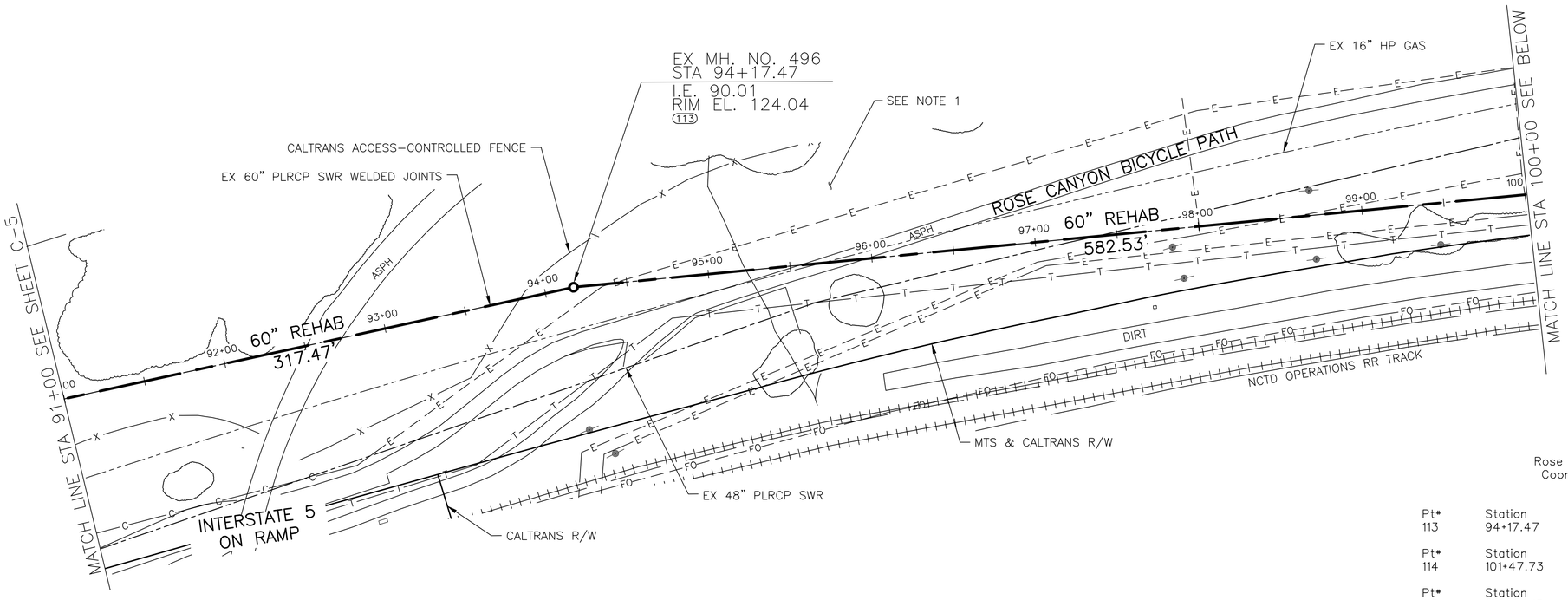
CCS83 COORDINATE

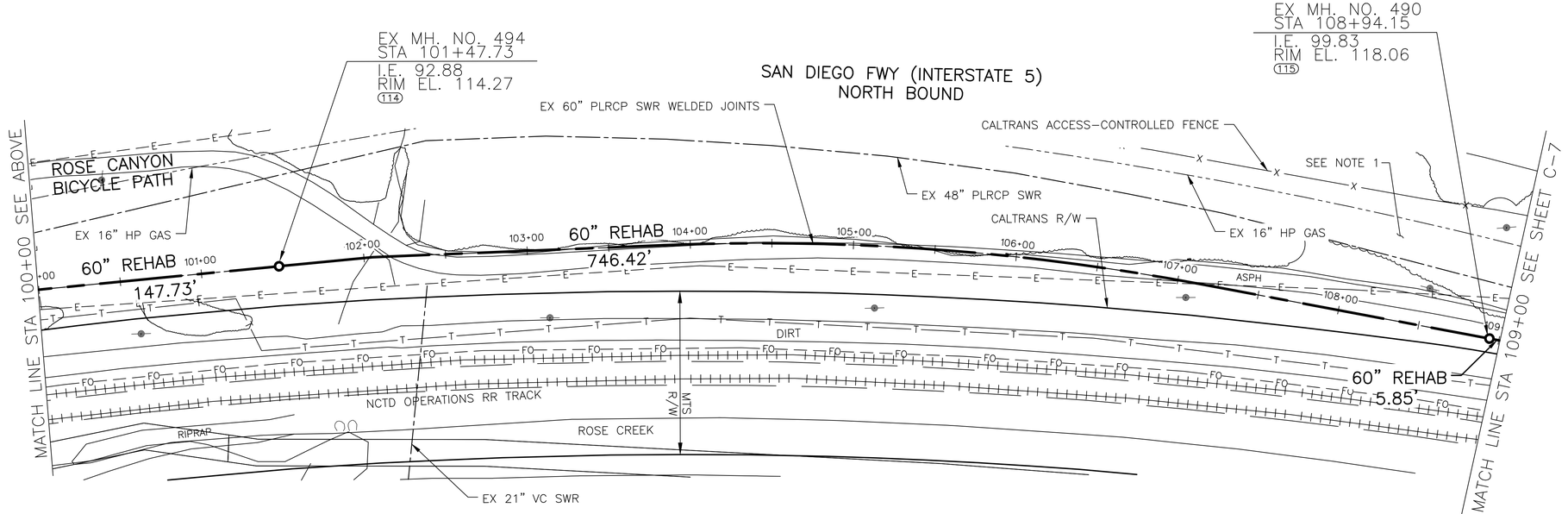
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-7-D

ROSE CANYON BICYCLE PATH

Plot Date: 5 July 2016 – 2:12 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C05.dwg



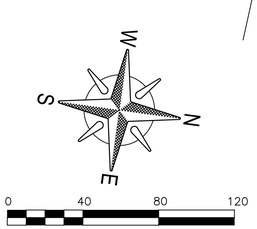


Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
113	94+17.47	1886691.1400	6259201.0404
Pt*	Station	Northing (Y)	Easting (X)
114	101+47.73	1887387.4000	6258980.8104
Pt*	Station	Northing (Y)	Easting (X)
115	108+94.15	1888121.7200	6258869.9704

REFERENCE:
SEWER: 26734-14-D, 26734-15-D, 26734-16-D, 11246-5-D, 13699-4-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-A7
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: NONE

NOTE:
1. UNFENCED CALTRANS R/W UTILITY CONTROLLED AREA (PERMIT NO. 1175-E-763.082 TO CITY OF SAN DIEGO)
2. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.



0 40 80 120
SCALE 1"=40'

100% SUBMITTAL

C-6

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 91+00 TO STA 109+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 8 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER MIKE NINH (PRINT NAME) DATE RCE#

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. 067618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

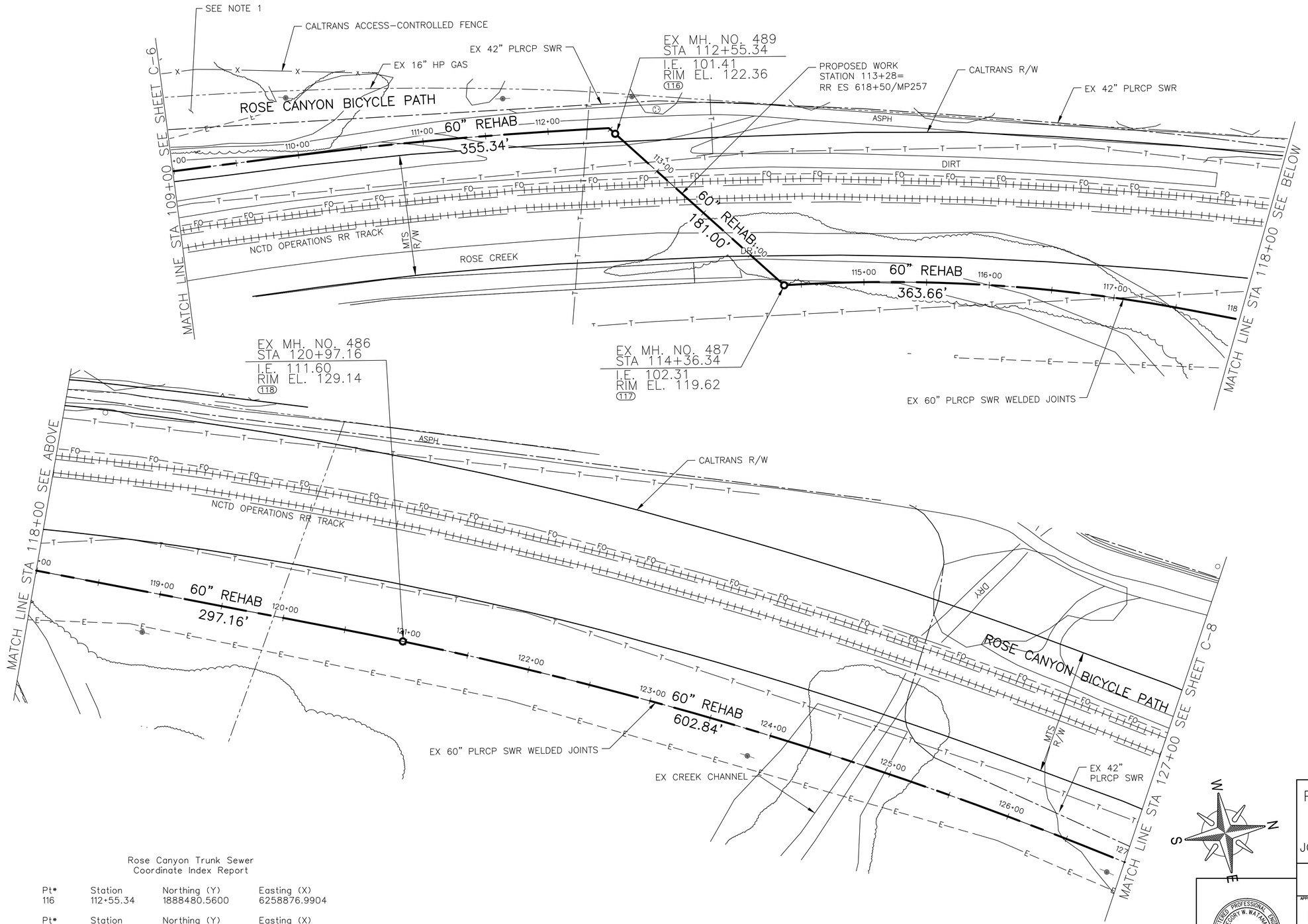
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-8-D

ROSE CANYON BICYCLE PATH



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
116	112+55.34	1888480.5600	6258876.9904
117	114+36.34	1888601.9814	6259011.2210
118	120+97.16	1889242.9665	6259162.4938

REFERENCE:
SEWER: 26734-16-D, 26734-17-D, 13699-2-D
13699-3-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-A6, 1228-A7
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: NONE

NOTE:
1. UNFENCED CALTRANS R/W UTILITY CONTROLLED AREA (PERMIT NO. 1175-E-763.082 TO CITY OF SAN DIEGO)
2. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

0 40 80 120
SCALE 1"=40'

100% SUBMITTAL

C-7

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 109+00 TO STA 127+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 9 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

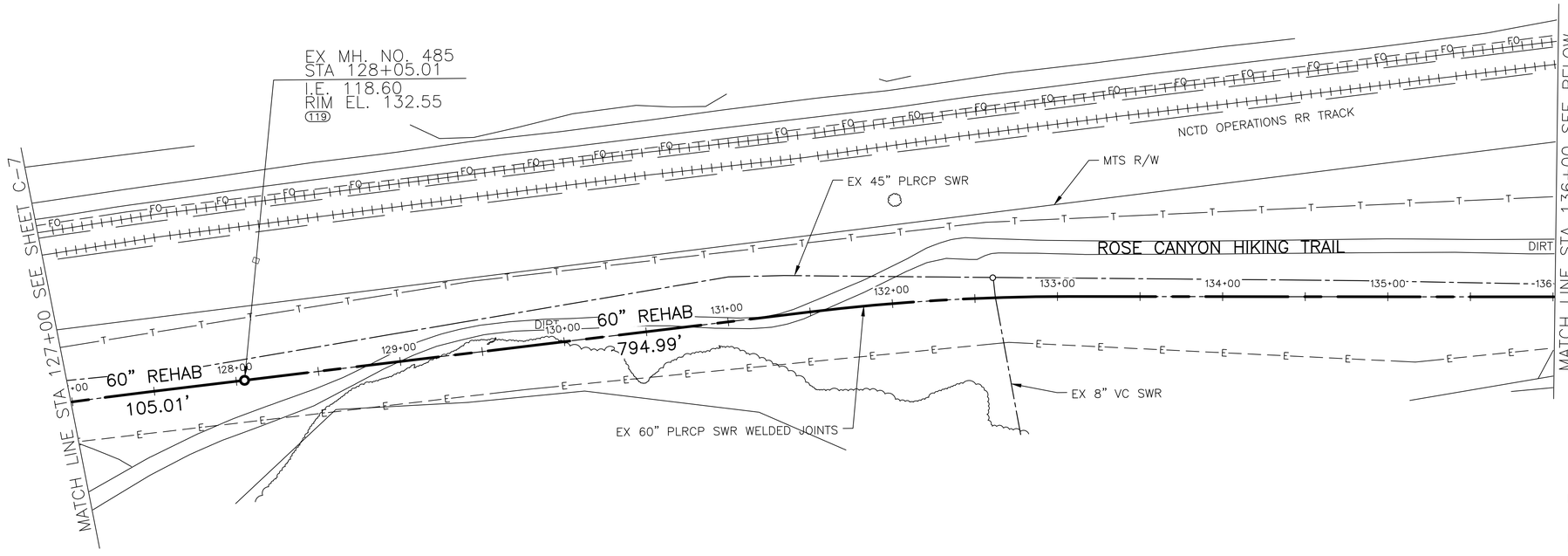
REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

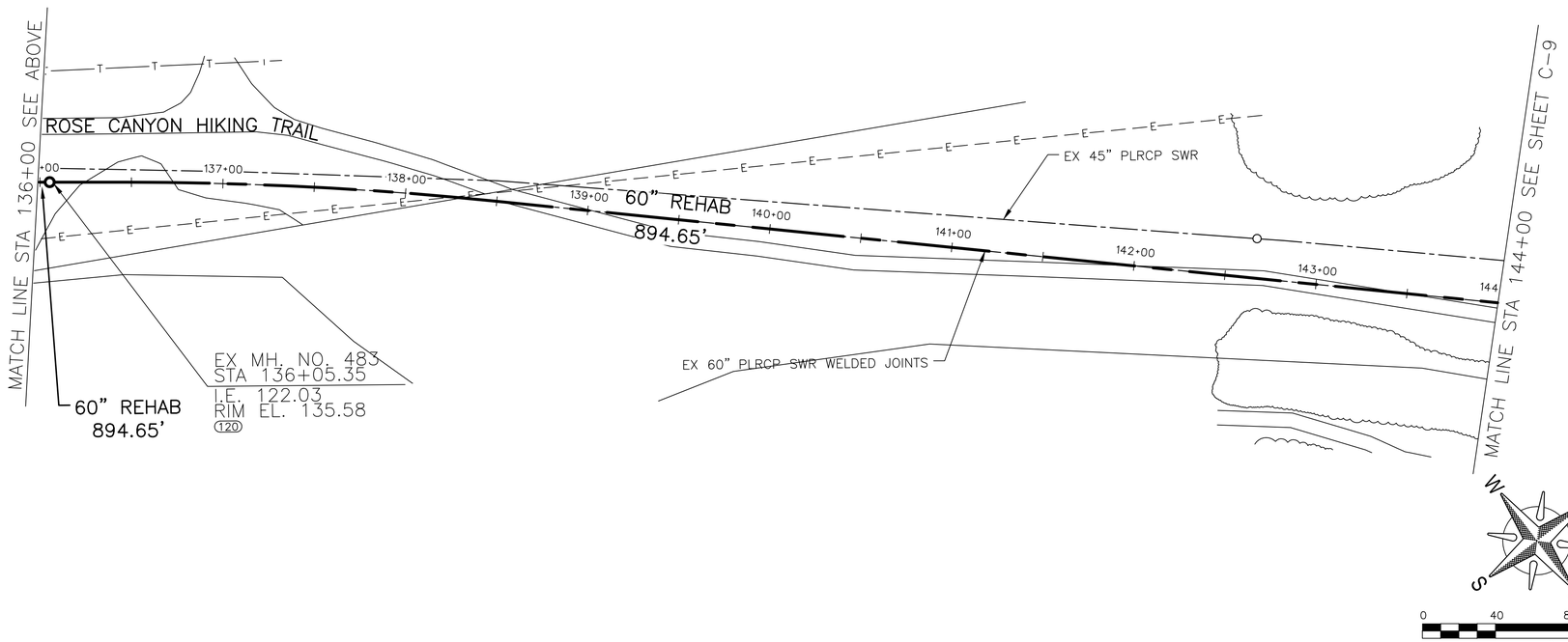
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-9-D

ROSE CANYON BICYCLE PATH/HIKING TRAIL

Plot Date: 5 July 2016 - 3:02 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C07.dwg





Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
119	128+05.01	1889889.0138	6259448.5323
Pt*	Station	Northing (Y)	Easting (X)
120	136+05.35	1890563.8527	6259876.4506

REFERENCE:
SEWER: 26734-17-D, 26734-18-D, 26734-19-D,
13644-59-D, 13644-60-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-A5, 1228-A6, 1228-B5
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: NONE

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

ROSE CANYON HIKING TRAIL

100% SUBMITTAL

C-8

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR
STA 127+00 TO STA 144+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 10 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

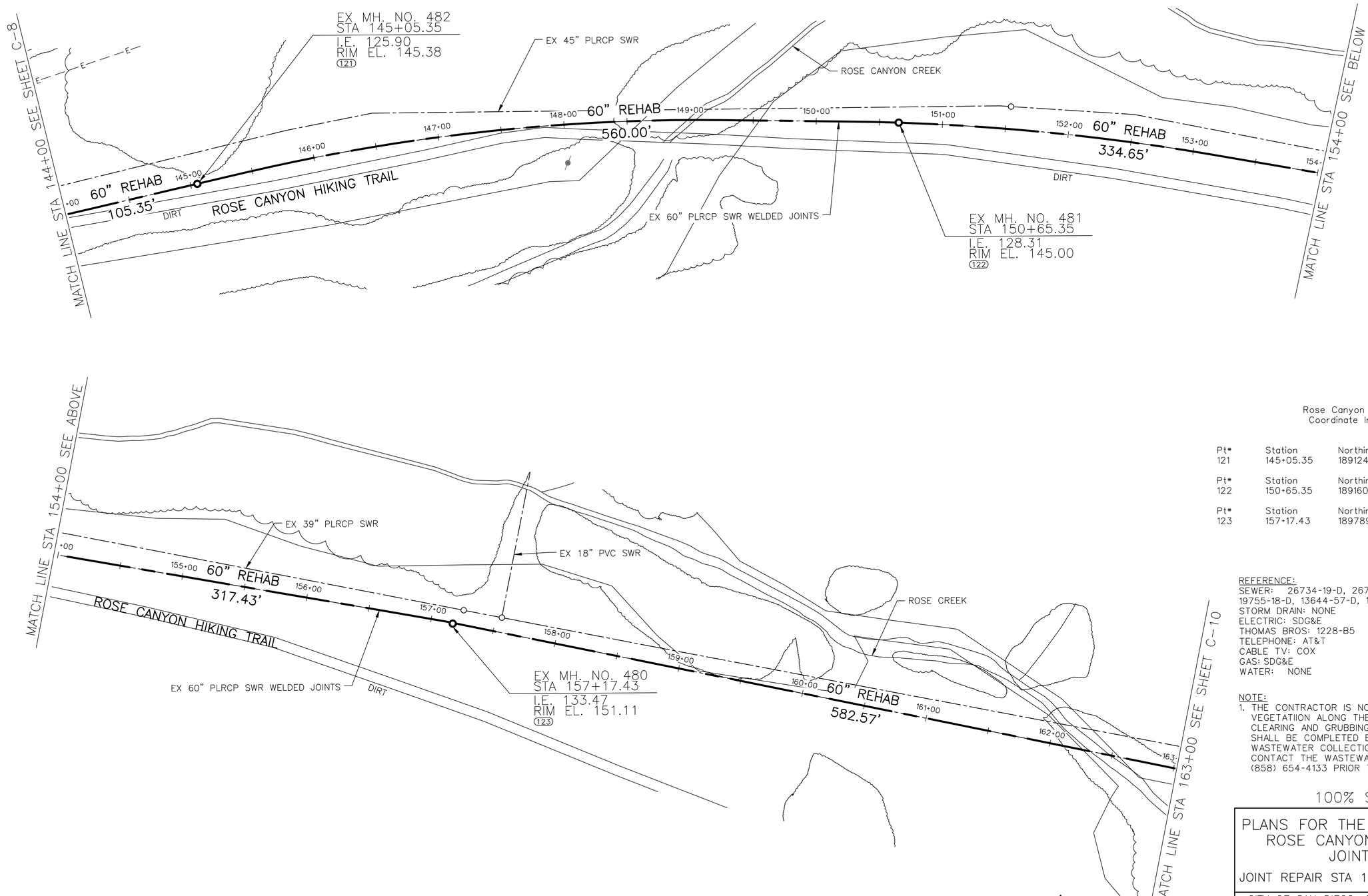
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-10-D

Plot Date: 5 July 2016 - 3:03 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C08.dwg



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
121	145+05.35	1891243.9187	6260465.2900
122	150+65.35	1891602.4192	6260892.7097
123	157+17.43	1897895.1288	6261474.7432

REFERENCE:
SEWER: 26734-19-D, 26734-20-D, 26734-21-D, 19755-18-D, 13644-57-D, 13644-58-D, 13644-59-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-B5
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: NONE

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

100% SUBMITTAL

C-9

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 144+00 TO STA 163+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 11 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME _____ RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

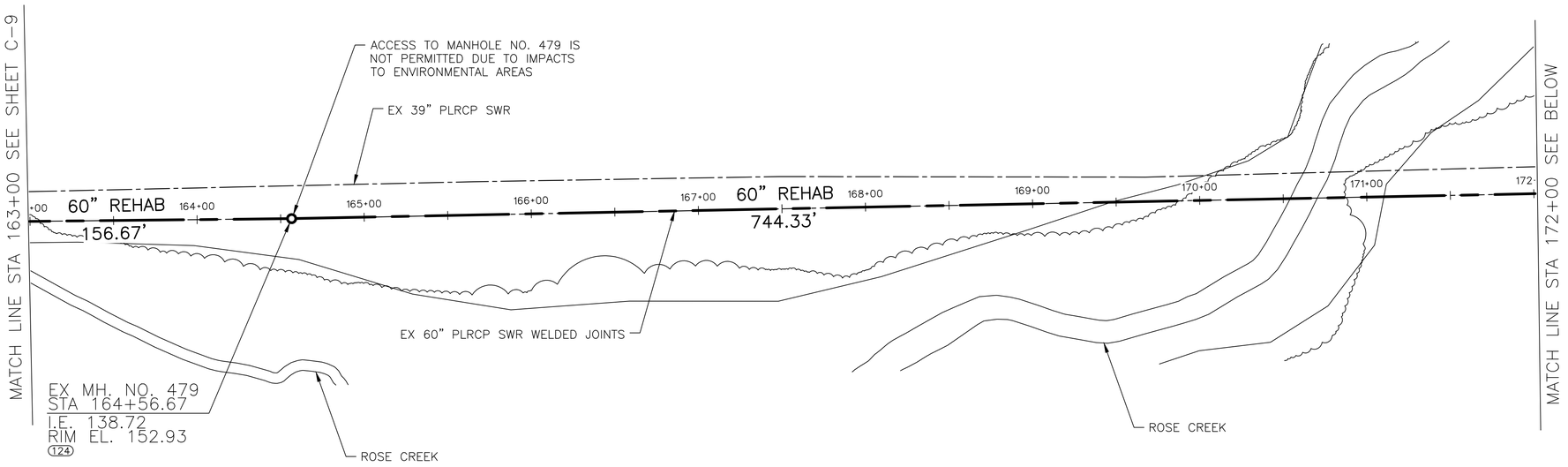
REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

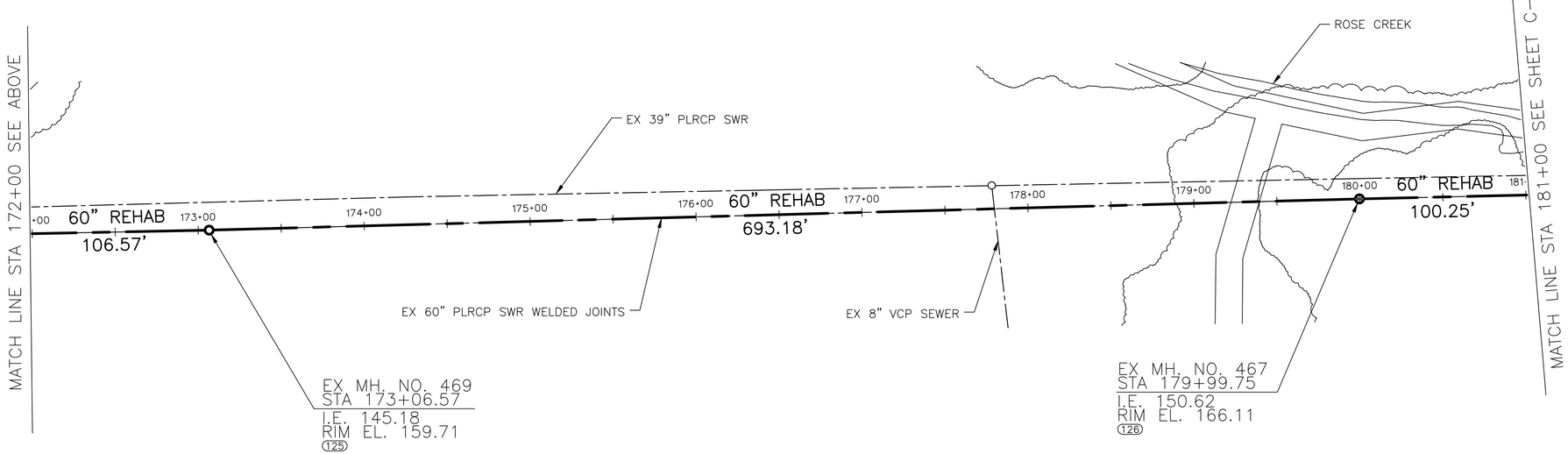
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-11-D

ROSE CANYON HIKING TRAIL

Plot Date: 5 July 2016 - 3:04 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C09.dwg





Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
124	164+56.67	1892191.6433	6262151.8057
125	173+06.57	1892539.3862	6262927.4183
126	179+99.75	1892827.4604	6263557.8951

REFERENCE:
SEWER: 26734-22-D, 26734-23-D, 26734-24-D, 13644-58-D
STORM DRAIN: NONE
ELECTRIC: NONE
THOMAS BROS: 1228-B5, 1228-C5
TELEPHONE: NONE
CABLE TV: NONE
GAS: NONE
WATER: NONE

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

N
W
E
S

0 40 80 120
SCALE 1"=40'

100% SUBMITTAL

C-10

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 163+00 TO STA 181+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 12 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

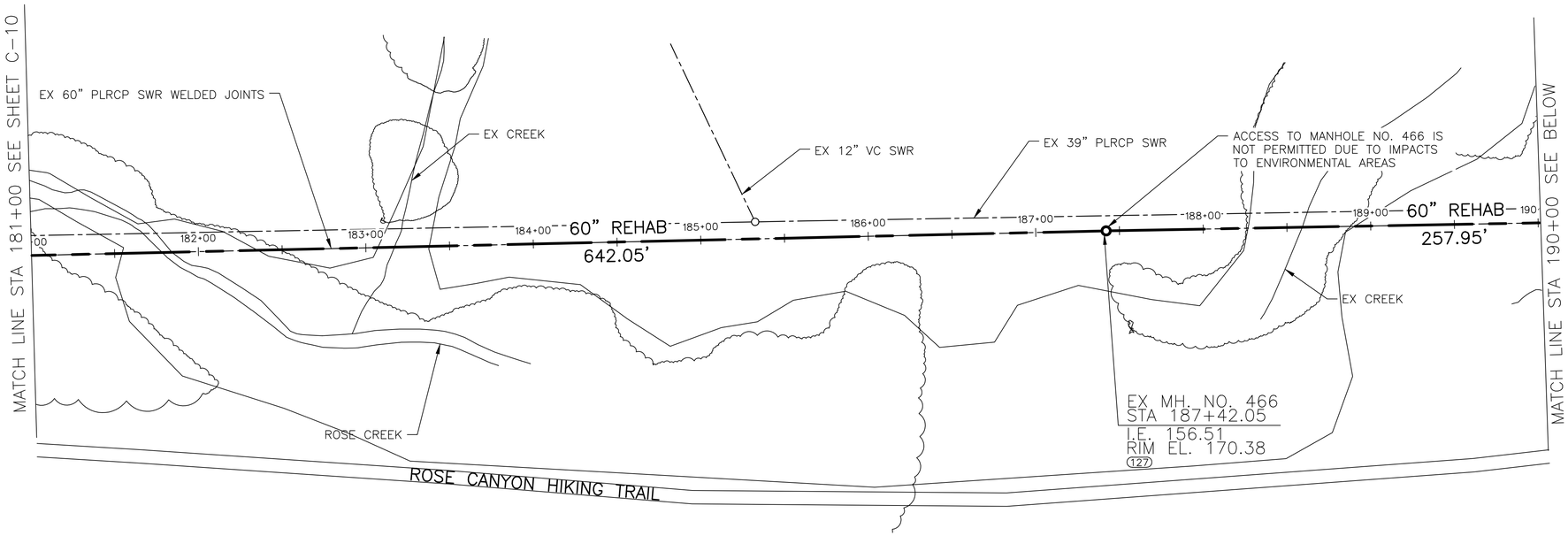
REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

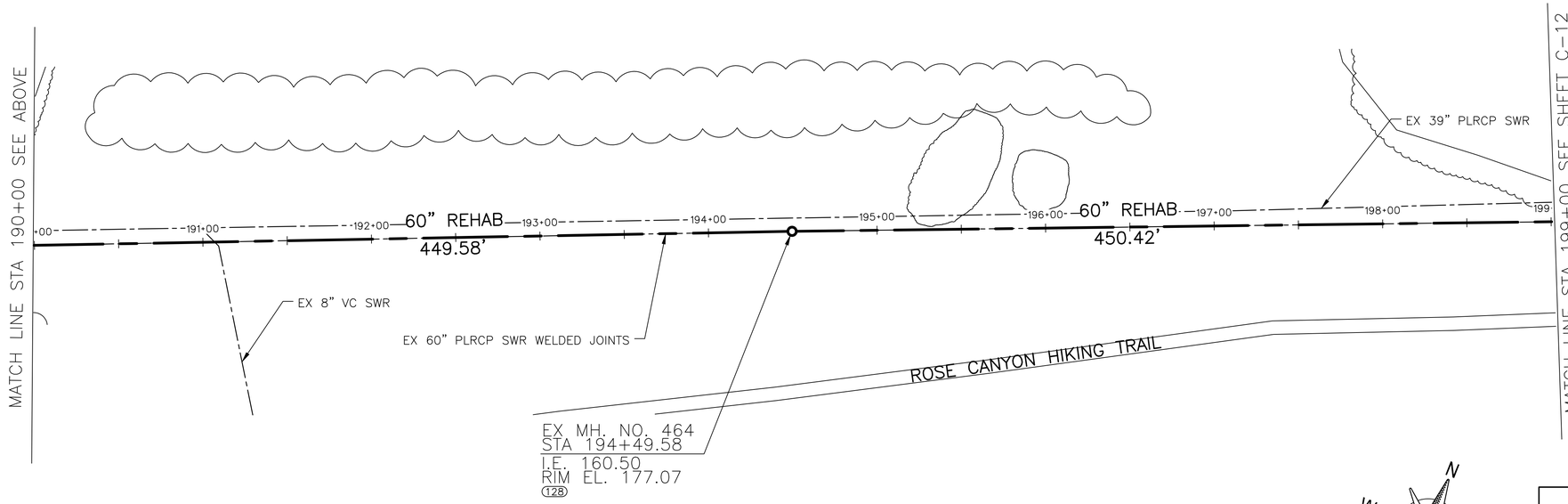
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-12-D

ROSE CANYON HIKING TRAIL

Plot Date: 5 July 2016 – 3:06 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C10.dwg





Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
127	187+42.05	1893133.0467	6264234.3769
128	194+49.58	1893421.5159	6264880.4327

REFERENCE:
SEWER: 26734-24-D, 26734-25-D, 26734-26-D, 14850-22-D, 13644-56-D, 13644-57-D
STORM DRAIN: NONE
ELECTRIC: NONE
THOMAS BROS: 1228-C4, 1228-D4
TELEPHONE: NONE
CABLE TV: NONE
GAS: NONE
WATER: NONE

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

N
W
E
S
0 40 80 120
SCALE 1"=40'

100% SUBMITTAL

C-11

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 181+00 TO STA 199+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 13 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

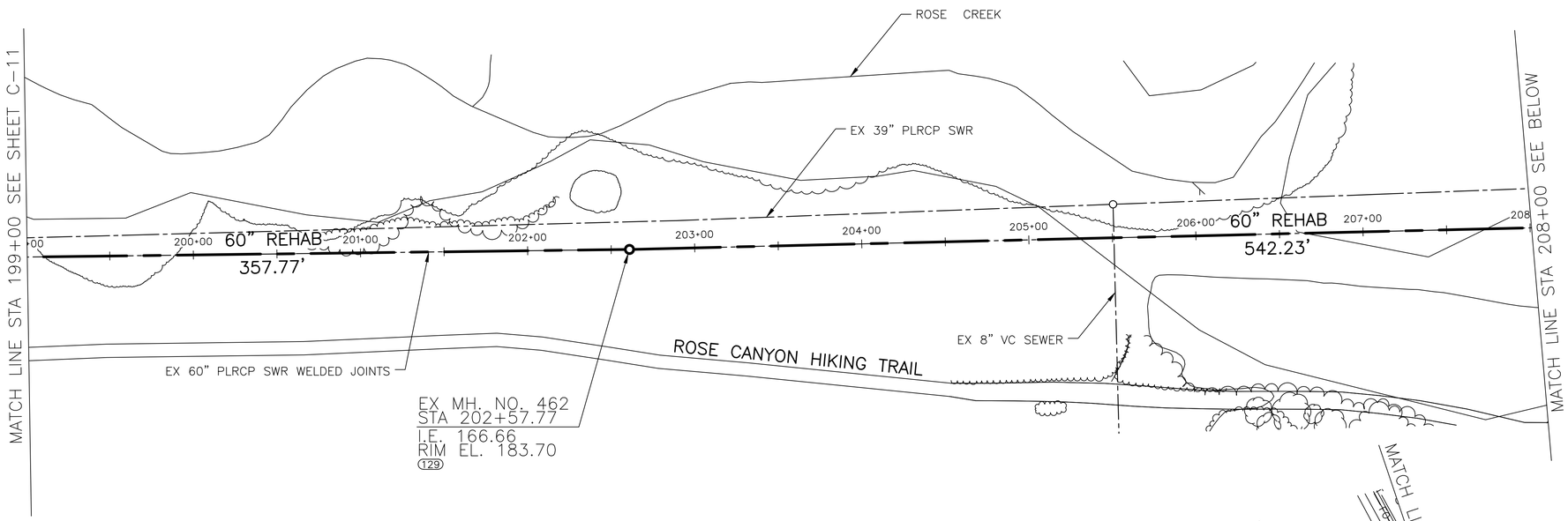
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-13-D

ROSE CANYON HIKING TRAIL

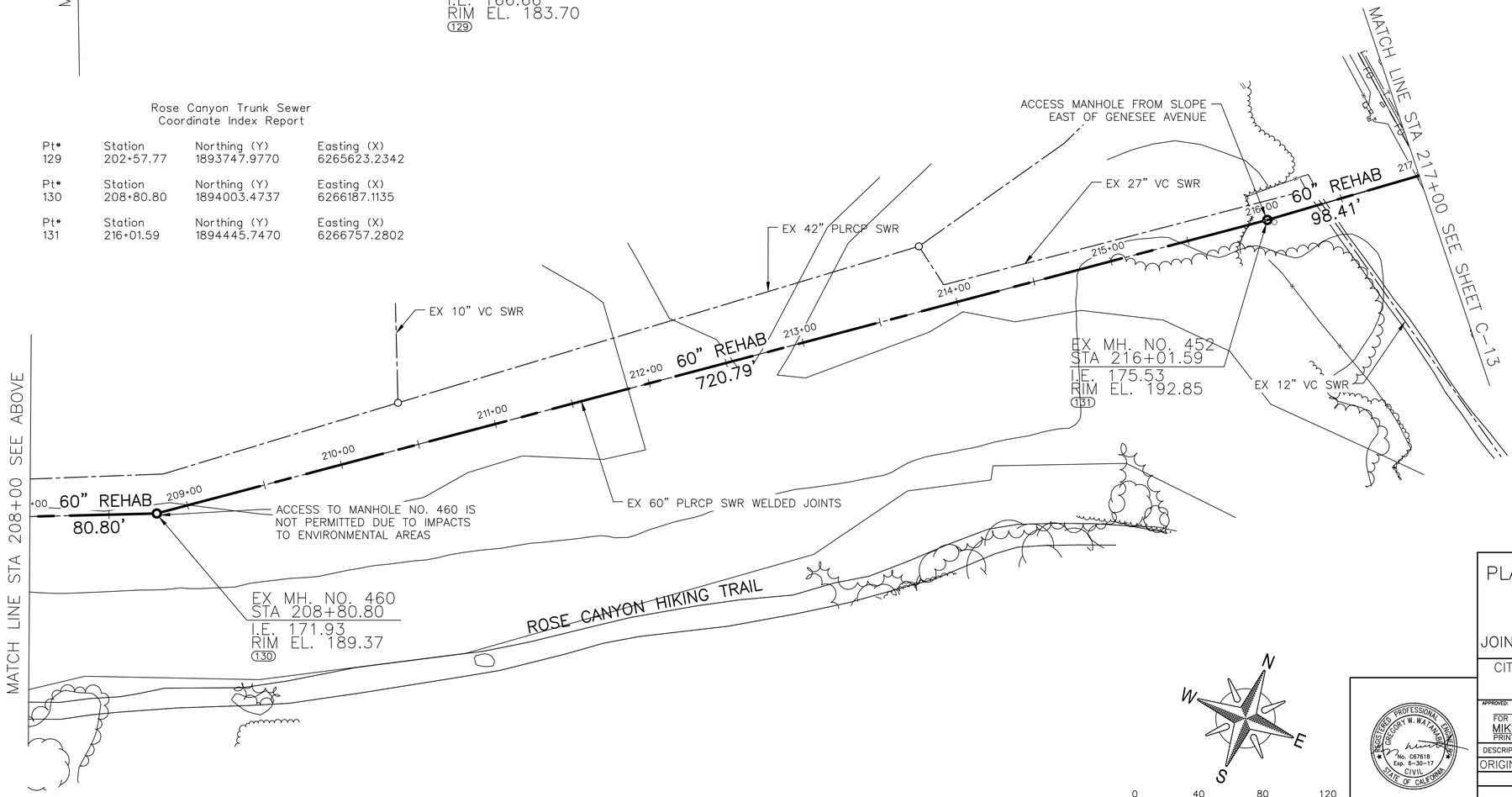
Plot Date: 5 July 2016 – 3:15 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C11.dwg

ROSE CANYON HIKING TRAIL



Rose Canyon Trunk Sewer
Coordinate Index Report

Pt*	Station	Northing (Y)	Easting (X)
129	202+57.77	1893747.9770	6265623.2342
Pt*	Station	Northing (Y)	Easting (X)
130	208+80.80	1894003.4737	6266187.1135
Pt*	Station	Northing (Y)	Easting (X)
131	216+01.59	1894445.7470	6266757.2802



0 40 80 120
SCALE 1"=40'

REFERENCE:
SEWER: 26734-25-D, 26734-26-D, 26734-27-D, 5667-D, 12972-2-D, 13644-54-D, 11767-1-D
STORM DRAIN: NONE
ELECTRIC: NONE
THOMAS BROS: 1228-C4, 1228-D4
TELEPHONE: NONE
CABLE TV: NONE
GAS: NONE
WATER: NONE

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

100% SUBMITTAL

C-12

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 199+00 TO STA 217+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 14 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

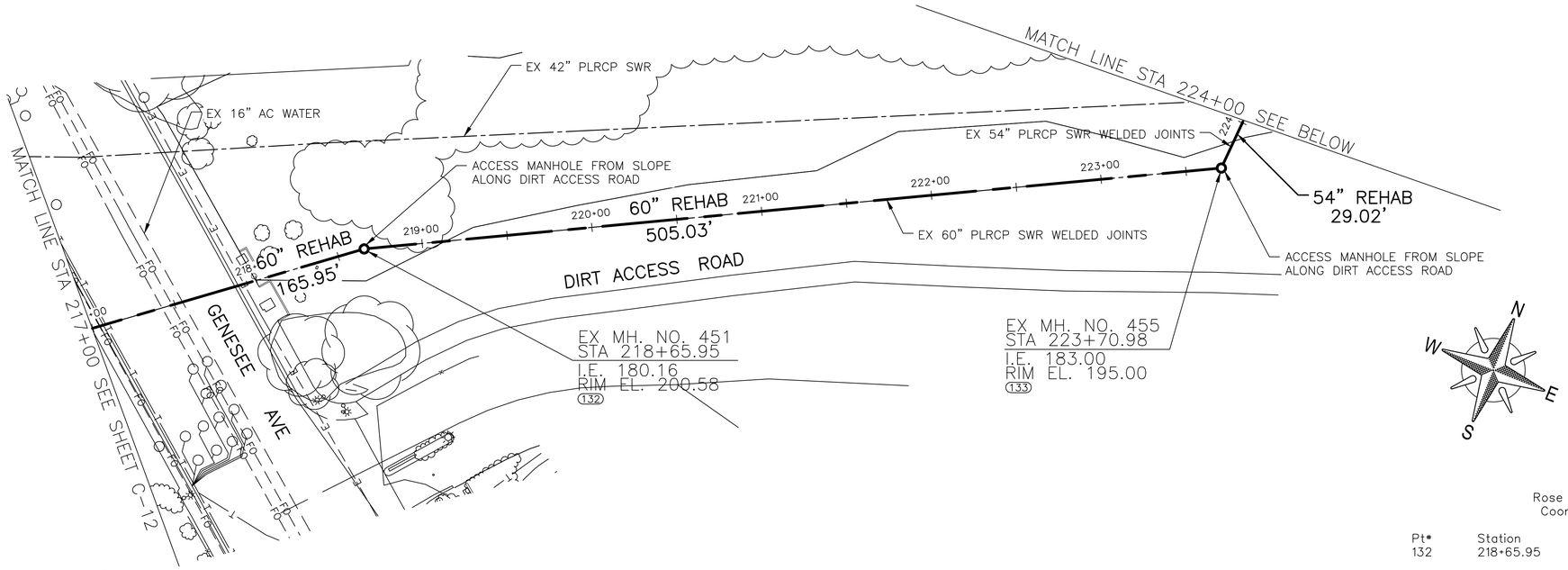
CCS27 COORDINATE

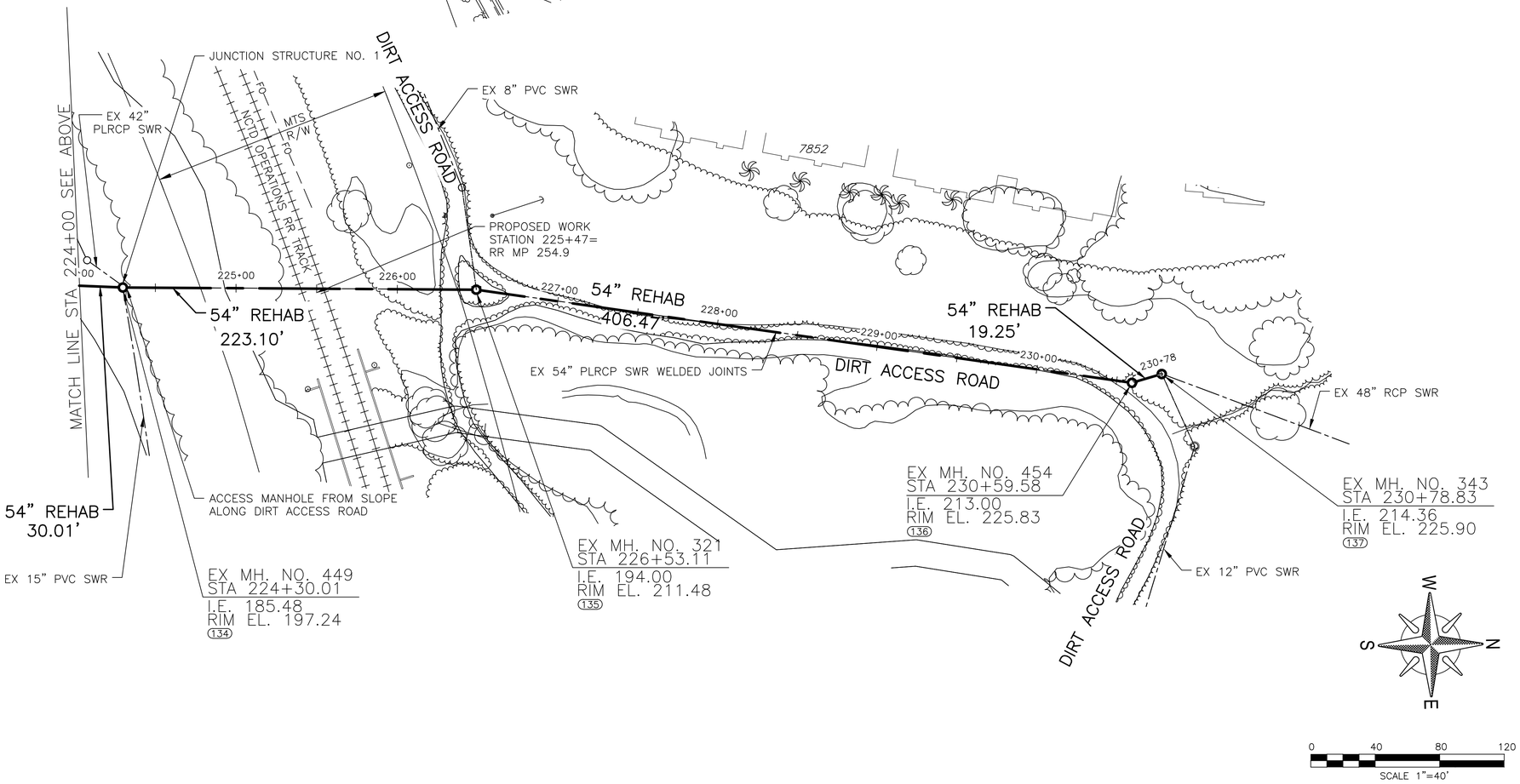
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-14-D

Plot Date: 5 July 2016 – 3:21 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C12.dwg





Rose Canyon Trunk Sewer
Coordinate Index Report

Pt* 132	Station 218+65.95	Northing (Y) 1894612.9575	Easting (X) 6266961.8122
Pt* 133	Station 223+70.98	Northing (Y) 1894853.0837	Easting (X) 6267406.0965
Pt* 134	Station 224+30.01	Northing (Y) 1894912.0766	Easting (X) 6267408.0945
Pt* 135	Station 226+53.11	Northing (Y) 1895131.1898	Easting (X) 6267408.2250
Pt* 136	Station 230+59.58	Northing (Y) 1895538.0560	Easting (X) 6267463.6722
Pt* 137	Station 230+78.83	Northing (Y) 1895556.4890	Easting (X) 6267458.0982

REFERENCE:
SEWER: 26734-28-D, 26734-29-D, 13644-54-D, 29260-2-D, 18454-15-D, 24298-7-D, 22329-6-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-D4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 11897-16-D

NOTE:
1. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

100% SUBMITTAL

C-13

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JOINT REPAIR STA 217+00 TO STA 230+79

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 15 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

REGISTERED PROFESSIONAL ENGINEER GREGORY W. MATANGUIHAN No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

CCS27 COORDINATE

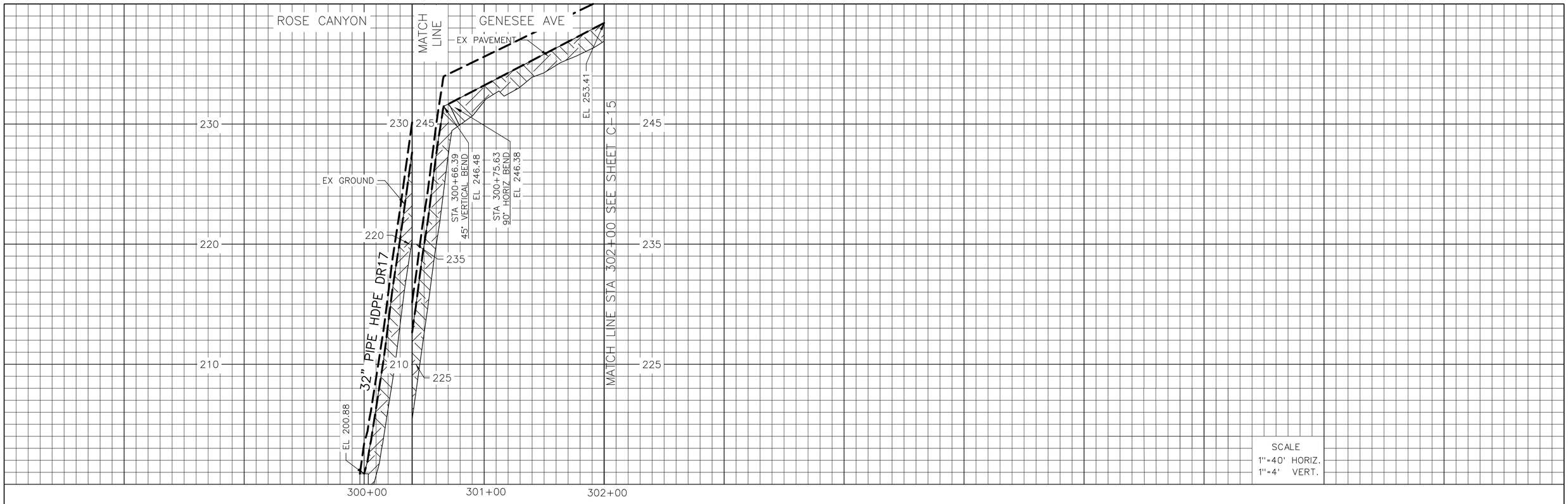
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

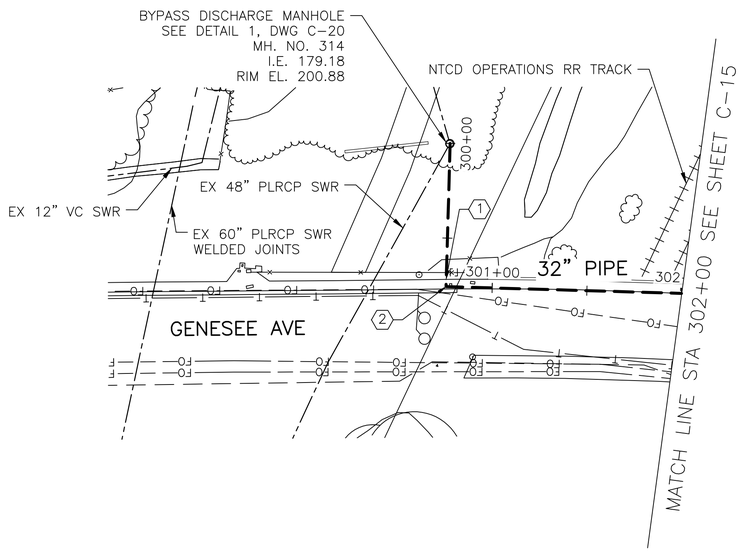
38791-15-D

GENESEE AVE/DIRT ACCESS ROAD

Plot Date: 5 July 2016 - 3:22 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C13.dwg



SCALE
1"=40' HORIZ.
1"=4' VERT.



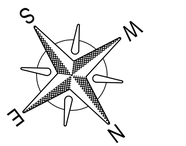
(1) BY CONTRACTOR
FURNISH AND INSTALL
STA 300+66.39
45° BEND

(2) BY CONTRACTOR
FURNISH AND INSTALL
STA 300+75.63
90° BEND

Element: Linear
STA (1) 300+00.00 1894547.749 6266665.827
STA (2) 300+75.63 1894605.397 6266714.789
Tangential Direction: N 40°20'31" E
Tangential Length: 75.63'

Element: Linear
STA (3) 300+75.63 1894605.397 6266714.789
STA (4) 303+42.50 1894778.150 6266511.388
Tangential Direction: N 49°39'29" W
Tangential Length: 266.86'

REFERENCE:
SEWER: 11767-1-D, 26734-28-D, 13644-28-D,
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-D4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 11897-16-D



0 40 80 120
SCALE 1"=40'

NOTES
1. PEDESTRIAN, BICYCLE AND GRAVEL ACCESS ROAD SHALL REMAIN OPEN TO VEHICLE TRAFFIC AT ALL TIMES. SCHEDULED CLOSURES SHALL BE APPROVED BY ENGINEER.
2. NOBEL DISCHARGE PIPING SHALL BE LAID AT GRADE ALONG SIDEWALK AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT PIPE FROM MOVING DURING BYPASS OPERATIONS.
3. IN THE EVENT A CLOSURE OF THE ROSE CANYON TRAIL SYSTEM IS REQUIRED, SIGNAGE WILL NEED TO BE PROVIDED. COORDINATE WITH PARKS AND RECREATION SENIOR RANGER, MATT SANFORD, AT (858) 581-9952 FOR SIGN LANGUAGE AND LOCATION
4. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO THE START OF WORK

ROSE CANYON/GENESEE AVENUE

100% SUBMITTAL

C-14

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

BYPASS STA 300+00 TO STA 302+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 16 OF 36 SHEETS

SEWER WBS B-11025

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

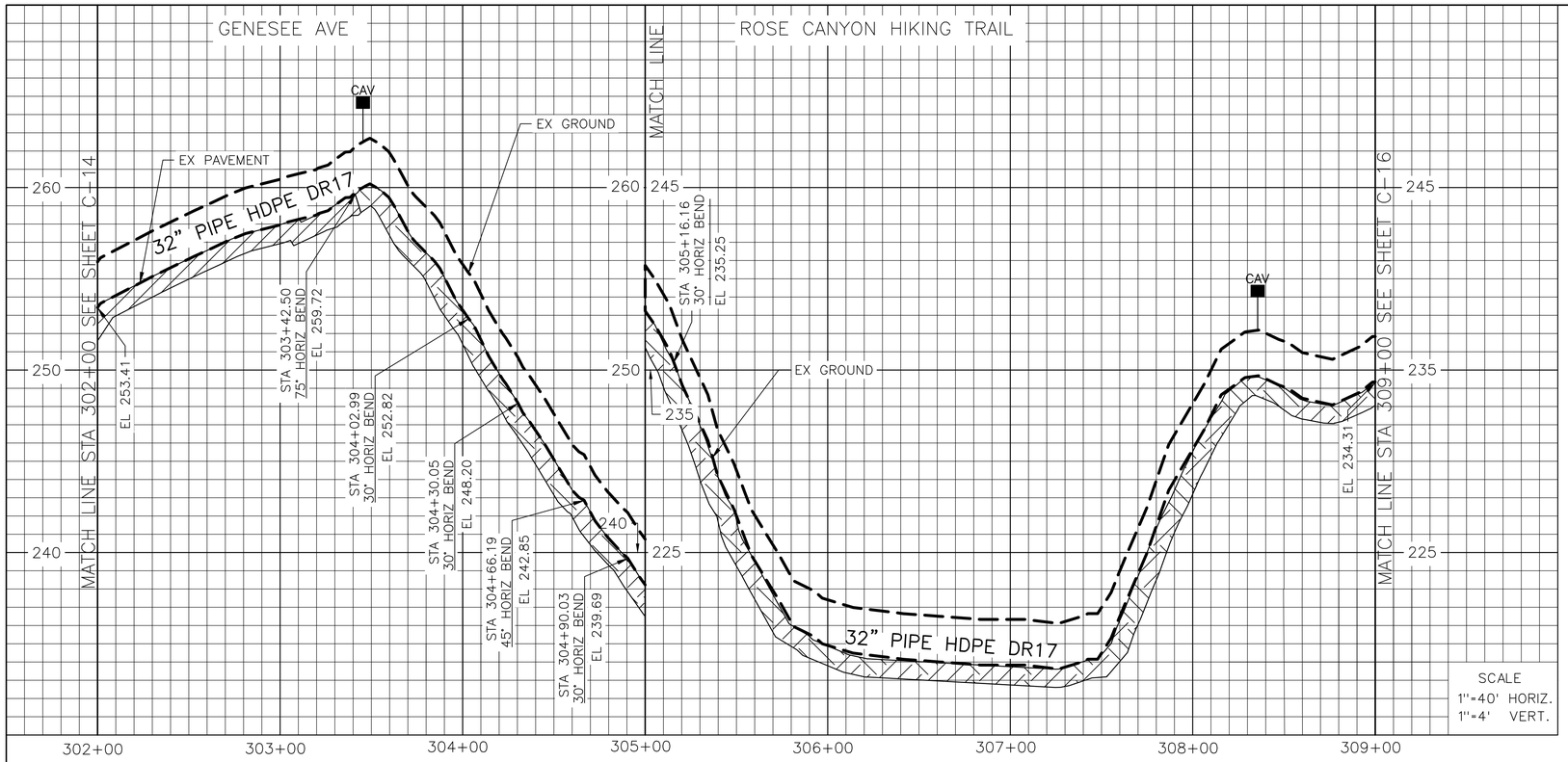
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-16-D

Plot Date: 5 July 2016 - 3:30 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C14 P&P.dwg



Element: Linear
STA (3) 303+42.50 1894778.150 6266511.388
STA (4) 304+02.99 1894745.895 6266460.208
Tangential Direction: S 57°46'49" W
Tangential Length: 60.50

Element: Linear
STA (5) 304+02.99 1894745.895 6266460.208
STA (6) 304+30.05 1894721.678 6266448.147
Tangential Direction: S 26°28'25" W
Tangential Length: 27.05

Element: Linear
STA (7) 304+30.05 1894721.678 6266448.147
STA (8) 304+66.19 1894685.607 6266450.370
Tangential Direction: S 3°31'35" E
Tangential Length: 36.14

Element: Linear
STA (9) 304+66.19 1894685.607 6266450.370
STA (10) 304+90.03 1894669.818 6266468.233
Tangential Direction: S 48°31'35" E
Tangential Length: 23.84

Element: Linear
STA (11) 304+90.03 1894669.818 6266468.233
STA (12) 305+16.16 1894664.626 6266493.813
Tangential Direction: S 78°31'35" E
Tangential Length: 26.10

Element: Linear
STA (13) 305+16.16 1894664.626 6266493.813
STA (14) 305+76.41 1894683.778 6266550.966
Tangential Direction: N 71°28'25" E
Tangential Length: 60.28

Element: Linear
STA (15) 305+76.41 1894683.778 6266550.966
STA (16) 306+87.26 1894728.030 6266652.610
Tangential Direction: N 66°28'25" E
Tangential Length: 110.86

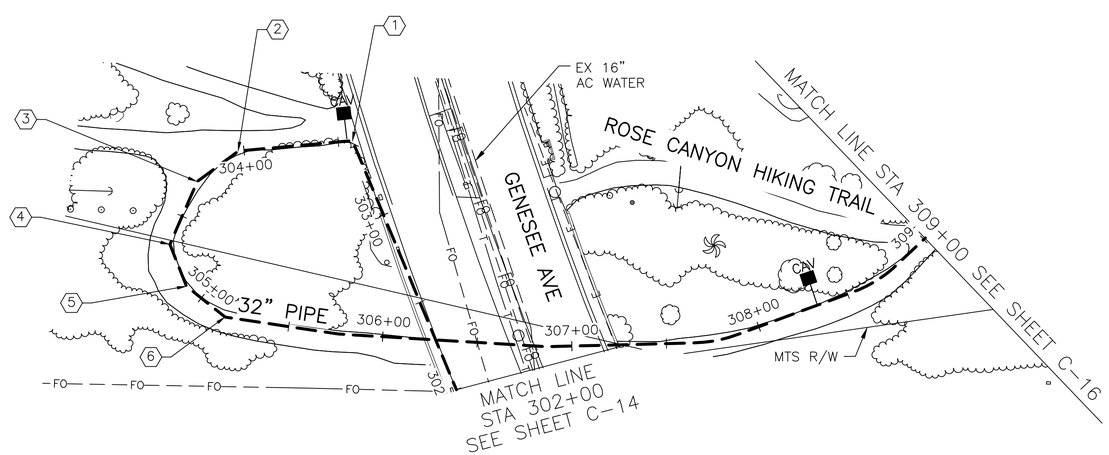
Element: Linear
STA (17) 306+87.26 1894728.030 6266652.610
STA (18) 307+64.95 1894765.130 6266720.865
Tangential Direction: N 61°28'25" E
Tangential Length: 77.69

Element: Circular
PC (19) 307+64.95 1894765.130 6266720.865
PT (20) 307+87.78 1894779.081 6266738.806
Radius: 70.00
Delta: 18°41'05" Left
Length: 22.83
Tangent: 11.52
Chord: 22.73
Middle Ordinate: 0.93
External: 0.94

Element: Linear
STA (21) 307+87.78 1894779.081 6266738.806
STA (22) 308+52.69 1894826.715 6266782.899
Tangential Direction: N 42°47'21" E
Tangential Length: 64.91

Element: Circular
PC (23) 308+51.69 1894826.715 6266782.899
PT (24) 308+76.84 1894846.889 6266795.953
Radius: 70.00
Delta: 19°45'58" Left
Length: 24.15
Tangent: 12.20
Chord: 24.03
Middle Ordinate: 1.04
External: 1.05

Element: Linear
STA (25) 308+76.84 1894846.889 6266795.953
STA (26) 309+00.86 1894869.492 6266804.077
Tangential Direction: N 19°46'05" E
Tangential Length: 24.02



1 BY CONTRACTOR
FURNISH AND INSTALL
STA 303+42.50
75° BEND

2 BY CONTRACTOR
FURNISH AND INSTALL
STA 304+02.99
30° BEND

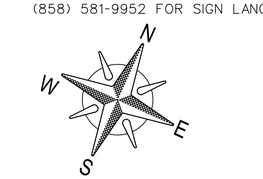
3 BY CONTRACTOR
FURNISH AND INSTALL
STA 304+30.05
30° BEND

4 BY CONTRACTOR
FURNISH AND INSTALL
STA 304+66.19
45° BEND

5 BY CONTRACTOR
FURNISH AND INSTALL
STA 304+90.03
30° BEND

6 BY CONTRACTOR
FURNISH AND INSTALL
STA 305+16.16
30° BEND

NOTES
1. PEDESTRIAN, BICYCLE AND GRAVEL ACCESS ROAD SHALL REMAIN OPEN TO VEHICLE TRAFFIC AT ALL TIMES. SCHEDULED CLOSURES SHALL BE APPROVED BY ENGINEER.
2. NOBEL DISCHARGE PIPING SHALL BE LAID AT GRADE AT EDGE OF GRAVEL ACCESS ROAD AND SIDEWALK AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT PIPE FROM MOVING DURING BYPASS OPERATIONS.
3. INSTALL COMBINATION AIR VACUUM/AIR RELEASE VALVES (CAV) AT HIGH POINTS ON NOBEL DISCHARGE. PROVIDE LEAK CONTAINMENT TO CATCH ANY BLOW OFF FROM THE VALVE.
4. BURY NOBEL DISCHARGE PIPING AT INTERSECTION PER CITY OF SAN DIEGO STANDARD DRAWING NUMBER SDS-110 TYPE A TO ALLOW VEHICLE TRAFFIC TO/FROM GENESEE AVENUE
5. ALL TEMPORARY WORK INCLUDING TEMPORARY SEWER BYPASS LINE MUST BE REMOVED FROM RAILROAD R/W PRIOR TO CLOSEOUT.
6. IN THE EVENT A CLOSURE OF THE ROSE CANYON TRAIL SYSTEM IS REQUIRED, SIGNAGE WILL NEED TO BE PROVIDED. COORDINATE WITH PARKS AND RECREATION SENIOR RANGER, MATT SANFORD, AT (858) 581-9952 FOR SIGN LANGUAGE AND LOCATION



0 40 80 120
SCALE 1"=40'

REFERENCE:
SEWER: NONE
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-D4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 11897-16-D

100% SUBMITTAL

C-15

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

BYPASS STA 302+00 TO STA 309+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 17 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE# _____

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE
CCS83 COORDINATE

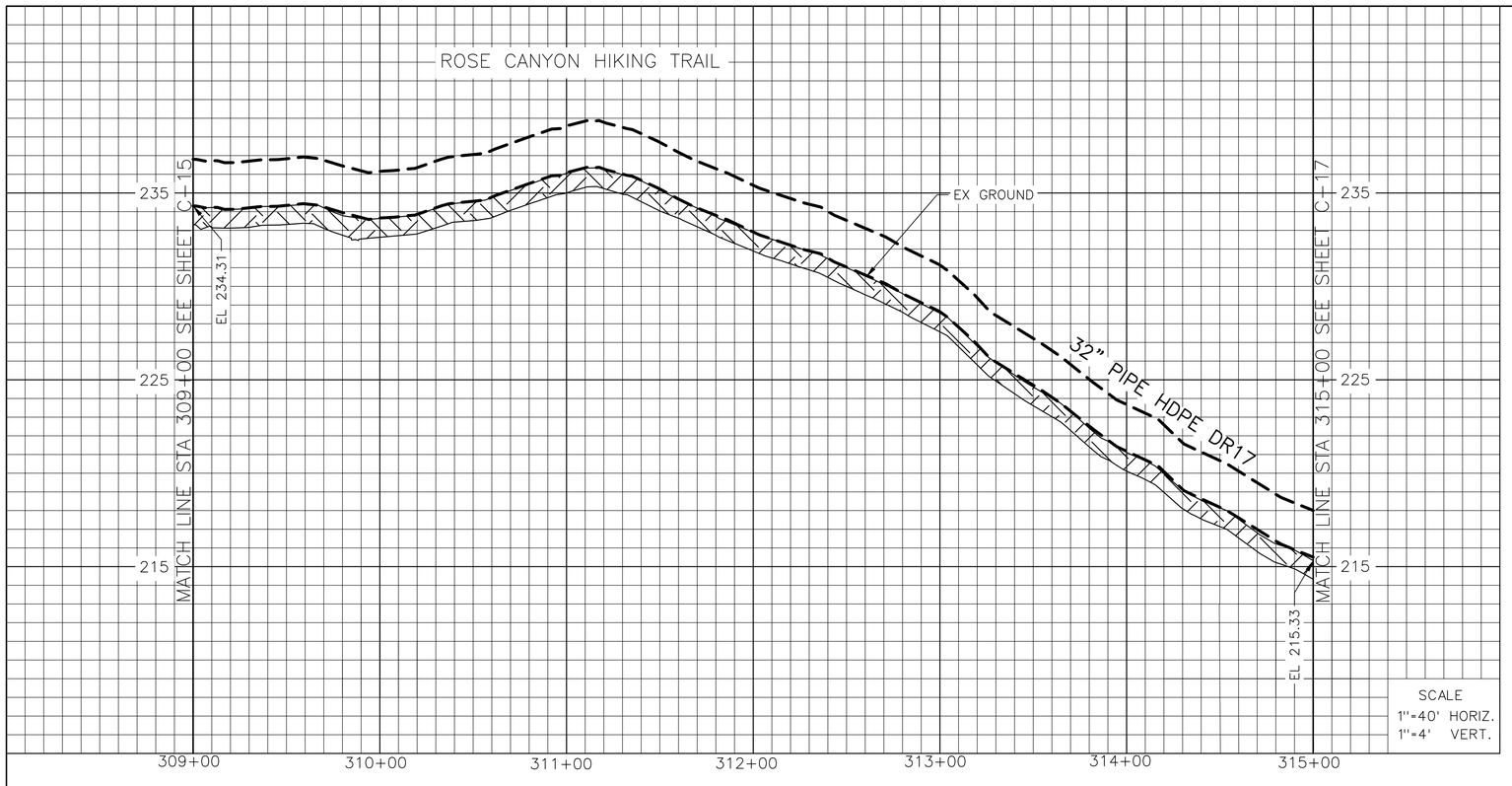
REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

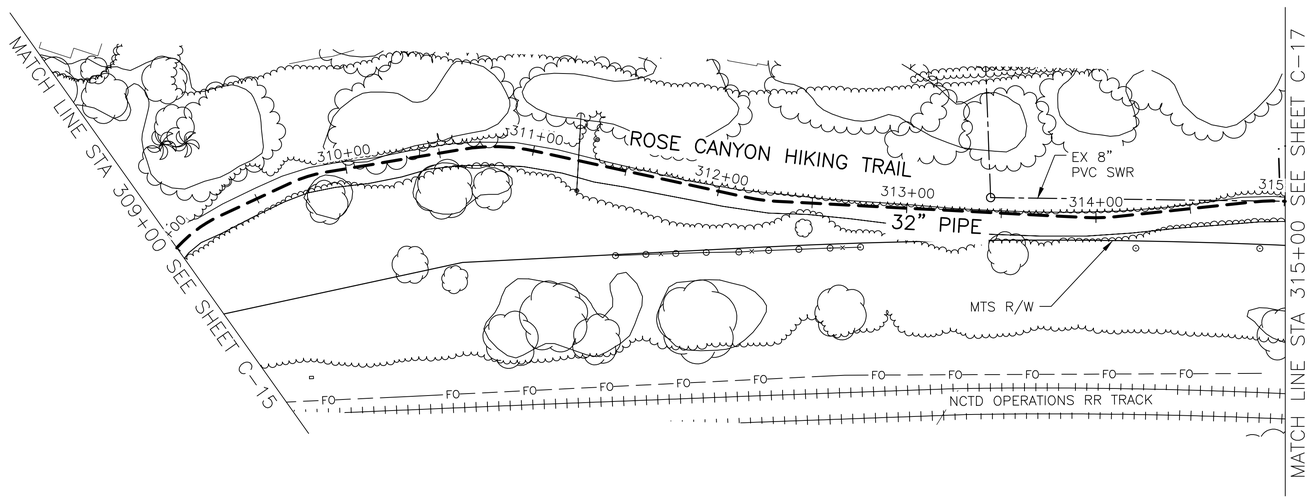
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-17-D

GENESEE AVE/ROSE CANYON HIKING TRAIL

Plot Date: 8 July 2016 – 1:10 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C15 P&P.dwg





Element: Circular
PC (27) 309+00.86 1894869.492 6266804.077
PT (28) 309+28.45 1894892.979 6266818.223
Radius: 70.00
Delta: 22°35'17" Right
Length: 27.60
Tangent: 13.98
Chord: 27.42
Middle Ordinate: 1.36
External: 1.38

Element: Linear
STA (29) 309+28.45 1894892.979 6266818.223
STA (30) 309+69.86 1894923.575 6266846.119
Tangential Direction: N 42°21'22" E
Tangential Length: 41.41

Element: Circular
PC (31) 309+69.86 1894923.575 6266846.119
PT (32) 309+88.69 1894935.628 6266860.515
Radius: 70.00
Delta: 15°24'51" Right
Length: 18.83
Tangent: 9.47
Chord: 18.78
Middle Ordinate: 0.63
External: 0.64

Element: Linear
STA (33) 309+88.69 1894935.628 6266860.515
STA (34) 310+62.55 1894975.017 6266922.993
Tangential Direction: S 57°46'13.72" E
Tangential Length: 73.86

Element: Circular
PC (35) 310+62.55 1894975.017 6266922.993
PT (36) 311+00.62 1894988.777 6266958.244
Radius: 100.00
Delta: 21°48'48" Right
Length: 38.07
Tangent: 19.269
Chord: 37.84
Middle Ordinate: 1.81
External: 1.84

Element: Linear
STA (37) 311+00.62 1894988.777 6266958.244
STA (38) 312+15.02 1895009.460 6267070.759
Tangential Direction: N 79°35'02" E
Tangential Length: 114.40

Element: Circular
PC (39) 312+15.02 1895009.460 6267070.759
PT (40) 312+31.26 1895013.680 6267086.430
Radius: 100.00
Delta: 9°18'33" Left
Length: 16.25
Tangent: 8.14
Chord: 16.23
Middle Ordinate: 0.33
External: 0.33

Element: Linear
STA (41) 312+31.26 1895013.680 6267086.430
STA (42) 313+94.34 1895068.719 6267239.935
Tangential Direction: N 70°16'29" E
Tangential Length: 163.07

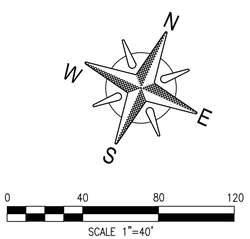
Element: Circular
PC (43) 313+94.34 1895068.719 6267239.935
PT (44) 314+10.25 1895075.254 6267254.420
Radius: 100.00
Delta: 9°06'52" Left
Length: 15.91
Tangent: 7.97
Chord: 15.89
Middle Ordinate: 0.32
External: 0.32

Element: Linear
STA (45) 314+10.25 1895075.254 6267254.420
STA (46) 314+83.54 1895110.610 6267318.626
Tangential Direction: N 61°09'36" E
Tangential Length: 73.30

Element: Circular
PC (47) 314+83.54 1895110.610 6267318.626
PT (48) 315+13.99 1895121.043 6267347.110
Radius: 100.00
Delta: 17°26'52" Right
Length: 30.45
Tangent: 15.35
Chord: 30.33
Middle Ordinate: 1.16
External: 1.17

NOTES
1. PEDESTRIAN, BICYCLE AND GRAVEL ACCESS ROAD SHALL REMAIN OPEN TO VEHICLE TRAFFIC AT ALL TIMES. SCHEDULED CLOSURES SHALL BE APPROVED BY ENGINEER.
2. NOBEL DISCHARGE PIPING SHALL BE LAID AT GRADE AT EDGE OF GRAVEL ACCESS ROAD AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT PIPE FROM MOVING DURING BYPASS OPERATIONS.
3. IN THE EVENT A CLOSURE OF THE ROSE CANYON TRAIL SYSTEM IS REQUIRED, SIGNAGE WILL NEED TO BE PROVIDED. COORDINATE WITH PARKS AND RECREATION SENIOR RANGER, MATT SANFORD, AT (858) 581-9952 FOR SIGN LANGUAGE AND LOCATION.

REFERENCE:
SEWER: 20357-21-D, 18454-15-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-D4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 11897-16-D



REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

100% SUBMITTAL C-16

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

BYPASS STA 309+00 TO STA 315+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 18 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

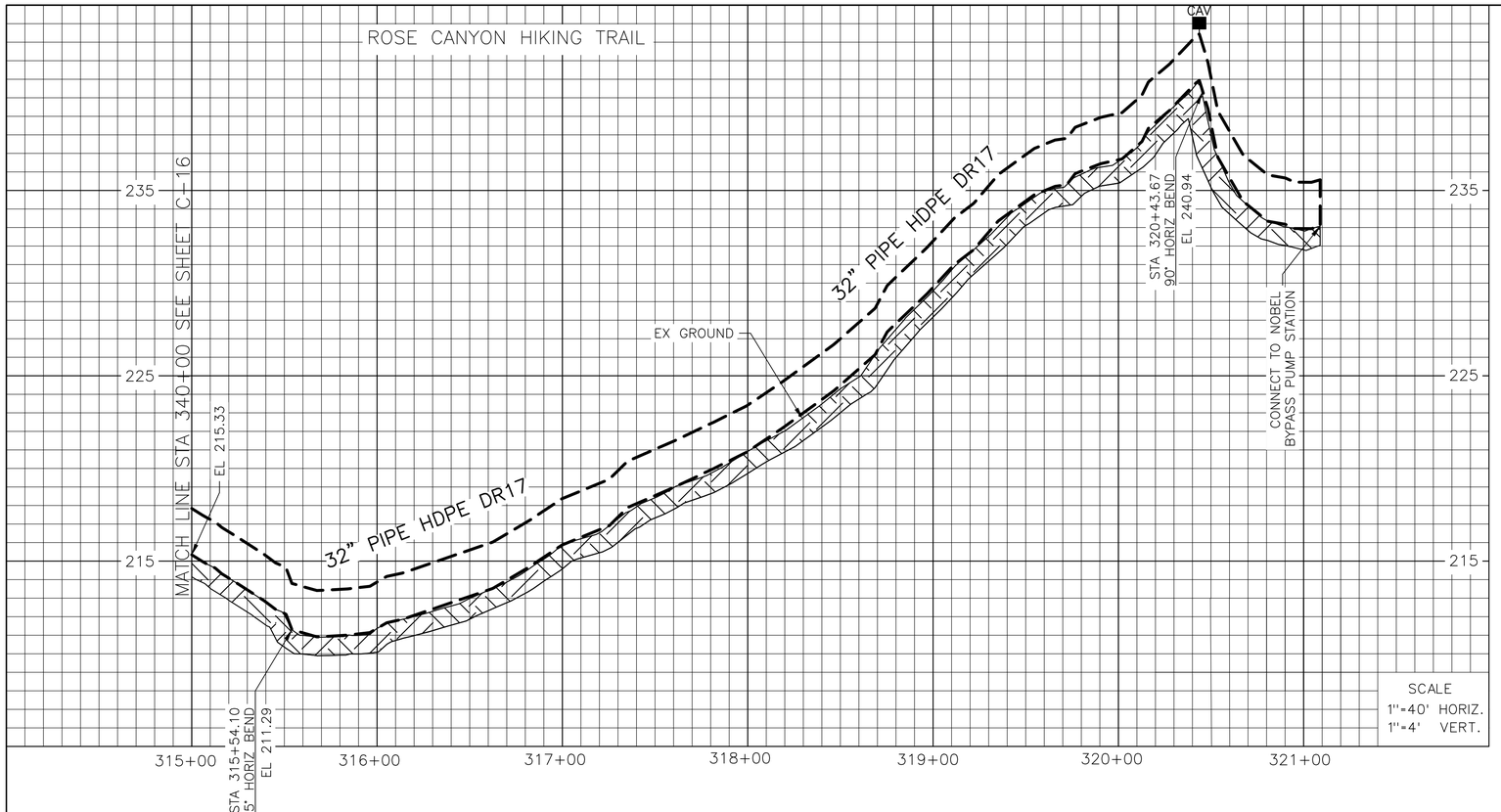
CCS83 COORDINATE

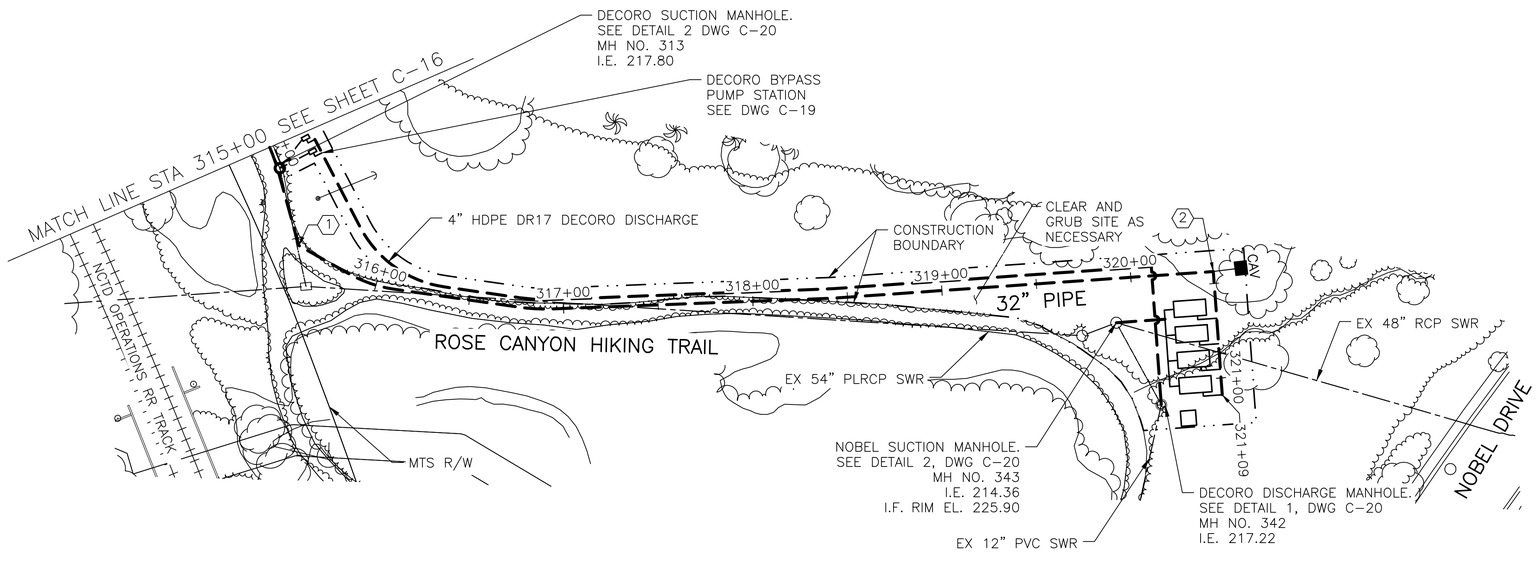
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-18-D

ROSE CANYON HIKING TRAIL

Plot Date: 8 July 2016 - 1:46 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C16 P&P.dwg





Element: Linear
STA (49) 315+13.99 1895121.043 6267347.110
STA (50) 315+54.10 1895128.965 6267386.429
Tangential Direction: N 78°36'28" E
Tangential Length: 40.11

Element: Linear
STA (51) 315+54.10 1895128.965 6267386.429
STA (52) 315+84.15 1895153.989 6267403.060
Tangential Direction: N 33°36'28" E
Tangential Length: 30.05

Element: Circular
PC (53) 315+84.15 1895153.989 6267403.060
PT (54) 316+10.20 1895177.842 6267413.158
Radius: 70.00
Delta: 21°19'27" Left
Length: 26.05
Tangent: 13.18
Chord: 25.90
Middle Ordinate: 1.21
External: 1.23

Element: Linear
STA (55) 316+10.20 1895177.842 6267413.158
STA (56) 316+76.24 1895242.366 6267427.207
Tangential Direction: N 12°17'01" E
Tangential Length: 66.04

Element: Circular
PC (57) 316+76.24 1895242.366 6267427.207
PT (58) 316+94.30 1895260.264 6267429.439
Radius: 100.00
Delta: 10°20'55" Left
Length: 18.06
Tangent: 9.06
Chord: 18.04
Middle Ordinate: 0.41
External: 0.41

Element: Linear
STA (59) 316+94.30 1895260.264 6267429.439
STA (60) 318+40.52 1895406.406 6267434.377
Tangential Direction: N 1°56'07" E
Tangential Length: 146.23

Element: Circular
PC (61) 318+40.52 1895406.406 6267434.377
PT (62) 318+43.71 1895409.586 6267434.434
Radius: 100.00
Delta: 1°49'21" Left
Length: 3.18
Tangent: 1.59
Chord: 3.18
Middle Ordinate: 0.01
External: 0.01

Element: Linear
STA (63) 318+43.71 1895409.586 6267434.434
STA (64) 320+43.67 1895609.549 6267434.827
Tangential Direction: N 0°06'45" E
Tangential Length: 199.96

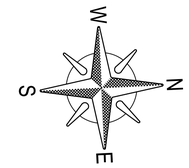
Element: Linear
STA (65) 320+43.67 1895609.549 6267434.827
STA (66) 321+08.89 1895609.549 6267486.045
Tangential Direction: N 90°00'00" E
Tangential Length: 65.22

NOTES
1. PEDESTRIAN, BICYCLE AND GRAVEL ACCESS ROAD SHALL REMAIN OPEN TO VEHICLE TRAFFIC AT ALL TIMES. SCHEDULED CLOSURES SHALL BE APPROVED BY ENGINEER.
2. NOBEL DISCHARGE PIPING SHALL BE LAID AT GRADE AT EDGE OF GRAVEL ACCESS ROAD AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT PIPE FROM MOVING DURING BYPASS OPERATIONS.
3. DECORO SUCTION LINES SHALL BE BURIED UNDER GRAVEL ROAD AND UNDER NOBEL DISCHARGE PIPE.
4. NOBEL DISCHARGE PIPING AND DECORO DISCHARGE PIPING SHALL BE LAID AT GRADE OFF OF THE GRAVEL ACCESS ROAD AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT MOVEMENT DURING BYPASS OPERATIONS.
5. INSTALL COMBINATION AIR VACUUM/AIR RELEASE VALVE (CAV) AT HIGH POINTS ON NOBEL DISCHARGE. PROVIDE LEAK CONTAINMENT TO CATCH ANY BLOW OFF FROM THE VALVE.
6. IN THE EVENT A CLOSURE OF THE ROSE CANYON TRAIL SYSTEM IS REQUIRED, SIGNAGE WILL NEED TO BE PROVIDED. COORDINATE WITH PARKS AND RECREATION SENIOR RANGER, MATT SANFORD, AT (858) 581-9952 FOR SIGN LANGUAGE AND LOCATION.

(1) BY CONTRACTOR
FURNISH AND INSTALL
STA 315+54.10
45° BEND

(2) BY CONTRACTOR
FURNISH AND INSTALL
STA 320+43.67
90° BEND

REFERENCE:
SEWER: 26734-5-D, 26734-6-D, 26734-7-D
STORM DRAIN: NONE
ELECTRIC: SDG&E
THOMAS BROS: 1228-D4
TELEPHONE: AT&T
CABLE TV: COX
GAS: SDG&E
WATER: 11897-16-D



ROSE CANYON HIKING TRAIL

100% SUBMITTAL

C-17

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

BYPASS STA 315+00 TO STA 321+09

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 19 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

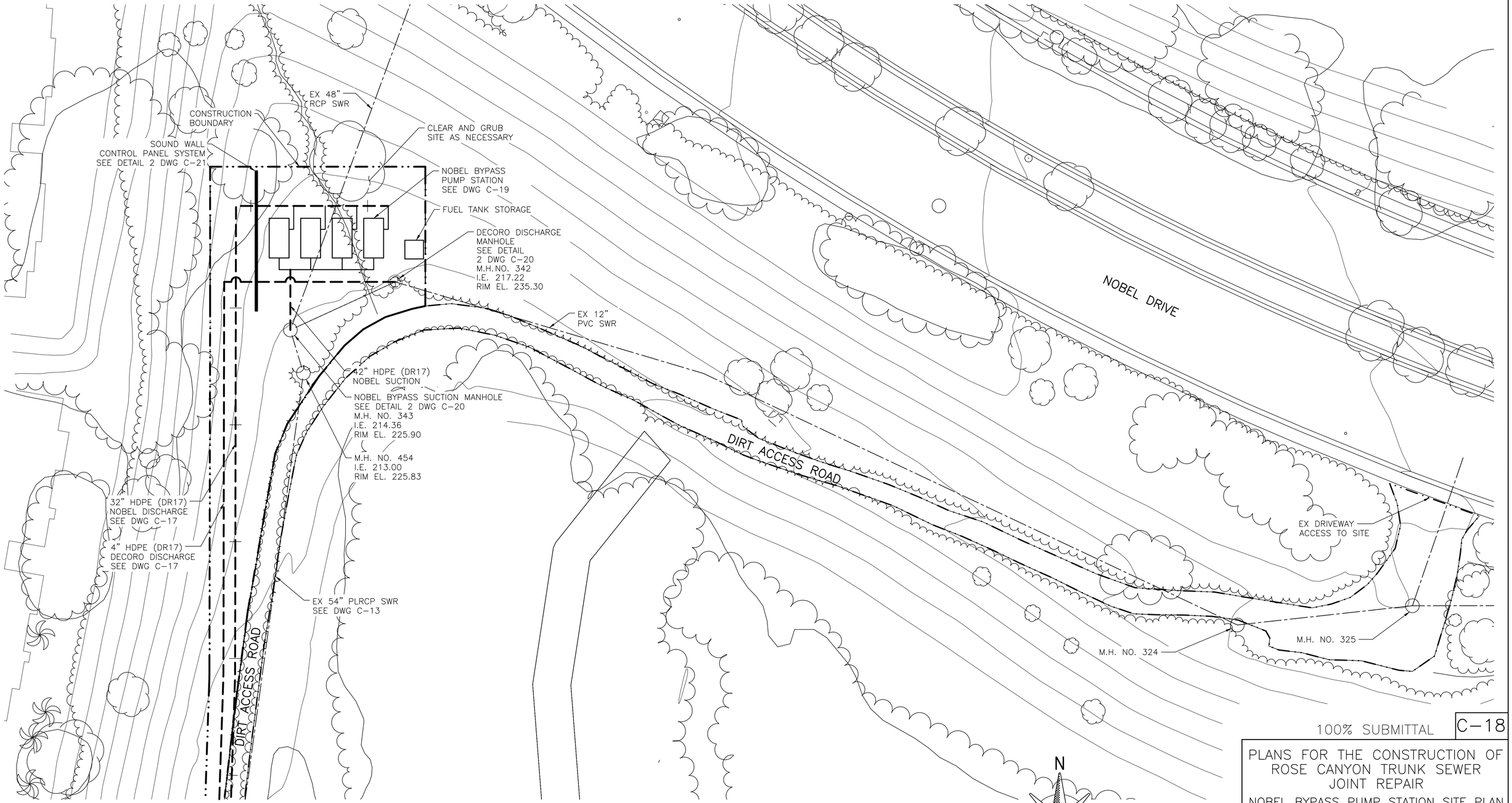
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-19-D

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

Plot Date: 8 July 2016 – 1:56 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C17 P&P.dwg



NOTES:

1. PEDESTRIAN, BICYCLE AND GRAVEL ACCESS ROAD SHALL REMAIN OPEN TO VEHICLE TRAFFIC AT ALL TIMES. SCHEDULED CLOSURES SHALL BE APPROVED BY ENGINEER.
2. PUMPS AND FUELING STATION SHALL HAVE LEAK CONTAINMENT PADS.
3. NOBEL DISCHARGE PIPING AND DECORO DISCHARGE PIPING SHALL BE LAID AT GRADE AND PARALLEL TO EACH OTHER OFF OF THE GRAVEL ACCESS ROAD AS SHOWN. PROVIDE TEMPORARY SUPPORTS TO PREVENT MOVEMENT DURING BYPASS OPERATIONS.
4. NOISE ATTENUATION MEASURES MUST BE IMPLEMENTED TO ENSURE NOISE LEAVING PUMP STATIONS DOES NOT EXCEED 60 DBA (AVERAGED OVER ONE HOUR)
5. CLEARING OF COASTAL SAGE SCRUB HABITAT WITHIN THE MHPA MUST OCCUR OUTSIDE THE NESTING SEASON FOR THE CALIFORNIA GNATCATCHER (BETWEEN MARCH 1 TO AUGUST 15). ALL COASTAL SAGE SCRUB HABITAT IMPACTED MUST BE RESTORED.
6. THE CONTRACTOR IS NOT AUTHORIZED TO TRIM ANY VEGETATIION ALONG THE PATHS OR MANHOLES. ALL CLEARING AND GRUBBING AT THOSE LOCATIONS SHALL BE COMPLETED BY THE CITY OF SAN DIEGO WASTEWATER COLLECTION - CANYONS NORTH CREW. CONTACT THE WASTEWATER COLLECTION CREW AT (858) 654-4133 PRIOR TO START OF WORK.

BYPASS PUMP STATION SITE PLAN

100% SUBMITTAL

C-18

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

NOBEL BYPASS PUMP STATION SITE PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 20 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER
MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

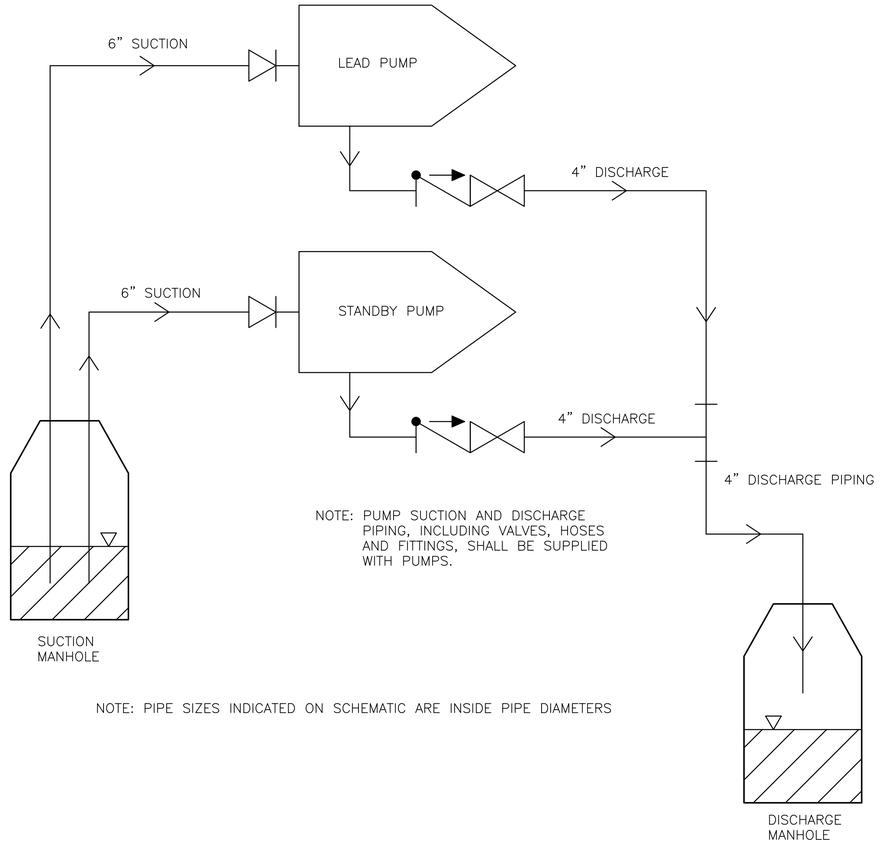
CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-20-D

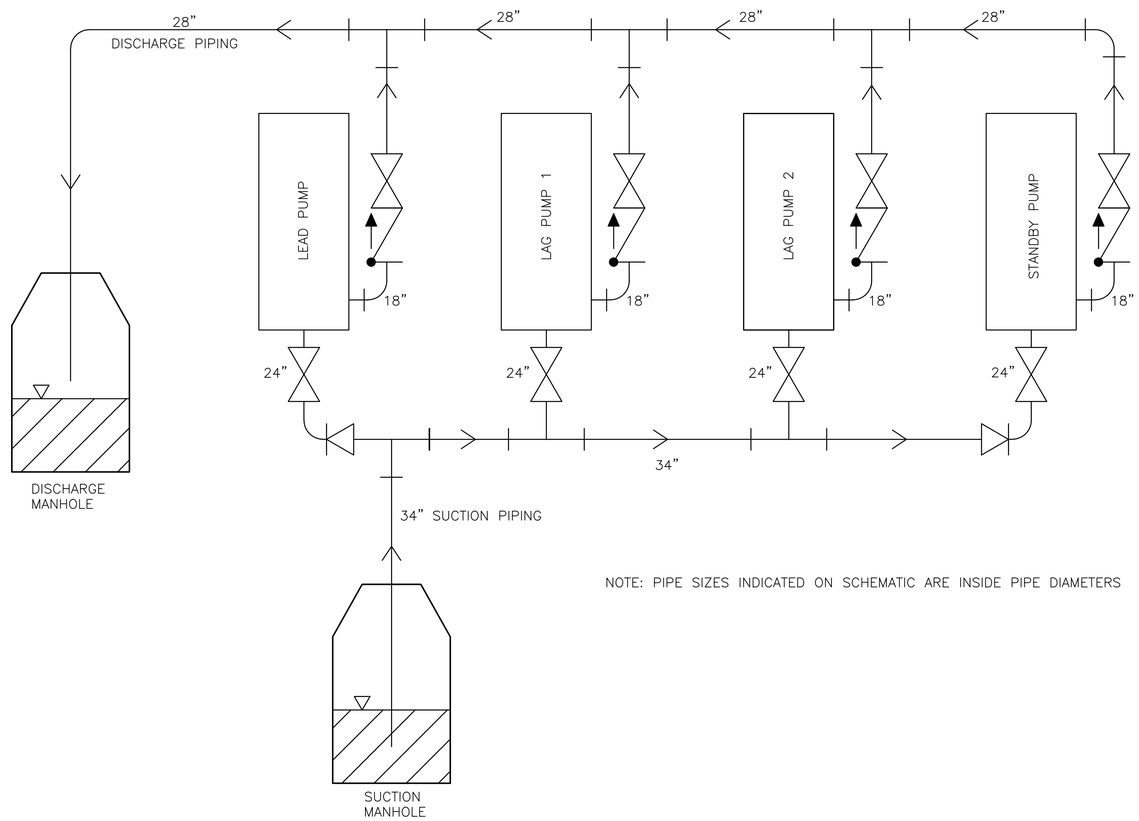
Plot Date: 8 July 2016 - 1:59 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C18 Site Plan.dwg



NOTE: PUMP SUCTION AND DISCHARGE PIPING, INCLUDING VALVES, HOSES AND FITTINGS, SHALL BE SUPPLIED WITH PUMPS.

NOTE: PIPE SIZES INDICATED ON SCHEMATIC ARE INSIDE PIPE DIAMETERS

1 - DECORO BYPASS PUMP STATION SCHEMATIC
SCALE: NOT TO SCALE



NOTE: PIPE SIZES INDICATED ON SCHEMATIC ARE INSIDE PIPE DIAMETERS

2 - NOBEL BYPASS PUMP STATION SCHEMATIC
SCALE: NOT TO SCALE

LEGEND

REDUCER

CHECK VALVE

ISOLATION VALVE

BYPASS PUMP STATION SCHEMATICS

100% SUBMITTAL

C-19

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

BYPASS PUMP STATION SCHEMATICS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 21 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

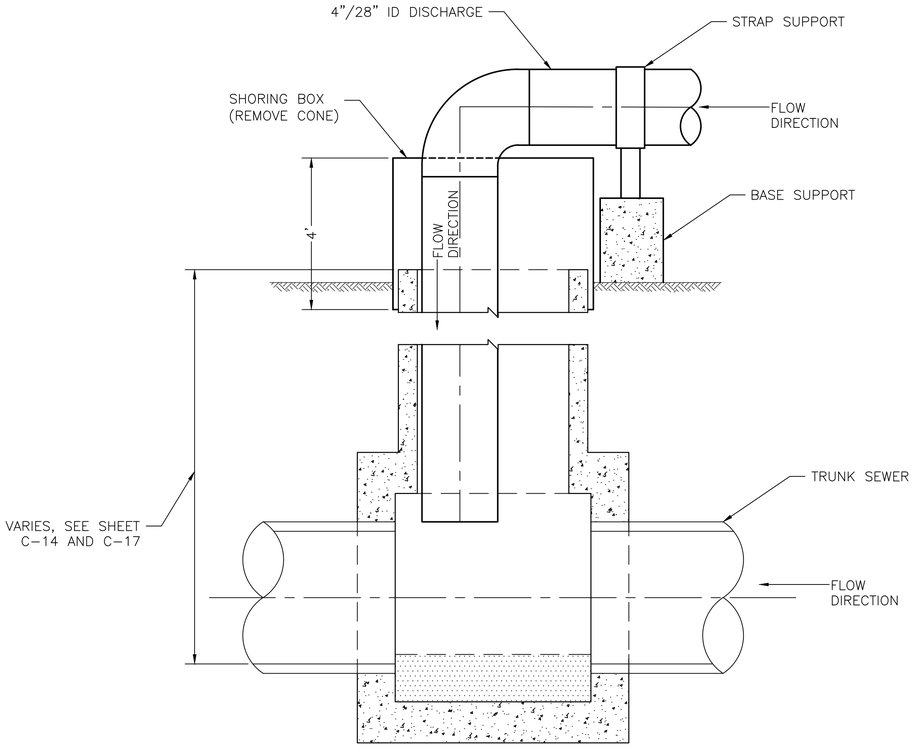
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

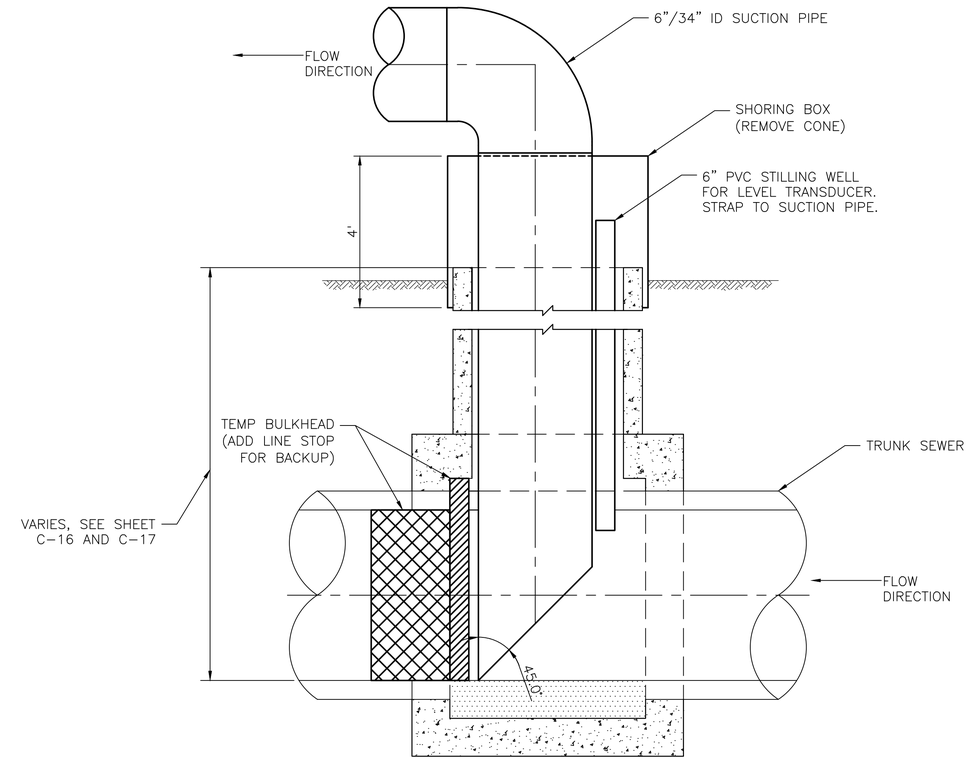
38791-21-D

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

Plot Date: 30 June 2016 - 3:55 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C19 PS SCHEMATIC.dwg



1 - BYPASS DISCHARGE LINE INTO GRAVITY MANHOLE
SCALE: 1/2" = 1'-0"



2 - BYPASS SUCTION LINE FROM GRAVITY MANHOLE
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL LEAVE TEMPORARY BULKHEAD ON-SITE AFTER THE NOBEL BYPASS HAS BEEN REMOVED FROM OPERATION. TEMPORARY BULKHEAD WILL BE USED AS NECESSARY, TO ALLOW FOR THE REMOVAL AND RE-DEPLOYMENT OF STOP LOGS IN JUNCTION STRUCTURE NO. 1 DURING RAIN EVENTS. USE OF BULKHEAD SHALL BE COORDINATED WITH THE CITY IN ADVANCE OF ITS DEPLOYMENT.

2. PUMP SUCTION AND DISCHARGE PIPING SHALL BE SUFFICIENTLY RESTRAINED AND SUPPORTED TO PREVENT MOVEMENT DURING PUMP CYCLING. PROVIDE PIPE SUPPORTS AND THRUST RESTRAINTS IN ACCORDANCE WITH SSP SECTION 704.

BYPASS MANHOLE DETAILS

100% SUBMITTAL

C-20

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

BYPASS MANHOLE DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 22 OF 36 SHEETS

SEWER WBS B-11025

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

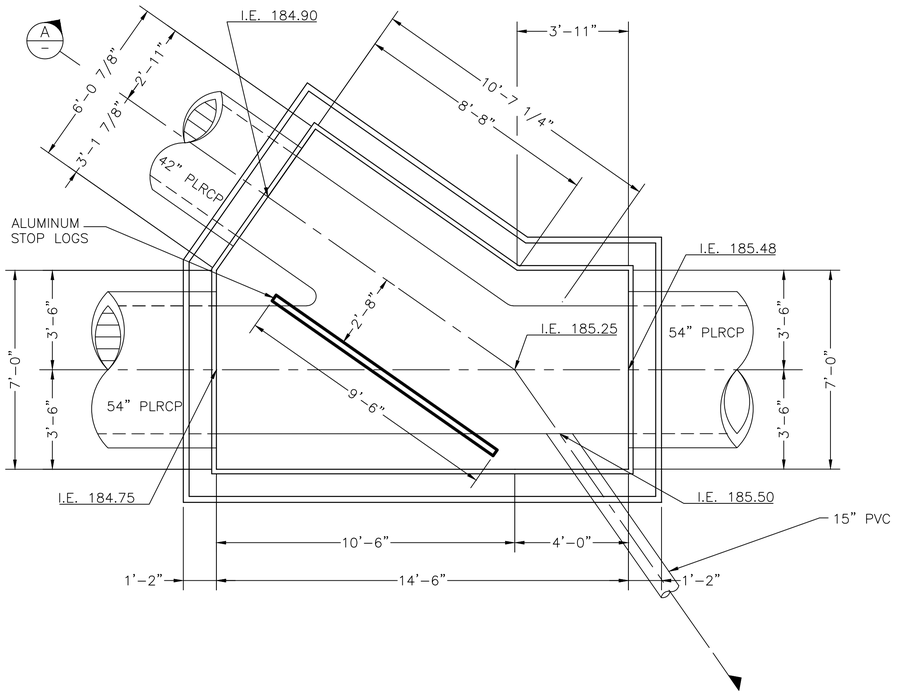
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

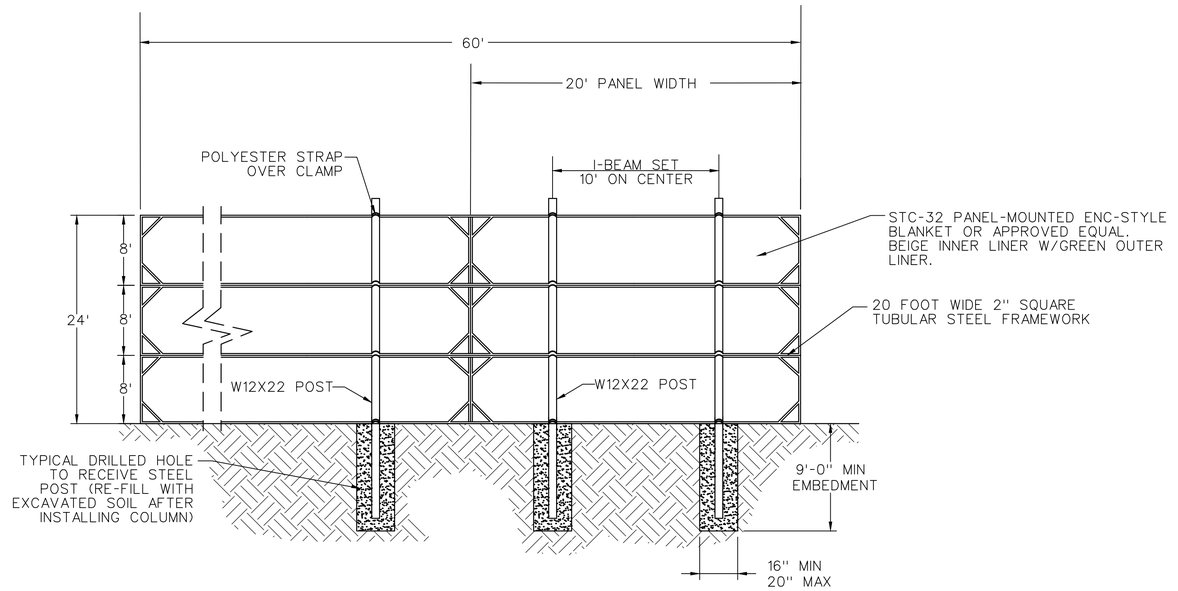
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

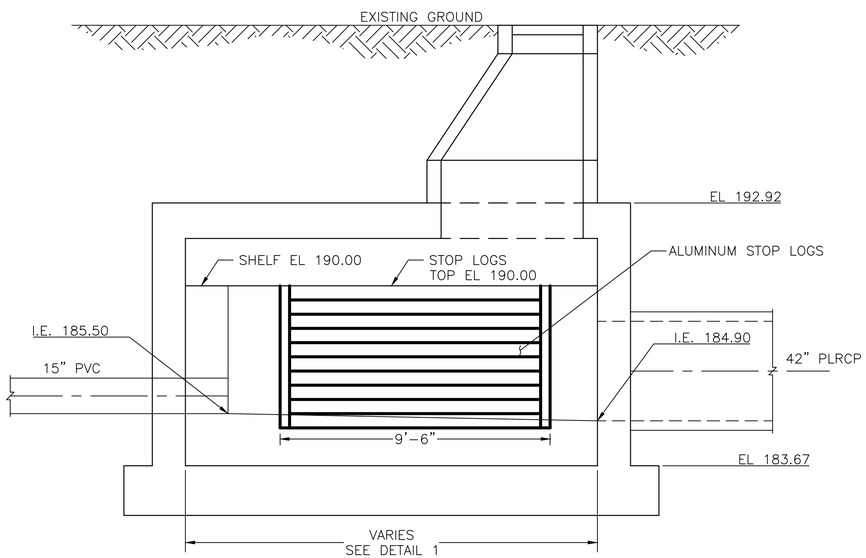
38791-22-D



1 / - MH 449 JUNCTION STRUCTURE
SCALE: 3/8" = 1'-0"



2 / - SOUND WALL CONTROL PANEL SYSTEM
NTS



A / - SECTION
SCALE: 3/8" = 1'-0"

STOP LOG

100% SUBMITTAL

C-21

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

JUNCTION STRUCTURE AND SOUND WALL DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 23 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

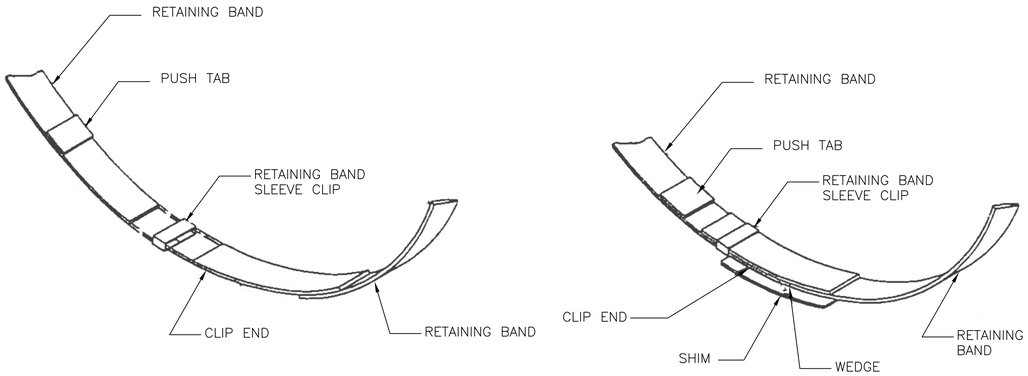
CCS27 COORDINATE

CCS83 COORDINATE

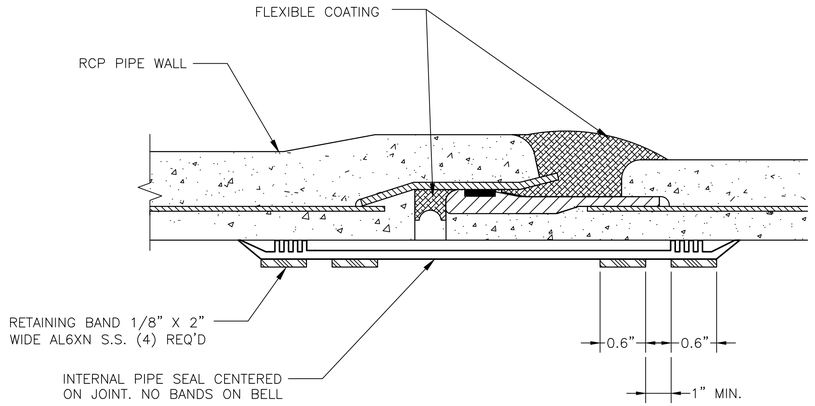
CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-23-D

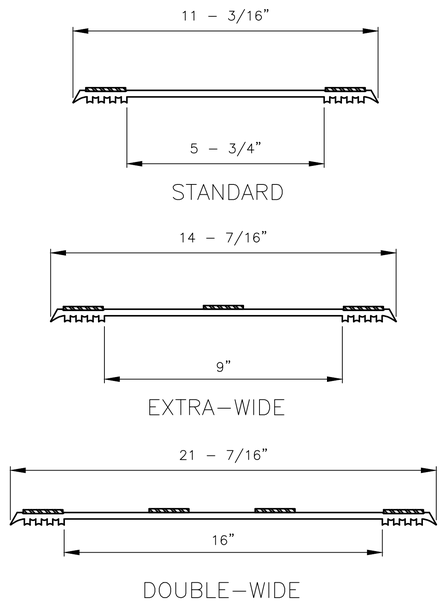
REGISTERED PROFESSIONAL ENGINEER — GREGORY W. WATANABE — No. C67618, Exp. 6-30-17 — CIVIL — STATE OF CALIFORNIA



1 – RETAINING BAND SLEEVE CLIP OVERLAP RETAINER
NTS



2 – INTERNAL PIPE SEAL DETAIL
NTS



DOUBLE–WIDE SLEEVE

INTERNAL PIPE SEAL MINIMUM DIMENSIONS					
SEAL TYPE	REPAIR WIDTH	OD WIDTH	ID WIDTH	SS BANDS	PIPE DIA.
STANDARD	4 ¾"	11 3/16"	5 ¾"	2	60"
EXTRA–WIDE	8"	14 7/16"	9"	3	60"
DOUBLE–WIDE	15"	21 7/16"	16"	4	54" – 60"
DOUBLE–WIDE SLEEVE	51 9/16"	58"	52 9/16"	10	60"

3 – INTERNAL PIPE SEAL TYPES
NTS

100% SUBMITTAL

C-22

INTERNAL PIPE SEAL DETAIL

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

INTERNAL PIPE SEAL DETAIL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 24 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER
MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. 067618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

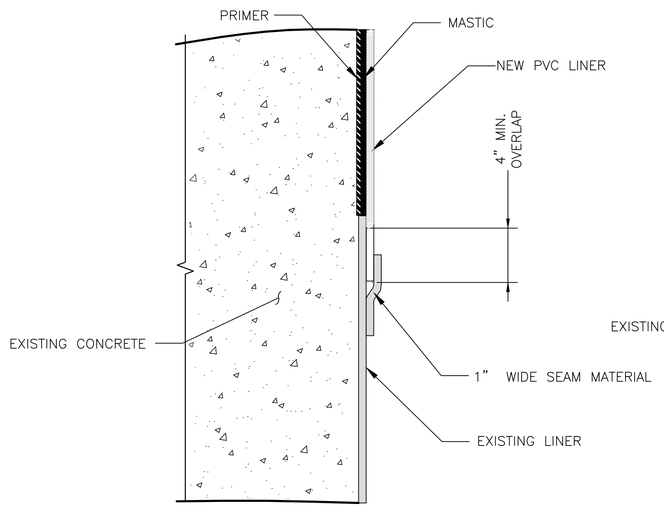
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

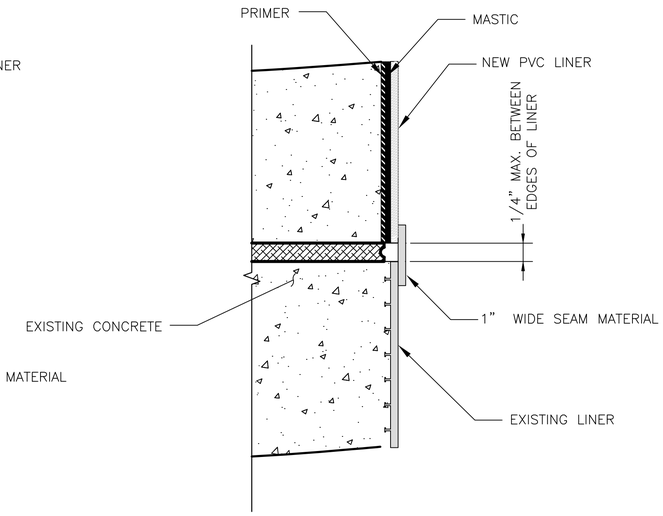
38791-24-D

Plot Date: 30 June 2016 – 4:06 PM Plotted By: Cristen Alvarez

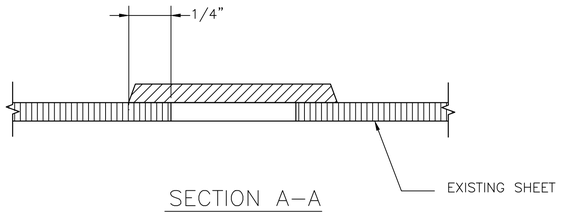
Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C22 INTERNAL SEAL DETAIL.dwg



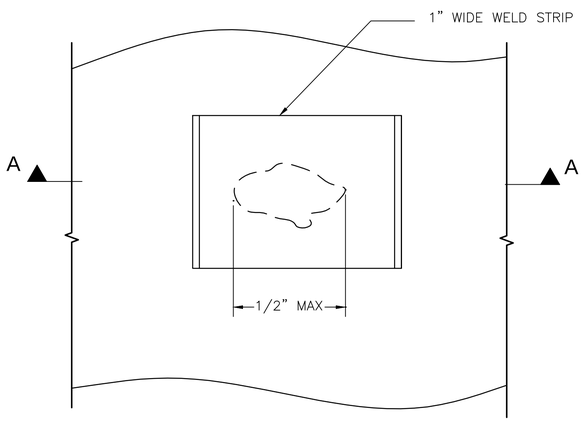
1 – TERMINATION OF EXISTING LINER
NTS



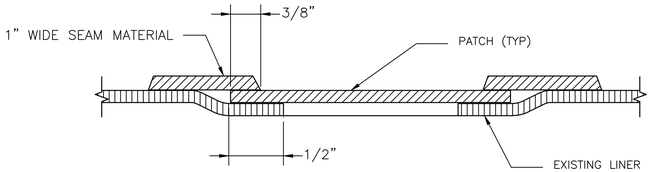
2 – TERMINATION AT JOINT
NTS



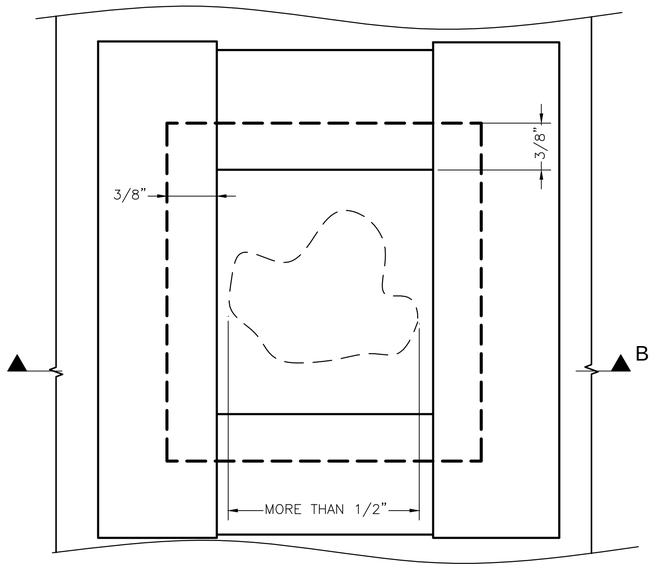
SECTION A–A



3 – REPAIR OF 1/2" DIAMETER OR LESS DEFECT
NTS



SECTION B–B



4 – REPAIR OF 1/2" DIAMETER OR GREATER DEFECT
NTS

PVC LINER REPAIR DETAILS

100% SUBMITTAL

C-23

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

PVC LINER REPAIR DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 25 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

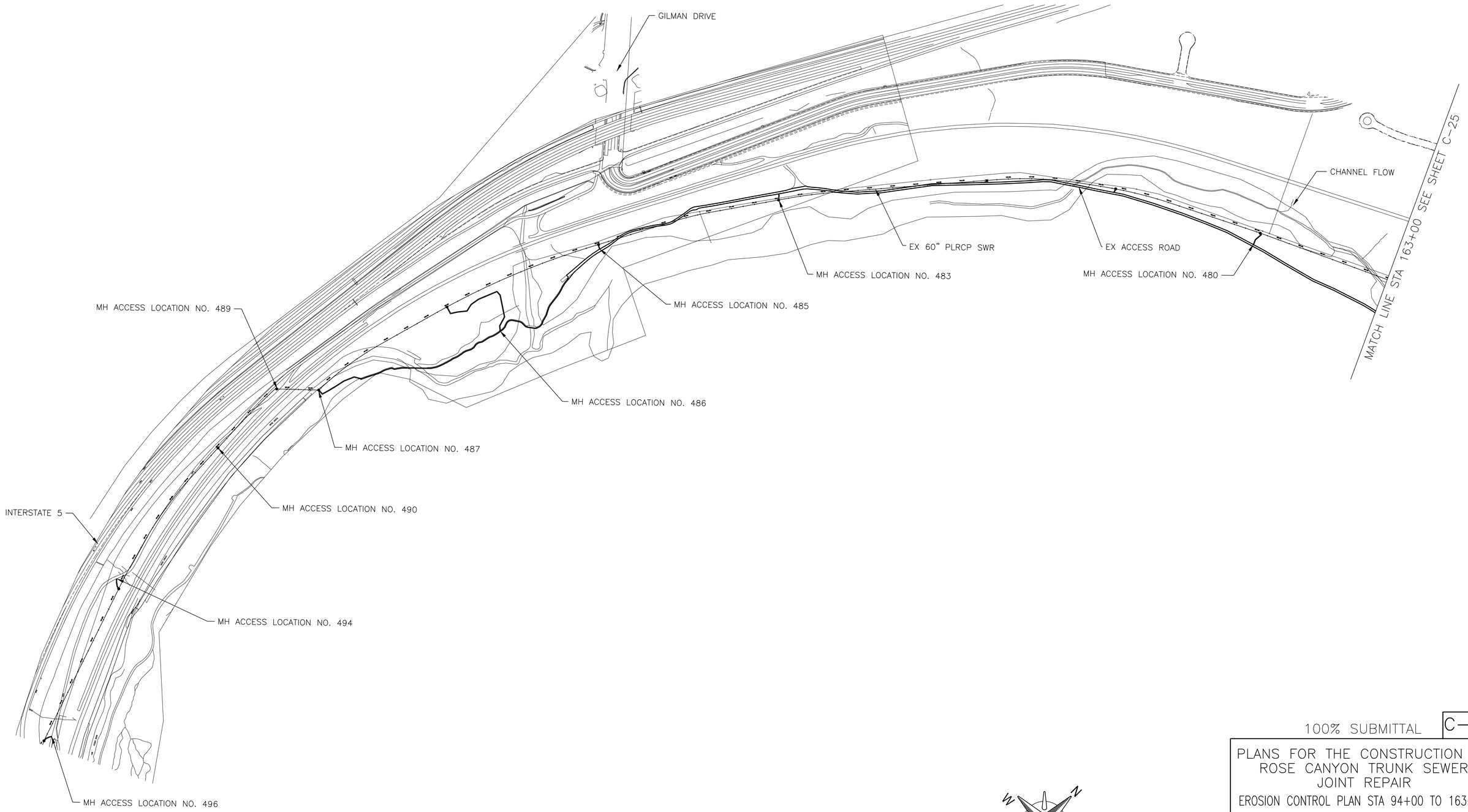
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-25-D

Plot Date: 30 June 2016 – 4:15 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C23 LINER DETAIL.dwg



EROSION CONTROL

MANHOLE ACCESS EROSION AND SEDIMENT CONTROL NOTES:

TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. WPCP DETAILS PROVIDED ON SHEET C-28.
2. MANHOLE ACCESS ROAD DETAILS PROVIDED ON SHEET C-28.
3. PROTECT MANHOLE ACCESS LOCATIONS THAT HAVE BEEN CLEAR AND GRUBBED THROUGH THE INSTALLATION OF SILT FENCES AROUND THE PERIMETER OF THE DISTURBED AREAS AND, AS NEEDED, FIBER ROLLS PARALLEL TO THE SLOPE.
4. STABILIZE COMPLETED ACCESS LOCATIONS WITH A BINDER WHILE NATIVE VEGETATION BECOMES ESTABLISHED TO PREVENT POTENTIAL EROSION.

N E S W

0 200 400 600
SCALE 1"=200'

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

100% SUBMITTAL C-24

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

EROSION CONTROL PLAN STA 94+00 TO 163+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 26 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

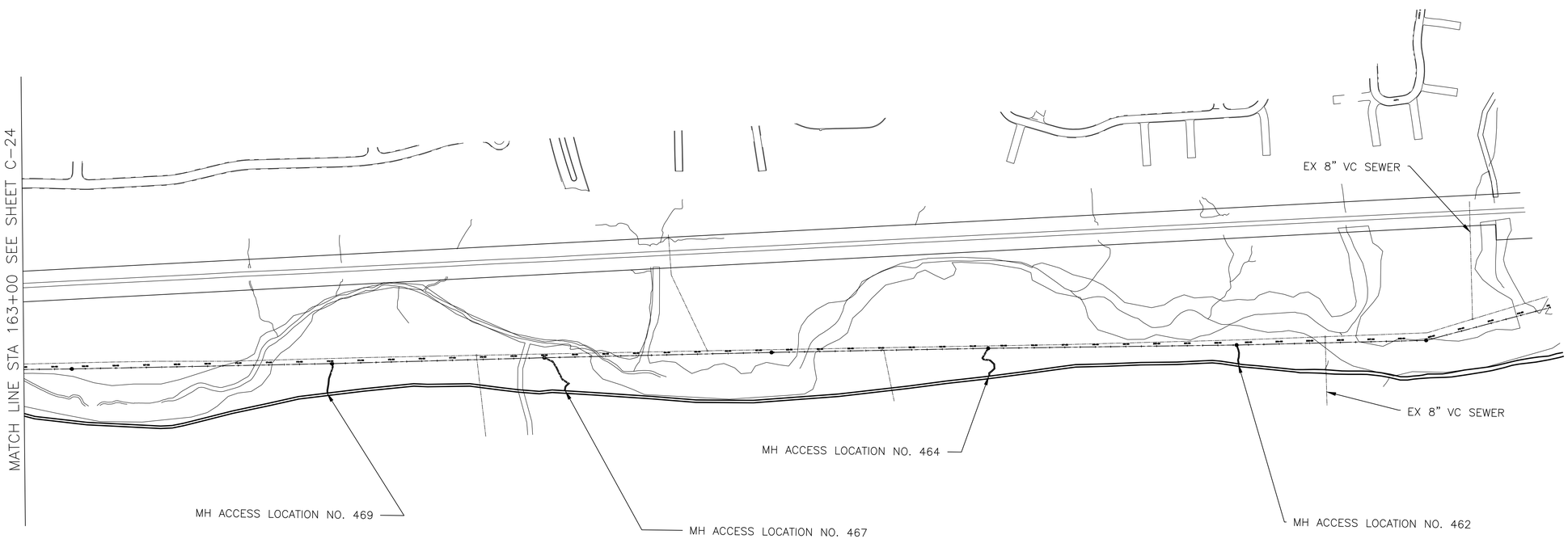
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-26-D

Plot Date: 11 July 2016 - 11:35 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Sheets\8411454 - C24 ECP.dwg



EROSION CONTROL

100% SUBMITTAL

C-25

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

EROSION CONTROL PLAN STA 160+00 TO 213+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 27 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH PRINT NAME _____ RCE# _____

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER

CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

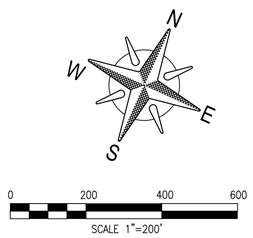
CCS27 COORDINATE

CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. C67618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-27-D



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MATCH LINE
SEE RIGHT

MATCH LINE
SEE LEFT

EX 54" PLRCP SWR

EX 30" PVC SWR

MH ACCESS LOCATIONS NO. 449 AND 455

ACCESS ROUTE IS ALONG AN EXISTING SLOPE. ALL EQUIPMENT MUST BE HAND CARRIED.

EX 42" PLRCP SWR

EX 42" VC SWR

EX 54" PLRCP SWR

EX 60" PLRCP SWR

ACCESS ROAD

EX 60" PLRCP SWR

EX 42" VC SWR

ACCESS ROUTE IS ALONG AN EXISTING SLOPE. ALL EQUIPMENT MUST BE HAND CARRIED.

ACCESS ROAD

PROP SILT FENCE

PROP BYPASS PIPE

CENTURION SQUARE

GENESSE AVENUE

GENESSE AVENUE

MH ACCESS LOCATION NO. 451

MH ACCESS LOCATION NO. 452

ACCESS ROUTE IS ALONG AN EXISTING SLOPE. ALL EQUIPMENT MUST BE HAND CARRIED.

PROP BYPASS LINE

PROP SILT FENCE

ACCESS ROAD

TC-1 CONSTRUCTION STABLIZATION

SCALE 1"=40'

EROSION CONTROL

100% SUBMITTAL

C-26

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

EROSION CONTROL PLAN STA 300+00 TO 311+50

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 28 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER
MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

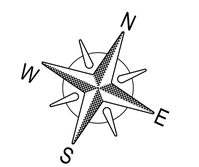
CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-28-D

Plot Date: 11 July 2016 – 12:23 PM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C26 ECP.dwg



0 40 80 120

SCALE 1"=40'

EROSION CONTROL

100% SUBMITTAL

C-27

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

EROSION CONTROL PLAN STA 311+50 TO 321+00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 29 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER
GREGORY W. WATANABE
No. C67618
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

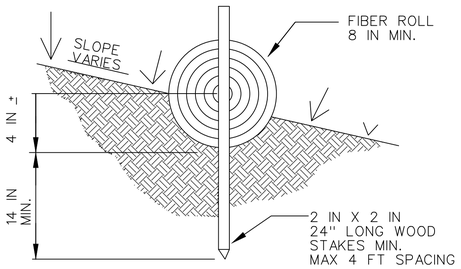
38791-29-D

Plot Date: 11 July 2016 – 11:51 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\8411454 – C27 ECP.dwg

EROSION AND SEDIMENT CONTROL NOTES:

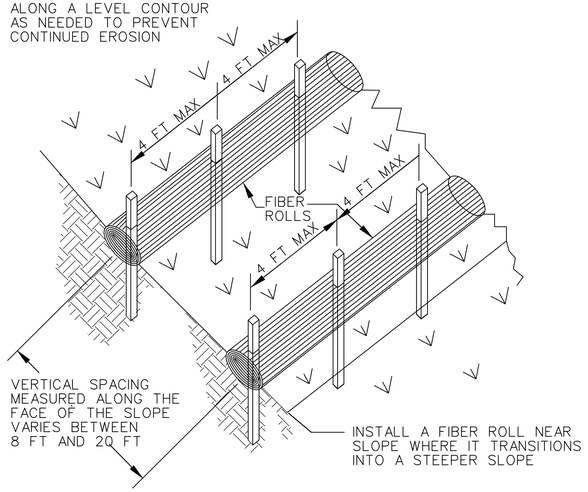
TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY OF SAN DIEGO "LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED WATER POLLUTION CONTROL PLAN (WPCP).
2. PROTECT MANHOLE ACCESS LOCATIONS THAT HAVE BEEN CLEAR AND GRUBBED THROUGH THE INSTALLATION OF SILT FENCES AROUND THE PERIMETER OF THE DISTURBED AREAS AND, AS NEEDED, FIBER ROLLS PARALLEL TO THE SLOPE.
3. STABILIZE COMPLETED ACCESS LOCATIONS WITH A BINDER WHILE NATIVE VEGETATION BECOMES ESTABLISHED TO PREVENT POTENTIAL EROSION.
4. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
5. THE CONTRACTOR OR QUALIFIED PERSON SHALL CHECK AND MAINTAIN ALL LINED AND UNLINED DITCHES AFTER EACH RAINFALL.
6. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
7. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
8. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
9. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
11. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
12. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
13. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
14. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING FOR THE AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED PERSON CAN PROVIDE EROSION/SEDIMENT CONTROL MEASURES.
15. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.
16. ANY STAMPING WITH PROHIBITIVE LANGUAGE DISTURBED BY CONSTRUCTION ACTIVITIES (E.G. "NO DUMPING - DRAINS TO OCEAN"), OR EQUIVALENT, OF ALL STORM WATER CONVEYANCE SYSTEM INLETS AND CATCH BASINS WITHIN THE PROJECT AREA MUST BE RESTORED.



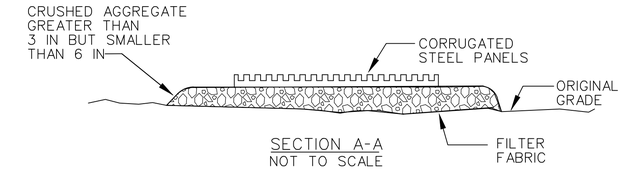
ENTRENCHMENT DETAIL
NOT TO SCALE

NOTE:
INSTALL FIBER ROLL ALONG A LEVEL CONTOUR AS NEEDED TO PREVENT CONTINUED EROSION

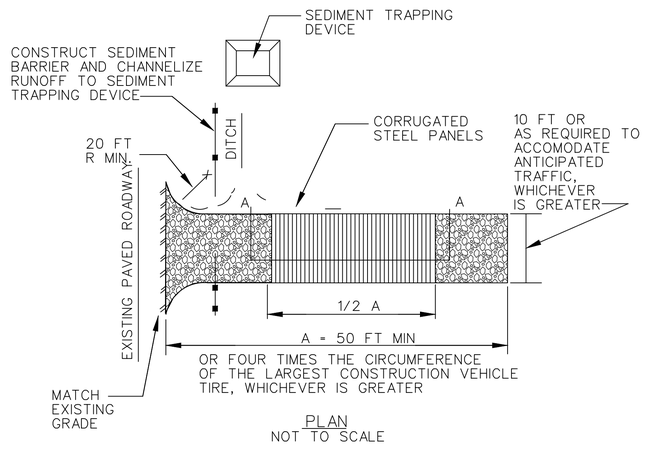


TYPICAL INSTALLATION
NOT TO SCALE

SE-5: FIBER ROLLS

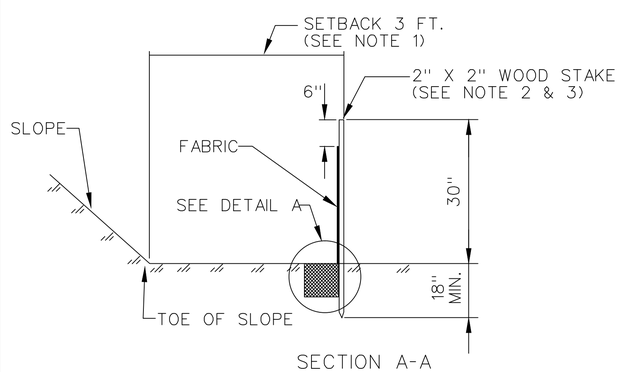


SECTION A-A
NOT TO SCALE

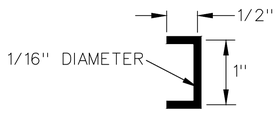


PLAN
NOT TO SCALE

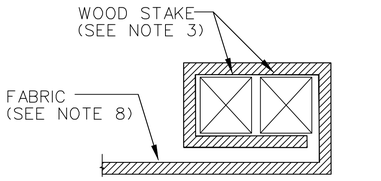
TC-1: ENTRANCE/EXIT STABILIZATION



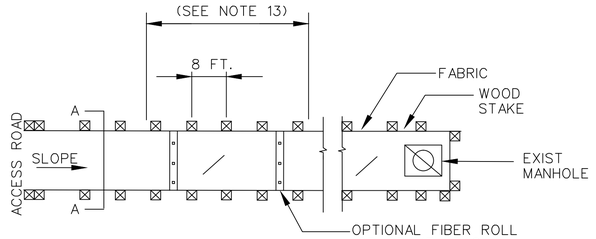
SECTION A-A



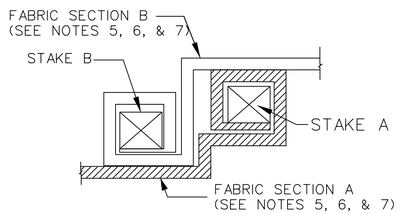
STAPLE DETAIL



END STAKE DETAIL (TOP VIEW)



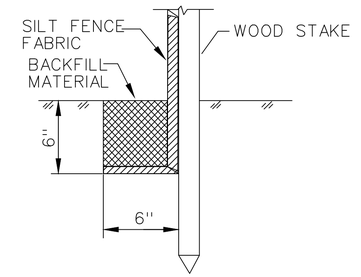
PLANVIEW OF ACCESS LOCATIONS



JOINING SECTION DETAIL (TOP VIEW)

SILT FENCE NOTES:

1. SETBACK DISTANCE MAY VARY TO FIT FIELD CONDITION.
2. STAKES SHALL BE SPACED AT 8 FT MAXIMUM AND SHALL BE POSITIONED ON DOWNSTREAM SIDE OF FENCE.
3. STAKE DIMENSIONS ARE NOMINAL.
4. MINIMUM 4 STAPLES PER STAKE. SEE STAPLE DETAIL.
5. AT JOINING SECTION, STAKES TO OVERLAP AND FENCE FABRIC TO FOLD AROUND EACH STAKE ONE FULL TURN. SECURE FABRIC TO STAKE WITH 4 STAPLES.
6. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT. THE TOPS OF THE STAKES SHALL BE SECURED WITH WIRE.
7. JOINING SECTIONS SHALL NOT BE PLACED AT SUMP LOCATIONS.
8. FOR END STAKE, FENCE FABRIC SHALL BE FOLDED AROUND TWO STAKES ONE FULL TURN AND SECURED WITH 4 STAPLES
9. THE LAST 8 FT OF FENCE SHALL BE TURNED UP SLOPE.
10. MAINTENANCE OPENINGS SHALL BE CONSTRUCTED IN A MANNER TO ENSURE SEDIMENT REMAINS BEHIND SILT FENCE.
11. CROSS BARRIERS SHALL BE A MINIMUM OF 1/3 AND A MAXIMUM OF 1/2 THE HEIGHT OF THE SILT FENCE.
12. FIBER ROLL ROWS AND LAYERS SHALL BE OFFSET TO ELIMINATE GAPS.
13. CONSTRUCT THE LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE SILT FENCE, IN NO CASE SHALL THE REACH LENGTH EXCEED 500 FT.
14. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.



DETAIL A

SE-1: SILT FENCE ACCESS LOCATION DETAIL

EROSION CONTROL DETAIL

100% SUBMITTAL

C-28

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

EROSION CONTROL DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 30 OF 36 SHEETS

SEWER WBS B-11025

APPROVED: FOR CITY ENGINEER MIKE NINH PRINT NAME DATE RCE#

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER

CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR DATE STARTED

INSPECTOR DATE COMPLETED

38791-30-D

REGISTERED PROFESSIONAL ENGINEER GREGORY W. WATANABE No. 067618 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

TRAFFIC CONTROL NOTES

THE FOLLOWING NOTES APPLY TO THE TRAFFIC CONTROL PLANS, T–1 AND T–2, AND THE PEDESTRIAN DETOUR PLANS, T–3 AND T–4:

1. **VALIDATION.** THIS TRAFFIC CONTROL PLAN IS NOT VALID UNTIL WORK DATES ARE APPROVED. THE CONTRACTOR SHALL, PER SECTION 7–10.2.2.2 OF THE CITY SUPPLEMENT TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CALL THE ENGINEERING TRAFFIC CONTROL SECTION AT (858) 495–4741 TO OBTAIN A PERMIT. THE CONTRACTOR MUST CALL A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO STARTING WORK, OR FIVE (5) WORKING DAYS WHEN THE WORK WILL AFFECT A TRAFFIC SIGNAL.

2. **STANDARDS.** THIS TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF EACH OF THE FOLLOWING MANUALS:
   a. CITY OF SAN DIEGO STANDARD DRAWINGS, APPENDIX "A";
   b. CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS; AND
   c. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"), INCLUDING REGIONAL AND CITY OF SAN DIEGO SUPPLEMENT AMENDMENTS.

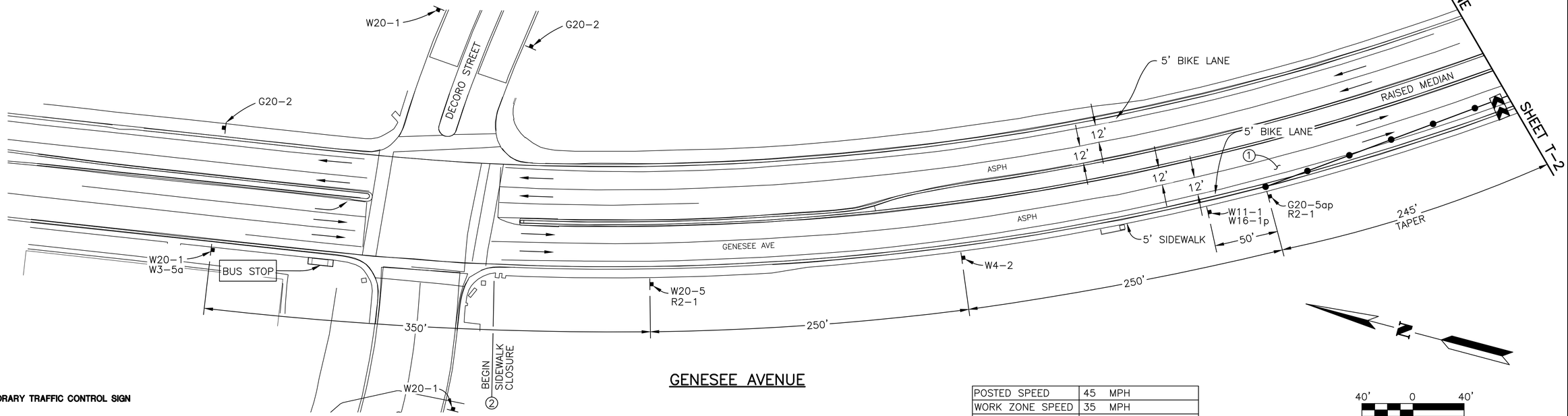
3. **NOTIFICATIONS.** THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AFFECTED AGENCIES A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION, CONSTRUCTION OR TRAFFIC CONTROL:

FIRE DEPARTMENT DISPATCH	(STREET OR ALLEY CLOSURE)	(858) 573–1300
POLICE DEPARTMENT TRAFFIC	(STREET OR ALLEY CLOSURE)	(858) 495–7800
STREET DIVISION/ELECTRICAL	(TRAFFIC SIGNALS)	(619) 527–7500
SAN DIEGO TRANSIT	(BUS STOPS)	(619) 595–7038

THE CONTRACTOR SHALL POST SIGNS NOTIFYING THE PUBLIC A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF STREETS.

4. **RESTORATION OF TRAFFIC CONTROL DEVICES.** THE CONTRACTOR SHALL REPAIR OR REPLACE TRAFFIC CONTROL DEVICES (INCLUDING TRAFFIC SIGNS, STRIPING, PAVEMENT MARKERS, PAVEMENT MARKINGS, LEGENDS, CURB MARKINGS, LOOP DETECTORS, TRAFFIC SIGNAL EQUIPMENT, ETC.) DAMAGED OR REMOVED AS A RESULT OF OPERATIONS AND NOT DESIGNATED FOR REMOVAL. REPAIRS AND REPLACEMENTS SHALL BE EQUAL TO EXISITNG IMPROVEMENTS. LOOP DETECTORS SHALL BE REPLACED WITHIN THREE (3) WORKING DAYS OF COMPLETION OF UNDERGROUND WORK.

5. **CHANGES IN WORK.** THE RESIDENT ENGINEER WILL OBSERVE THESE TRAFFIC CONTROL PLANS IN OPERATION AND RESERVES THE RIGHT TO MAKE CHANGES AS THE FIELD CONDITIONS WARRANT. SUCH CHANGES SHALL SUPERSEDE THESE PLANS.

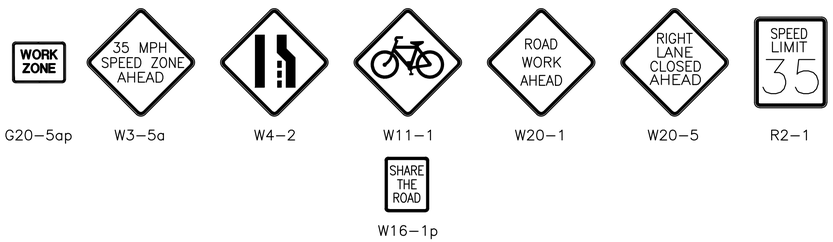


GENESEE AVENUE

POSTED SPEED	45 MPH
WORK ZONE SPEED	35 MPH
TAPER LENGTH	245 FEET
SPACING OF CONES	35 FEET
WORK HOURS	6:30 AM – 2:30 PM (ALL WORK)

LEGEND

- TEMPORARY TRAFFIC CONTROL SIGN
- CONE
- BARRICADE (TYPE PER PLAN)
- TRAFFIC DIRECTION
- FLASHING ARROW SIGN
- GUARD RAIL



NOTES

① TEMPORARY CLOSURE (APPROXIMATELY 3 DAYS) OF THE OUTSIDE (#2) SOUTHBOUND TRAVEL LANE ON GENESEE AVENUE IS PROPOSED DURING INSTALLATION OF THE SEWER BYPASS LINE. BIKE LANE WILL SHARE THE INSIDE (#1) TRAVEL LANE

② REFER TO T–3 AND T–4 FOR LIMITS OF SIDEWALK CLOSURE AND PEDESTRIAN DETOUR SIGNAGE

③ MINIMUM LANE WIDTH SHALL BE 12 FEET OR AS DIRECTED BY THE RESIDENT ENGINEER

④ CUSTOM CONSTRUCTION/TRAFFIC CONTROL SIGNS, IF PROPOSED BY CONTRACTOR, SHALL BE MANUFACTURED USING MINIMUM 3" UPPER CASE BLACK LETTERS AND A BLACK BORDER ON AN ORANGE REFLECTIVE BACKGROUND

REGISTERED PROFESSIONAL ENGINEER TRACY CAROLINE ROBB NO. 82856 CIVIL STATE OF CALIFORNIA

TRACY CAROLINE ROBB DATE

CVALDO CORPORATION
CIVIL ENGINEERING
4901 MORENA BLVD, SUITE 1110
SAN DIEGO, CA 92117
(858) 866–0128

100% SUBMITTAL

T–1

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR
TRAFFIC CONTROL PLAN
GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 31 OF 36 SHEETS

SEWER WBS B–11025

APPROVED:
FOR CITY ENGINEER AHMED ABURAHMAH DATE
PRINT NAME DATE

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

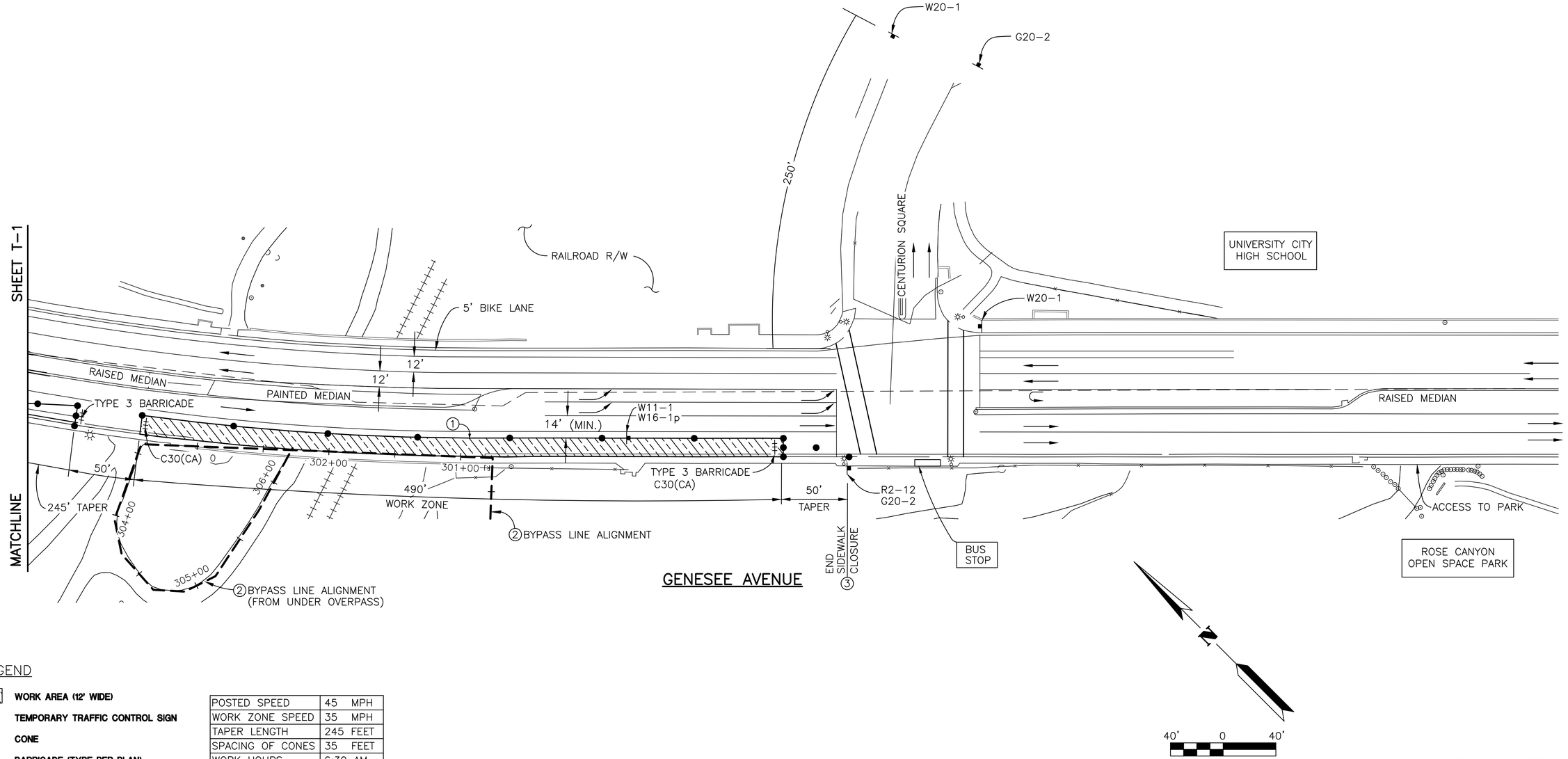
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

38791–34–D

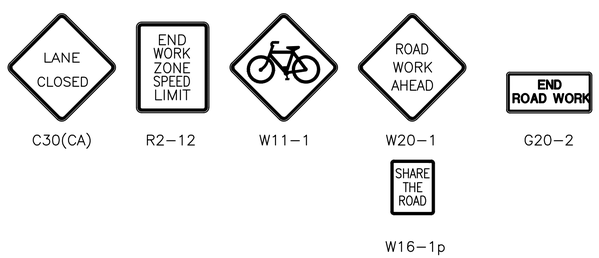
Plot Date: 6 July 2016 – 8:38 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\Traffic Control Sheets\T–1.dwg



LEGEND

- WORK AREA (12' WIDE)
- TEMPORARY TRAFFIC CONTROL SIGN
- CONE
- BARRICADE (TYPE PER PLAN)
- TRAFFIC DIRECTION
- GUARD RAIL

POSTED SPEED	45 MPH
WORK ZONE SPEED	35 MPH
TAPER LENGTH	245 FEET
SPACING OF CONES	35 FEET
WORK HOURS	6:30 AM – 3:30 PM



NOTES

① TEMPORARY CLOSURE (APPROXIMATELY 3 DAYS) OF THE OUTSIDE (#2) SOUTHBOUND TRAVEL LANE ON GENESEE AVENUE IS PROPOSED DURING INSTALLATION OF THE SEWER BYPASS LINE. BIKE LANE WILL SHARE THE INSIDE (#1) TRAVEL LANE

② REFER TO THE BYPASS PLAN AND PROFILE SHEETS FOR LOCATION OF THE SEWER BYPASS LINE ALONG THE WEST SIDE OF GENESEE AVENUE

③ REFER TO T-3 AND T-4 FOR LIMITS OF SIDEWALK CLOSURE AND PEDESTRIAN DETOUR SIGNAGE

④ MINIMUM LANE WIDTH SHALL BE 12 FEET OR AS DIRECTED BY THE RESIDENT ENGINEER

⑤ CUSTOM CONSTRUCTION/TRAFFIC CONTROL SIGNS, IF PROPOSED BY CONTRACTOR, SHALL BE MANUFACTURED USING MINIMUM 3" UPPER CASE BLACK LETTERS AND A BLACK BORDER ON AN ORANGE REFLECTIVE BACKGROUND

REGISTERED PROFESSIONAL ENGINEER
TRACY CAROLINE ROBB
NO. 82856
CIVIL
STATE OF CALIFORNIA

TRACY CAROLINE ROBB DATE

CVALDO CORPORATION
CIVIL ENGINEERING
4901 MORENA BLVD, SUITE 1110
SAN DIEGO, CA 92117
(858) 866-0128

100% SUBMITTAL

T-2

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

TRAFFIC CONTROL PLAN GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 32 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER AHMED ABURAHMAH DATE
PRINT NAME DATE

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

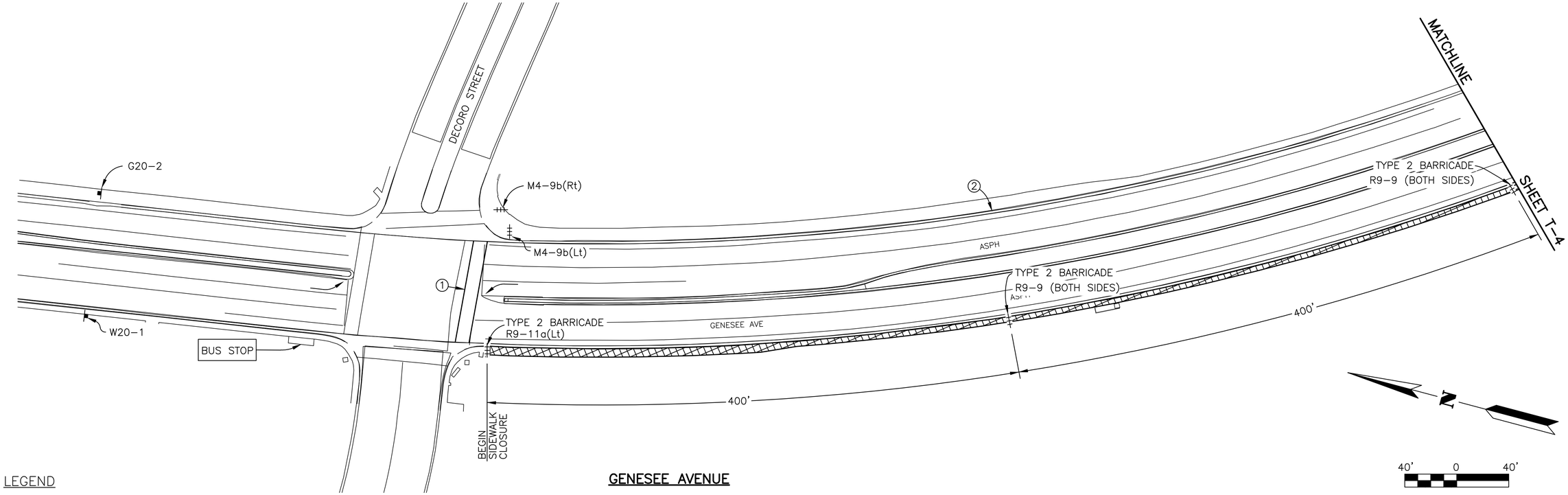
38791-35-D

Plot Date: 11 July 2016 – 9:43 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\Traffic Control Sheets\T-2.dwg

NOTES

① PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS GENESEE AVENUE AT THE DECORO STREET CROSSWALK

② PEDESTRIANS SHALL USE THE SIDEWALK ON THE EAST SIDE OF GENESEE AVENUE DURING BYPASS PUMPING OPERATIONS FOR THE SEWER JOINT REPAIRS

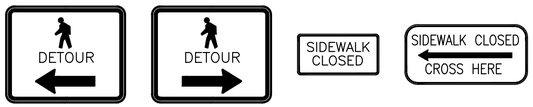


GENESEE AVENUE

LEGEND

SIDEWALK CLOSURE

BARRICADE (TYPE PER PLAN)



M4-9b (Lt) M4-9b (Rt) R9-9 R9-11a (Lt)

100% SUBMITTAL

T-3

REGISTERED PROFESSIONAL ENGINEER TRACY CAROLINE ROBB NO. 82856 CIVIL STATE OF CALIFORNIA

TRACY CAROLINE ROBB DATE

CVALDO CORPORATION
CIVIL ENGINEERING
4901 MORENA BLVD, SUITE 1110
SAN DIEGO, CA 92117
(858) 866-0128

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR
PEDESTRIAN DETOUR PLAN GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 33 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
AHMED ABURAHMAH
PRINT NAME DATE

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-36-D

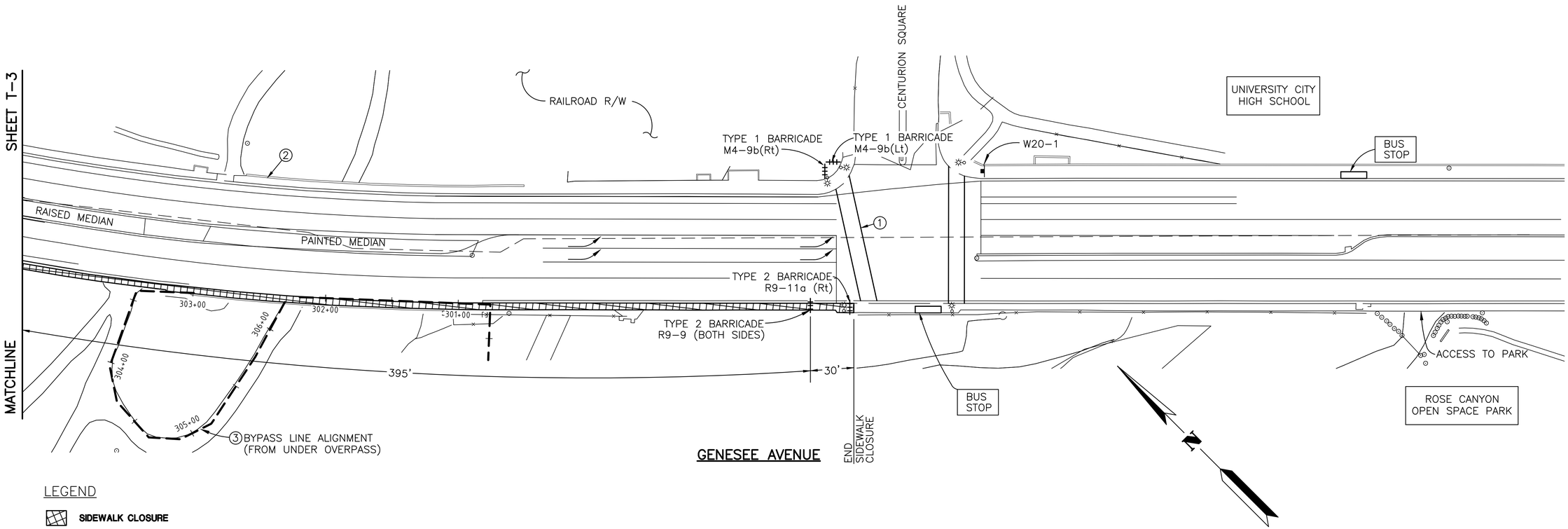
Plot Date: 1 July 2016 – 10:26 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\Traffic Control Sheets\T-3.dwg

NOTES

① PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS GENESEE AVENUE AT THE CENTURIAN SQUARE PEDESTRIAN CROSSING (SIGNALIZED) NORTH OF THE BUS STOP

② PEDESTRIANS SHALL USE THE SIDEWALK ON THE EAST SIDE OF GENESEE AVENUE DURING BYPASS PUMPING OPERATIONS FOR THE SEWER JOINT REPAIRS

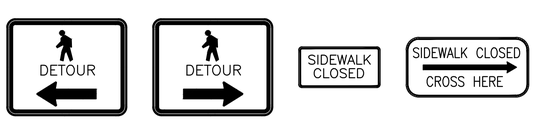
③ REFER TO THE BYPASS PLAN AND PROFILE SHEETS FOR LOCATION OF THE SEWER BYPASS LINE ALONG THE WEST SIDE OF GENESEE AVENUE



LEGEND

SIDEWALK CLOSURE

BARRICADE (TYPE PER PLAN)



M4-9b (Lt) M4-9b (Rt) R9-9 R9-11a (Rt)

100% SUBMITTAL

T-4

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

PEDESTRIAN DETOUR PLAN GENESEE AVENUE

REGISTERED PROFESSIONAL ENGINEER TRACY CAROLINE ROBB NO. 82856 CIVIL STATE OF CALIFORNIA

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 34 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE
AHMED ABURAHMAH
PRINT NAME _____ DATE

SUBMITTED BY: MARYAM LIAGHAT PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-37-D

TRACY CAROLINE ROBB DATE

CVALDO CORPORATION
CIVIL ENGINEERING
4901 MORENA BLVD, SUITE 1110
SAN DIEGO, CA 92117
(858) 866-0128

Plot Date: 1 July 2016 – 10:47 AM Plotted By: Cristen Alvarez Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\Traffic Control Sheets\T-4.dwg

HYDROSEED MIX - UPLAND

GRAPHIC SYMBOL	BOTANICAL NAME	COMMON NAME	MIN. % PURE LIVE SEED LBS./ACRE
	AMBROSIA PSILOSTACHYA	WESTERN RAGWEED	2
	DEINANDRA FASCICULATA	FASCICLED TARPLANT	5
	ENCELIA CALIFORNICA	CALIFORNIA ENCELIA	3
	ERIOGONUM FASCICULATUM	FLAT-TOP BUCKWHEAT	8
	ERIOPHYLLUM CONFERTIFLORUM VAR. CONFERTIFLORUM	GOLDEN-YARROW	4
	ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	4
	ISOCOMA MENZIESII VAR. MENZIESII	GOLDENBUSH	2
	LEYMUS CONDENSATUS	GIANT RYEGRASS	2
	LUPINUS HIRSUTISSIMUS	STINGING LUPINE	3
	LOTUS SCOPARIUS VAR. SCOPARIUS	COASTAL DEERWEED	6
	PHACELIA CICUTARIA	PHACELIA	2
	PSEUDOGNAPHALIUM BENEOLENS	FRAGRANT EVERLASTING	3
	STIPA (NASSELLA) PULCHRA	PURPLE NEEDLEGRASS	4
	VERBENA LASIOSTACHYS	WESTERN VERVAIN	2
			50.00

SEED NOTE:
SEED TAGS SHALL BE SUBMITTED TO THE RESIDENT ENGINEER AND THE PROJECT BIOLOGIST PRIOR TO APPLICATION OF SEED.

SEEDMIX AS PRESCRIBED BY S&S SEED:
POINT OF CONTACT: GILBERT BARAJAS (805) 684-0436

HYDROSEED NOTES

HYDROSEED MULCH AND FERTILIZERS SHALL BE THE FOLLOWING OR APPROVED EQUAL:

1. PRODUCT: — APPLICATION RATE:
   - FLEXTERRA HP — 3,000 - 4,500 LBS. / ACRE
   - HUMATE ORGANIC SOIL CONDITIONER — 500 LBS. / ACRE
   - BIOSOL FORTE 7-2-1 ORGANIC FERTILIZER — 800 LBS. / ACRE
   - AM 120 MYCORRHIZAL INOCULUM — 60 LBS. / ACRE
   - TRI-C SOLUBLE HUMATE — 1 LBS. / ACRE
   - SEED MIX AS PRESCRIBED BY S&S SEEDS
2. SLOPE ANGLES UP TO 0.025:1
3. SLOPE LENGTH MAXIMUM OF 75 FT. (WITHOUT SLOPE INTERRUPTION DEVICES).
4. LOW TO MODERATELY EROSIVE SOIL TYPES.
5. FUNCTIONAL LONGEVITY REQUIREMENT OF UP TO 1 YEAR.
6. FERTILIZERS & AMENDMENTS PER RESULTS OF SOILS TEST/SOILS ANALYSIS REPORT.
7. EQUIPMENT USED FOR THE APPLICATION OF SLURRY SHALL HAVE A BUILT-IN AGITATION SYSTEM TO SUSPEND AND HOMOGENEOUSLY MIX THE SLURRY. THE EQUIPMENT MUST HAVE A PUMP CAPABLE OF APPLYING SLURRY UNIFORMLY.

SUCCESS CRITERIA

SLOPE % VEGETATION COVER		PLANT SURVIVAL
120 DAYS:	75%	75%
1 YEAR:	75%	75%
25 MONTHS:	75%	

*SUCCESS CRITERIA FOR HYDROSEED IS BASED ON GERMINATION AND ESTABLISHMENT BY WATER TRUCK.

TABLE 2: SUMMARY & SCHEDULE FOR - MAINTENANCE, MONITORING & REPORTING FOR PROJECT

PERIOD	ACTIVITY FOR PROJECT BIOLOGIST / CONTRACTOR	BIOLOGIST SITE VISIT FREQUENCY	SUBMITTALS/ CHECKLIST	REPORTING FREQUENCY
REVEGETATION INSTALLATION	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/ LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION & MAINTENANCE	PER WHITEBOOK 700.1.7.3.	REPORTS PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA).	AT SUCCESSFUL INSTALLATION (AS DETERMINED BY PROJECT BIOLOGIST)
120 DAY PEP**	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/ LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION & MAINTENANCE	MONTHS 1 & 2 BIWEEKLY, MONTHS 3 &4 - AT LEAST ONCE A MONTH	REPORTS PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA).	AT THE END OF EVERY 3 MONTHS
25 MONTH LONG FOR TERM MAINTENANCE MONTHS & MONITORING	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/ LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION & MAINTENANCE	EVERY 3 MONTHS	REPORTS PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA).	1 YEAR 25 MONTHS

MAINTENANCE REQUIREMENTS

GENERAL REVEGETATION NOTES:

1. REVEGETATION OF THE PROJECT AREA SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF SAN DIEGO LANDSCAPE STANDARDS AND CITY SPECIFICATIONS UNDER THE DIRECTION OF THE RESIDENT ENGINEER (RE) AND PROJECT BIOLOGIST.
2. REFER TO SPECIFICATIONS FOR REVEGETATION AND EROSION CONTROL WORK.
3. TEMPORARY EROSION CONTROL SHALL BE INSTALLED IMMEDIATELY UPON INITIATION OF GROUND DISTURBANCE AND SHALL FOLLOW THE EROSION CONTROL PLAN. SEE CIVIL DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES.
5. THE CONTRACTOR SHALL PROVIDE A SOILS TEST AFTER ROUGH GRADING HAS BEEN COMPLETED AND A MINIMUM OF 4 WEEKS BEFORE HYDROSEEDING AND PLANT OPERATIONS BEGIN. RESULTS AND TESTING LAB RECOMMENDATIONS SHALL BE SUBMITTED TO AND APPROVED BY THE PROJECT BIOLOGIST AND RE. REFER TO SPECIFICATIONS.
6. THE UPPER EIGHT-INCHES OF TOPSOIL FROM THE SITE SHALL BE SALVAGED, IF SOIL IS REMOVED, AND/OR AS DIRECTED BY THE RE AND PROJECT BIOLOGIST. PROJECT BIOLOGIST SHALL ENSURE THAT 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.
7. PRIOR TO REVEGETATION AND/OR PLANT INSTALLATION, THE PROJECT BIOLOGIST SHALL PROVIDE WRITTEN RECOMMENDATIONS TO THE RE AS TO THE SALVAGED SOIL RELOCATION, RE-COMPACTION (EG. MAX 75 PERCENT WITHIN TOP 8 INCHES), AND/OR PREPARATION FOR REVEGETATION PURPOSES TO BE DONE BY THE CONTRACTOR. IF TOPSOIL CANNOT BE SALVAGED, CLEAN AND WEEDFREE CLASS" A" TOPSOIL WILL BE PROVIDED AND INSTALLED BY CONTRACTOR.
8. TOPSOIL SHALL BE APPROVED FOR USE BY THE RE AND PROJECT BIOLOGIST. SEE SPECIFICATIONS.
9. EXISTING PLANT MATERIAL SHALL BE PROTECTED IN PLACE IN AREAS IMMEDIATELY OUTSIDE OF THE LIMIT OF WORK. ALL PLANT MATERIAL DAMAGED BY CONSTRUCTION SHALL BE REPLACED AS FOLLOWS:
   - NATIVE VEGETATION DAMAGED DURING CONSTRUCTION BEYOND THE LIMIT OF WORK LINE SHALL BE PLANTED WITH THE SAME SPECIES OF PLANT BY THE CONTRACTOR. REPLACEMENT SHALL BE 1 GALLON. SIZE SHALL BE DEPENDENT ON THE SPECIES OF PLANT. SIZE AND QUANTITY OF PLANT MATERIAL SHALL BE DETERMINED BY THE PROJECT BIOLOGIST.
10. LIMITS OF PLANTING SHALL BE APPROVED BY THE PROJECT BIOLOGIST PRIOR TO PLANTING WORK. SEE SPECIFICATIONS.
11. ALL PLANT MATERIAL INCLUDING SEED SHALL BE APPROVED BY THE PROJECT BIOLOGIST AT THE PROJECT SITE PRIOR TO PLANTING.
12. FINISH SOIL SHALL BE 2" BELOW TOP OF PAVING IN ALL PLANTING AREAS.
13. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES. LANDSCAPE AREA SHALL BE FINISH GRADED AT A MINIMUM OF 2%.
14. FOR ANY ENVIRONMENTALLY SENSITIVE AREAS - DO NOT DISTURB. NOTIFY THE RESIDENT ENGINEER 48 HOURS PRIOR TO ALL CONSTRUCTION ACTIVITIES WITHIN 250 FEET OF SENSITIVE ENVIRONMENTAL AREA.
15. REFER TO SUCCESS CRITERIA TABLE THIS SHEET FOR SEED MIX AND/OR CONTAINER STOCK (THE PROJECT BIOLOGIST AND RE MAY APPROVE LESSER % COVERAGE BASED ON SITE CONDITIONS).
16. REVEGETATION OF MANUFACTURED SLOPES AND OTHER DISTURBED AREAS ADJACENT TO AREAS OF NATIVE VEGETATION SHALL BE ACCOMPLISHED IN A MANNER SO AS TO PROVIDE VISUAL AND HORTICULTURAL COMPATIBILITY WITH THE INDIGENOUS NATIVE PLANT MATERIALS.
17. INVASIVE PLANT SPECIES INCLUDING BUT NOT LIMITED TO THOSE LISTED IN THE CITY'S LANDSCAPE STANDARDS ARE PROHIBITED AND SHALL BE ERADICATED AND REMOVED BY CONTRACTOR AND NATIVE PLANT SPECIES SHALL BE USED IN NATURALIZED AREAS.
18. REVEGETATION AND EROSION CONTROL TIMING: ALL REQUIRED REVEGETATION AND EROSION CONTROL SHALL BE COMPLETED WITHIN 30 CALENDAR DAYS OF THE COMPLETION OF GRADING OR DISTURBANCE IN ORDER TO START THE 120 DAY PEP, OR AS RECOMMENDED BY THE RE AND THE PROJECT BIOLOGIST.
19. ALL SLOPES 3:1 OR GREATER SHALL REQUIRE BIODEGRADABLE EROSION CONTROL BLANKET OR OTHER SLOPE PROTECTION METHODS PROVIDED BY THE CONTRACTOR AS RECOMMENDED BY THE PROJECT BIOLOGIST PRIOR TO THE INSTALLATION OF THE REVEGETATION, OR IN THE EVENT OF SLOPE OR RESTORATION FAILURE.
20. AS DIRECTED BY THE PROJECT BIOLOGIST AND RE, 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.
21. CONTRACTOR SHALL CORRECT ALL SOIL EROSION, AND SHALL REPAIR AND/OR REPLACE ALL ABOVE GROUND EROSION CONTROL BMPS DAMAGED DURING THE 120 DAY PEP AND THROUGHOUT THE 25 MONTH MAINTENANCE AND MONITORING PERIOD.
22. ANY ABOVE GRADE 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 WEED SEEDS AND DEBRIS.
23. 1:1 REPLACEMENT OF ORNAMENTALS (IN KIND) SHALL BE MONITORED AND MAINTAINED FOR A PERIOD OF NO LESS THAN 90 DAYS TO ENSURE SUCCESSFUL ESTABLISHMENT OF PLANTINGS PER CONTRACT SPECIFICATIONS.
24. ORANGE CONSTRUCTION FENCE SHALL BE INSTALLED AND MAINTAINED BY CONTRACTOR AT THE INSTALLATION OF ALL REVEGETATION PLANT MATERIALS THROUGH THE 120 DAY PEP, AND UNTIL THE END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD. FOLLOWING ACCEPTANCE OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD BY THE RE AND PROJECT BIOLOGIST THE CONTRACTOR SHALL REMOVE ALL ORANGE FENCING.
25. 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.

SUPPLEMENTAL WATER:

1. UNDER THE DIRECTION OF THE RE AND PROJECT BIOLOGIST, SUPPLEMENTAL WATER SHALL BE APPLIED TO GERMINATE AND ESTABLISH SEED.
2. HYDROSEED AND/OR CONTAINER PLANTS SHOULD BE PLANTED BETWEEN OCTOBER 1 AND FEBRUARY 15 DURING RAINY SEASON.
3. CONTRACTOR SHALL PROVIDE SUPPLEMENTAL WATER TO MEET THE SUCCESS CRITERIA PER PROJECT BIOLOGIST RECOMMENDATIONS.
4. SUPPLEMENTAL WATER 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 SUPPLEMENTAL WATER MUST BE ADJUSTED WHEN WARRANTED BY SITE CONDITIONS. PROJECT BIOLOGIST AND LANDSCAPE CONTRACTOR SHALL MONITOR THE SITE TO DETERMINE SUCCESS AND IF ANY ADDITIONAL MEASURES OR FEATURES ARE REQUIRED FOR SUPPLEMENTAL WATER.
5. WATER SHALL BE APPLIED IN A MANNER THAT AVOIDS RUNOFF, SEEPAGE, AND OVERSPRAY ONTO ADJACENT PROPERTIES, WALLS, ROADWAYS, OR STRUCTURES.
6. THE WATER DELIVERY RATE SHALL BE MATCHED TO THE SLOPE GRADIENT AND THE PERCOLATION RATE OF THE SOIL.
7. WATER SHALL BE APPLIED SUFFICIENTLY AND UNIFORMLY AND SHALL BE APPROPRIATE TO THE NEEDS OF THE PLANT MATERIALS.
8. OVERWATERING AS EVIDENCED BY SOGGY SOILS, CONTINUALLY WET PAVEMENT, STANDING WATER, RUNOFF IN STREET GUTTERS AND OTHER SIMILAR CONDITIONS SHALL BE MANAGED AND PREVENTED.

SEED MIXES:

1. THE SEED MIX IN TABLES IDENTIFIED SHALL BE APPLIED IN ALL NON HARDSCAPED AREAS DISTURBED BY THE PROJECT. THE SEED SHALL BE INSTALLED VIA HYDROSEED METHODS, UNLESS OTHERWISE DIRECTED BY THE PROJECT BIOLOGIST. SEED APPLIED BETWEEN NOVEMBER- MARCH SHALL BE COVERED BY CONTRACTOR WITH SUITABLE BIODEGRADABLE COVER AS APPROVED BY THE PROJECT BIOLOGIST.
2. ALL SEEDS SHALL MEET THE MINIMUM % PURE LIVE SEED AS NOTED IN TABLES. IF MINIMUM % PURE LIVE SEED COUNT CANNOT BE MET CONTRACTOR SHALL COORDINATE AND OBTAIN WRITTEN APPROVAL FROM THE PROJECT BIOLOGIST FOR ALTERNATIVE COMPLIANCE.
3. ALL SEEDS SHALL ORIGINATE FROM WITHIN THE PROJECT VICINITY (EG. 10 MILES RADIUS) OR CONTRACTOR TO PROVIDE EVIDENCE THAT THE SEED IS NOT AVAILABLE AND NOTIFY THE RE AND THE PROJECT BIOLOGIST FOR ALTERNATIVE COMPLIANCE. CONTRACTOR SHALL RETAIN AND SUBMIT ALL SEED TAGS FOR SEED PRODUCTS TO BE USED TO THERE AND PROJECT BIOLOGIST PRIOR TO APPLICATION.

HYDROSEEDING PROCEDURES:

1. HYDROSEEDING SHALL BE COMPLETED PER SPECIFICATIONS WITHIN THIRTY (30) CALENDAR DAYS OF THE COMPLETION OF FINAL GRADING AND UPON COMPLETION OF SOIL AMENDMENTS PER THE RESULTS OF THE SOILS TEST.
2. SEEDING SHALL OCCUR ONLY AFTER THE PROJECT BIOLOGIST HAS OBSERVED AND APPROVED THAT THE SITE HAS BEEN PROPERLY PREPARED.
3. REFER TO HYDROSEED NOTES THIS SHEET.

MAINTENANCE REQUIREMENTS:

1. REVEGETATION AREA SHALL BE MAINTAINED FOR A PERIOD OF NOT LESS THAN 25 MONTHS (TABLE 2) OR AS DETERMINED BY THE RE AND PROJECT BIOLOGIST. ALL REVEGETATED AREAS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL APPROVAL BY THE CITY. THE MAINTENANCE PERIOD BEGINS ON THE FIRST DAY FOLLOWING ACCEPTANCE (APPROVAL BY RE AND PROJECT BIOLOGIST OF THE END OF 120 DAY PEP) AND MAY BE EXTENDED AT THE DETERMINATION OF THE PROJECT BIOLOGIST AND THE RE.
2. PRIOR TO FINAL APPROVAL, THE CITY REPRESENTATIVE MAY REQUIRE CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO WEED ERADICATION, REPLANTING, THE PROVISION OF MODIFICATION OF IRRIGATION SYSTEMS, AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE, IN CONSULTATION WITH THE PROJECT BIOLOGIST.
3. THE 120 DAY PEP FOLLOWS HYDROSEED APPLICATION. THE PEP AND START OF 25 MONTHS MAINTENANCE AS WELL AS ACCEPTANCE FOLLOWING THE MAINTENANCE PERIOD IS DETERMINED BY THE RE IN CONSULTATION WITH PROJECT BIOLOGIST.
4. WEEDING, HERBICIDE, AND/OR PESTICIDE APPLICATION SHALL BE DONE REGULARLY BY CONTRACTOR. WEEDING SHALL BE DONE AT A MINIMUM OF BIWEEKLY UNTIL THE END OF THE 120 DAY PEP, AND MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE. WEEDS SHALL BE PROPERLY DISPOSED OF OFFSITE. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE RE AND PROJECT BIOLOGIST PRIOR TO HERBICIDE/PESTICIDE APPLICATION, AND SHALL APPLY HERBICIDE/PESTICIDE PER MANUFACTURER'S RECOMMENDATION AND ANY STATE OF CALIFORNIA GUIDELINES. CONTRACTOR MUST POSSESS A VALID STATE PESTICIDE AND/OR HERBICIDE LICENSE AT ALL TIMES.
5. CONTRACTOR SHALL CONTROL WEEDS AS IDENTIFIED BY THE PROJECT BIOLOGIST SUCH THAT NO WEED COVER EXCEEDS 5% OF THE PROJECT SITE, BEFORE THEY EXCEED TWELVE INCHES (12") IN HEIGHT, AND BEFORE THEY SET SEED. AREAS WHERE WEEDING CREATES IN EXCESS OF 25 SQUARE FEET OF BARE SOIL SHALL BE REPLANTED AND MAINTAINED BY CONTRACTOR.

Garbini & Garbini
LANDSCAPE ARCHITECTURE
URBAN DESIGN
715 "J" STREET, SUITE 307
SAN DIEGO, CALIFORNIA 92101
619) 232-4747 FAX(619)232-4510

LICENSED LANDSCAPE ARCHITECT — GAIL DECKER GARBINI — LIC. NO. 002198 — SIGNATURE DATE 06/24/16 — STATE OF CALIFORNIA
LICENSE EXPIRATION DATE 5/31/2015

100% SUBMITTAL

L-1

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR

PLANTING LEGEND & NOTES

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 35 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY: MARYAM LIAGHAT, PROJECT MANAGER
CHECKED BY: BOBAK MADGEDI, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

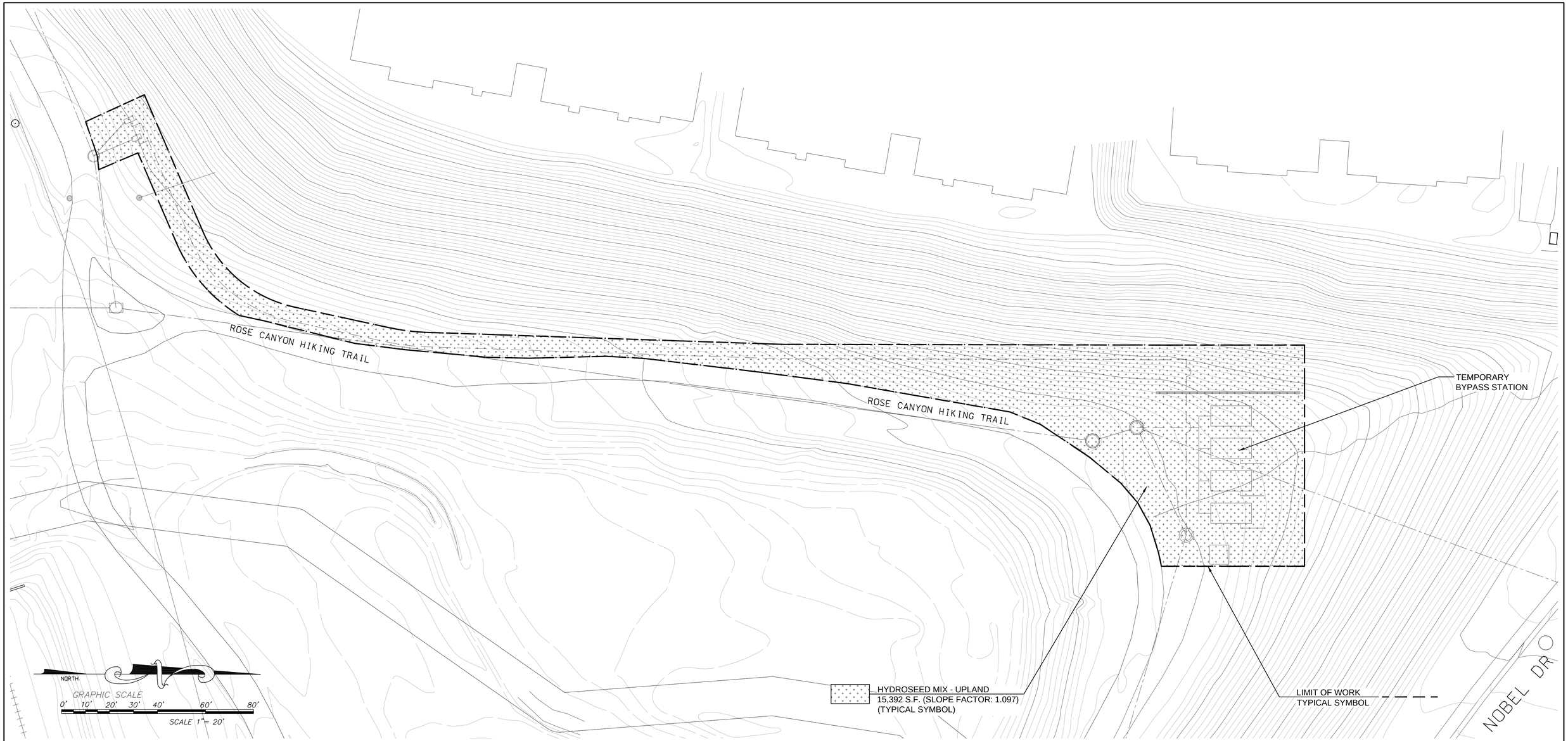
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791-35-D

Plot Date: 24 June 2016 – 4:51 PM Plotted By: Jsandoval Cad File No: H:\DWG 14\1465b Rose Canyon Joint Repair\1465b Design Drawings\1465b Land\1465b Construction Drawings\1465b_Planting.dwg



100% SUBMITTAL

L-2

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

PLANTING PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 36 OF 36 SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME _____ RCE# _____

SUBMITTED BY:
MARYAM LIAGHAT
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

38791-36-D

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

Garbini & Garbini
LANDSCAPE ARCHITECTURE
URBAN DESIGN
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619) 232-4747 FAX(619)232-4510

LICENSED LANDSCAPE ARCHITECT
GAIL DECKER GARBINI
NO. 002198
SIGNATURE
06/24/16
DATE
STATE OF CALIFORNIA

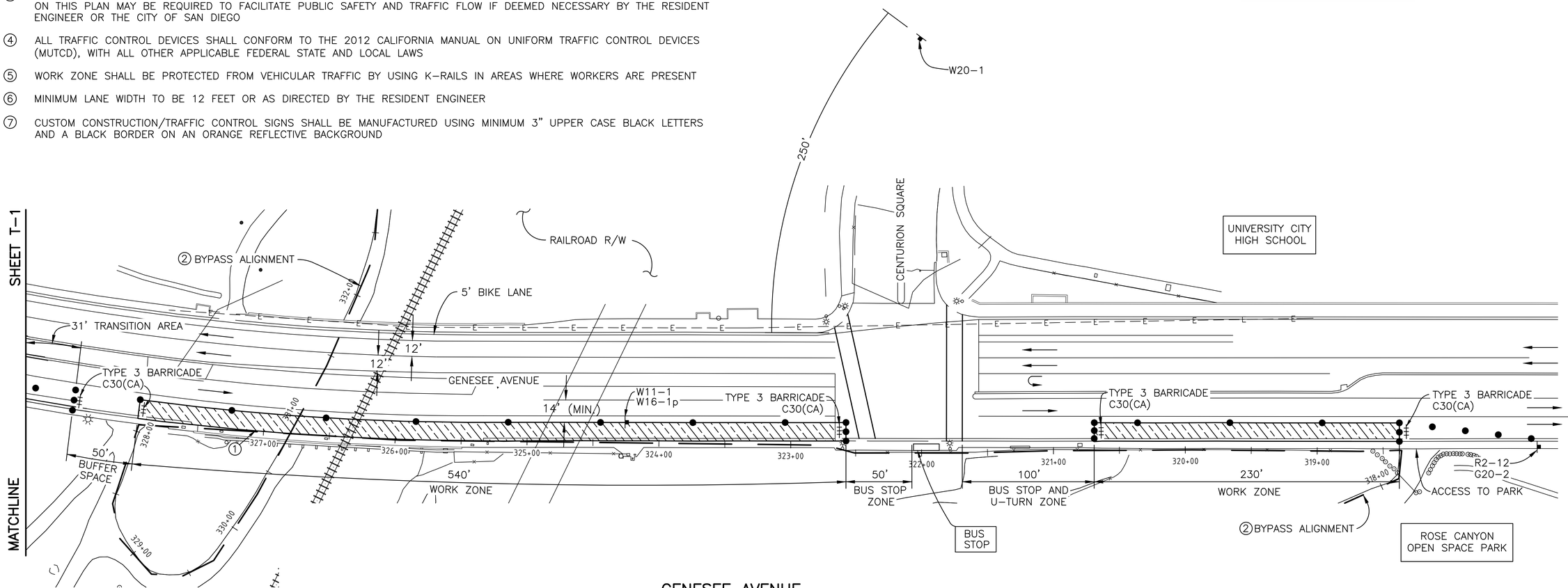
LICENSE EXPIRATION DATE 5/31/2015

Plot Date: 24 June 2016 – 4:50 PM Plotted By: Jsandoval Cad File No: H:\DWG 14\1465b Rose Canyon Joint Repair\1465b Design Drawings\1465b Land\1465b Construction Drawings\1465b_Planting.dwg

NOTES

1. TEMPORARY CLOSURE OF THE OUTSIDE SOUTHBOUND TRAVEL LANE ON GENESEE AVENUE IS PROPOSED DURING INSTALLATION OF THE SEWER BYPASS LINE. BIKE LANE WILL SHARE THE INSIDE TRAVEL LANE
2. REFER TO THE BYPASS PLAN AND PROFILE SHEETS FOR LOCATION OF THE SEWER BYPASS LINE ALONG THE WEST SIDE OF GENESEE AVENUE
3. THESE ARE THE MINIMUM TRAFFIC CONTROL REQUIREMENTS. ADDITIONAL TRAFFIC CONTROL OR MODIFICATIONS TO THAT SHOWN ON THIS PLAN MAY BE REQUIRED TO FACILITATE PUBLIC SAFETY AND TRAFFIC FLOW IF DEEMED NECESSARY BY THE RESIDENT ENGINEER OR THE CITY OF SAN DIEGO
4. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE 2012 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), WITH ALL OTHER APPLICABLE FEDERAL STATE AND LOCAL LAWS
5. WORK ZONE SHALL BE PROTECTED FROM VEHICULAR TRAFFIC BY USING K–RAILS IN AREAS WHERE WORKERS ARE PRESENT
6. MINIMUM LANE WIDTH TO BE 12 FEET OR AS DIRECTED BY THE RESIDENT ENGINEER
7. CUSTOM CONSTRUCTION/TRAFFIC CONTROL SIGNS SHALL BE MANUFACTURED USING MINIMUM 3" UPPER CASE BLACK LETTERS AND A BLACK BORDER ON AN ORANGE REFLECTIVE BACKGROUND

POSTED SPEED	45 MPH
WORK ZONE SPEED	35 MPH
TAPER LENGTH	245 FEET
SPACING OF CONES	35 FEET

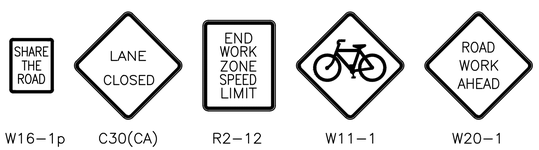


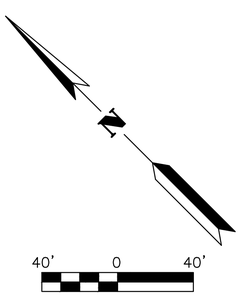
GENESEE AVENUE

POSTED SPEED LIMIT: 45 MPH
WORK ZONE SPEED LIMIT: 35 MPH

LEGEND

- WORK AREA (12' WIDE)
- TEMPORARY TRAFFIC CONTROL SIGN
- CONE
- BARRICADE (TYPE PER PLAN)
- TRAFFIC DIRECTION





60% SUBMITTAL

T–2

PLANS FOR THE CONSTRUCTION OF ROSE CANYON TRUNK SEWER JOINT REPAIR

TRAFFIC CONTROL PLAN GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 37 OF XX SHEETS

SEWER WBS B–11025

APPROVED:
FOR CITY ENGINEER _____ DATE
MIKE NINH
PRINT NAME _____ RCE#

SUBMITTED BY:
LAILA BOBAK
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38791–37–D

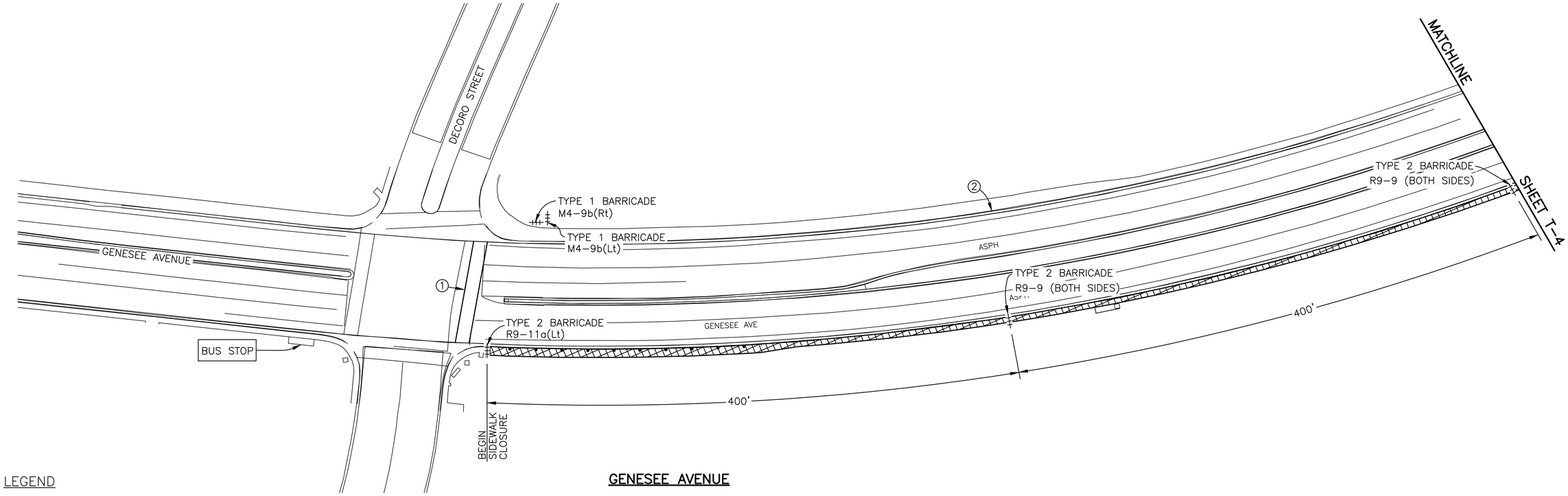
No. C82856
Exp. 9–30–16

TRAFFIC CONTROL PLAN

NOTES

① PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS GENESEE AVENUE AT THE DECORO STREET CROSSWALK

② PEDESTRIANS SHALL USE THE SIDEWALK ON THE EAST SIDE OF GENESEE AVENUE DURING BYPASS PUMPING OPERATIONS FOR THE SEWER JOINT REPAIRS

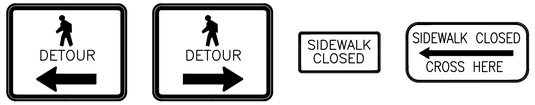


GENESEE AVENUE

LEGEND

SIDEWALK CLOSURE

BARRICADE (TYPE PER PLAN)



M4–9b (Lt) M4–9b (Rt) R9–9 R9–11a (Lt)

40' 0 40'

60% SUBMITTAL

T–3

PEDESTRIAN DETOUR PLAN

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR
PEDESTRIAN DETOUR PLAN
GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 38 OF XX SHEETS

SEWER WBS B–11025

APPROVED:
FOR CITY ENGINEER _____ DATE _____
MIKE NINH
PRINT NAME RCE#

SUBMITTED BY:
LAILA BOBAK
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

No. C82856
Exp. 9–30–16

CCS27 COORDINATE

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38791–38–D

Plot Date: 28 July 2015 – 10:27 AM Plotted By: Casey Raines Cad File No: N:\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Sheets\T–3.dwg

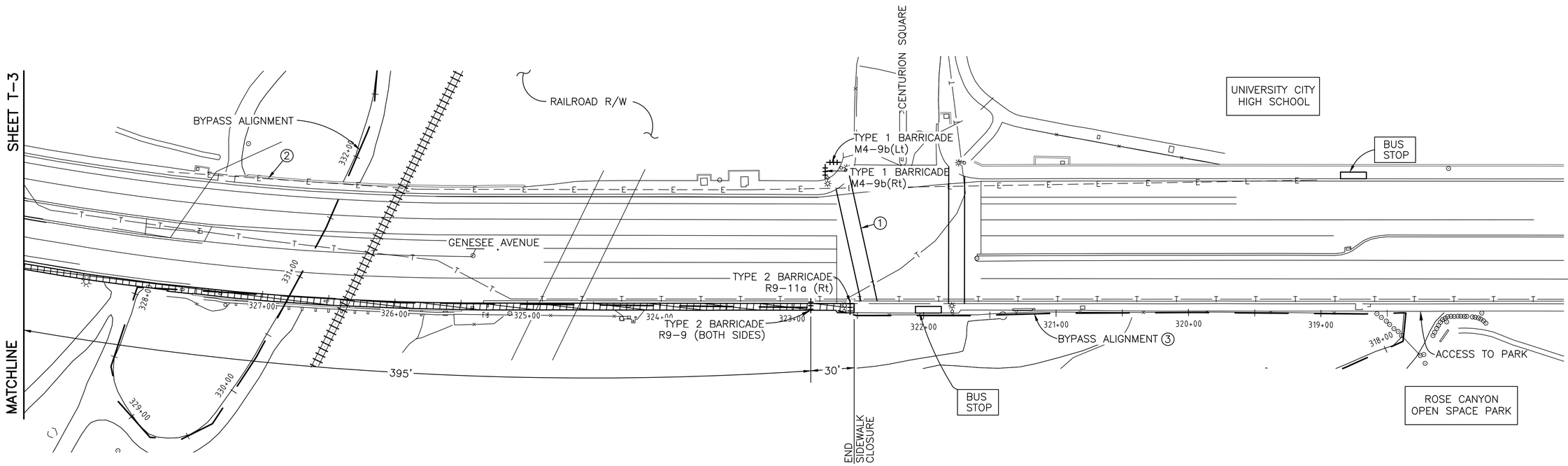
PEDESTRIAN DETOUR PLAN

NOTES

① PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS GENESEE AVENUE AT THE CENTURIAN SQUARE PEDESTRIAN CROSSING (SIGNALIZED) NORTH OF THE BUS STOP

② PEDESTRIANS SHALL USE THE SIDEWALK ON THE EAST SIDE OF GENESEE AVENUE DURING BYPASS PUMPING OPERATIONS FOR THE SEWER JOINT REPAIRS

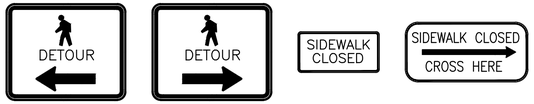
③ REFER TO THE BYPASS PLAN AND PROFILE SHEETS FOR LOCATION OF THE SEWER BYPASS LINE ALONG THE WEST SIDE OF GENESEE AVENUE



LEGEND

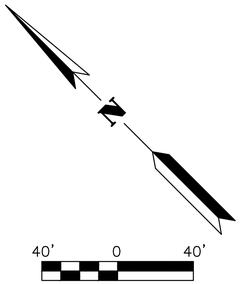
SIDEWALK CLOSURE

BARRICADE (TYPE PER PLAN)



M4-9b (Lt) M4-9b (Rt) R9-9 R9-11a (Rt)

GENESEE AVENUE



60% SUBMITTAL

T-4

PLANS FOR THE CONSTRUCTION OF
ROSE CANYON TRUNK SEWER
JOINT REPAIR
PEDESTRIAN DETOUR PLAN
GENESEE AVENUE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 39 OF XX SHEETS

SEWER WBS B-11025

APPROVED:
FOR CITY ENGINEER
MIKE NINH
PRINT NAME
DATE
RCE#

SUBMITTED BY:
LAILA BOBAK
PROJECT MANAGER

CHECKED BY:
BOBAK MADGEDI
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	CR/AK			

No. C82856
Exp. 9-30-16

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

38791-39-D

APPENDIX B

Appendix A Plant and Wildlife Observed

Plants

Adoxaceae - Elderberry Family
Sambucus mexicana - Mexican elderberry

Aizoaceae - Ice Plant Family
*Aptenia cordifolia - baby sun rose
*Carpobrotus edulis - hottentot-fig
*Lampranthus spectabilis - trailing iceplant
*Mesembryanthemum crystallinum - crystalline iceplant

Alliaceae - Onion Family
Dichelostemma capitatum - blue dicks/wild hyacinth

Amaranthaceae - Amaranth family
*Amaranthus albus - tumbling pigweed

Anacardiaceae - Sumac Family
Malosma laurina - laurel sumac
Rhus integrifolia - lemonade berry
Rhus ovata - sugar bush
*Schinus molle - Peruvian pepper tree/California pepper tree
*Schinus terebinthifolius - Brazilian pepper tree
Toxicodendron diversilobum - poison oak

Apiaceae - Carrot Family
Apiastrum angustifolium - mock-parsley
*Apium graveolens - celery
Bowlesia incana – bowlesia
Conium maculatum - poison hemlock
Daucus pusillus - wild carrot
*Foeniculum vulgare – fennel

Apocynaceae - Dogbane Family
* Nerium oleander – oleander

Asclepiadaceae – Milkweed Family
Asclepias fascicularis - narrow-leaf milkweed

Araliaceae - Ginseng Family
*Hedera helix - English ivy

Arecaceae - Palm Tree Family
*Washingtonia robusta - Mexican fan palm

Asteraceae - Sunflower Family
Achillea millefoliu - common yarrow

Artemisia californica - California sagebrush
Artemisia douglasiana - mugwort
Ambrosia psilostachya - western ragweed
Baccharis pilularis - coyote bush
Baccharis salicifolia – mulefat
Baccharis sarothroides - broom baccharis
*Carduus pycnocephalus - Italian thistle
*Centaurea melitensis - tocalote/malta star thistle
*Cirsium vulgare - bull thistle
*Chamomilla suaveolens - pineapple weed
*Chrysanthemum coronarium - garland chrysanthemum
Conyza sp. - horseweed
Corethrogyne filaginifolia - common sandaster
*Cynara cardunculus - artichoke thistle
*Dimorphotheca sinuate - African daisy
Encelia farinosa – brittlebush
Encelia californica - California encelia/bush sunflower
Eriophyllum confertiflorum - golden yarrow
Eriophyllum confertiflorum var. confertiflorum - Long-stem golden yarrow
*Filago gallica - narrow-leaved filago
*Gazania linearis - treasure flower
*Glebionis coronaria-crown daisy
Gnaphalium bicolor - bicolored cudweed
Gnaphalium californicum - California everlasting
Grindelia camporum var. bracteosa - rayless gumplant
Gutierrezia californica – matchweed
Gutierrezia sarothrae – common snakeweed
Hazardia squarrosa – saw toothed goldenbush
*Hedypnois cretica – Crete weed
Helianthus annuus - common sunflower
Heterotheca grandiflora - telegraph weed
*Hypochaeris glabra - smooth cat's ear
Isocoma menziesii - white flowered goldenbush
Isocoma menziesii var. menziesii - Menzies' goldenbush
*Lactuca serriola - prickly-lettuce
Pseudognaphalium bicolor – two color cudweed
Pseudognaphalium canescens - Wright's cudweed
Rafinesquia californica - California chicory
*Senecio vulgaris - old man of spring
*Silybum marianum - milk thistle
Stephanomeria exigua ssp. exigua - small wreath plant
*Sonchus asper ssp. asper - prickly sow-thistle
*Sonchus oleraceus - sow thistle
*Taraxacum officinale - common dandelion
*Uropappus lindleyi - silver puffs
Xanthium spinosum - spiny cocklebur
Xanthium strumarium – cocklebur

Bignoniaceae - Bignonia Family
*Jacaranda mimosifolia - jacaranda

Brassicaceae - Mustard Family
*Brassica nigra - black mustard
*Capsella bursa-pastoris - Shepherd's purse
*Coronopus didymus - lesser wart-cress
*Hirschfeldia incana - shortpod mustard
*Raphanus sativus - wild radish

Boraginaceae - Borage Family
Amsinckia menziesii var. intermedia - common fiddleneck
Amsinckia menziesii var. menziesii - rigid fiddleneck
Cryptantha intermedia - popcorn flower
*Echium candicans - pride of Madeira

Cactaceae - Cactus Family
Opuntia ficus-indica-tuna prickly pear
Opuntia littoralis - coast prickly-pear
Opuntia xoccidentalis-western prickly pear

Capparaceae - Caper Family
Isomeris arborea - bladderpod

Caryophyllaceae - Pink Family
*Cerastium glomeratum - mouse-ear chickweed
*Silene gallica - common catchfly
*Spergularia rubra - ruby sand-spurry

Chenopodiaceae - Goosefoot Family
*Atriplex lentiformis - quail brush
*Atriplex semibaccata - Australian saltbush
*Chenopodium album - lamb's quarters
*Chenopodium sp. - goosefoot
*Salsola tragus - Russian thistle

Convolvulaceae - Morning-glory family
*Convolvulus arvensis – bindweed
* Convolvulus sp. - bindweed
* Ipomoea purpurea - common morning-glory

Crassulaceae – Orpine Family
Dudleya pulverulenta - chalk dudleya

Cucurbitaceae - Gourd Family
Cucurbita foetissima - coyote gourd/melon
Cucurbita foetidissima – calabazilla
Marah fabaceus - manroot/wild cucumber

Cupressaceae - Cypress Family
*Cupressus sempervirens - Italian cypress

Ericaceae - Heath Family
Xylococcus bicolor - mission manzanita

Euphorbiaceae - Spurge Family
*Chamaesyce maculate - spotted spurge
* Chamaesyce prostrata - prostrate spurge
Croton setigerus - doveweed
*Ricinus communis - castor bean

Fabaceae - Legume Family
Acacia baileyana-wattle
Astragalus trichopodus - southern California locoweed
*Medicago lupulina - black medick
*Medicago polymorpha - bur-clover
*Melilotus alba - white sweetclover
*Melilotus indica - sourclover
*Melilotus officinalis - yellow sweetclover
*Lathyrus sp. - sweet pea
Lupinus biocolor - miniature lupine
Lupinus sp. - lupine
*Lupinus succulentus - arroyo lupine
*Lotus hamatus - grab lotus
Lotus scoparius - deerweed
*Spartium sp. - broom
*Trifolium repens - white clover
Trifolium willdenovii - tomcat clover

Fagaceae - Legume Family
Quercus agrifolia - coast live oak/ interior live oak
Quercus berberidifolia - scrub oak
Quercus dumosa-scrub oak

Geraniaceae - Geranium Family
*Erodium cicutarium - red-stem filaree/stork's bill
*Erodium botrys - long-beak filaree
*Geranium carolinianum - Carolina geranium
*Geranium dissectum - cut-leaf geranium

Grossulariaceae - Currant Family
Ribes speciosum - fushsia-flower gooseberry

Hydrophyllaceae - Waterleaf Family
Nemophila menziesii - baby blue-eyes
Phacelia cicutarium - caterpillar phacelia
Phacelia minor - California bluebells
Phacelia ramosissima - branching phacelia

Pholistoma auritum var. auritum - fiesta flower

Iridaceae - Iris Family
Sisyrinchium bellum - blue-eyed grass

Juncaceae - Rush Family
Juncus bufonius var. bufonius - common toad rush

Lamiaceae - Mint Family
*Lavandula stoechas - French lavender
*Marrubium vulgare - common horehound
Salvia apiana - white sage
Salvia columbariae - chia
Salvia mellifera - black sage
Stachys ajugoides var. rigida – hedge-nettle

Liliaceae - Lily Family
Bloomeria crocea var. crocea- Common goldenstar
Yucca whipplei - our Lord's candle/chaparral yucca

Malvaceae - Mallow Family
Malacothamnus densiflorus - many-flowered mallow
Malacothamnus fasciculatus - Mendocino bushmallow
*Malva parviflora - cheeseweed
Malva sp. - mallow
*Malva sylvestris - high mallow

Moraceae - Mulberry Family
*Ficus carica - edible fig
*Ficus macrophylla - bay fig
*Ficus pumila - creeping fig

Myrtaceae - Myrtle family
*Callistemon sp. - bottlebrush tree
*Eucalyptus globulus - blue gum
*Eucalyptus polyanthemos - silver dollar gum

Nyctaginaceae - Four-O'Clock Family
Mirabilis laevis var. crassifolia - California four o'clock
Mirabilis lavis – desert wishbone bush
Bougainvillea spectabilis – bougainvillea

Oleaceae - Olive Family
*Olea europaea - olive tree

Onagraceae - Evening Primrose Family
Camissonia bistorta – suncups
Camissonia californica - California evening primrose
Epilobium ciliatum ssp. ciliatum - willow herb

Oenothera elata ssp. hirsutissima – great marsh evening primrose

Orobanchaceae - Broomrape Family

Castilleja sp. - Indian paintbrush

Papaveraceae - Poppy Family

Eschscholzia californica - California poppy

Pinaceae - Pine Family

*Pinus sp. - pine

Plantaginaceae - Plantain Family

Plantago erecta - California plantain
Plantago ovata - woolly plantain

Platanaceae - Plane-tree Family

Platanus racemosa - western sycamore

Poaceae - Grass Family

*Arundo donax - giant reed
*Avena barbata - slender wild oat
*Avena fatua - wild oat
*Bromus diandrus - ripgut
*Bromus hordeaceus - soft chess
*Bromus madritensis ssp. rubens - red brome/foxtail chess
*Bromus carinatus var. carinatus - California brome
*Cortaderia sp. - pampas grass
*Cortaderia selloana - pampas grass
*Cynodon dactylon - Bermuda grass
Distichlis spicata – saltgrass
*Hordeum murinum - glaucous foxtail barely
*Hordeum murinum ssp. leporinum - farmer's foxtail
Leymus condensatus - giant wildrye
*Lamarckia aurea – goldentop
*Lolium multiflorum - Italian rye grass
*Lolium perenne - perennial ryegrass
*Lolium sp. - ryegrass
Nassella pulchra - purple needle grass
*Pennisetum setaceum - fountain grass
*Phalaris aquatica - harding grass
Phalaris sp. - Canary grass
Poa secunda ssp. secunda - one-sided bluegrass
*Schismus barbatus - common Mediterranean grass
Vulpia microstachys var. pauciflora – Pacific fescue
*Vulpia sp. - fescue

Polemoniaceae - Phlox Family

Navarreita hamata - hooked navarretia

Polygonaceae - Buckwheat Family

Eriogonum sp.-buckwheats
Eriogonum fasciculatum - California buckwheat
*Polygonum arenastrum - common knotweed
*Polypogon monspeliensis - annual beard grass/ rabbits foot grass
*Rumex crispus - curly dock

Portulacaceae - Purslane Family
Calandrinia ciliata - red maids
Calyptridium monandrum - common calyptridium
Claytonia parviflora ssp. parviflora - Utah miner's lettuce
Claytonia perfoliata ssp. perfoliata - miner's lettuce

Primulaceae - Primrose Family
*Anagallis arvensis - scarlet pimpernel

Ranunculaceae - Buttercup or Crowfoot family
Ranunculus californica - California buttercup

Rhamnaceae - Buckthorn Family
Rhamnus crocea - spiny redberry
Ceanothus spp. - ceanothus
Ceanothus crassifolius-hoaryleaved ceanothus
Ceanothus leucodermis-chaparral whitethorn
Ceanothus verrucosus-warty-stemmed ceanothus

Rosaceae - Family
Adenostoma fasciculatum - chamise
*Eriobotrya japonica – loquat
Heteromeles arbutifolia – toyon
Potentilla glandulosa ssp. glandulosa - sticky cinquefoil
Rosa californica - California wild rose
Rosa sp. - ornamental rose

Rubiaceae - Coffee or Madder Family
Galium angustifolium var. angustifolium - narrowleaf bedstraw
Galium aparine - common bedstraw

Salicaceae - Willow Family
Populus fremontii ssp. fremontii - Fremont's cottonwood
Salix exigua - Narrow-leaved willow
Salix gooddingii - Goodding's black willow
Salix lasiolepis - arroyo willow
Salix laevigata - red willow

Sapinoaceae - Soapberry Family
*Cupaniopsis anacardioides – carrotwood
Anemopsis californica - yerba mansa

Scrophulariaceae - Figwort Family

Antirrhinum coulterianum - white snapdragon
*Kickxia elatine - fluellin
Mimulus aurantiacus - bush monkey flower

Solanaceae-Night Shade Family
Datura wrightii - sacred datura
*Datura stramonium - annual jimson weed
Nicotiana quadrivalvis - coyote tobacco
*Nicotiana glauca - tree tobacco
Solanum douglasii - Douglas's nightshade

Tamaricaceae – Tamarisk
*Tamarix ramosissima - tamarisk

Tropaeolaceae - Nasturtium Family
*Tropaeolum majus - garden nasturtium

Typhaceae - Cattail Family
*Typha latifolia - common cattail
*Typha sp. - cattail

Urticaceae - Nettle Family
Urtica dioica ssp. holosericea - hoary nettle
*Urtica urens - dwarf nettle

Verbenaceae - Verbena Family
Verbena lasiostachys - western verbena Verbena sp. - verbena

WILDLIFE

Invertebrates
Anthocharis sara - sara orangetip
Erynnis funeralis - funereal duskywing
Nymphalis antiopa - mourning cloak
Pieris rapae - cabbage white
Vanessa annabella - west coast lady
Vanessa cardui - painted lady

Amphibians
Hyla regilla - Pacific treefrog
Hyla cadaverina - California tree frog
Bufo boreas - western toad
Rana catesbeiana - bullfrogs

Reptiles
Pituophis catenifer - gopher snake
Sceloporus occidentalis - western fence lizard
Uta stansburiana- side-blotched lizard

Birds

Accipiter cooperii - Cooper's hawk
Agelaius phoeniceus - red-winged blackbird
Aphelocoma californica - western scrub-jay
Ardea alba - great egret
Buteo jamaicensis - red-tailed hawk
Buteo lineatus - red-shouldered hawk
Callipepla californica - California quail
Calypte anna - Anna's hummingbird
Carduelis psaltria - lesser goldfinch
Carduelis tristis - American goldfinch
Carpodacus mexicanus - house finch
Cathartes aura - turkey vulture
Chamaea fasciata - wrentit
Charadrius vociferous - killdeer
Columba livia - rock dove
Corvus brachyrhynchos - American crow
Corvus corax - common raven
Dendroica cornata - yellow-rumped warbler
Falco sparverius - American kestrel
Geococcyx californianus - greater roadrunner
Geothlypis trichas - common yellowthroat
Icterus bullockii - Bullock's oriole
Icterus cucullatus - hooded oriole
Melanerpes formicivorus - acorn woodpecker
Melospiza melodia - song sparrow
Mimus polyglottos - northern mockingbird
Molothrus ater - brown-headed cowbirds
Passerina caerulea - blue grosbeak
Petrochelidon pyrrhonota - cliff swallow
Phainopepla nitens – phainopepla
Picoides nuttallii - Nuttall's woodpecker
Pipilo crissalis - California towhee
Pipilo maculates - spotted towhee
Polioptila californica californica - California gnatcatcher (FT, SSC)
Psaltriparus minimus - bushtit
Sayornis nigricans - Black phoebe
Sayornis saya - Say's phoebe
Selasphorus sasin - Allen's hummingbbird
Sialia mexicana - western bluebird
Sturnella neglecta - western meadowlark
Sturnus vulgaris - European starling
Thryomanes bewickii - Bewick's wren
Toxostoma redivivum - California thrasher
Troglodytes aedon - house wren
Tyrannus verticalis - western kingbird
Vireo bellii pusillus - least Bell's vireo (FE, SE)
Zenaida macroura - mourning dove

Zonotrichia leucophrys - white-crowned sparrow

Mammals
Canis latrans - coyote
Spermophilus beecheyi nudipes - California ground squirrel
Sylvilagus audubonii - Audubon's cottontail
Thomomys bottae - botta pocket gopher
Odocoileus hemionus - mule deer

Legend * = Non-native species FP - California Department of Fish and Game, Fully Protected Species FT - California Department of Fish and Game, Federally Threatened FE - California Department of Fish and Game, Federally Endangered SE - State Endangered SCC - California Department of Fish and Game, Species of Special Concern WL - California Department of Fish and Game, Watch List

APPENDIX C

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Acanthomintha ilicifolia	San Diego thorn-mint	Threatened	Endangered	1B.1	NON-NATIVE GRASSLAND/TRANSITIONAL IN SCRUB OAK CHAPARRAL. ASSOCIATED WITH SONCHUS ASPER, BROMUS DIANDRUS, B. MADRITENSIS SSP. RUBENS, BRASSICA NIGRA, AVENA BARBATA, CENTAUREA MELITENSIS, DEINANDRA FASCICULATA, APIASTRUM ANGUSTIFOLIUM, ETC.	Potentially Present
Acmispon prostratus	Nuttall's acmispon	None	None	1B.1	CHAPARRAL, VALLEY GRASSLANDS, FOOTHILL WOODLANDS IN DISTURBED HABITAT.	Potentially Present
Adolphia californica	California adolphia	None	None	2B.1	ASSOCIATED WITH MAHONIA SP. AND THE RARE ACANTHOMINTHA ILICIFOLIA. DISTURBED ROADSIDE. MIXED SHRUB AND CHAPARRAL.	Potentially Present
Agave shawii var. shawii	Shaw's agave	None	None	2B.1	OPEN COASTAL SCRUB WITH ENCELIA CALIFORNICA, ISOMERIS ARBOREA, LOTUS SCOPARIUS, OPUNTIA LITTORALIS, DUDLEYA SPP., RHAMNUS CROCEA, ERIOGONUM FASCICULATUM, COREOPSIS MARITIMA, YUCCA SCHIDIGERA, FEROCACTUS VIRIDESCENS, AND CROTON CALIFORNICUS.	Potentially Present
Ambrosia chenopodiifolia	San Diego bur-sage	None	None	2B.1	COASTAL STRAND	Not Present. No habitat for this species.
Ambrosia monogyra	singlewhorl burrobrush	None	None	2B.2	WITH YUCCA SCHIDIGERA, ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, ADOLPHIA CALIFORNICA.	Not Present. No habitat for this species.
Ambrosia pumila	San Diego ambrosia	Endangered	None	1B.1	VERNAL POOL HABITAT	Potentially Present
Aphanisma blitoides	aphanisma	None	None	1B.2	SANDY SOIL. W-FACING, FLAT SLOPE. GROWING ALONG PREVIOUSLY DISTURBED ROADSIDE. ADJACENT TO MARITIME SUCCULENT SCRUB: LYCIUM CALIFORNICUM, ENCELIA CALIFORNICA, AND RHUS INTEGRIFOLIA.	Not Present. No habitat for this species.

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Arctostaphylos glandulosa ssp. crassifolia	Del Mar manzanita	Endangered	None	1B.1	GROWING ON TORREY PINE SANDSTONE IN ASSOCIATION WITH SOUTHERN MARITIME CHAPARRAL AND TORREY PINE WOODLAND. WITH PINUS TORREYANA, ADENOSTOMA FASCICULATUM, RHUS INTEGRIFOLIA, Q. DUMOSA, AND XYLOCOCCUS BICOLOR.	Not Present in Project Area
Artemisia palmeri	San Diego sagewort	None	None	4.2	IN FLOODPLAIN AND ON LOWER SLOPES INTERMIXED WITH MIXED CHAPARRAL. WITH CERCOCARPUS MINUTIFLORUS, HETEROMELES ARBUTIFOLIA, SALVIA MELLIFERA.	Present
Astragalus deanei	Dean's milk-vetch	None	None	1B.1	VERY LOCAL, SOMETIMES ON BURNS.	Not Present in Project Area
Astragalus tener var. titi	coastal dunes milk-vetch	Endangered	Endangered	1B.1	COASTAL STRAND	Not Present in Project Area
Atriplex coulteri	Coulter's saltbush	None	None	1B.2	COASTAL STRAND	Not Present in Project Area
Atriplex pacifica	south coast saltscale	None	None	1B.2	SANDY, OPEN SAGE SCRUB.	Not Present in Project Area
Baccharis vanessae	Encinitas baccharis	Threatened	Endangered	1B.1	ON NORTHWEST-FACING SLOPE ON SAN MIGUEL-EXCHEQUER AND CIENEBA SERIES SOILS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM.	Not Present in Project Area
Bergerocactus emoryi	golden-spined cereus	None	None	2B.2	ON SLIGHT, SOUTH-FACING SLOPE IN TORREY PINE FOREST. ASSOCIATED WITH ERIOGONUM FASCICULATUM AND YUCCA SCHIDIGERA.	Not Present in Project Area
Bloomeria clevelandii	San Diego golden star	None	None	1B.1	NON-NATIVE GRASSLAND. GROWING ON DRY SOIL IN BETWEEN DRYING VERNAL POOLS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, ANAGALLIS MINIMUS, ANTIRRHINUM, AVENA BARBATA, BRODIAEA ORCUTTII, BROMUS MOLLIS, B. RUBENS, CALLITRICHE MARGINATA, ETC.	Potentially Present
Brodiaea filifolia	thread-leaved brodiaea	Threatened	Endangered	1B.1	VERNAL POOL HABITAT	Not Present in Project Area
Brodiaea orcuttii	Orcutt's brodiaea	None	None	1B.1	VERNAL POOL HABITAT	Not Present in Project Area
California macrophylla	round-leaved filaree	None	None	1B.1	GRASSLANDS, OPEN SITES, SCRUBS.	Potentially Present
Ceanothus cyaneus	Lakeside ceanothus	None	None	1B.2		Not Present in Project Area
Ceanothus verrucosus	wart-stemmed ceanothus	None	None	2B.2	ALSO ASSOCIATED WITH FEROCACTUS VIRIDESCENS.	Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Centromadia parryi ssp. australis	southern tarplant	None	None	1B.1	TRANSITIONAL BRACKISH/FRESHWATER MARSH DOMINATED BY SCIRPUS, SALICORNIA, IVA HAYESIANA, DISTICHLIS, ET AL.	Not Present. No habitat for this species.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	None	None	1B.1	SLOPE, OPEN SPACES BETWEEN SHRUBS. COASTAL	Not Present in Project Area
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Endangered	Endangered	1B.2	ASSOCIATED WITH MONANTHOCHLOE LITTORALIS, FRANKENIA SALINA, LIMONIUM CALIFORNICUM, SALICORNIA SUBTERMINALIS, ATRIPLEX SEMIBACCATTA.	Not Present in Project Area
Chorizanthe orcuttiana	Orcutt's spineflower	Endangered	Endangered	1B.1	ON OPEN, W-FACING SLOPE IN SANDY SOIL. IN OPEN COASTAL SAGE SCRUB AT ECOTONE WITH TORREY PINE WOODLAND WITH A CHAPARRAL UNDERSTORY ASSOCIATED WITH PINUS TORREYANA, CNEORIDIUM DUMOSUM, FEROCACTUS VIRIDESCENS, AND STIPA CORONATA.	Not Present in Project Area
Chorizanthe polygonoides var. longispina	long-spined spineflower	None	None	1B.2	MEADOW HABITAT	Potentially Present
Clarkia delicata	delicate clarkia	None	None	1B.2	CHAPARRAL BURN COMMUNITY (BURNED LATE JULY 1980). GRASSY, SHADED SLOPE OF A STEEP, ROCKY RAVINE. ASSOCIATED WITH SIDALCEA MALVIFLORA, PHOLISTOMA RACEMOSUM, MELICA IMPERFECTA, BRODIAEA PULCHELLA, HETEROMELES ARBUTIFOLIA, ETC.	Potentially Present
Comarostaphylis diversifolia ssp. diversifolia	summer holly	None	None	1B.2	IN CHAPARRAL WITH RHUS INTEGRIFOLIA, XYLOCOCCUS BICOLOR, ETC.	Potentially Present
Corethrogyne filaginifolia var. incana	San Diego sand aster	None	None	1B.1	MAP SHOWS PLANTS OCCURRING WITH FEROCACTUS VIRIDESCENS, OPUNTIA PARRYI SERPENTINA, AND SELAGINELLA CINERASCENS.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	None	None	1B.1	IN DISTURBED AREAS AND ECOTONES BETWEEN DIEGAN COASTAL SAGE SCRUB/SOUTHERN MARITIME CHAPARRAL AND DIRT ROADS. HUERHUERO SANDY LOAM SOIL. WITH C. FILAGINIFOLIA INCANA.	Not Present in Project Area
Cylindropuntia californica var. californica	snake cholla	None	None	1B.1	THROUGHOUT POINT LOMA, WITH SEVERAL OTHER RARE PLANTS INCLUDING FEROCACTUS VIRIDESCENS, COREOPSIS MARITIMA, DICHONDRA OCCIDENTALIS, AND SELAGINELLA CINERASCENS. MOST COMMON ON WELL-DRAINED, SOUTH-FACING SLOPES.	Potentially Present
Deinandra conjugens	Otay tarplant	Threatened	Endangered	1B.1	OPEN, HIGHLY DISTURBED FIELD IN CLAY SOIL. ASSOCIATED WITH HEMIZONIA FASCICULATA, AVENA SP., AND CENTAUREA SP.	Not Present in Project Area
Dicranostegia orcuttiana	Orcutt's bird's-beak	None	None	2B.1	COASTAL SCRUB	Potentially Present
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	None	None	1B.1	OCEAN BLUFF.	Not Present in Project Area
Dudleya brevifolia	short-leaved dudleya	None	Endangered	1B.1	IN FLAT, PEBBLE-COVERED OPENINGS ON BLUFFS IN SOUTHERN MARITIME CHAPARRAL. ASSOCIATED WITH SELAGINELLA CINERASCENS, ADENOSTOMA FASCICULATUM, ERIOGONUM FASCICULATUM, CNEORIDIUM DUMOSUM, CORETHROGYNE FILAGINIFOLIA, GNAPHALIUM CALIFORNICA.	Not Present in Project Area
Dudleya variegata	variegated dudleya	None	None	1B.2	CLAY SOILS. NATIVE GRASSLAND WITH BRACHYPODIUM, ISOCOMA, ADOLPHIA CALIFORNICA, SISYRINCHIUM BELLUM, NASELLA SP., AND GRINDELIA.	Potentially Present
Dudleya viscida	sticky dudleya	None	None	1B.2	SOUTH-FACING SLOPE. DRY, ROCKY HABITAT.	Not Present in Project Area

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Ericameria palmeri var. palmeri	Palmer's goldenbush	None	None	1B.1	WEEDY COASTAL SAGE SCRUB AT BASE OF S-FACING SLOPE ABOVE CREEK. EASTERN COLONY (1) FOUND IN DENSE STAND OF BACCHARIS SALICIFOLIA. WESTERN COLONY (2) FOUND WITH MALOSMA LAURINA, HETEROMELES ARBUTIFOLIA, BACCHARIS SARATHROIDES, ET AL.	Potentially Present
Eryngium aristulatum var. parishii	San Diego button-celery	Endangered	Endangered	1B.1	VERNAL POOLS AND CHAMISE CHAPARRAL. ASSOCIATED WITH SISYRINCHIUM BELLUM, BROMUS SSP., ISOCOMA MENZIESII, VULPIA MYUROS, DEINANDRA FASCICULATA, POGOGYNE ABRAMSII, BRODIAEA ORCUTTII, MYOSURUS MINIMUS, ISOETES ORCUTTII, I. HOWELLII, ETC.	Not Present in Project Area
Euphorbia misera	cliff spurge	None	None	2B.2	OCEAN BLUFFS, FLAT, OPEN GROUND, ETC. MIXED MARITIME SUCCULENT SCRUB WITH ENCELIA CALIFORNICA, BERGEROCACTUS EMORYI, AGAVE SHAWII, OPUNTIA PARRYI SERPENTINA, MAMMILLARIA DIOICA, ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, ETC.	Not Present in Project Area
Ferocactus viridescens	San Diego barrel cactus	None	None	2B.1	THROUGHOUT POINT LOMA, PARTICULARLY ON DRY, EXPOSED KNOLLS & FLATS IN THE MARITIME SAGE SCRUB & MARITIME DESERT SCRUB COMMUNITIES. WITH SEVERAL OTHER RARE PLANTS INCLUDING OPUNTIA PARRYI SERPENTINA & CORETHROGYNE FILAGINIFOLIA INCANA.	Potentially Present
Frankenia palmeri	Palmer's frankenia	None	None	2B.1	SALT MARSH.	Not Present in Project Area
Geothallus tuberosus	Campbell's liverwort	None	None	1B.1		Not Present in Project Area
Grindelia hallii	San Diego gumplant	None	None	1B.2	OPEN PINE OAK WOODLANDS	Not Present in Project Area
Harpagonella palmeri	Palmer's grapplinghook	None	None	4.2	HIGH QUALITY DIEGAN COASTAL SAGE SCRUB DOMINATED BY ERIOGONUM FASCICULATUM, ARTEMISIA CAL, OPUNTIA PROLIFERA, ENCELIA CAL, OTHER RARE PLANTS AND ANIMALS IN THE IMMEDIATE VICINITY. IN ACDRATH SHALE/SILTY LOAM SOILS.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Heterotheca sessiliflora ssp. sessiliflora	beach goldenaster	None	None	1B.1	DISTURBED LAND AT EDGE OF SALT MARSH. SAND. ASSOCIATED SPECIES INCLUDE BATIS MARITIMA, LIMONIUM CALIFORNICUM, FRANKENIA PALMERI, FRANKENIA SALINA, TAMARIX SP., BACCHARIS SAROTHROIDES, AND ACACIA CYCLOPS.	Not Present in Project Area
Isocoma menziesii var. decumbens	decumbent goldenbush	None	None	1B.2	WETLANDS,RIPARIAN IN COASTAL SAGE SCRUB	Potentially Present
Iva hayesiana	San Diego marsh-elder	None	None	2B.2	MOSTLY REDDISH CLAY SUBSTRATES. COASTAL SAGE SCRUB WITH BAHIOPSIS LACINIATA, RHUS INTEGRIFOLIA, ARTEMISIA CALIFORNICA, CENTAUREA MELITENSIS, BRASSICA NIGRA, AND ISOCOMA MENZIESII VAR. DECUMBENS.	Not Present in Project Area
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None	None	1B.1	IN VERY MESIC GRASSLANDS NEAR VERNAL POOLS.	Not Present in Project Area
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None	None	4.3	DRY DISTURBED AREAS	Potentially Present
Leptosyne maritima	sea dahlia	None	None	2B.2	COASTAL HABITATS	Not Present in Project Area
Maritime Succulent Scrub	Maritime Succulent Scrub	None	None		ABOUT 20 ACRES OF HABITAT REMAIN AS A 100-200 FT WIDE STRINGER. DIAGNOSTIC SUCCULENT SCRUB SPECIES LACKING, BETTER CLASSED AS VENTURAN COASTAL SAGE SCRUB. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.	Not Present in Project Area
Mobergia calculiformis	light gray lichen	None	None	3		Not Present in Project Area
Monardella viminea	willowy monardella	Endangered	Endangered	1B.1	CHAPARRAL CANYON DRAINAGE BOTTOM WITH SANDY-COBBLY SOIL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, BACCHARIS SAROTHROIDES, SALVIA MELLIFERA, CRYPTANTHA SP., HETEROMELES ARBUTIFOLIA, ERIOGONUM FASCICULATUM, RHUS LAURINA, ETC.	Potentially Present
Myosurus minimus ssp. apus	little mousetail	None	None	3.1	ASSOCIATED SPECIES: ERYNGIUM ARISTULATUM VAR. PARISHII, ISOETES ORCUTTII. ASSOCIATED VEGETATION: CHAMISE CHAPARRAL.	Potentially Present
Nama stenocarpum	mud nama	None	None	2B.2	BORDER OF POND.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Navarretia fossalis	spreading navarretia	Threatened	None	1B.1	VERNAL POOL IN 1979. 2009 HABITAT CONSISTED OF NO VISIBLE DEPRESSIONS OR VERNAL POOLS ON MESA FRAGMENT EXCEPT IN MORE DISTURBED SITES NEAR HOUSES AND THESE HAD NO WETLAND SPECIES.	Not Present in Project Area
Navarretia prostrata	prostrate vernal pool navarretia	None	None	1B.1	WELANDS IN COASTAL SAGE SCRUB	Not Present in Project Area
Nemacaulis denudata var. denudata	coast woolly-heads	None	None	1B.2	SAND DUNE, 50-75% COVER. ASSOCIATED WITH ABRONIA UMBELLATA, PLUCHEA SERICEA, CAMISSONIOPSIS CHEIRANTHIFOLIA, AND LOTUS NUTTALLIANUS.	Not Present in Project Area
Nemacaulis denudata var. gracilis	slender cottonheads	None	None	2B.2	DUNES	Not Present in Project Area
Orcuttia californica	California Orcutt grass	Endangered	Endangered	1B.1	VERNAL POOLS WITH ERYNGIUM ARISTULATUM, BRODIAEA ORCUTTII, POGOGYNE ABRAMSII, ISOETES ORCUTTII. ON REDDING SOILS. SURROUNDED BY GRASSLAND.	Not Present in Project Area
Orobanche parishii ssp. brachyloba	short-lobed broomrape	None	None	4.2	COASTAL STRAND	Not Present in Project Area
Phacelia stellaris	Brand's star phacelia	None	None	1B.1	COASTAL STRAND	Not Present in Project Area
Pinus torreyana ssp. torreyana	Torrey pine	None	None	1B.2		Not Present in Project Area
Pogogyne abramsii	San Diego mesa mint	Endangered	Endangered	1B.1	VERNAL POOLS. ASSOCIATED VEGETATION WAS CHAMISE CHAPARRAL.	Not Present in Project Area
Pogogyne nudiuscula	Otay Mesa mint	Endangered	Endangered	1B.1	IN "HOG WALLOWS".	Not Present in Project Area
Quercus dumosa	Nuttall's scrub oak	None	None	1B.1	SANDY COMPACTED SOIL. ASSOCIATED WITH ISOMERIS ARBOREA, ELYMUS, RHUS INTEGRIFOLIA, AND ENCELIA CALIFORNICA. THE RARE CEANOTHUS VERRUCOSUS, EUPHORBIA MISERA, AND FEROCACTUS VIRIDESCENS ALSO OCCUR IN THIS VICINITY.	Present
San Diego Mesa Hardpan Vernal Pool	San Diego Mesa Hardpan Vernal Pool	None	None			Not Present in Project Area
Senecio aphanactis	chaparral ragwort	None	None	2B.2	FOOTHILL WOODLANDS	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None	None		VEG IS FAIRLY DENSE QUERCUS AGRIFOLIA W/SALIX GOODDINGII & S. LASIOLEPIS UNDERSTORY. SINGLE FILE PLATANUS RACEMOSA IMMEDIATELY ADJ TO STREAM. PALUSTRINE SCRUB/SHRUB/EMERGENT, SATURATED, SEMIPERMANENT/SEASONAL PER NWI.	Present
Southern Coastal Salt Marsh	Southern Coastal Salt Marsh	None	None		LOW & HIGH MARSH. GOOD TIDAL FLUSHING. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.	Not Present in Project Area
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None	None		DISTURBED POPULUS FREMONTII/SALIX GOODDINGII W/WELL ESTABLISHED INTRODUCED EUCALYPTUS. USFWS NATIONAL WETLANDS INVENTORY MAPPED AS PALUSTRINE, EMERGENT, SATURATED/SEMIPERMANENT/SEASONAL.	Potentially Present
Southern Maritime Chaparral	Southern Maritime Chaparral	None	None		ADENOSTOMA FASCICULATUM SSP. OBTUSIFOLIUM DOMINATED CHAPARRAL. ASSOCIATED SPECIES INCLUDE PINUS TORREYANA, CEANOTHUS VERRUCOSUS, ERIOGONUM FASCICULATUM, AND AGROSTIS SANDIEGENSIS.	Not Present in Project Area
Southern Riparian Forest	Southern Riparian Forest	None	None		SYCAMORES IN D/S END GRADING INTO WILLOWS & COAST LIVE OAKS-1987. NWI MAPPED AS PALUST SCRUB/SHRUB/EMERGENT, SATURARTED/SEMIPERM/SEASONAL D/S, PALUST, FORESTED/SCRUB/SHRUB, INTERMIT FLOODED/TEMP & INTERMIT STREAM BED, INTERMIT FLOODED/TEMP.	Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None	None		VEG IS OPEN PLATANUS RACEMOSA TO 40 FT TALL. BACCHARIS GLUTINOSA SHRUB STORY. FAN OF WILLOWS AND MULE FAT HAS DEVELOPED AT MOUTH OF SPRING CYN. NATIONAL WETLANDS INVENTORY MAPPED AS PALUSTRINE, SCRUB-SHRUB, INTERMITTENTLY FLOODED.	Present
Sphaerocarpos drewei	bottle liverwort	None	None	1B.1	UNDER SHADE OF COASTAL SAGE BRUSH.	Potentially Present
Stemodia durantifolia	purple stemodia	None	None	2B.1	WETLAND RIPARIAN	Potentially Present
Streptanthus bernardinus	Laguna Mountains jewelflower	None	None	4.3	CHAPARRAL AND YELLOW-PINED FOREST	Not Present in Project Area
Stylocline citroleum	oil neststraw	None	None	1B.1	SHADESCALE SCRUB	Not Present in Project Area
Suaeda esteroa	estuary seablite	None	None	1B.2	SALT MARSH.	Not Present in Project Area
Tetracoccus dioicus	Parry's tetracoccus	None	None	1B.2	CHAPARRAL COASTAL SAGE SCRUB	Not Present in Project Area
Texosporium sancti-jacobi	woven-spored lichen	None	None	3	CLAY HILLS.	Not Present in Project Area
Torrey Pine Forest	Torrey Pine Forest	None	None		UNDERSTORY OF MANY SHRUB SPECIES. 1500 TREES (GRIFFIN 1972).	Not Present in Project Area
Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None		GRASSLAND DOM BY NASSELLA PULCHRA W/SIGNIFICANT #S OF SISYRINCHIUM BELLUM, GRINDELIA ROBUSTA, BLOOMERIA CROCEA AND HEMIZONIA FASCICULATA. ASSOC W/ SLOPES HAVING CLAY VERTISOLS.	Not Present in Project Area

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Accipiter cooperii	Cooper's hawk	None	None			Present
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None		HABITAT IS DIEGAN COASTAL SAGE SCRUB. OTHER RARE TAXA FOUND HERE INCLUDE CNEMIDOPHORUS HYPERYTHRUS BELDINGI AND POLIOPTILA CALIFORNICA.	Present
Antrozous pallidus	pallid bat	None	None			Potentially Present
Artemisiospiza belli belli	Bell's sage sparrow	None	None		HABITAT CONSISTS OF CHAMISE CHAPARRAL.	Potentially Present
Aspidoscelis hyperythra	orangethroat whiptail	None	None		HABITAT CONSISTS OF DIEGAN COASTAL SAGE SCRUB ON A ROCKY, WEST-FACING SLOPE; DOMINANTS INCLUDE MALOSMA LAURINA, ARTEMISIA CALIFORNICA, BACCHARIS SAROTHRAE, AND ERIOGONUM FASCICULATUM. ADJACENT AREA IS DEVELOPED.	Present
Aspidoscelis tigris stejnegeri	coastal whiptail	None	None		HABITAT CONSISTS OF DIEGAN COASTAL SAGE SCRUB ON A ROCKY, WEST-FACING SLOPE; DOMINANTS INCLUDE MALOSMA LAURINA, ARTEMISIA CALIFORNICA, BACCHARIS SAROTHRAE, AND ERIOGONUM FASCICULATUM. ADJACENT AREA IS DEVELOPED.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Athene cunicularia	burrowing owl	None	None		HABITAT CONSISTS OF COASTAL SAGE SCRUB AND BROOM BACCHARIS SCRUB. OTHER RARE TAXA FOUND AT THIS SITE INCLUDE ORANGE-THROATED WHIPTAIL, CALIF. GNATCATCHER, SELAGINELLA CINERASCENS, & VIQUIERA LACINIATA.	Potentially Present
Branchinecta sandiegonensis	San Diego fairy shrimp	Endangered	None		2004: 12 HARDPAN VERNAL POOLS ON 110.6-ACRE SURVEY AREA CHARACTERIZED BY CHAPARRAL, DISTURBED & DEVELOPED LAND, EUCALYPTUS, AND ANNUAL GRASSLAND. VERNAL POOL INDICATOR PLANTS PRESENT. LISTED AS "UNOCCUPIED" IN 5-YEAR REVIEW.	Not Present. No habitat for species in project area.
Buteo swainsoni	Swainson's hawk	None	Threatened		SAN DIEGO COUNTY BREEDING POPULATION CONSIDERED EXTIRPATED.	Not Present.
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	None	None		HABITAT CONSISTS OF A PATCH OF OPUNTIA LITTORALIS ADJACENT TO AREAS OF DISTURBED COASTAL SAGE SCRUB, DOMINATED BY BACCHARIS SAROTHROIDES AND MALOSMA LAURINA. THIS AREA IS A NARROW CORRIDOR LEFT UNDEVELOPED FOR A FUTURE FREEWAY (SR-125).	Potentially Present
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	None		ERIOGONUM AND ADENOSTOMA ARE DOMINANTS.	Not Present. No habitat for species in project area.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	None		SPARSE CHAMISE CHAPARRAL, CURRENT LAND USE IS OPEN SPACE.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Charadrius alexandrinus nivosus	western snowy plover	Threatened	None			Not Present.
Charina trivirgata	rosy boa	None	None			Not Present.
Chelonia mydas	green turtle	Threatened	None		BOTH SEXES & ALL AGE-CLASSES, EXCEPT JUV <30 CM. LOCAL RESIDENT FORAGING POPULATION; LIKELY FROM MEXICAN BREEDING POPULATION. ATTRACTED TO ABUNDANT FOOD (EELGRASS, GREEN & RED ALGAE), & WARM WATER EFFLUENT LIKELY AIDS DIGESTION & GROWTH	Not Present.
Choeronycteris mexicana	Mexican long-tongued bat	None	None		FORAGING HABITAT WITHIN BALBOA PARK INCLUDES A VARIETY OLDER PLANT SPECIMENS, INCLUDING AGAVES AND OTHER NECTAR-PRODUCING PLANTS.	Potentially Present
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened	Endangered		RIPARIAN HARDWOOD FORESTS	Potentially Present
Corynorhinus townsendii	Townsend's big-eared bat	None	Candidate Threatened		ROCKY AREAS, OLD MINE SHAFTS	Not Present.
Crotalus ruber	red-diamond rattlesnake	None	None		MOST OF THE IMMEDIATE SURROUNDING AREA CONSISTS OF HORSE RANCHES.	Not Present.

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Diadophis punctatus similis	San Diego ringneck snake	None	None		MAIN HABITAT PRESENT IS COASTAL SAGE SCRUB, WITH SOME CHAMISE CHAPARRAL ON THE MESA TOP, AND SOME TORREY PINE FOREST SCATTERED AROUND. SITE IS SURROUNDED BY HOUSES. THIS SITE IS PART OF THE MSCP PLANNING AREA.	Potentially Present
Elanus leucurus	white-tailed kite	None	None		HABITAT DESCRIBED AS SOURTHERN COAST LIVE OAK RIPARIAN FOREST SURROUNDED BY NON-NATIVE GRASSLAND, COASTAL SAGE SCRUB, AND CHAPARRAL. WITHIN SOUTHERN RIPARIAN FOREST OCCURRENCE #12.	Potentially Present
Eremophila alpestris actia	California horned lark	None	None		HABITAT CONSISTS OF NON-NATIVE GRASSLAND.	Potentially Present
Eumops perotis californicus	western mastiff bat	None	None		SOUTHWEST DESERT REGIONS	Not Present.
Euphydryas editha quino	quino checkerspot butterfly	Endangered	None		HABITAT CONSISTS OF DISTURBED COASTAL SAGE SCRUB; STEEP SLOPE WITH CLAY SOILS. NECTAR PLANTS PRESENT INCLUDE VIGUIERA LACINIATA.	Not Present. No habitat for species in project area.
Falco mexicanus	prairie falcon	None	None			Not Present. No nesting habitat for species in Project Area.
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted			Not Present.
Helminthoglypta coelata	mesa shoulderband	None	None			Not Present.

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Ixobrychus exilis	least bittern	None	None		HABITAT CONSISTS OF A SERIES OF 7 LAKES THAT EXTEND SOUTH TO NORTH; NESTING OCCURS ON THE 6TH AND 7TH LAKES (ON THE NORTH END OF THE SERIES). LAKES ARE SURROUNDED BY A NARROW RIPARIAN STRIP TO THE WEST AND RESIDENCES ON ALL SIDES.	Not Present.
Lasionycteris noctivagans	silver-haired bat	None	None			Not Present.
Lasiurus blossevillii	western red bat	None	None		TADARIDA BRASILIENSIS ALSO DETECTED HERE.	Potentially Present
Lasiurus cinereus	hoary bat	None	None			Potentially Present
Lasiurus xanthinus	western yellow bat	None	None			Potentially Present
Laterallus jamaicensis coturniculus	California black rail	None	Threatened			Not Present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	None		HABITAT CONSISTS OF DIEGAN COASTAL SAGE SCRUB, DOMINATED BY ERIOGONUM FASCICULATUM, MALOSMA LAURINA, ARTEMISIA CALIFORNICA, AND OTHERS.	Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Lycaena hermes	Hermes copper butterfly	Candidate	None		HABITAT CONSISTS OF COASTAL SAGE SCRUB AND COAST LIVE OAK WOODLAND; SURROUNDED BY UNDEVELOPED LAND (MISSION TRAILS REGIONAL PARK). SITE WAS RANKED "GOOD"; CHANGED TO "POOR" BECAUSE OF THE FIRE & SLOW RECOLONIZATION ABILITY.	Potentially Present
Myotis yumanensis	Yuma myotis	None	None		EPTESICUS FUSCUS, EUMOPS PEROTIS, NYCTINOMOPS FEMOROSACCUS & TADARIDA BRASILIENSIS ALSO FOUND HERE.	Potentially Present
Neotoma lepida intermedia	San Diego desert woodrat	None	None		SOUTHERN COASTAL BLUFF SCRUB WITH AN OPEN, SANDY SUBSTRATE; CO-DOMINANT IN SPOTS WITH CROTON CALIFORNICUS, ERIOGONUM FASCICULATUM, STILLINGIA LINEARIFOLIA, ERYSIUM CAPITATUM SSP CAPITATUM, MALOSMA LAURINA, ARTEMISIA CALIFORNICA, AND OTHERS.	Potentially Present
Nyctinomops femorosaccus	pocketed free-tailed bat	None	None		ROOST IS LOCATED WITHIN A ROCK QUARRY; COASTAL SAGE SCRUB DOMINATES ON THE SURROUNDING HILLSIDES AND WILLOW RIPARIAN IS FOUND WITHIN 100 YARDS OF THE ROOST.	Not Present. No habitat for species in project area.
Nyctinomops macrotis	big free-tailed bat	None	None			Not Present. No habitat for species in project area.
Pandion haliaetus	osprey	None	None			Not Present.
Panoquina errans	wandering (=saltmarsh) skipper	None	None			Not Present.

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Panoquina errans	wandering (=saltmarsh) skipper	None	None		RUDERAL HABITAT.	Not Present.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None	Endangered		20 HA SALTMARSH W/PARTIAL TIDAL ACTION. SUITABLE LOOKIING HABITAT IN N 2/3 OF MARSH NOT USED IN 1986.	Not Present.
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted		BREAKWATER AND JETTY. PELICAN USE IS LIMITED BY TIDAL HEIGHT AS MUCH OF THE BREAKWATER IS SUBMERGED AT HIGH TIDES.	Not Present.
Perognathus longimembris pacificus	Pacific pocket mouse	Endangered	None		APRIL 1994: SOIL IS SANDY ALLUVIAL. DOMINANT PLANT IS ARTEMISIA CALIFORNICA. EAST DEL MAR, 0.3 MI SE INTERSECTION OF SAN DIEGUITO DRIVE AND RACETRACK VIEW DRIVE.	Not Present. No habitat for species in project area.
Phrynosoma blainvillii	coast horned lizard	None	None		HABITAT CONSISTS OF DIEGAN COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, MALOSMA LAURINA, & BACCHARIS SAROTHROIDES.	Potentially Present
Plestiodon skiltonianus interparietalis	Coronado Island skink	None	None		HABITAT CONSISTS OF DIEGAN COASTAL SAGE SCRUB/CHAMISE CHAPARRAL, DOMINATED BY ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, MALOSMA LAURINA, AND ADENOSTOMA FASCICULATUM.	Potentially Present
Polioptila californica californica	coastal California gnatcatcher	Threatened	None		COMMUNITIES ON SITE INCLUDE SOUTHERN MARITIME CHAPARRAL, DIEGAN COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND, SEASONAL ISOLATED WETLANDS AND SOUTHERN WILLOW SCRUB.	Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Rallus longirostris levipes	light-footed clapper rail	Endangered	Endangered		THIS SITE ONCE SUPPORTED SUBPOPULATION OF ABOUT 100 RAILS. WHEN OCEAN INLET CLOSED, NO RAILS FOUND. AFTER MECHANICAL OPENING OF LAGOON MOUTH, RAILS AGAIN DETECTED. 2007: PICKLEWEED PREDOMINATES BUT FRESHWATER INFLUENCE INCREASING.	Not Present. No nesting habitat for species in project area.
Salvadora hexalepis virgultea	coast patch-nosed snake	None	None		HABITAT CONSISTS OF SOUTH-FACING COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, VIGUIERA LACINIATA, AND MIRABILIS LAEVIS.	Potentially Present
Setophaga petechia	yellow warbler	None	None		HABITAT IS RIPARIAN RIVER BOTTOM CONTAINING WILLOWS AND COTTONWOODS.	Potentially Present
Spea hammondii	western spadefoot	None	None		VERNAL POOLS ON REDDING SOILS IN CHAMISE CHAPARRAL.	Potentially Present
Sternula antillarum browni	California least tern	Endangered	Endangered		NO NESTING DUE TO RECREATIONAL USE 1980-1982. FENCE ERECTED IN 1983, TERNS RETURNED IN 1985.	Not Present. No nesting habitat for species in Project Area.
Streptocephalus woottoni	Riverside fairy shrimp	Endangered	None		1990: BRANCHINECTA SANDIEGENSIS (SDFS) & B. LINDAHLI ALSO FOUND. 1994: ONLY S. WOOTTONI (RFS) FOUND IN AA1; 3 MORE POOLS OF 53 OTHERS SURVEYED LOOKED SUITABLE FOR RFS BUT HAD ONLY SDFS. 2009: MAN-MADE POOLS SEPARATED BY A BERM.	Not Present.
Taxidea taxus	American badger	None	None			Potentially Present

Scientific Name	Common Name	Federal Listing	State Listing	CNPS Listing	Habitat Associations	Presence Potential
Thamnophis hammondii	two-striped garter snake	None	None		HABITAT CONSISTS OF COASTAL SAGE SCRUB, SOUTHERN MIXED CHAPARRAL, VERNAL POOL & VALLEY NEEDLEGRASS GRASSLAND, SYCAMORE ALLUVIAL WOODLAND, SOUTHERN COAST LIVE OAK RIPARIAN FOREST, BROOM BACCHARIS SCRUB, COAST LIVE OAK WOODLAND	Potentially Present
Tryonia imitator	mimic tryonia (=California brackishwater snail)	None	None			Not Present.
Vireo bellii pusillus	least Bell's vireo	Endangered	Endangered		WILLOW-SYCAMORE-COTTONWOOD RIPARIAN; DOMINANTS: RED WILLOW, ARROYO WILLOW, BLACK WILLOW, FREMONT COTTONWOOD, MULEFAT, GIANT REED, BLACK MUSTARD, TREE TOBACCO, PALM SPECIES, TAMARISK SPECIES.	Present

APPENDIX D

JURISDICTIONAL DELINEATION REPORT
FOR THE
RCTS JOINT REPAIR PROJECT

CITY OF SAN DIEGO, CALIFORNIA

Prepared by:
Hernandez Environmental Services
29376 North Lake Drive
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Prepared for:
City of San Diego
Engineering and Capital Projects Department
202 C Street
San Diego, CA 92101

September 2015
(Revised August 2016)

*"**CERTIFICATION**: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."*

Signature: _____

Juan Hernandez
Principal Biologist

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ATTACHMENTS

Attachment 1 – Personnel Qualifications

1.0 Introduction

1.1 Project Location

The Rose Canyon Trunk Sewer (RCTS) Joint Repair project area is located within the City of San Diego, San Diego County, California. The RCTS is approximately 4.7 miles in length (Figures 1 and 2). The pipeline extends from Manhole No. 343, which is located approximately 550 feet east of Genesee Avenue next to Manhole No. 374, south of the Rose Canyon Creek Bridge, which runs along Santa Fe Street through Rose Canyon (Figures 3a through 3l). The project area is specifically located within Township 15 South, Range 3 West of the *La Jolla* United States Geological Survey (USGS) 7.5' topographic quadrangle.

1.2 Project Description

The RCTS Joint Repair project includes repair of the PVC liner at the pipe joints for the Plastic-lined Reinforced Concrete Pipe (PLRCP) on the RCTS. The T-lock lining weld strips in the RCTS pipe joints are loose and pulling away from the pipe walls. The cement mortar has started to deteriorate behind the T-lock lining as a result of attack from hydrogen sulfide and sulfuric acid. Failures of welds exist throughout the pipeline and, consequently, repair of the PVC liner at these pipe joints is required. The RCTS Joint Repair Project involves installation of the following:

- 60-inch-diameter sleeve from Manhole No. 374 to Manhole No. 455, quantity 1,114, approximately 22,271 feet of pipe joint.
- 54-inch-diameter sleeve from Manhole No. 455 to Manhole No. 343, quantity 36, approximately 708 feet of pipe joint.
- A temporary bypass system consisting of two bypass pump stations capable of a 32 million gallons per day (MGD) capacity with approximately 2,100 linear feet of 32-inch, high density polyethylene (HDPE) pipe and approximately 560 linear feet of 4-inch HDPE pipe installed above ground within existing dirt access roads and Genesee Avenue.
- Fabricated aluminum stop logs within Manhole No. 449 (Junction Structure No. 1) to completely bypass the flows within the Rose Canyon Trunk Sewer to the existing parallel 42-inch trunk sewer.

<u>Joint Repair Activities</u>

Joint repair activities will include the removal of the existing PVC liner at the pipe joints, cleaning and joint preparation using grout, and installation of an internal mechanical pipe seal. Internal mechanical pipe seals are a trenchless remediation system for the repair of pipe joints and consist of an EPDM rubber sleeve and stainless steel retaining bands. The EPDM rubber sleeve is centered over the joint with the stainless steel retaining bands expanded against the surface until tight.

The detailed scope of work for the installation of the mechanical pipe seals will begin with inspection of the joint and surface preparation. The contractor will provide photographic documentation of the joint before and after joint preparation with a location or joint number assigned and clearly identified in the photograph. Preparation of the joint will typically include: cutting off and removing the loose PVC T-lock liner that is not locked into the concrete pipe, removing loose cement using a high pressure water blaster or mechanical means, sealing the exposed edge of the PVC material with Sika DUR 31 or 1A to prevent leaking during the air testing of the joint, and measurement of the joint for selection of the properly sized mechanical pipe seal. There are four different sizes of mechanical pipe seals that can be used depending on the extent of the damage at the joint: standard, extra-wide, double-wide and sleeve. The mechanical pipe seal must exceed a minimum of 1/2-inch beyond the damaged section of the T-lock liner.

Once the joint has been inspected, properly prepared and a mechanical pipe seal has been sized for the repair, the Contractor will clean the area around the joint where the mechanical pipe seal will make contact with the PVC T-lock liner. The Contractor will then install the EPDM rubber seal width along with the stainless steel joint seal retaining bands, each installed and tightened according to the manufacturer's written installation procedure. The seal will be allowed to relax for a minimum of 30 minutes before being retightened again. An air test will be performed through the air test valve on the mechanical pipe seal to check for air tightness around the edges of the seal. Soapy water is applied to the edges to indicate the presence of air. If bubbles appear, indicating an air test failure, the outer retaining bands are retightened and air tested until it passes. Once the mechanical pipe seal has been installed correctly and passes the air test, the Contractor will provide additional photographic documentation of the installed seal.

There may be areas of the trunk sewer where the PVC T-lock liner has been damaged outside of the joint locations. These areas will be photographed and measured for evaluation by the Engineer. The Engineer may direct the Contractor to install an additional mechanical pipe seal over the damaged area or install a new PVC liner using a structural polymer PVC co-lining system manufactured by Linabond, Inc. The Linabond Co-Liner system consists of a polyurethane structural polymer and a flexible PVC sheet that are bonded together through a chemical reaction.

The detailed scope of work for the installation of the PVC lining repairs will begin with the cleaning of the concrete surfaces within the pipe and the repair of any concrete defects present using mortar, if necessary. The Linabond structural polymer is then applied and the PVC sheet is rolled and smoothed over the surface to be repaired. To form the composite co-liner, pressure from fiberglass support panels are then applied to finish the exothermic reaction within the pipe. The resultant membrane adheres well to existing PVC liners and primed concrete. To assure proper adhesion of the PVC lining to the structural polymer and the structural polymer to the concrete surface, the protective lining system shall have a "peel test" performed. If there are areas with poor adhesion found or any other installation defects, the Contractor is required to make the repairs necessary.

The manhole access activities associated with the installations of the mechanical pipe seals and the repairs of the existing liner with the Linabond co-lining system will include human access

with hand-carried equipment. The Contractor will be permitted to use their utility construction trucks on the existing dirt access roads to travel between the manhole sites along the Rose Canyon Trunk Sewer. From the existing dirt access roads, equipment will be hand carried along the existing maintenance access paths to the manholes. Vegetation removal immediately surrounding the manholes and along the access paths will be completed by the City of San Diego Wastewater Collection – Canyons North Crew and must be coordinated prior to the start of work.

The equipment which will be hand carried to the manholes will include: fuel powered confined space blowers to provide adequate ventilation along with extra fuel on site, confined space ventilation ducting, atmospheric monitoring devices, confined space tripods for fall protection along with retrieval wenches, high pressure water blaster, the mechanical pipe seal materials, compressor for the air tests, Linabond co-lining system materials, and a breathing air apparatus with compressor for the installers of the Linabond co-lining system.

There are 35 manholes that will be accessed for the joint repairs along the Rose Canyon Trunk Sewer. The manholes include the following, listed from upstream to downstream: Manhole No. 343, Manhole No. 454, Manhole No. 321, Manhole No. 449, Manhole No. 455, Manhole No. 451, Manhole No. 452, Manhole No. 462, Manhole No. 464, Manhole No. 467, Manhole No. 469, Manhole No. 480, Manhole No. 481, Manhole No. 482, Manhole No. 483, Manhole No. 485, Manhole No. 486, Manhole No. 487, Manhole No. 489, Manhole No. 490, Manhole No. 494, Manhole No. 496, Manhole No. 499, Manhole No. 500, Manhole No. 501, Manhole No. 502, Manhole No. 507, Manhole No. 508, Manhole No. 382, Manhole No. 375, Manhole No. 377, Manhole No. 378, Manhole No. 379, Manhole No. 380, and Manhole No. 374. Access will be restricted to Manhole No. 479, Manhole No. 466 and Manhole No. 460 due to their location north of Rose Creek.

It is estimated that the Contractor is capable of installing a total of 8 internal mechanical pipe seals per day. Therefore, the Contractor will require a total of 144 construction days to complete the repairs. Construction will not be permitted during the wet weather season due to the capabilities of the temporary bypass system proposed below and the environmental impacts within Rose Canyon. Therefore, the Contactor will complete the repairs over two separate dry weather seasons for a total period of 13 months, which includes 120 construction days for mobilization activities.

Temporary Bypass System

A temporary bypass system is proposed to completely bypass the flows within the Rose Canyon Trunk Sewer to complete the necessary repairs of the PVC liner at the joints. The flow bypass system consists of the following elements:

- Two bypass pump stations with peripheral sound barriers (Decoro and Nobel)
- HDPE force mains conveying bypassed flows around the work zone
- Fabricated aluminum stop logs inserted into Manhole No. 449 (Junction Structure No. 1)

The two bypass pump stations and HDPE force mains will bypass flows around the 54-inch Rose Canyon Trunk Sewer between Junction Structure No. 1 and the upstream limits of the repairs

(between Manhole No. 343 and Manhole 449). This will allow the completion of the joint repairs within this reach of the trunk sewer and the installation of the stop logs inside Junction Structure No. 1.

Once the joint repairs between this upper reach are complete and the stop logs have been installed and accepted by the City, the bypass pump stations and HDPE force mains can be removed from service. The stop logs will then divert flows from the 54-inch Rose Canyon Trunk Sewer into the parallel 42-inch trunk sewer. With the stop logs deployed, the joint repairs can proceed in the trunk sewer downstream of Manhole No. 449 (Junction Structure No. 1). The stop logs will be removed when all the joint repairs are complete and the work is accepted by the City.

As mentioned above, the flow bypass system is only intended to operate during dry weather. If the start of the wet weather is forecast, the stop logs will be removed and all bypass and repair operations will cease until the flows in the sewers have returned to normal dry weather flow rates. Removal of the stop logs and their re-deployment will require coordination with the City to temporarily shut down the tributary sewer pump station and the temporary use of a bulkhead in the Nobel Bypass suction manhole. The Contractor will provide temporary bulkheads and pipeline plugs as necessary for all shutdowns and temporary bypass operations.

The temporary bypass pump stations will consist of the following components:

- Decoro Bypass Pump Station
    - Two dry suction pumps (one duty, one standby) capable of pumping an estimated peak dry weather flow of 150 gallons per minute (gpm), Godwin CD103M Dri-Prime Pump or equal
    - Approximately 560 linear feet of HDPE force main pipe installed above ground adjacent to the dirt access road between Manhole No. 313 and Manhole No. 342
    - Sound attenuating enclosures to provide less than 60 dBA at 30 feet
    - Fuel tank with a capacity of at least 24 hours at peak dry weather flow
    - Controls for level, speed, automatic switchover to standby pump and alarms

- Nobel Bypass Pump Station
    - Four equal sized dry suction pumps (three duty, one standby) capable of pumping an estimated peak dry weather flow of 32 MGD, Godwin CD500M Dri-Prime Pump or equal
    - Approximately 2,100 linear feet of HDPE force main pipe installed above ground within the existing dirt access road north of the railroad tracks and into the Genesee Avenue sidewalk between Manhole No. 343 and Manhole No. 314
    - Sound attenuating enclosures to provide less than 60 dBA at 30 feet, including a 24 feet tall by 60 feet wide sound wall
    - Fuel tank with a capacity of at least 24 hours at peak dry weather flow
    - Controls for level, speed, automatic switchover to standby pump and alarms

The Contractor will be required to continuously monitor the bypass pumping operations at all

times (24 hours per day, 7 days per week) for the entire time that the bypass system is required to complete the repairs. Using the estimated duration for the installation of the internal mechanical pipe seals, the two temporary bypass pump stations are estimated to be in operation for approximately 3 months.

The temporary bypass pump stations are located south of Nobel Drive near Manhole No.'s 313, 342, 343 and 454 and will require vegetation removal within the approximate 15,400 square feet working area. The vegetation will be removed in accordance with the City's Canyon Sewer Program. Following the completion of the temporary bypass pump station operations, the Contractor will be responsible for the revegetation of the work area. An upland hydroseed mix will be used at the site and the procedures, maintenance and success criteria will be in accordance with the City's standards and the revegetation plan.

1.3 Physical Description and Land Use

The RCTS Joint Repair project area is located within the middle and lower Rose Canyon area. Rose Canyon consists of a well-defined valley floor bordered on the south by steep slopes. Vegetation in the canyon includes mature sycamore, oak trees, and other riparian vegetation in the valley bottom, native chaparral species, particularly on the north-facing slopes, and grasses. Land uses within the project area include park, open space, and recreational uses. Surrounding land uses include park, open space, recreational, residential, and public/institutional uses along the northern portion of the project area and park, open space, recreational, and industrial uses along the southern portion of the project area.

1.4 Purpose of Jurisdictional Delineation

The purpose of this jurisdictional delineation is to:

- Determine if any state or federal jurisdictional waters are present within the project site boundaries;
- Quantify any impacts to jurisdictional waters due to the proposed project, if possible;
- Determine if the project will require state or federal permits for impacts to jurisdictional waters; and,
- Recommend mitigation measures to offset impacts to state or federal jurisdictional waters.

2.0 Regulatory Background

2.1 California Department of Fish and Wildlife Section 1602 of the California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the California Fish and Game Code (F&GC) requires that the CDFW be consulted if a proposed development project has the potential to detrimentally affect a stream, and thereby, wildlife resources that depend on a stream for continued viability (F&GC Division 2, Chapter 5, Section 1600-1616). A Section 1602 Lake or Streambed Alteration Agreement is required should the CDFW determine that the proposed project may do one or more of the following:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream or lake.

For the purposes of clarification, a stream is defined by the CDFW as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators." The historic hydrologic regime is defined as circa 1800 to the present (CDFW 2010).

2.2 Regional Water Quality Control Board Clean Water Act Section 401/Porter Cologne Act

The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal Clean Water Act (CWA) as well as the Porter Cologne Act (Water Code section 13260). Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharges will comply with the applicable provisions of sections 301, 302,303, 306, and 307 of the CWA. The Porter Cologne Water Quality Control Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge." Discharge of fill material into "waters" of the State which does

not fall under the jurisdiction of the United States Army Corps of Engineers (USACE) pursuant to Section of the Clean Water Act, may require authorization through application of waste discharge requirements or through waiver of Waste Discharge Requirements.

2.3 United States Army Corps of Engineers Clean Water Act Section 404

The USACE regulates "discharge of dredged or fill material" into wetlands and "waters of the United States" (WUS).

2.3.1 Waters of the United States

The term WUS is defined as:

- All waters currently used, or used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect foreign commerce including any such waters, (1) which could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are, or could be, taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industries in interstate commerce.
- All other impoundments of waters otherwise defined as WUS under the definition;
- Tributaries of waters identified above;
- The territorial seas; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above (33 Code of Federal Regulations [CFR] Part 328.3(a)).

2.3.2 Wetlands

According to the USACE manual (USACE 1987), wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions."

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to USACE, indicators for all three parameters must be present to qualify a wetland. The definition of a wetland includes the phrase "under normal circumstances," because there are situations in which the vegetation of a wetland has been removed or altered as a result of a recent natural event or human activities (USACE 1987).

Atypical situations and problem areas may lack one or more of the three criteria and still be considered wetlands. Background information on the previous condition of the area and/or field observations may indicate that the site meets the wetland criteria prior to disturbance. Additional delineation procedures would be employed if normal circumstances did not occur on a site. For the project survey area, atypical situations or problem areas do not occur; normal circumstances are present.

2.3.2 Vernal Pools

On November 25, 1997, the USACE issued Regional General Condition #1: Vernal Pool Notification, to address discharge of dredged or fill material into any vernal pool. In that special public notice, the USACE defines vernal pools as:

> [W]etlands that seasonally pond in small depressions as a result of a shallow, relatively impermeable layer that restricts downward percolation of water. The dominant water source for vernal pools is precipitation with pools typically filling after fall and winter rains and evaporating during spring and summer. These seasonal ponds are fragile, easily disturbed ecosystems that provide habitat for indigenous specialized assemblages of flora and fauna, including several species which are either proposed or already federally listed as threatened or endangered (USACE 1997).

The USACE included a list of vernal pool "indicator species" in the 1997 notice. The presence of any one of the indicators could be used to bypass the normal hydric soil, wetland hydrology, and hydrophytic vegetation requirements to identify a jurisdictional vernal pool.

2.3.3 Regulatory Definition

In accordance with Section 404 of the Clean Water Act (CWA), the term "fill" is defined as material placed in WUS where the material has the effect of:

- Replacing any portion of a WUS with dry land; or
- Changing the bottom elevation of any portion of a WUS.

Examples of such fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in the WUS. The term fill material does not include trash or garbage.

The definition of "discharge of dredged material" is defined as: any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the WUS. The term includes, but is not limited to, the following:

- The addition of dredged material to a specified discharge site located in WUS;
- The runoff or overflow, associated with a dredging operation, from a contained land or water disposal area; and
- Any addition, including redeposit other than incidental fallback, of dredged material, including excavated material, into WUS which is incidental to any activity, including mechanized land clearing, ditching, channelization, or other excavation.

The term discharge of dredged material does not include the following:

- Discharges of pollutants into WUS resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to section 402 of the Clean Water Act even though the extraction and deposit of such material may require a permit from the Corps or applicable State.
- Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chain-sawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.
- Incidental fallback.

2.4 City of San Diego Wetlands

According to the City of San Diego's Municipal Code (City of San Diego 2012), wetlands are areas which are characterized by any of the following conditions: (1) all areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation; (2) areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation; or (3) areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands, or catastrophic reoccurring natural events that prevent

establishment of vegetation; (4) areas mapped as *wetlands* on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone) (City of San Diego 2012).

The City of San Diego distinguishes vernal pools from other seasonal depressions by the presence of USACE vernal pool plant indicator species (USACE 1997). The vernal pool vegetation requirement seeks to separate vernal pools from road ruts and other seasonal ponding areas (City of San Diego 2012).

3.0 Methodology

3.1 Literature Review

Prior to the site visit, a literature review was conducted to aid in determining the potential for permanent, intermittent or ephemeral drainages, wetlands and riparian vegetation. Project background documents, topographic maps, satellite imaging, soils maps, and land use maps were examined to establish an accurate project area location, project description, potential for onsite drainages and wetlands, records of on-site vegetation, watershed, soils, and surrounding land uses.

3.2 Field Survey

On September 3, 2015, Hernandez Environmental Services (HES) conducted a field survey of the project areas. Field surveys were conducted to delineate jurisdictional drainages and wetlands resources associated with jurisdictional drainages.

Jurisdictional drainages were identified by looking for features such as a bed, bank or channel. Where riparian vegetation was present, the drip line of the outer edge of the vegetation was used as the measuring criteria. Furthermore, the presence of an ordinary high water mark (OHWM) was recorded. The OHWM is defined as:

> [O]n non-tidal rivers, the line on the shore established by the fluctuations of water and indicated by the physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area (USACE 1997).

Where the presence of an OHWM was evident, a measurement was taken for the width of the OHWM and the measurement was recorded. Areas measured were also recorded using hand-held GPS for accurate location reference.

Where changes in plant community composition were apparent, the area was examined for the possibility of wetlands. Whether or not adjacent to WUS, the potential wetland area was evaluated for the presence of the three wetland indicators: hydrology, hydric soils and hydrophytic vegetation. The guidelines followed are those established in the 1987 Army Corps of Engineers Manual.

4.0 Results

A description of the soil types, the local hydrology, and the major vegetation types observed in each of the project areas are presented below. Copies of the field data forms summarizing information on vegetation, soils, and hydrology observed at each site are provided in Appendix B.

4.1 Soils

The project area contains eight soil types, as depicted in Appendix A.

- Altamont clay (AtF), 30 to 50 percent slopes;
- Chesterton-Urban land complex (CgC), 2 to 9 percent slopes;
- Huerhuero loam (HrD2), 9 to 15 percent slopes, eroded;
- Huerhuero loam (HrE2), 15 to 30 percent slopes, eroded;
- Made land (Md); Riverwash (Rm); Salinas clay loam (SbC), 2 to 9 percent slopes; and
- Terrace escarpments (TeF).

According to the soil survey map for the project area, the Riverwash soils, which are mapped within the northeastern portion of the project area, have a 100 percent hydric soil rating.

As previously stated, manhole access activities will include either minor or major repair activities. Minor repair activities will include limited human access with hand-carried equipment. No vehicular or other wheeled equipment or vegetation removal will be required. Major repair activities will include both human and equipment access, which will require significant vegetation removal. No digging, trenching, or ground disturbance, which will result in impacts to hydric soils is anticipated.

4.2 Hydrology

Rose Canyon Creek is a perennial drainage that flows southwesterly through the project area. Rose Canyon Creek then flows south to Mission Bay and ultimately into the Pacific Ocean.

4.3 Project Areas

Manhole No. 343

Vegetation within the area of Manhole No. 343 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 343 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 454

Vegetation within the area of Manhole No. 454 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 454 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 321

Vegetation within the area of Manhole No. 321 is characterized as disturbed habitat. This area has been altered to form trails and has been mechanically disturbed. This area is predominantly comprised of non-native plant species, such as western ragweed (*Ambrosia psilostachya*) and sweet fennel (*Foeniculum vulgare*).

Manhole No. 321 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 449

Vegetation within the area of Manhole No. 449 is characterized as mixed riparian sycamore willow woodland. This habitat is dominated by thickets of several S*alix* species, including red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepsis*), intermixed with scattered emergent Fremont cottonwoods (*Populus fremontii*) and sycamore (*Platanus racemosa*).

Manhole No. 449 and a portion of the access route are located within state and federally jurisdictional waters and wetlands (Figures 4a and 5a). Manhole No. 449 and a portion of the proposed access route are also located within City of San Diego jurisdictional wetlands.

Manhole No. 455

Vegetation within the area of Manhole No. 455 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laural sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*). This area also contains stands of eucalyptus trees (*Eucalyptus* sp.). Eucalyptus woodlands are identified when greater than 25% of the tree canopy is *Eucalyptus* species.

Manhole No. 455 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 451

Vegetation within the area of Manhole No. 451 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laural sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*). This area also contains stands of eucalyptus trees (*Eucalyptus* sp.). Eucalyptus woodlands are identified when greater than 25% of the tree canopy is *Eucalyptus* species.

Manhole No. 451 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 452

Vegetation within the area of Manhole No. 452 is characterized as disturbed coastal sage scrub habitat dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa*), bush monkey flower (*Mimulus aurantiacus*), laural sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*).

Manhole No. 452 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4a and 5a).

Manhole No. 464

Vegetation within the area of Manhole No. 464 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 464 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4b and 5b).

Manhole No. 467

Vegetation within the area of Manhole No. 467 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 467 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4c and 5c).

Manhole No. 469

Vegetation within the area of Manhole No. 469 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 469 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4c and 5c).

Manhole No. 480

Vegetation within the area of Manhole No. 480 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 480 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4d and 5d).

Manhole No. 481

Vegetation within the area of Manhole No. 481 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 481 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4d and 5d).

Manhole No. 482

Vegetation within the area of Manhole No. 482 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 482 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4d and 5d).

Manhole No. 483

Vegetation within the area of Manhole No. 483 is characterized as coast live oak riparian forest, where more than 25% of the tree canopy is coast live oak (*Quercus agrifolia*). The understory may contain species such as toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus mexicana*), and poison oak (*Toxicodendron diversilobum*).

Manhole No. 483 and the access route are located within state and federally jurisdictional waters and wetlands (Figures 4e and 5e). Manhole No. 483 and the proposed access route are also located within City of San Diego jurisdictional wetlands.

(Figures 4e and 5e).

Manhole No. 485

Vegetation within the area of Manhole No. 485 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 485 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4e and 5e).

Manhole No. 486

Vegetation within the area of Manhole No. 486 is characterized as California sagebrush series. This series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 486 and the proposed access route are not located within state jurisdictional waters and wetlands (Figures 4f and 5f).

Manhole No. 487

Vegetation within the area of Manhole No. 487 is characterized as non-native grasslands. This area has been previously disturbed and is now dominated by non-native grass species such as ripgut brome (*Bromus diandrus*), rescue grass (*Bromus catharticus*), foxtail brome (*Bromus madritensis ssp. rubens*), slim oats (*Avena barbata*), wild oats (*Avena fatua*), and foxtails (*Hordeum sp.*), and mustard (*Hirschfeldia incana*).

Manhole No. 487 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4f and 5f).

Manhole No. 489

Vegetation within the area of Manhole No. 489 is characterized as non-native grasslands. This area has been previously disturbed and is now dominated by non-native grass species such as ripgut brome (*Bromus diandrus*), rescue grass (*Bromus catharticus*), foxtail brome (*Bromus madritensis ssp. rubens*), slim oats (*Avena barbata*), wild oats (*Avena fatua*), and foxtails (*Hordeum sp.*), and mustard (*Hirschfeldia incana*).

Manhole No. 489 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4f and 5f).

Manhole No. 490

Vegetation within the area of Manhole No. 490 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 490 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4f and 5f).

Manhole No. 494

Vegetation within the area of Manhole No. 494 is characterized as California sagebrush series dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 494 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4g and 5g).

Manhole No. 496

Manhole No. 496 is located within an area characterized as California sagebrush series

dominated by California sage (*Artemisia californica*), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (*Eriogonum fasciculatum*), and coyote brush series dominated by coyote brush (*Baccharis pilularis*).

Manhole No. 496 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4g and 5g).

Manhole No. 499

Manhole No. 499 is located within an area characterized as California sagebrush series dominated by California sage (Artemisia californica), California sagebrush-California buckwheat series dominated by California sagebrush and California buckwheat (Eriogonum fasciculatum), and coyote brush series dominated by coyote brush (Baccharis pilularis).

Manhole No. 499 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4h and 5h).

Manhole No. 500

Manhole No. 500 is located within an area characterized as disturbed habitat. This area has been altered to form a trail and has been mechanically disturbed. Small amounts of vegetation is present, which is comprised predominantly of non-native plant species. The dirt trail itself is maintained to exclude vegetation.

Manhole No. 500 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4h and 5h).

Manhole No. 501

Manhole No. 501 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 501 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4i and 5i).

Manhole No. 502

Manhole No. 502 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 502 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figures 4i and 5i).

Manhole No. 507

Manhole No. 507 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 507 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3i).

Manhole No. 508

Manhole No. 508 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 508 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3j).

Manhole No. 382

Manhole No. 382 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 382 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3j).

Manhole No. 375

Manhole No. 375 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 375 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3k).

Manhole No. 377

Manhole No. 377 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 377 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3k).

Manhole No. 378

Manhole No. 378 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 378 is not located within state or federal jurisdictional waters or wetlands, or

locally protected wetlands (Figure 3k).

Manhole No. 379

Manhole No. 379 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 379 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3l).

Manhole No. 380

Manhole No. 380 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 380 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3l).

Manhole No. 374

Manhole No. 374 is located within the paved right-of-way of Santa Fe Street. This area is already developed and surrounded by urban uses.

Manhole No. 374 is not located within state or federal jurisdictional waters or wetlands, or locally protected wetlands (Figure 3l).

5.0 Impacts

The RCTS Joint Repair Project activities at Manhole No. 449 and Manhole No. 483 and the access routes are located within state and federally jurisdictional waters and wetlands and City of San Diego jurisdictional wetlands. The RCTS Joint Repair project will utilize existing maintenance access paths. Project activities within jurisdictional areas will be limited to the trimming of vegetation within existing access paths (Figures 6a and 6b). An 8-foot wide utility truck will be utilized to travel between the manhole sites along the Rose Canyon Trunk Sewer. From the existing dirt access roads, equipment will be hand carried along the existing maintenance access paths to the manholes. The access paths would accommodate all work activities and are regularly maintained by the Public Utilities Department (PUD). Therefore, the RCTS JR project is consistent with the City of San Diego's Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program (Program) Master Site Development Permit (SDP) No. 13507/Coastal Development Permit (CDP) No. 13506 and Programmatic Environmental Impact Report (PEIR) No. 42-0077. The Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 accommodates the cleaning and

maintenance of all City of San Diego sewer pipelines within canyons and other environmentally sensitive lands, and the construction of access paths where necessary. Program Master SDP No. 13507/ CDP No. 13506 and PEIR No. 42-0077 also include performance criteria and procedural guidelines to avoid and/or minimize environmental impacts, as identified below.

To reduce indirect impacts that might occur as a result of the RCTS Joint Repair project the following measures shall be implemented:

1. All construction activities shall be completed outside the bird breeding season for California gnatcatchers and least Bell's vireo (March 1 to September 15) or noise monitoring will be employed.

2. A biologist will verify that no nesting birds or nests occur in the project foot print if construction occurs during the general avian breeding season (February 1 through September 15).

3. A biological monitor or City staff will be on site periodically to ensure compliance with environmental regulations.

4. A pre-construction meeting will take place onsite to identify any sensitive resources additional parameters for work prior to construction.

5. Work limits will be flagged and/or fenced prior to start of work to avoid additional impacts.

6. Predefined staging areas will be used for parking vehicles, equipment, and stockpiling of materials.

7. Photographs will be taken of the project area before, during, and after the work to document the condition of the site and the extent of any impacts to the surrounding area.

8. All equipment must utilize existing access roads and work areas within the authorized limits of work. No work activities may occur outside the preapproved limits of disturbance without approval.

9. Appropriate Best Management Practices (BMPs) will be used during and after construction to address erosion and sediment control.

10. All work will be conducted during daylight hours only, eliminating the need for

nighttime lighting.

11. No construction activities will occur during a rain event; all activities will be suspended following a rain event until the soil has dried.

7.0 References

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FIGURES

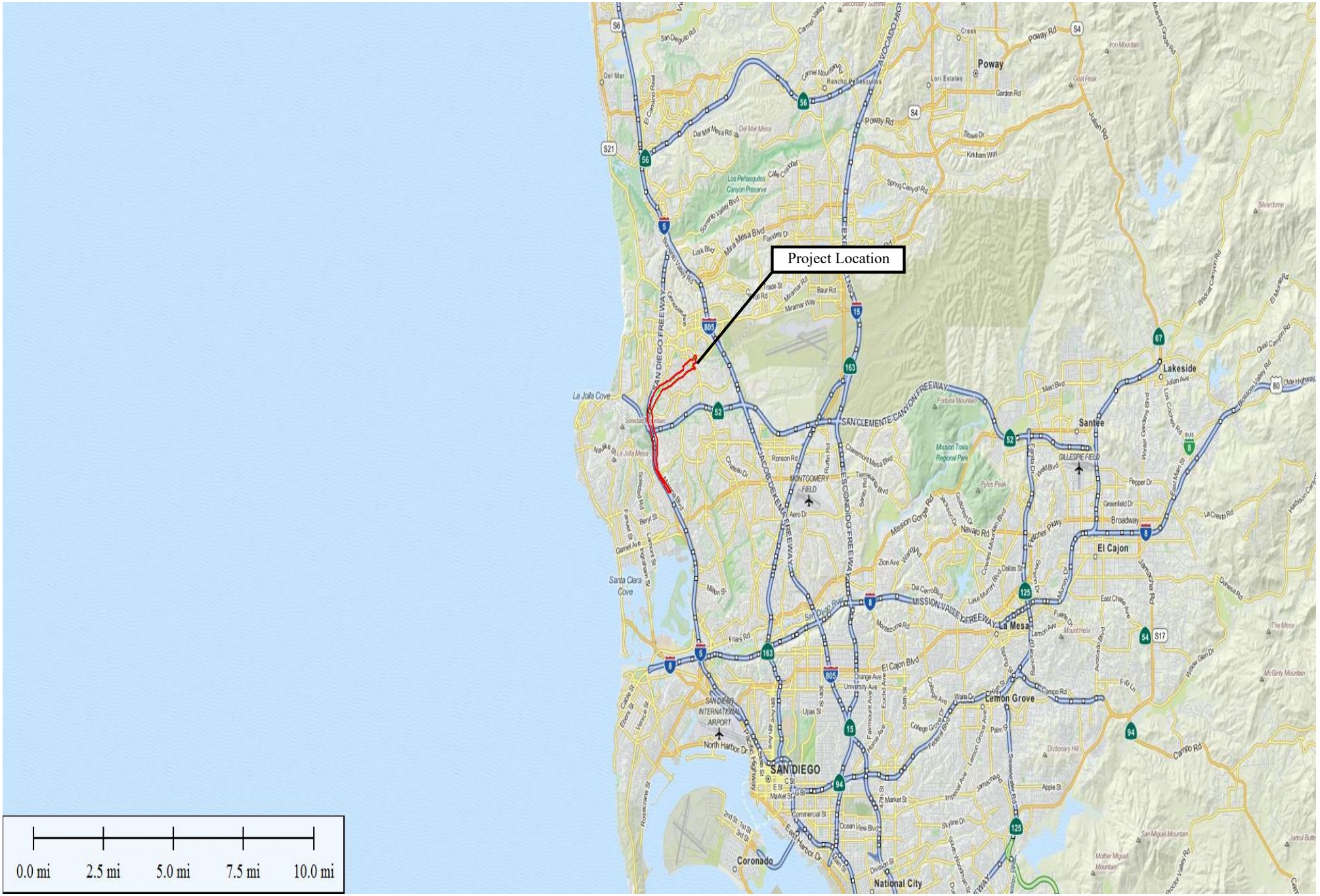


Figure 1
Vicinity Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

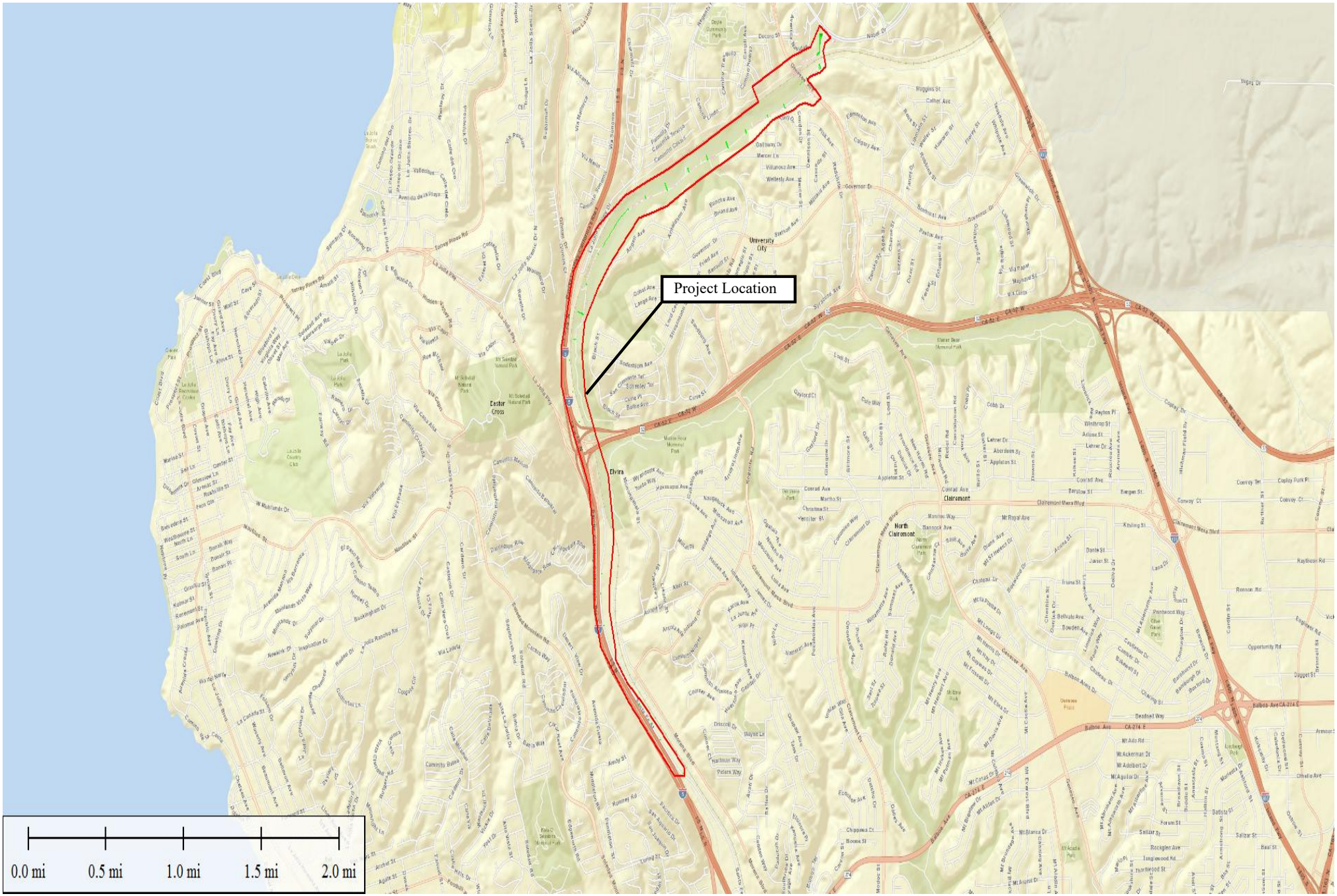


Figure 2
Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

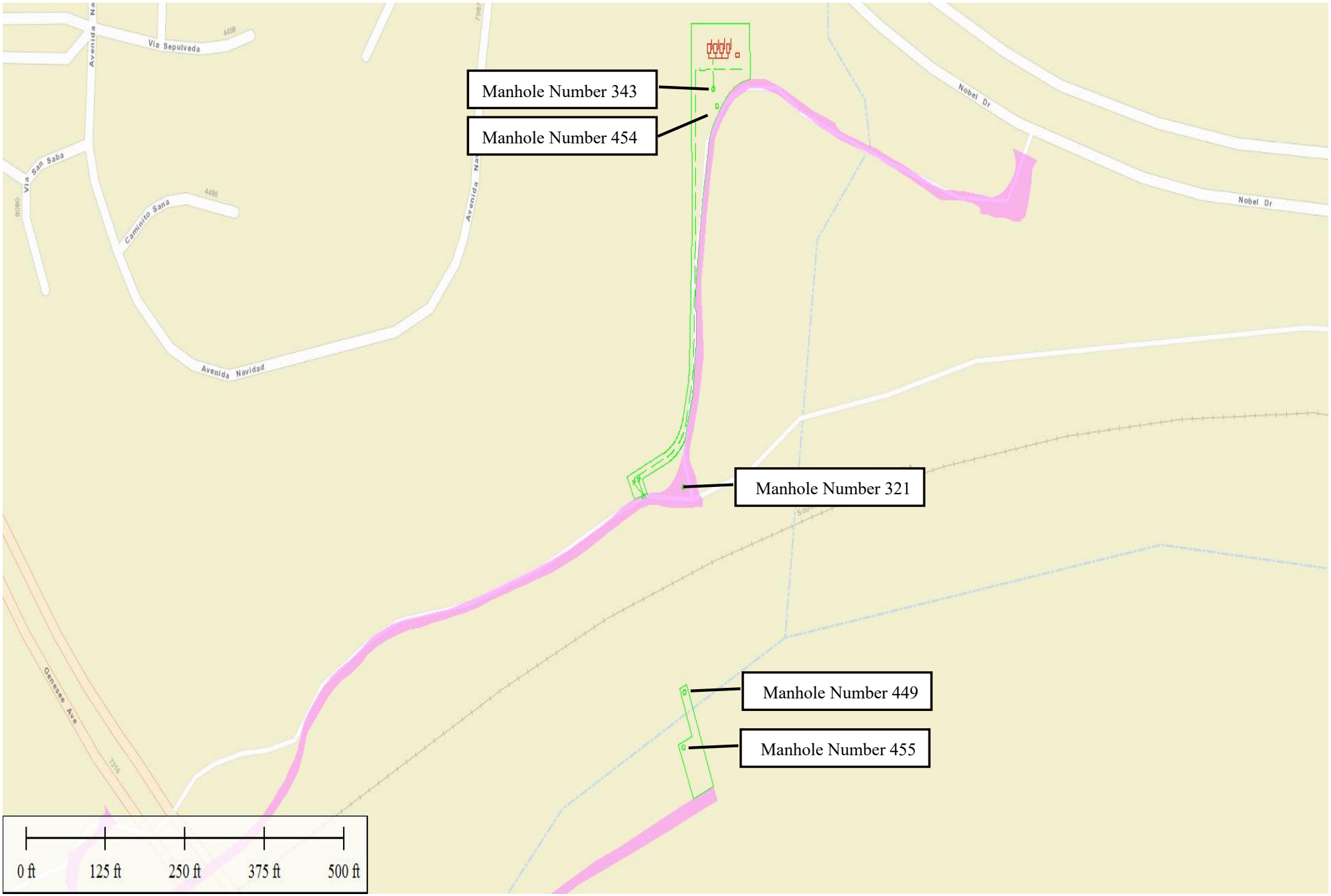


Figure 3a
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

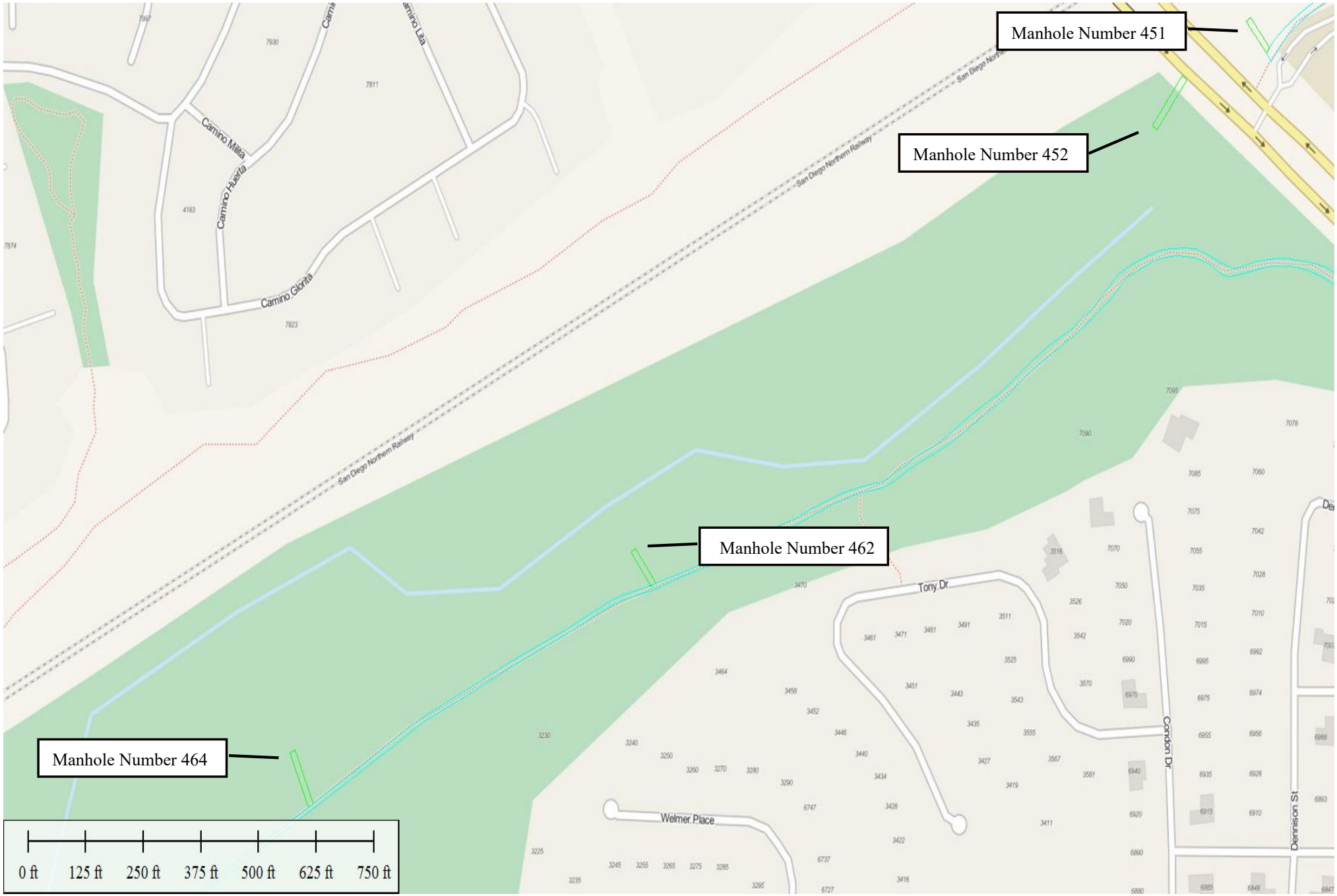


Figure 3b
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

Figure 3c
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

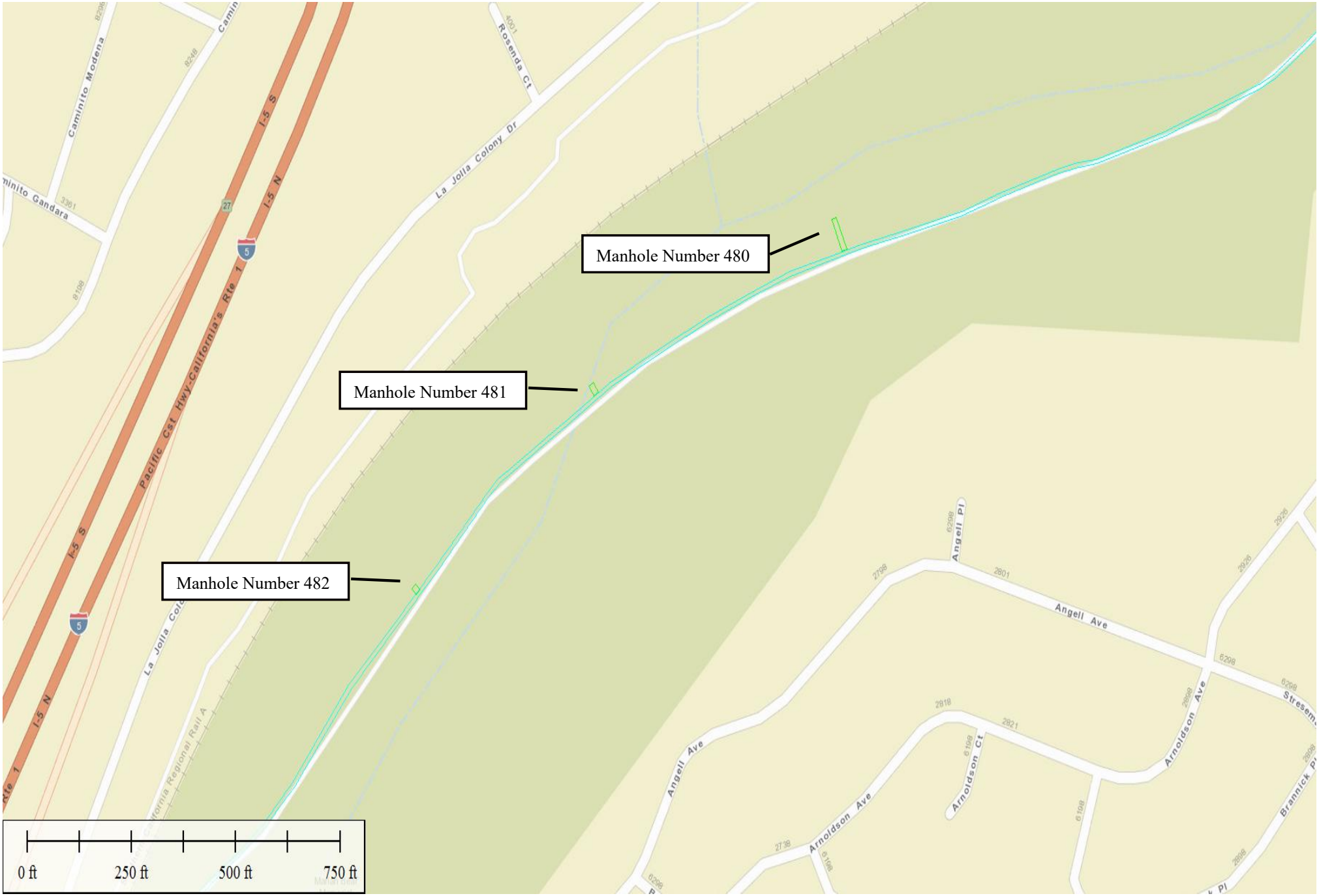


Figure 3d

Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

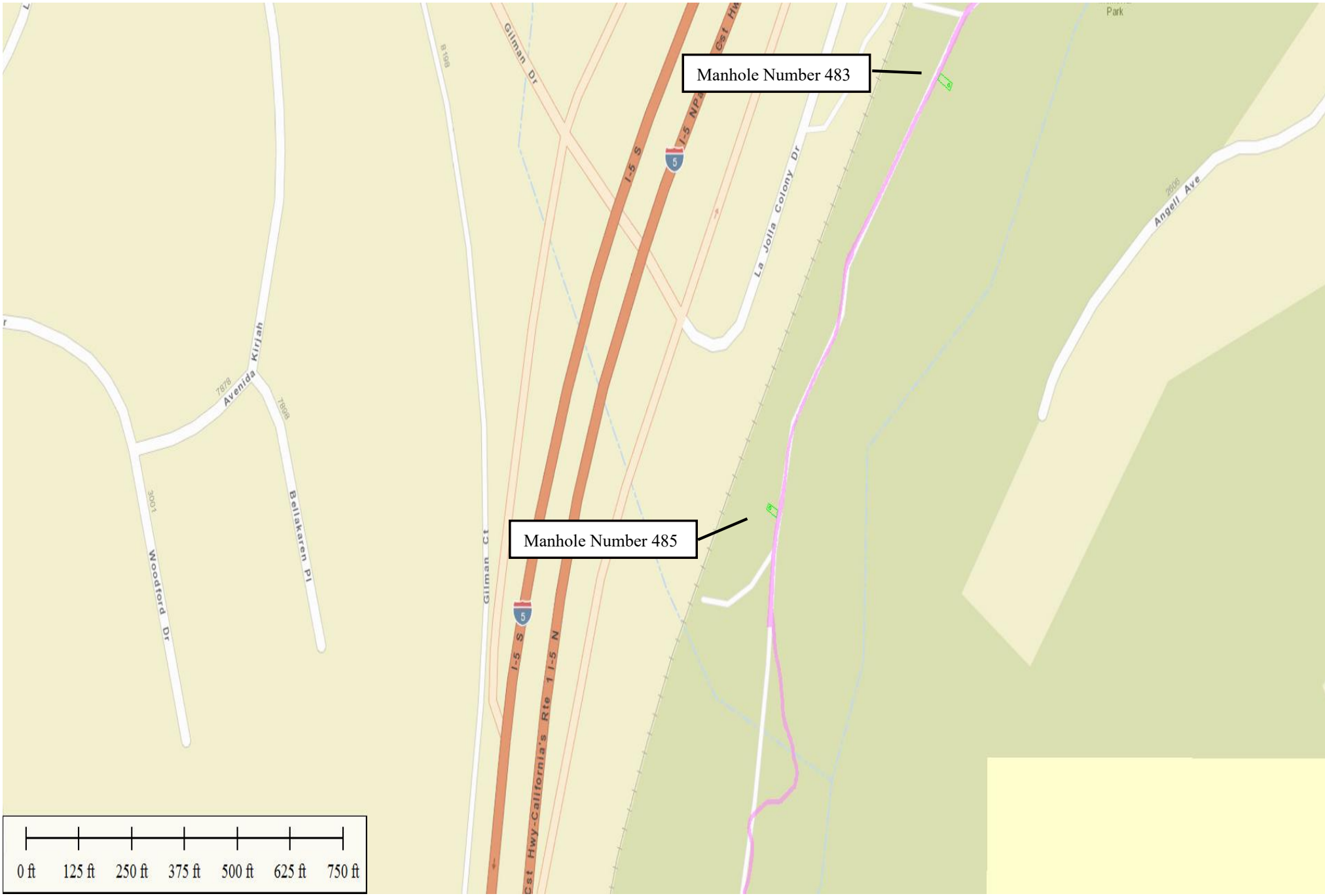


Figure 3e
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

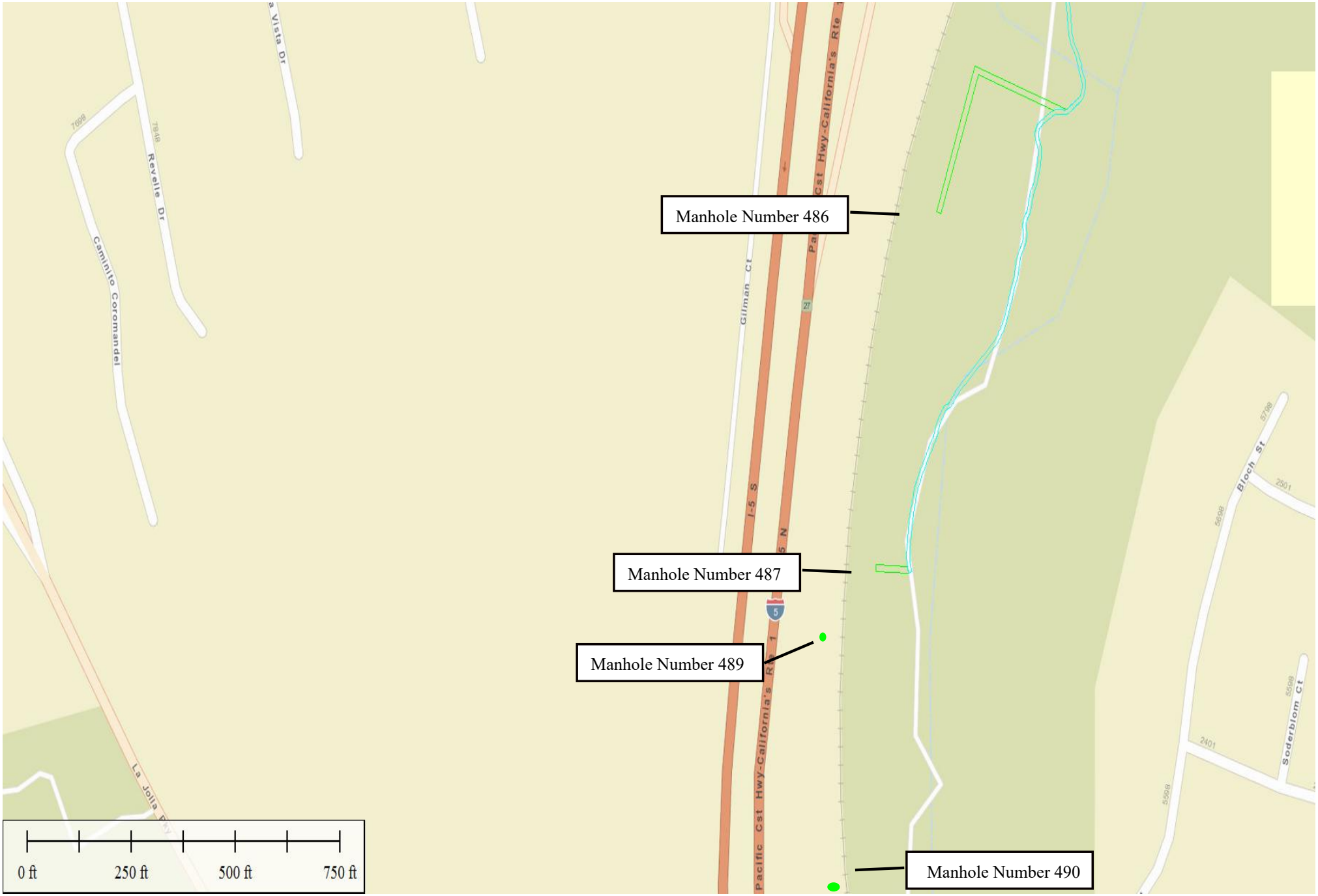


Figure 3f

Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

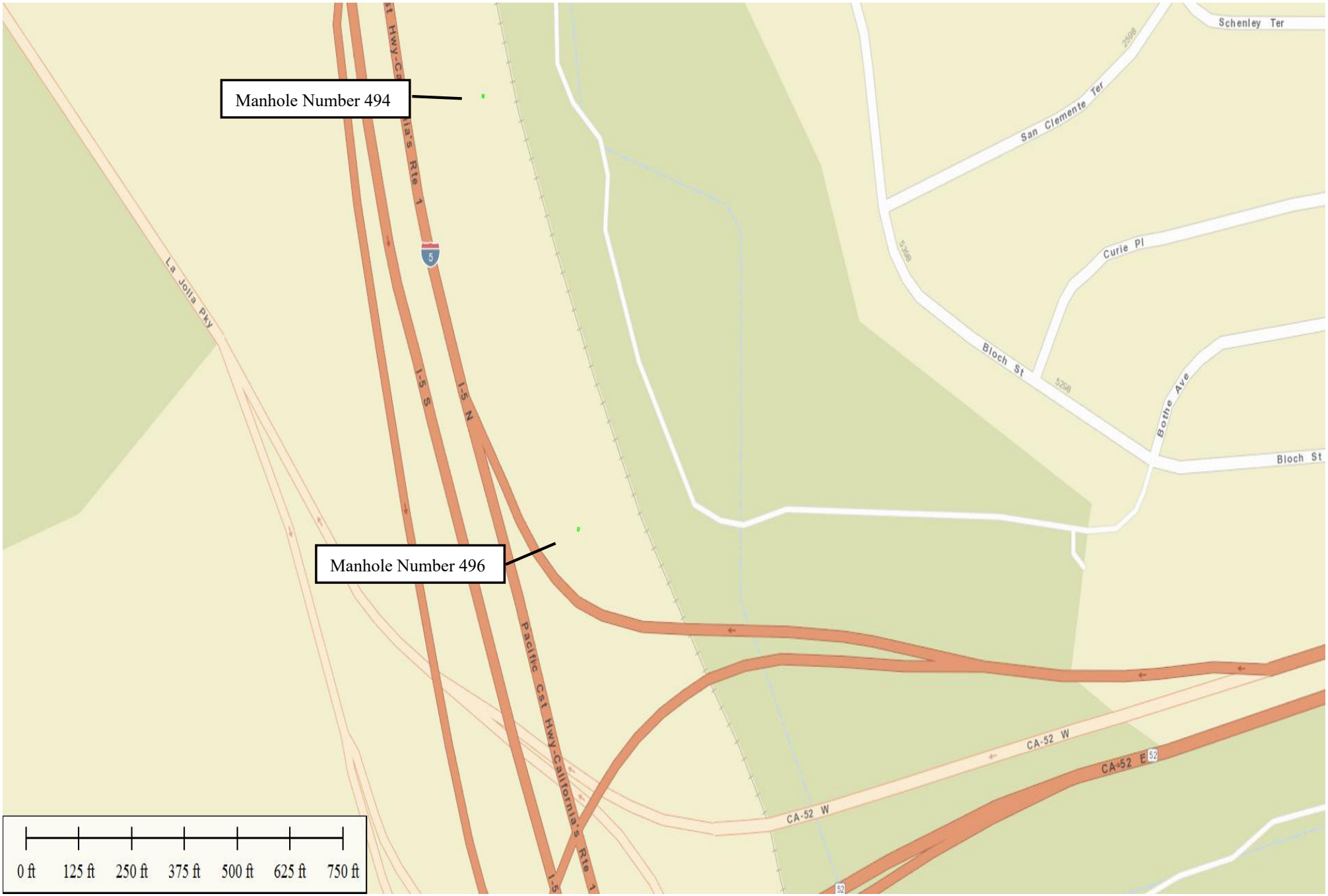


Figure 3g
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

Figure 3h
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

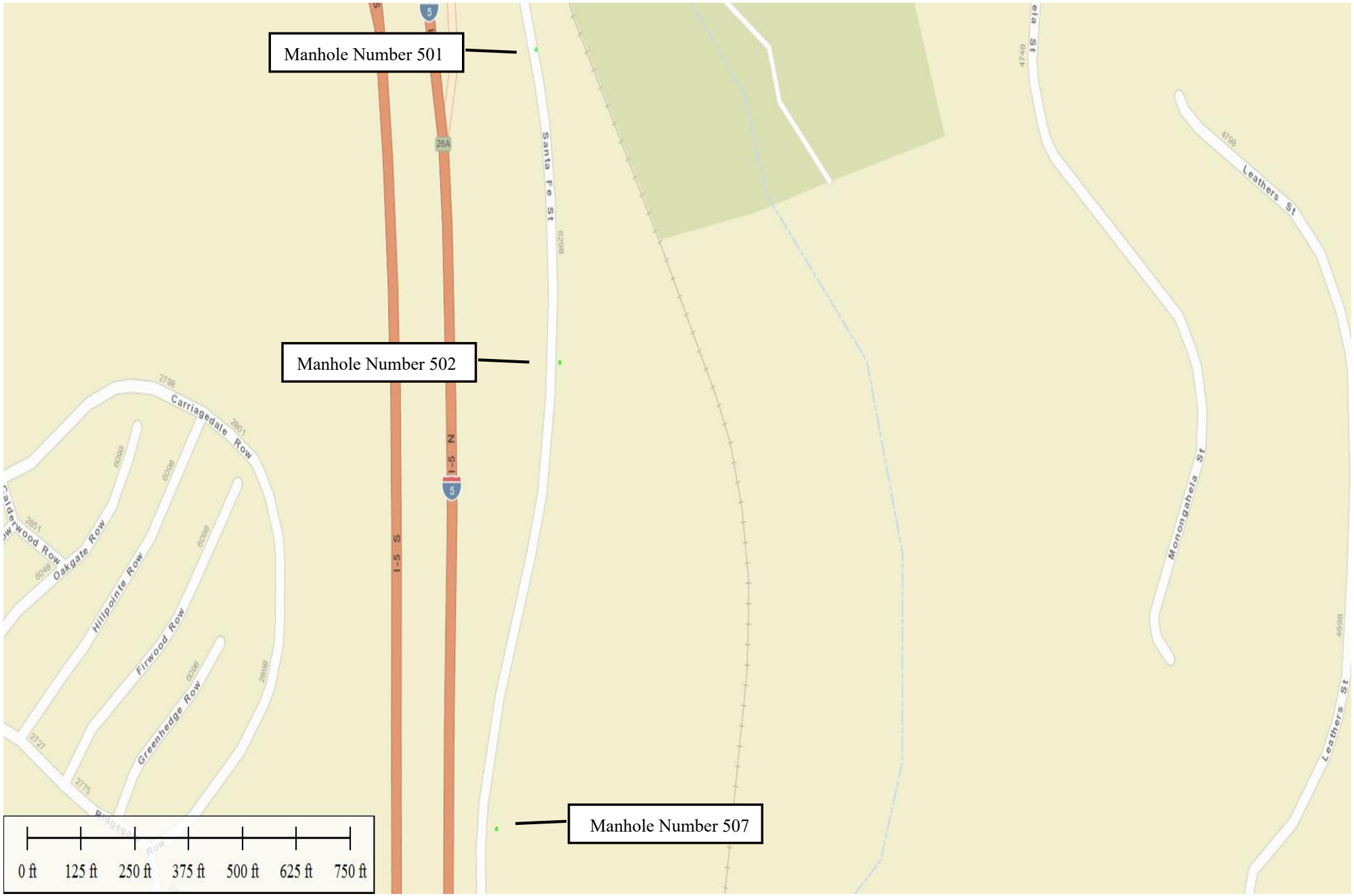


Figure 3i
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

Figure 3j
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

Figure 3k
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

N

Hernandez Environmental Services

Figure 3l
Manhole Location Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

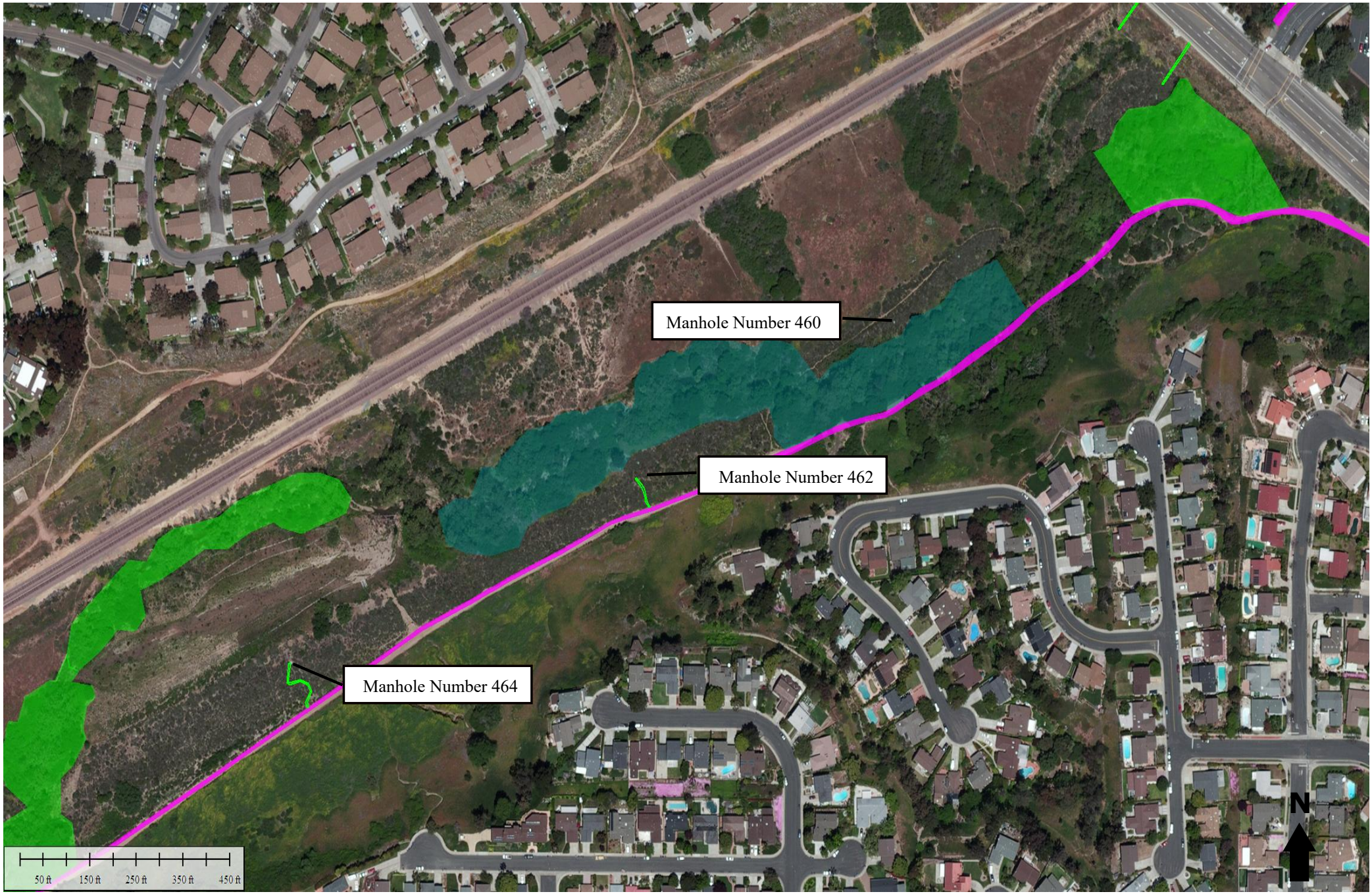
Mixed Willow Riparian/Wetland

Project Impact Area

Disturbed Non-vegetated

Figure 4A
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

Mixed Willow Riparian/Wetland

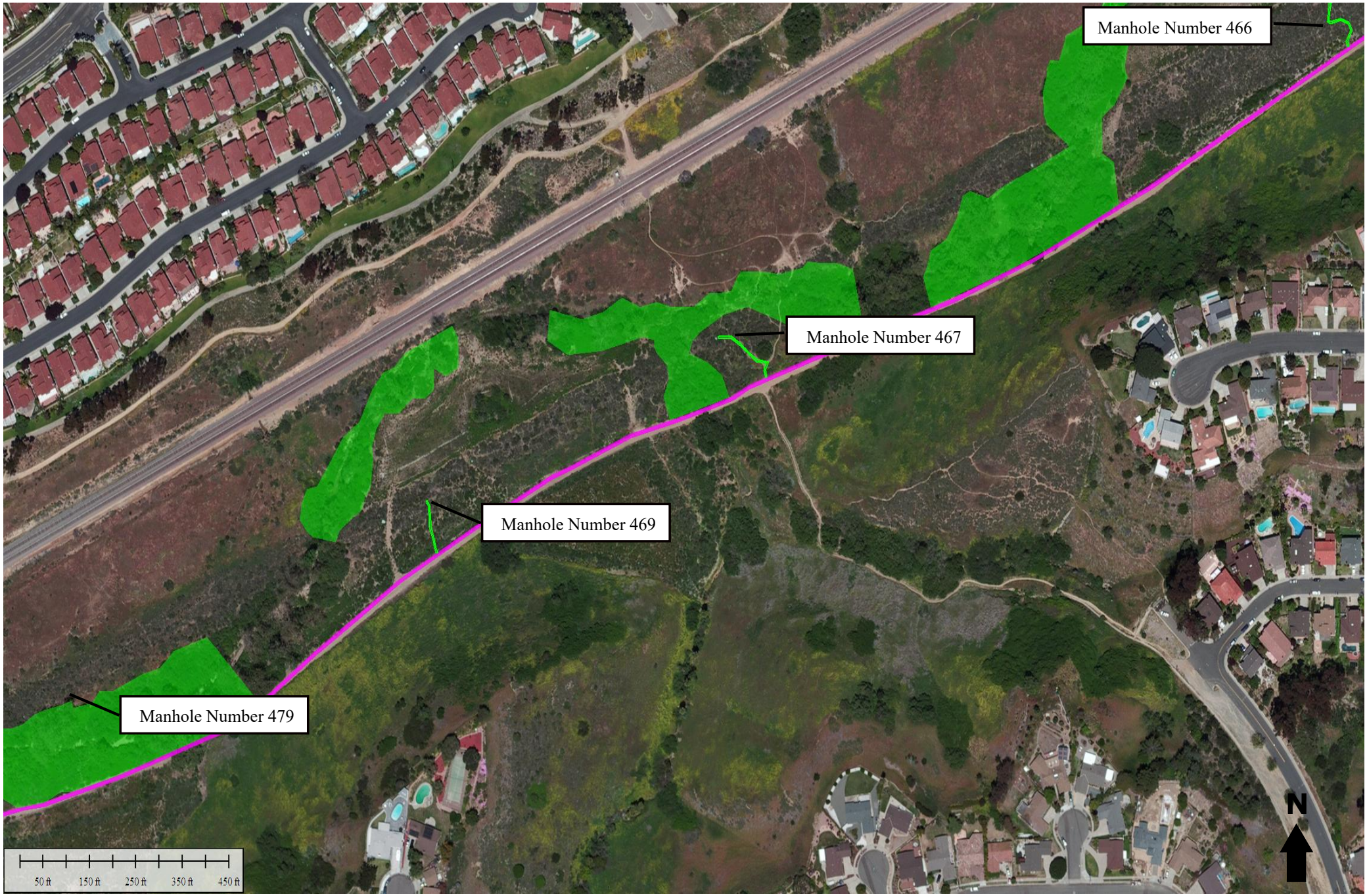
Disturbed Non-vegetated

Project Impact Area

Coast Live Oak Riparian

Figure 4B
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

Mixed Willow Riparian/Wetland

Project Impact Area

Disturbed Non-vegetated

Figure 4C
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

Mixed Willow Riparian/Wetland

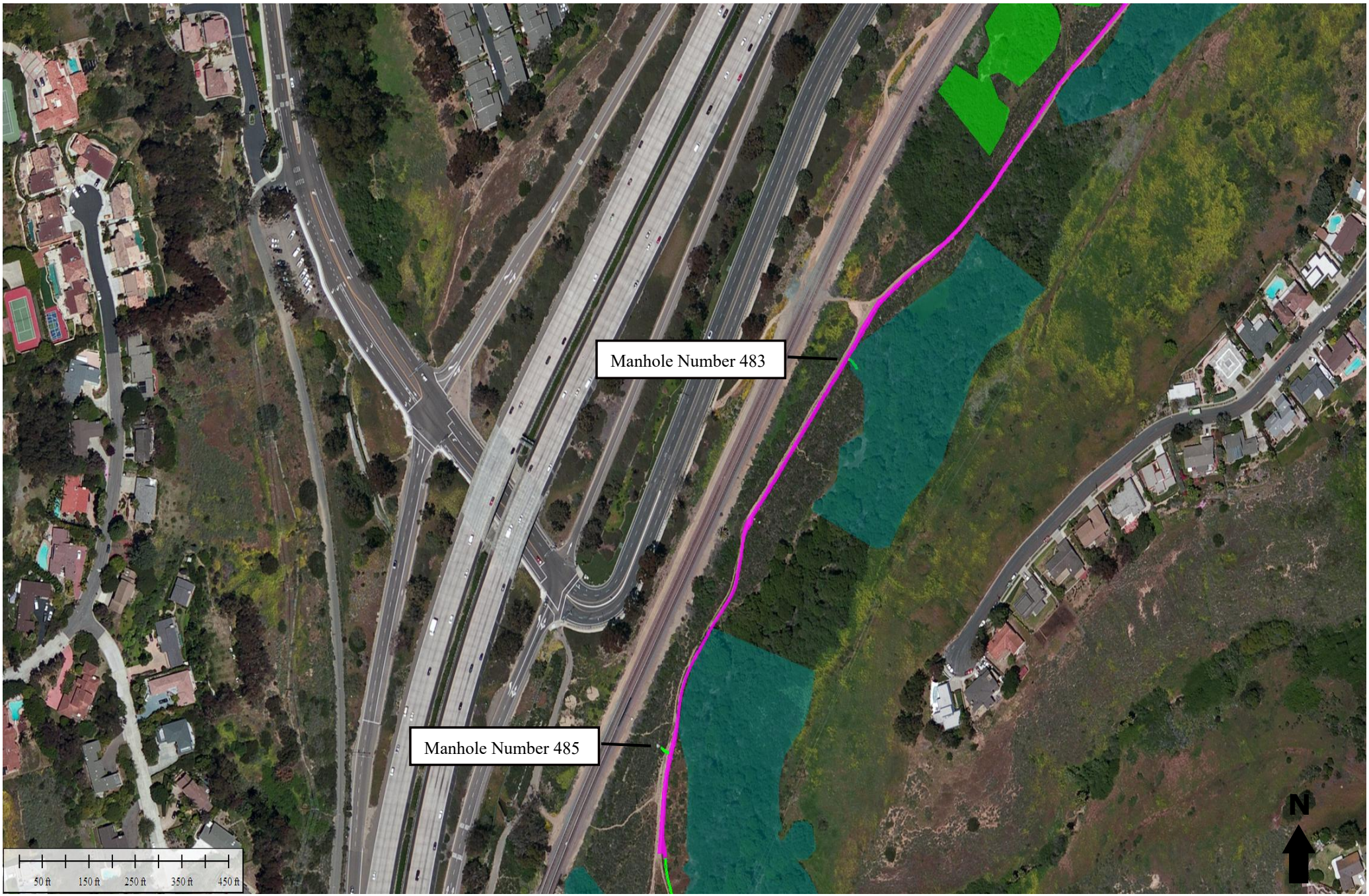
Disturbed Non-vegetated

Project Impact Area

Coast Live Oak Riparian

Figure 4D
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

Mixed Willow Riparian/Wetland

Project Impact Area

Disturbed Non-vegetated

Coast Live Oak Riparian

Figure 4E
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

Mixed Willow Riparian/Wetland

Disturbed Non-vegetated

Soft-Bottom Trapezoidal Channel

Project Impact Area

Coast Live Oak Riparian

Figure 4F
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

Mixed Willow Riparian/Wetland

Project Impact Area

Figure 4G
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

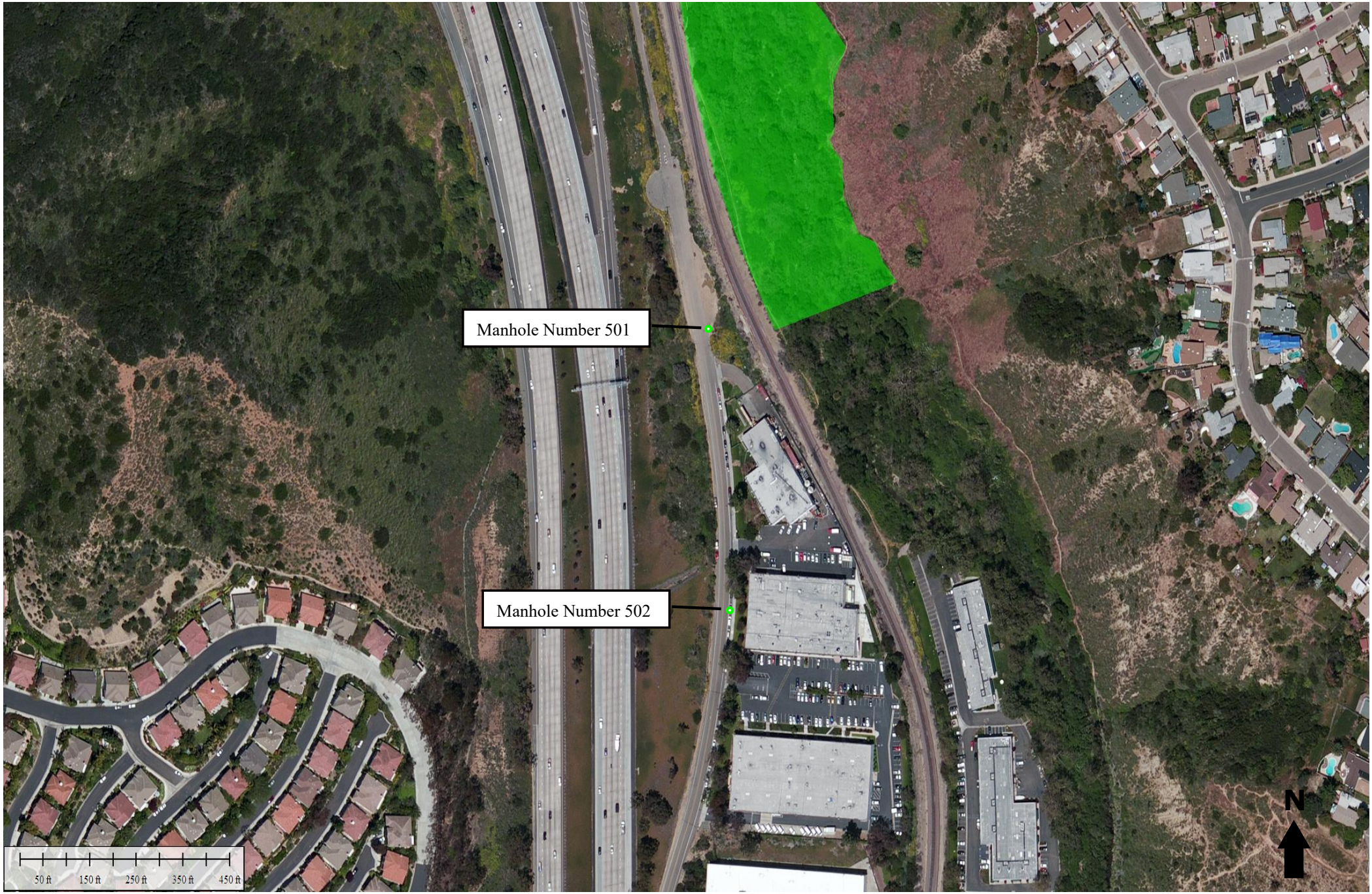
Legend

Mixed Willow Riparian/Wetland

Project Impact Area

Figure 4H
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



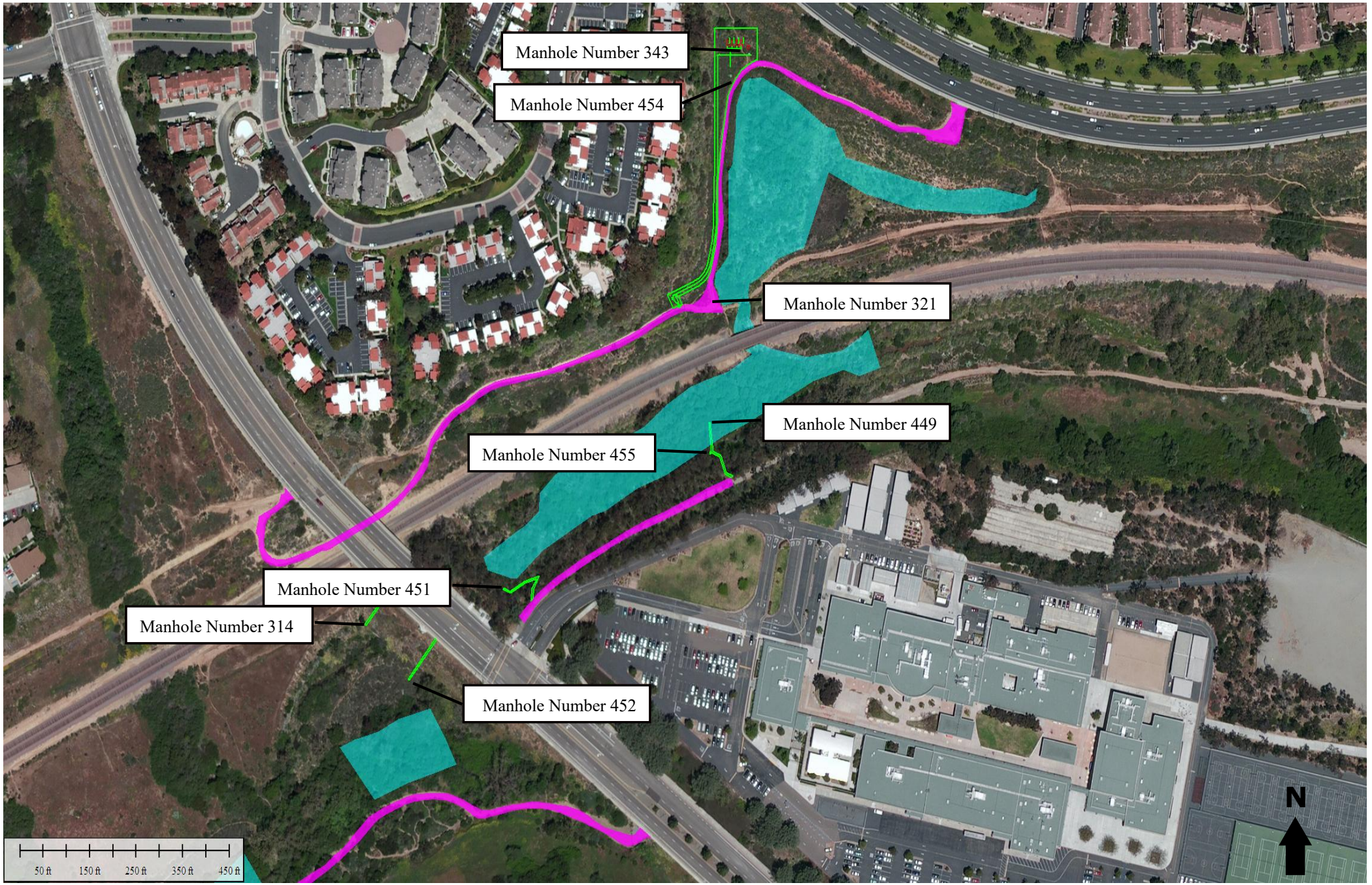
Legend

Mixed Willow Riparian/Wetland

Project Impact Area

Figure 4I
State Jurisdiction Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

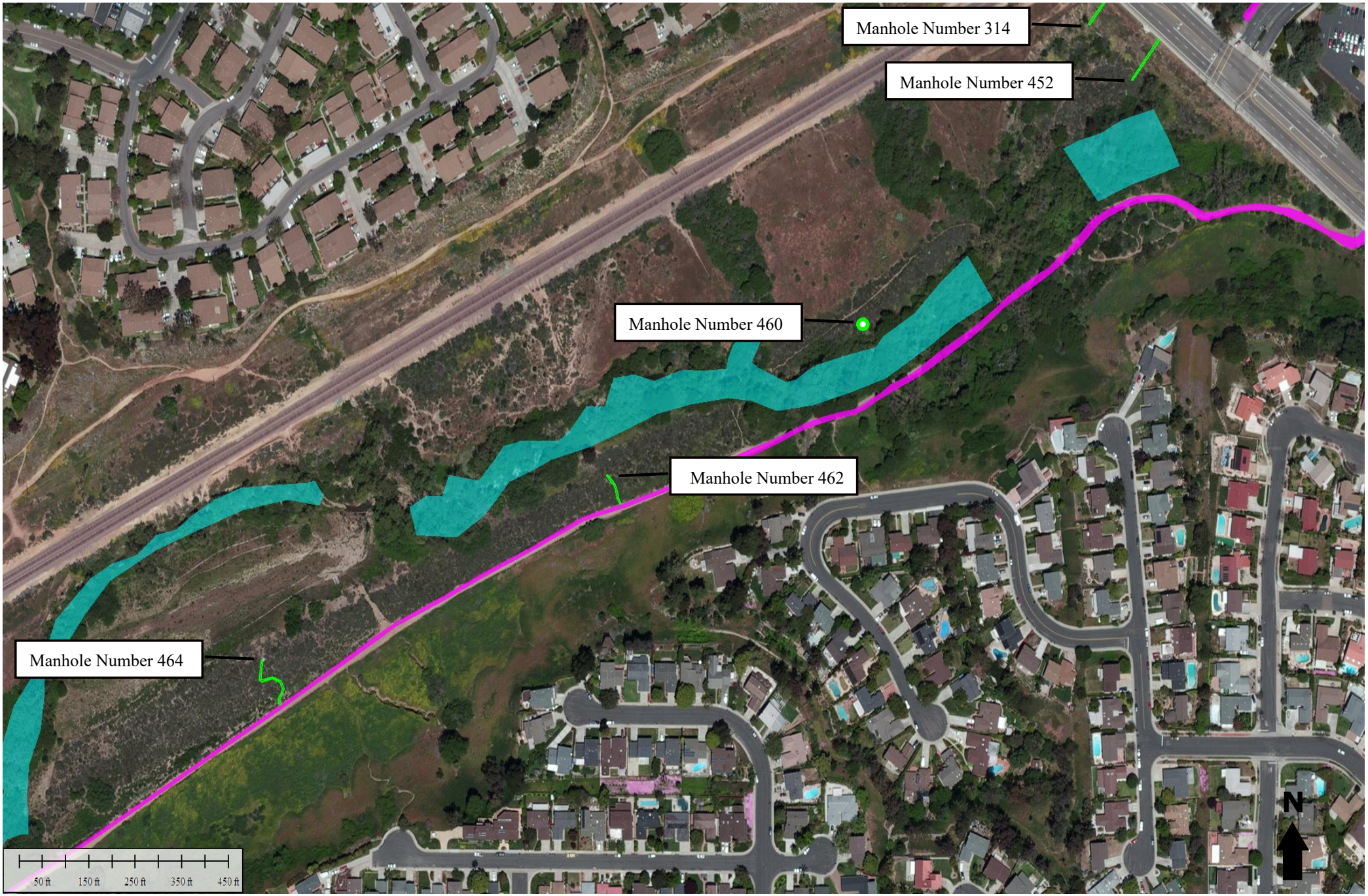
Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5A
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

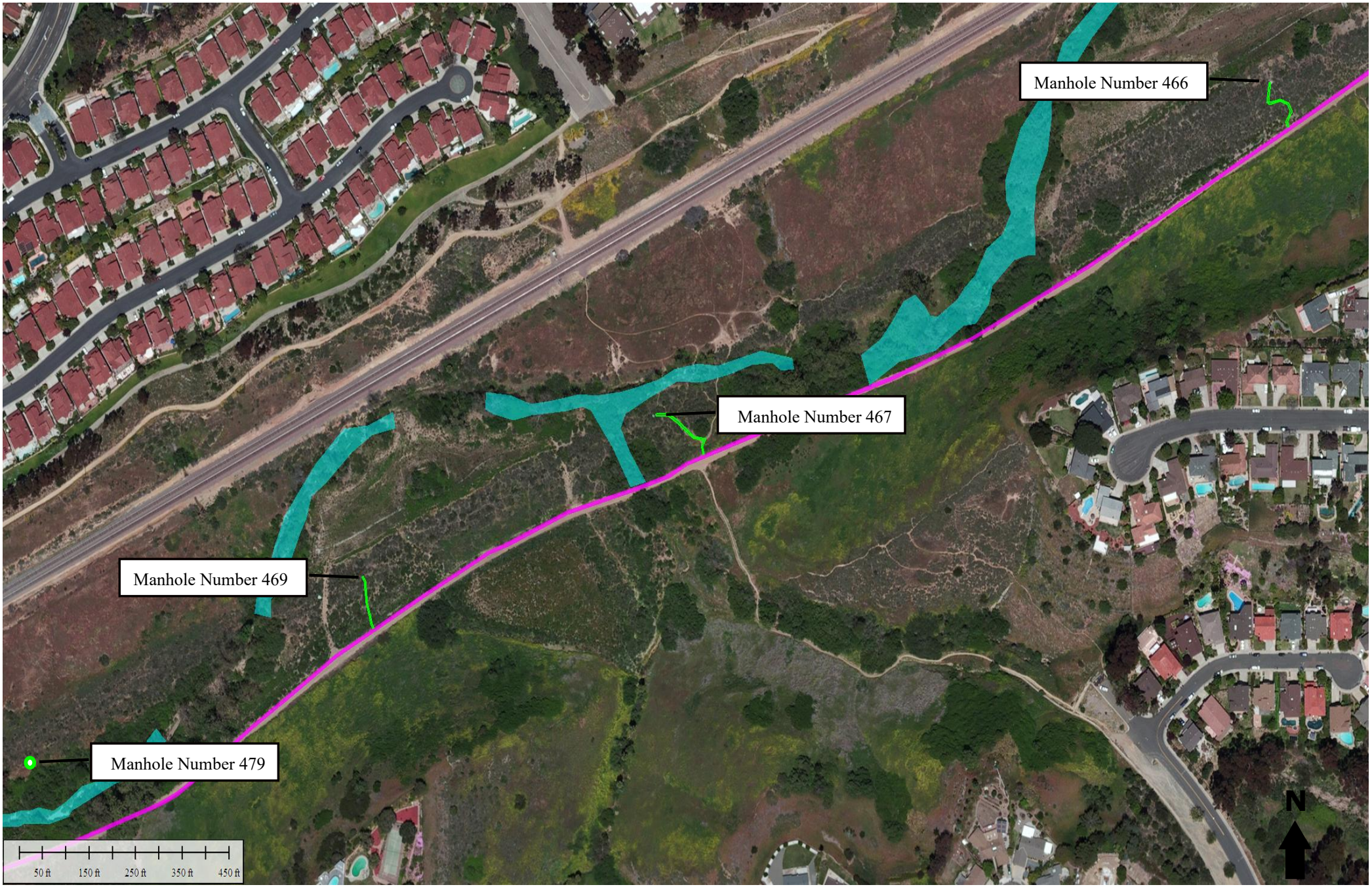
Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5B
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5C
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5D
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

Legend

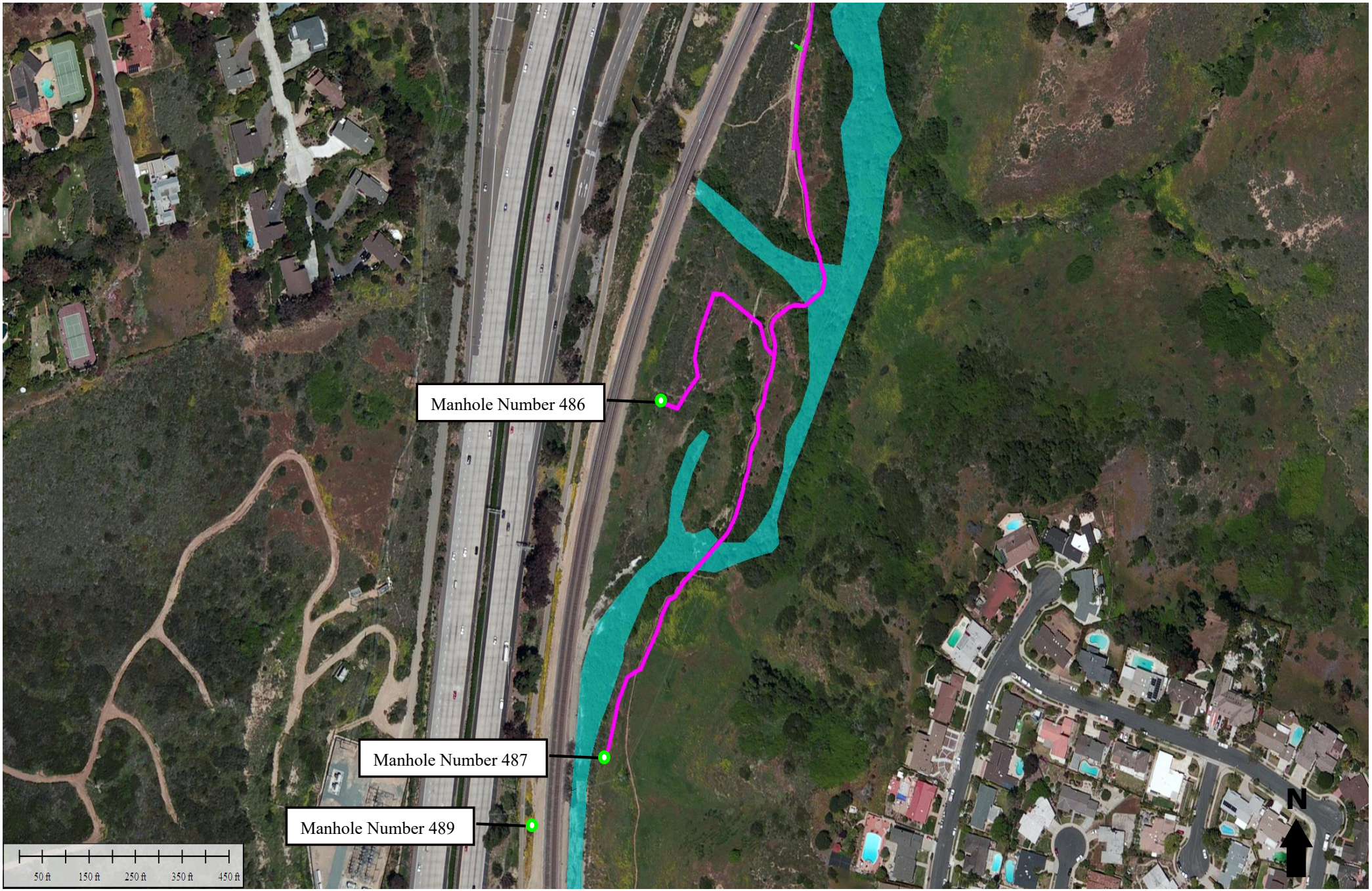
Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5E
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



Legend

Waters of the United States

Project Impact Area

Disturbed Non-vegetated

Figure 5F
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

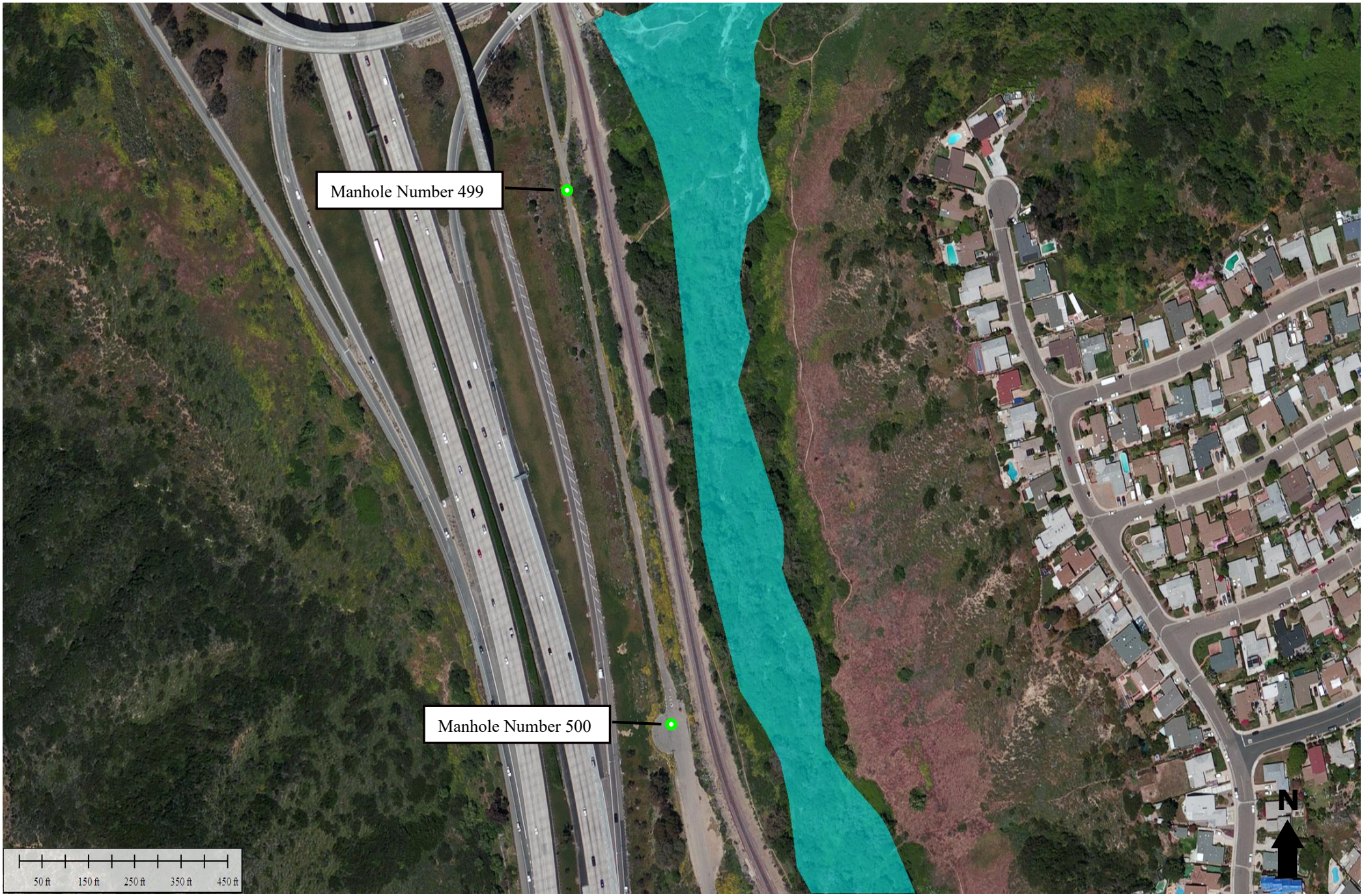
Legend

Waters of the United States

Project Impact Area

Figure 5G
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



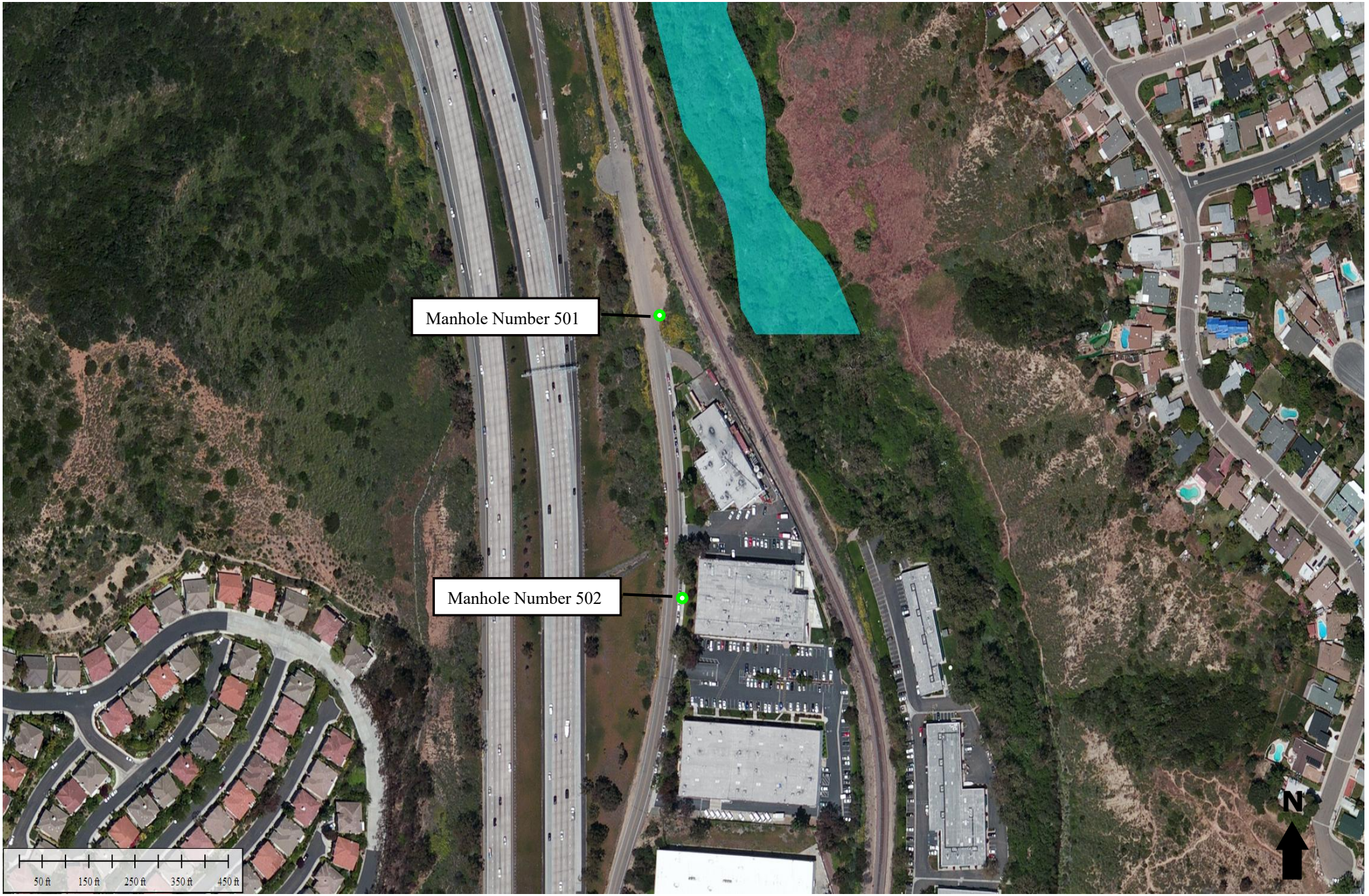
Legend

Waters of the United States

Project Impact Area

Figure 5H
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



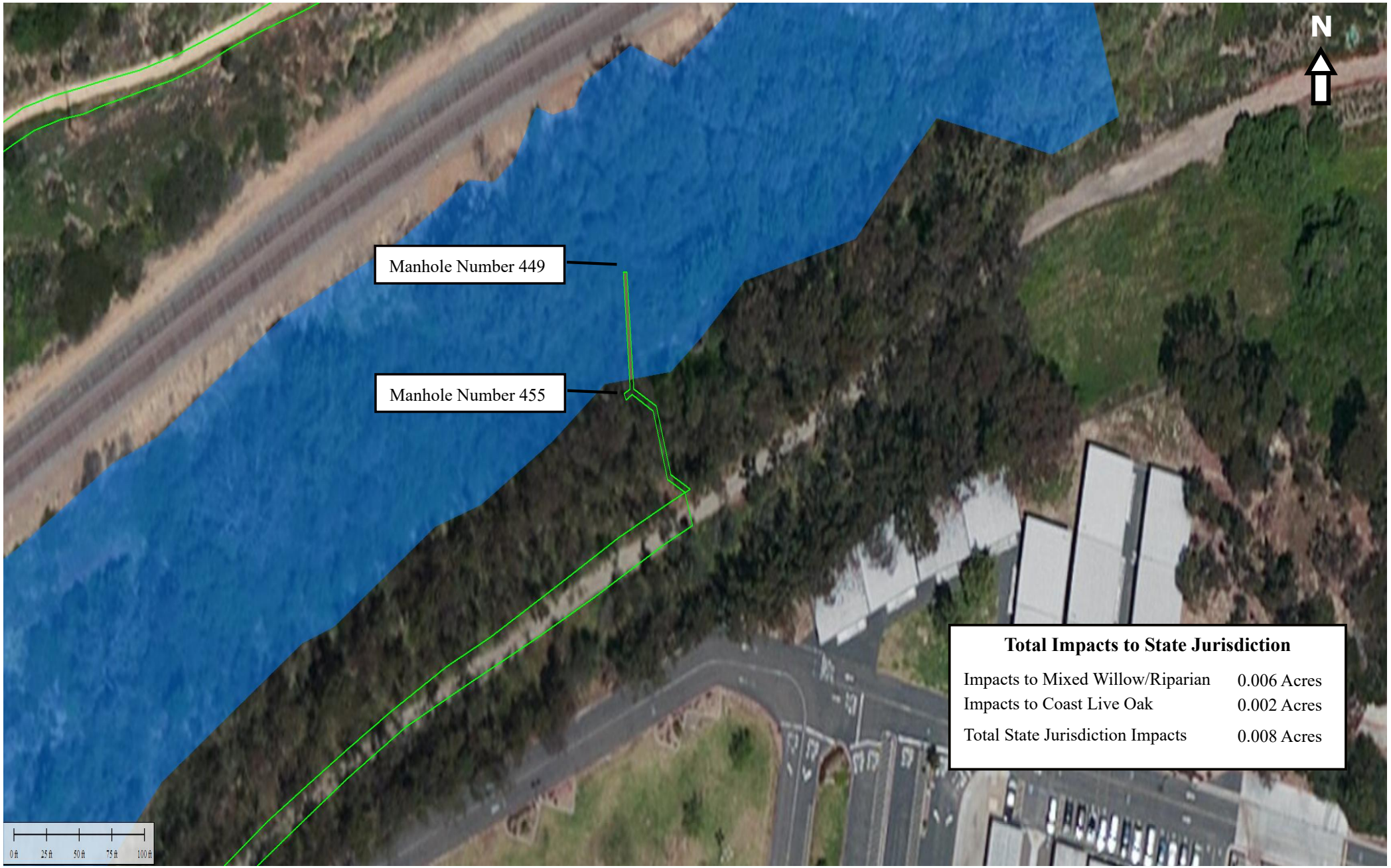
Legend

Waters of the United States

Project Impact Area

Figure 5I
Waters of the United States Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



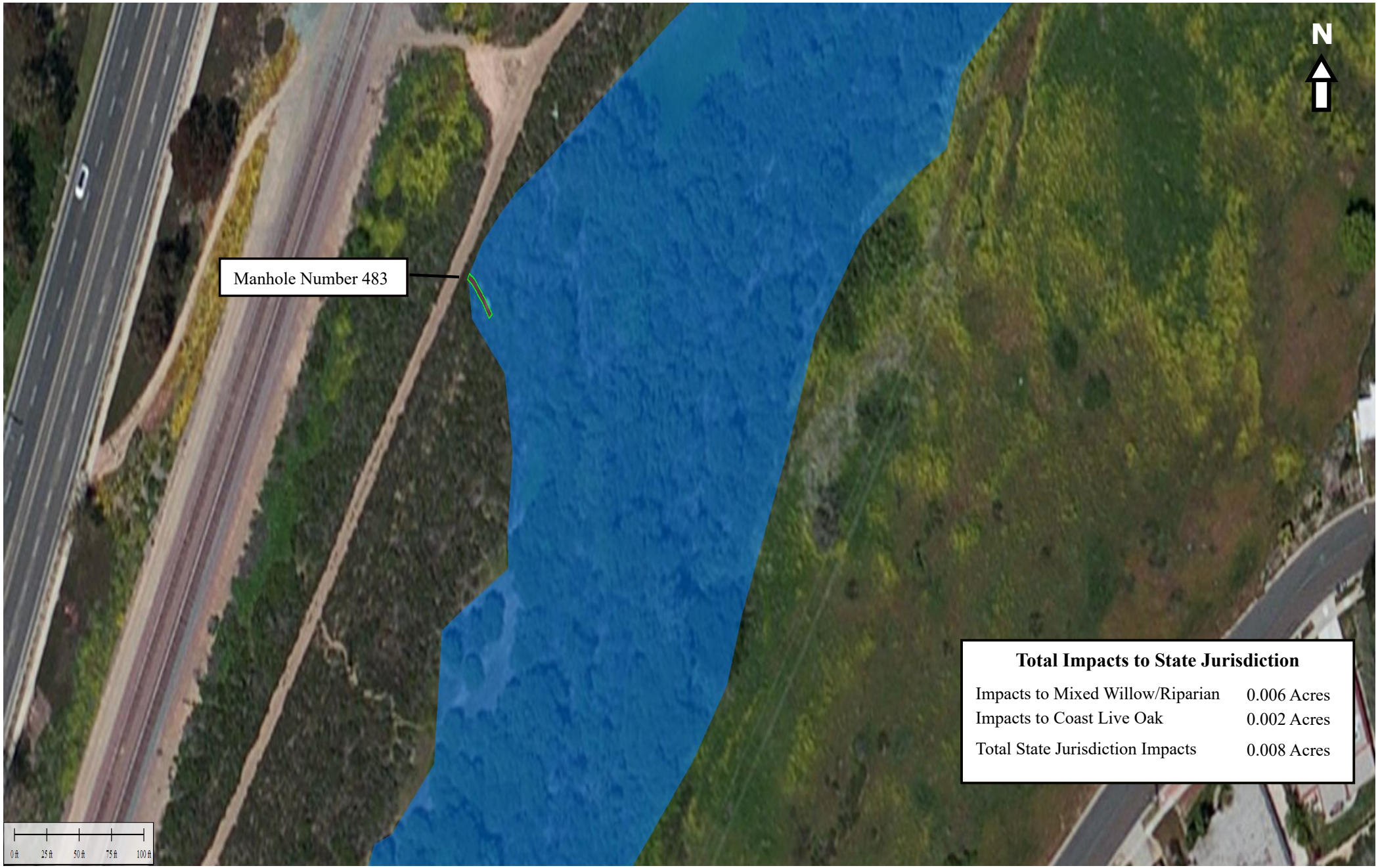
Legend

0.006 Acres of Impacts to Mixed Willow Riparian/Wetland

Project Impact Area

Figure 6A
State Jurisdiction Impact Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services



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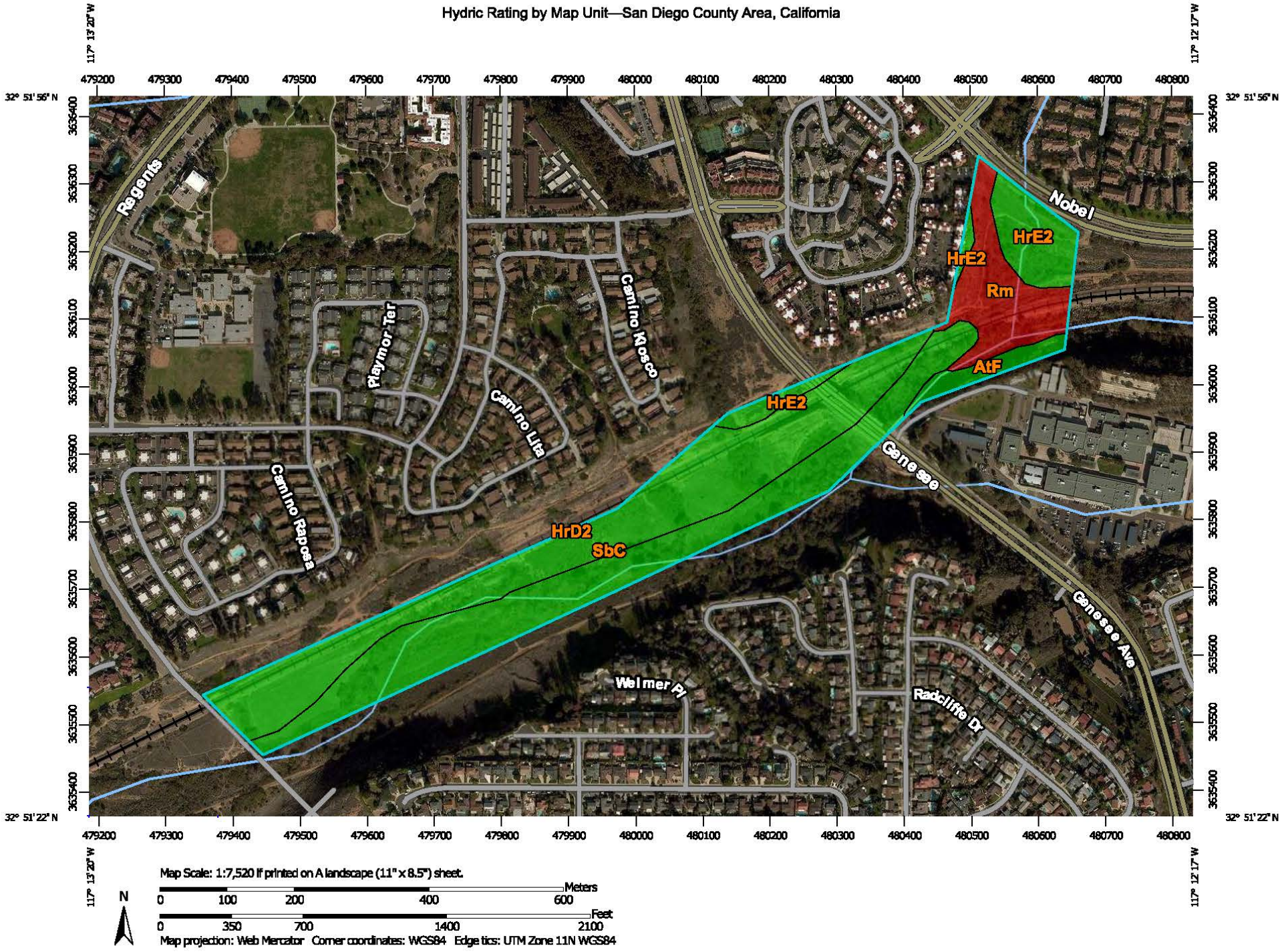
0.002 Acres of Impacts to Coast Live Oak

Project Impact Area

Figure 6B
State Jurisdiction Impact Map
Jurisdictional Delineation
Rose Canyon Trunk Sewer Joint Repair Project
City of San Diego, San Diego County, CA

Hernandez Environmental Services

APPENDIX A


Hydric Rating by Map Unit—San Diego County Area, California
117° 13' 20" W
117° 12' 17" W
32° 51' 56" N
32° 51' 22" N
479200
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479400
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479600
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Playmor Ter
Camino Kiosco
Camino Lita
Camino Reposa
Welmer Pl
Nobel
Genesee
Genesee Ave
Radcliffe Dr
HrE2
HrE2
Rm
AtF
HrE2
HrD2
SbC
Map Scale: 1:7,520 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
350
700
1400
2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 8, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 3, 2010—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AtF	Altamont clay, 30 to 50 percent slopes	0	1.6	3.3%
HrD2	Huerhuero loam, 9 to 15 percent slopes, eroded	0	19.5	40.7%
HrE2	Huerhuero loam, 15 to 30 percent slopes, eroded	0	4.8	10.0%
Rm	Riverwash	100	5.9	12.2%
SbC	Salinas clay loam, 2 to 9 percent slopes	0	16.2	33.8%
Totals for Area of Interest			**47.9**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

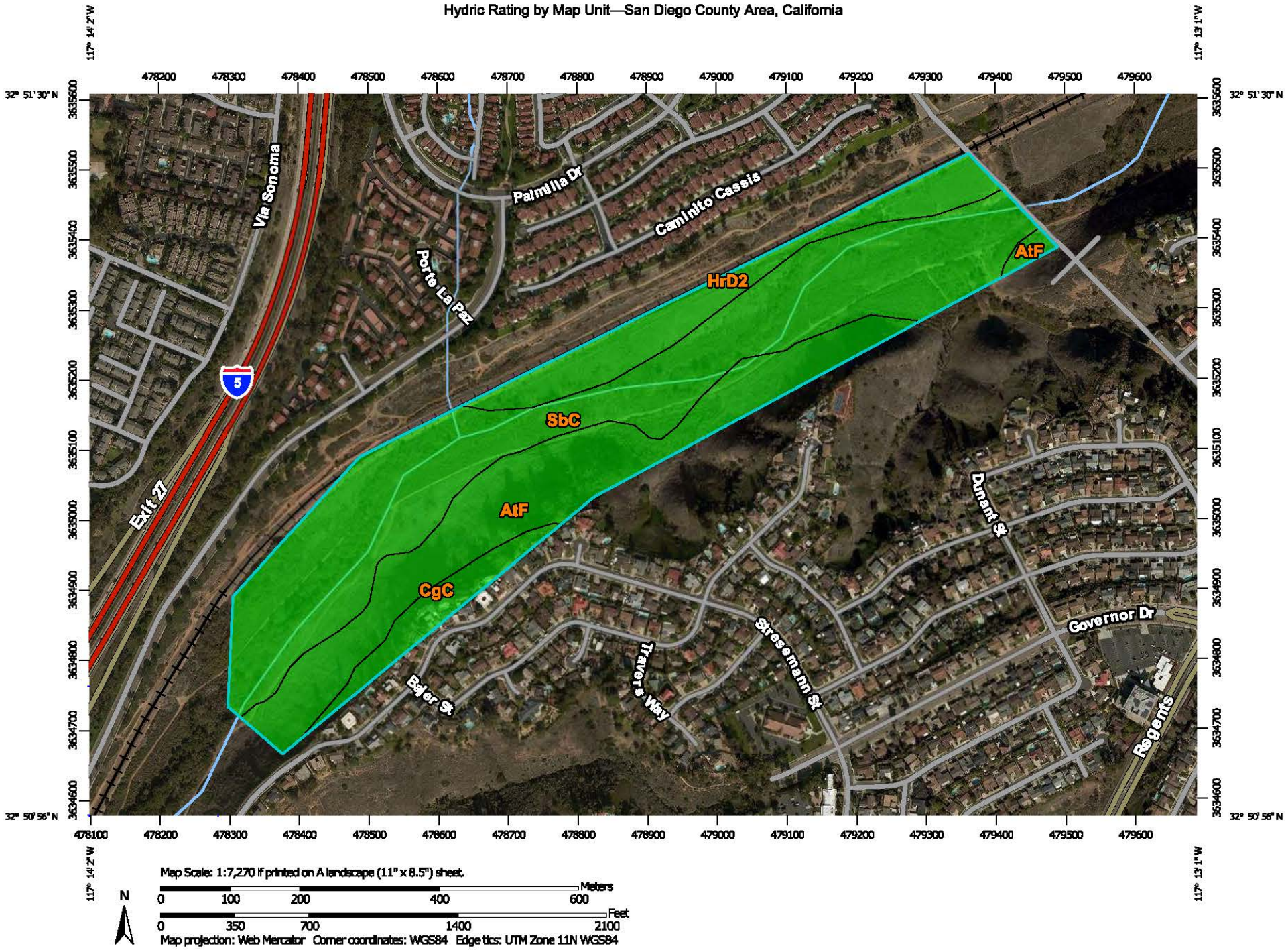
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower


Hydric Rating by Map Unit—San Diego County Area, California
117° 14' 2" W
117° 13' 1" W
32° 51' 30" N
32° 50' 56" N
478100
478200
478300
478400
478500
478600
478700
478800
478900
479000
479100
479200
479300
479400
479500
479600
3635600
3635500
3635400
3635300
3635200
3635100
3635000
3634900
3634800
3634700
3634600
Via Sonoma
Palmilla Dr
Caminito Cassis
Porto La Paz
Exit 27
5
HrD2
AtF
SbC
AtF
CgC
Dunant St
Governor Dr
Stresemann St
Traver's Way
Baker St
Regents
Map Scale: 1:7,270 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
350
700
1400
2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 8, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 7, 2014—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AtF	Altamont clay, 30 to 50 percent slopes	0	19.6	28.8%
CgC	Chesterton-Urban land complex, 2 to 9 percent slopes	0	3.5	5.2%
HrD2	Huerhuero loam, 9 to 15 percent slopes, eroded	0	8.7	12.8%
SbC	Salinas clay loam, 2 to 9 percent slopes	0	36.1	53.1%
Totals for Area of Interest			**68.0**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

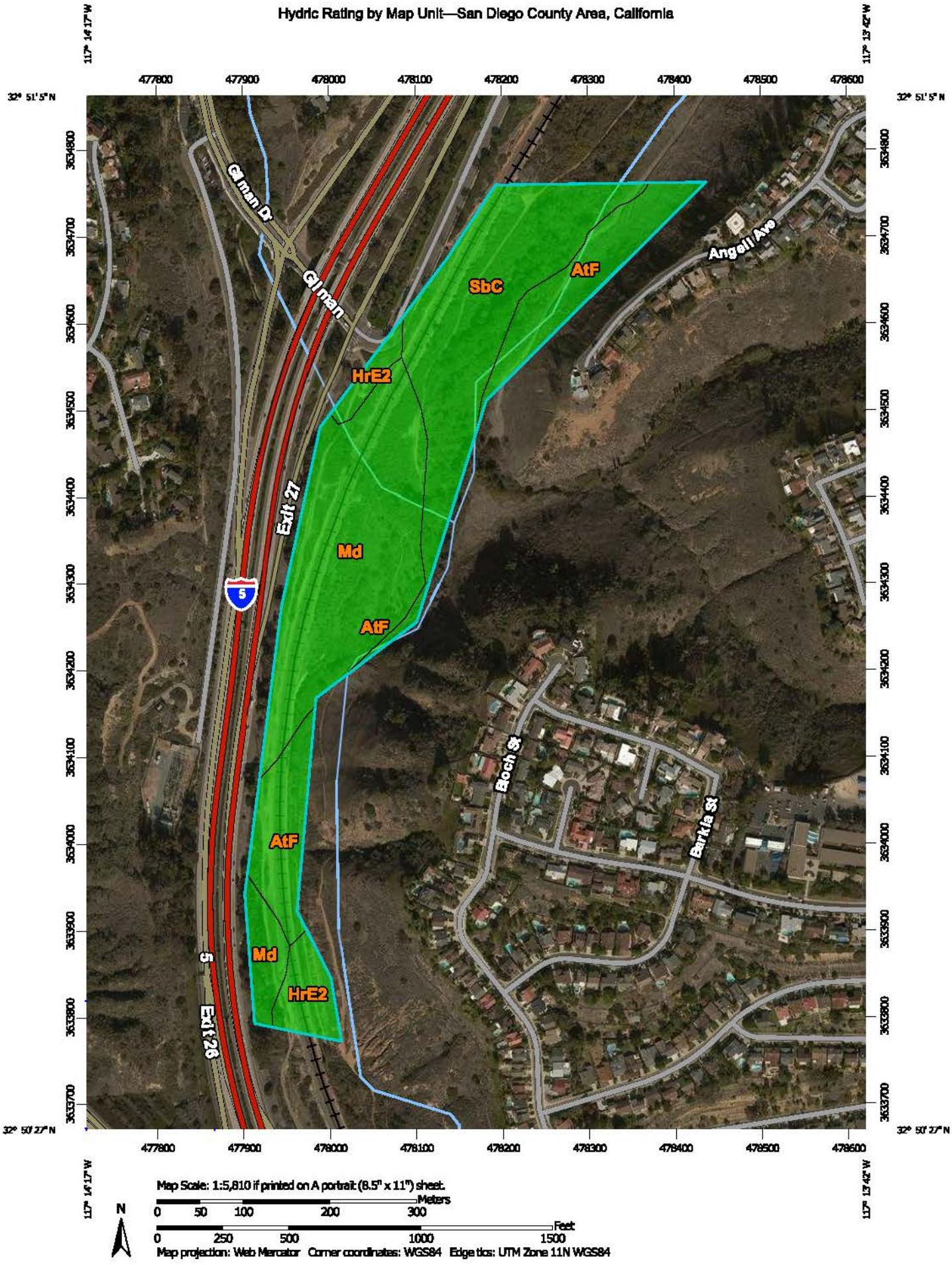
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower


Hydric Rating by Map Unit—San Diego County Area, California
117° 14' 17" W
117° 13' 42" W
32° 51' 5" N
32° 50' 27" N
477800
477900
478000
478100
478200
478300
478400
478500
478600
3634800
3634700
3634600
3634500
3634400
3634300
3634200
3634100
3634000
3633900
3633800
3633700
Gilman Dr
Gilman
Exit 27
Exit 26
5
Angell Ave
Bloch St
Barlia St
SbC
AtF
HrE2
Md
AtF
AtF
Md
HrE2
Map Scale: 1:5,810 if printed on A portrait (8.5" x 11") sheet.
Meters
0 50 100 200 300
N
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 8, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 7, 2014—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AtF	Altamont clay, 30 to 50 percent slopes	0	6.8	21.0%
HrE2	Huerhuero loam, 15 to 30 percent slopes, eroded	0	2.3	7.0%
Md	Made land	0	13.2	40.9%
SbC	Salinas clay loam, 2 to 9 percent slopes	0	10.0	31.1%
Totals for Area of Interest			**32.3**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

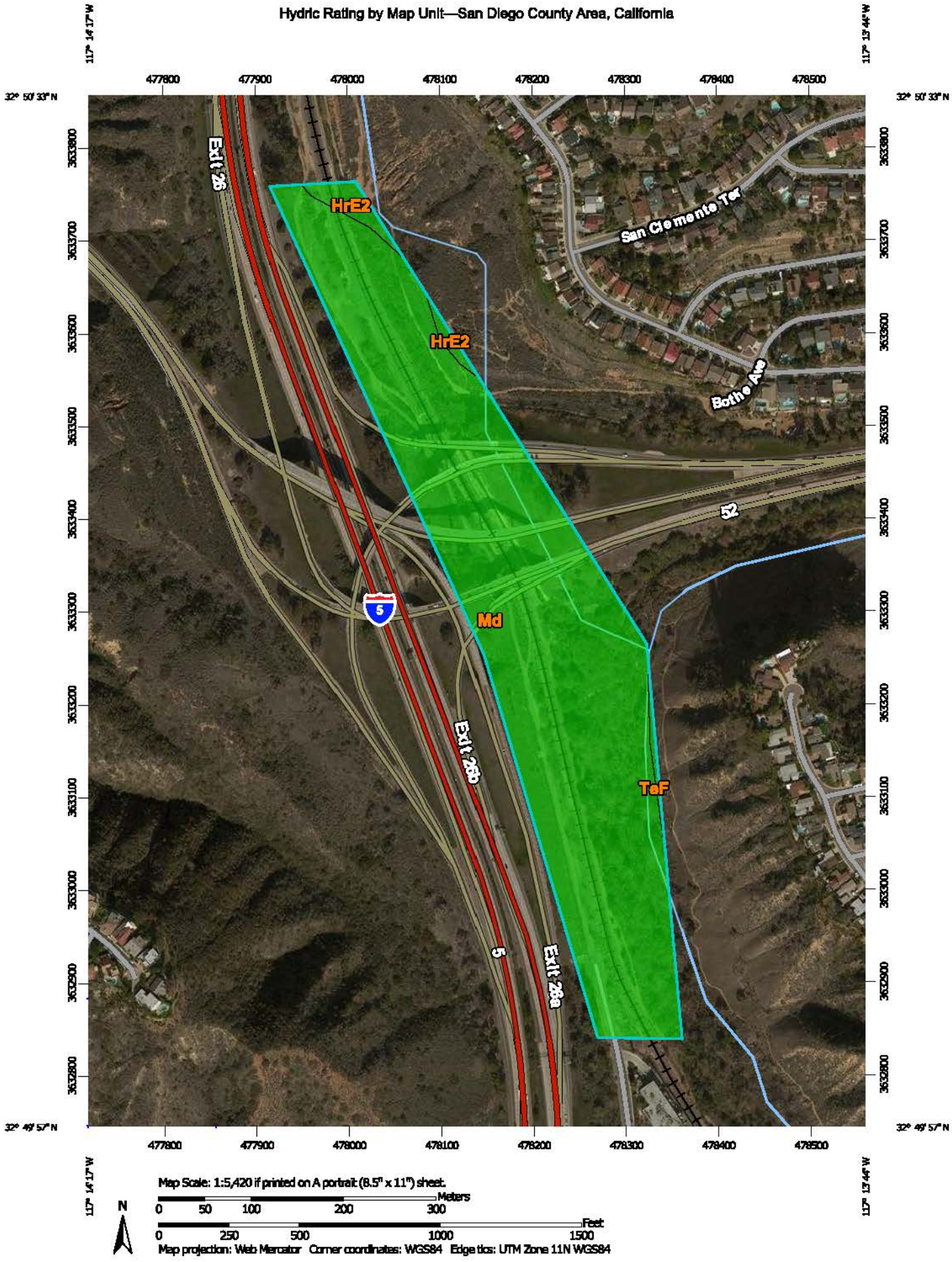
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower


Hydric Rating by Map Unit—San Diego County Area, California
117° 14' 17" W
117° 13' 44" W
32° 50' 33" N
32° 49' 57" N
477800
477900
478000
478100
478200
478300
478400
478500
3633800
3633700
3633600
3633500
3633400
3633300
3633200
3633100
3633000
3632900
3632800
Exit 26
HrE2
HrE2
San Clemente Ter
Bothe Ave
52
5
Md
Exit 26b
TeF
5
Exit 26a
Map Scale: 1:5,420 if printed on A portrait (8.5" x 11") sheet.
Meters
0 50 100 200 300
N
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 8, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 7, 2014—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
HrE2	Huerhuero loam, 15 to 30 percent slopes, eroded	0	0.8	2.5%
Md	Made land	0	30.4	96.9%
TeF	Terrace escarpments	0	0.2	0.5%
Totals for Area of Interest			**31.4**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

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Federal Register. September 18, 2002. Hydric soils of the United States.

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Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

APPENDIX B

Rose Canyon Trunk Sewer Joint Repair Jurisdictional Delineation

Hernandez Environmental Services

Manhole number 454 situataed in coastal sage brush characterized by California sagebrush series vegetation.

Manhole number 455 adjacent to mixed willow series riparian/wetland habitat.

Rose Canyon Trunk Sewer Joint Repair Jurisdictional Delineation

Hernandez Environmental Services

Manhole number 460 will impact vegetation associated with coastal live oak riparian habitat.

Manhole number 464 in coastal sage scrub dominated by broom baccharis.

Rose Canyon Trunk Sewer Joint Repair Jurisdictional Delineation

Hernandez Environmental Services

Manhole number 489 in disturbed habitat adjacent to trail and outside of state and federal jurisdictional waters.

Photo of trail that will be used for the temporary by-pass line. The line will be placed above ground on the already disturbed trail. The by-pass line will not impact state and federal jurisdictional waters.

Rose Canyon Trunk Sewer Joint Repair Jurisdictional Delineation

Manhole number 377 is in a developed road with no state or federal jurisdictional waters.

Manhole number 374 is in a developed area with no state or federal jurisdictional waters.

ATTACHMENT 1

EDUCATION

- B.A., Biology, California State University, Humboldt, 1991

EXPERIENCE SUMMARY

- Mr. Hernandez has over twenty-six years of experience in biology, regulatory permitting, environmental review, project management, and five years in business administration. Mr. Hernandez has managed projects and has helped clients obtain necessary approvals from city, county, state, and federal agencies.

- As an employee for Chambers Group Inc. Mr. Hernandez managed projects through the planning and regulatory permitting process. Mr. Hernandez performed biological assessments, jurisdictional delineations, compliance with the Western Riverside County Multiple Species Habitat Conservation Plan, managed sub consultants in air quality, traffic, noise, geotechnical, and cultural studies, and secured new contracts. Mr. Hernandez focused on solving client needs and making projects come in on time and within budget.

- As an Employee for Lilburn Corporation Mr. Hernandez led the biology department and conducted all biological studies and assessments. Mr. Hernandez also conducted desert tortoise presence/absence surveys, jurisdictional delineations and regulatory permitting. Mr. Hernandez worked closely with the southern California mining industry and is well versed in their environmental issues and solutions.

- As an employee with the California Department of Fish and Game, Mr. Hernandez was responsible for administering and implementing the Streambed Alteration Agreement Program for western San Bernardino and Riverside counties. He was in charge of issuing 1602 permits for projects that would have substantial impacts on State riparian resources. Mr. Hernandez also conducted numerous biological studies including presence/absence surveys for Santa Ana sucker (*Catostomus santaanae)* and for the desert tortoise (*Gopherus agassizii*), artificial reef studies in southern California, commercial and sport fishing studies, and wild trout presence/absence studies in southern California streams. Mr. Hernandez is also an experienced wetland delineator, and has a unique understanding of the regulatory permitting process.

- As an employee of LSA Associates, Inc., Mr. Hernandez gained insight into the business aspect of environmental impact studies and regulatory permitting. Having obtained numerous Streambed Alteration Agreements, Clean Water Act Section 401 and 404 permits, he is skilled at understanding environmental issues and finding efficient solutions to regulatory compliance. His relationships with regulatory personnel have allowed him to understand the methodology used by many regulatory agencies in mitigating or avoiding impacts.

SPECIALIZED TRAINING

Wetland Delineation Training, Wetland Training Institute. April, 2003.

Desert Tortoise Training, Desert Tortoise Council, November 2008

Trained in Global Mapper GIS 2007

Project Management training 2013

1600 Permitting as it relates to CEQA, California Department of Fish and Game, June 2001.

California Department of Fish and Game Programs (CESA/1600), Jones and Stokes, December, 2001.

California Salmonid Stream Habitat Restoration Training, June 2000.

Habitat Conservation Planning and Natural Community Conservation Planning. Visalia, CA. December 7-8, 2000.

Clean Water Act Section 404 Training Course, San Francisco, CA. December 15-16, 1999.

Department of Fish and Game SCUBA Diving Program, June 1997.

EDUCATION

- B.A., English, University of California, Riverside, 2002

PROFESSIONAL EXPERIENCE

- Shawn Gatchel-Hernandez has over fifteen years of experience in regulatory compliance and environmental research and analysis. Ms. Gatchel-Hernandez has conducted CRAM analyses, jurisdictional delineations, obtained regulatory permits, and coordinated with regulatory agencies throughout the permitting process. In addition, Ms. Gatchel-Hernandez specializes in conducting research and preparing subsequent analyses and findings. She has prepared CEQA and NEPA compliance documents for a wide variety of projects throughout California. She has also compiled an assortment of biological reports, habitat assessments, species survey accounts, mitigation and monitoring plans and reports, and worker education programs for infrastructure and urban development projects.

- As a Senior Environmental Manager with VCS Environmental, Ms. Gatchel-Hernandez managed numerous projects requiring environmental compliance and regulatory permitting, consulted with clients and coordinated with local, state, and federal agencies. Ms. Gatchel-Hernandez prepared biological technical reports, habitat assessments, and mitigation and monitoring plans for projects throughout Southern California, and specialized in coordination efforts with local and regional regulatory agencies. Ms. Gatchel-Hernandez focused on advising clients on streamlining the permitting process, with an emphasis on minimizing and avoiding impacts to help reduce mitigation requirements and permit condition obligations.

- As an Environmental Specialist with Tom Dodson and Associates (TDA) and Albert A. Webb Associates, Ms. Gatchel-Hernandez managed numerous projects requiring environmental compliance and regulatory permitting, consulted with clients and coordinated with local, state, and federal agencies. She also prepared initial studies and environmental assessments, obtained regulatory permits, and conducted jurisdictional delineations.

- As a Scientific Aide with the California Department of Fish and Game (CDFG), Ms. Gatchel-Hernandez assisted in the administration and implementation of the Streambed Alteration Agreement Program for San Bernardino and Riverside counties. She was in charge of generating reports and maintaining the tracking database for SAAs, ensuring CEQA compliance, facilitating communications between DFG and applicants, and assisting the biologist in field studies and data collection.

SPECIALIZED TRAINING

- California Rapid Assessment Method (CRAM) Trained Practitioner, Riverine Wetland-Class Module, 2014
- Land Use and Environmental Planning: CEQA, the Subdivision Map Act, and Local Zoning Laws, U.C. Riverside Extension, 2003.
- CEQA Workshop, Association of Environmental Planners, 2003.
- Wetland Delineation Training, Wetland Training Institute, 2003.
- 1600 Permitting as it relates to CEQA, California Department of Fish and Game, 2002.

APPENDIX E

Northern portion of the project alignment.

Manhole within uplands.

Manhole within drainage area.

Manhole adjacent to Genessee Avenue.

View of Manhole within riparian/wetland habitat.

Manhole within coastal sage scrub/chaparral.

Trail for the bypass pipeline alignment.

Manhole within concrete lined channel.

Manhole and trail adjacent to the railroad.

View of Santa Fe Street facing north.

View of Santa Fe Street facing south.

View of trail for bypass pipeline alignment.

ATTACHMENT A

EDUCATION

- B.A., Biology, California State University, Humboldt, 1991

EXPERIENCE SUMMARY

- Mr. Hernandez has over twenty-six years of experience in biology, regulatory permitting, environmental review, project management, and five years in business administration. Mr. Hernandez has managed projects and has helped clients obtain necessary approvals from city, county, state, and federal agencies.

- As an employee for Chambers Group Inc. Mr. Hernandez managed projects through the planning and regulatory permitting process. Mr. Hernandez performed biological assessments, jurisdictional delineations, compliance with the Western Riverside County Multiple Species Habitat Conservation Plan, managed sub consultants in air quality, traffic, noise, geotechnical, and cultural studies, and secured new contracts. Mr. Hernandez focused on solving client needs and making projects come in on time and within budget.

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Habitat Conservation Planning and Natural Community Conservation Planning. Visalia, CA. December 7-8, 2000.

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EDUCATION

- B.A., English, University of California, Riverside, 2002

PROFESSIONAL EXPERIENCE

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- As a Senior Environmental Manager with VCS Environmental, Ms. Gatchel-Hernandez managed numerous projects requiring environmental compliance and regulatory permitting, consulted with clients and coordinated with local, state, and federal agencies. Ms. Gatchel-Hernandez prepared biological technical reports, habitat assessments, and mitigation and monitoring plans for projects throughout Southern California, and specialized in coordination efforts with local and regional regulatory agencies. Ms. Gatchel-Hernandez focused on advising clients on streamlining the permitting process, with an emphasis on minimizing and avoiding impacts to help reduce mitigation requirements and permit condition obligations.

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- CEQA Workshop, Association of Environmental Planners, 2003.
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APPENDIX B

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 C

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 D

SAMPLE CITY INVOICE

City of San Diego, Field Engineering Div., 9485 Aero Drive, SD CA 92123		**Contractor's Name:**	
Project Name:		Contractor's Address:	
Work Order No or Job Order No.			
City Purchase Order No.		Contractor's Phone #:	**Invoice No.**
Resident Engineer (RE):		Contractor's fax #:	**Invoice Date:**
RE Phone#:	Fax#:	Contact Name:	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%	$ -
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%	$ -
18					$ -		$ -		$ -	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: _____

APPENDIX E

LOCATION MAP

LOCATION MAP

ROSE CANYON TRUNK SEWER JOINT REPAIR PROJECT

PROJECT ENGINEER
BOBAK MADGEDI

PRINCIPAL ENGINEER
MIKE NINH

PROJECT MANAGER
MARYAM LIAGHAT

CONSTRUCTION PROJECT INFORMATION
(619) 533-4207

LEGEND

ROSE CANYON TRUNK SEWER REHAB

EXISTING CITY SEWER PIPELINES

NOT TO SCALE

\\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\GIS\Maps\MXD_Deliverables\Public-Outreach-Map.mxd

APPENDIX F

ADJACENT PROJECTS

Other adjacent projects by Separate Contractors are scheduled for construction for the same time period in the vicinity of the Rose Canyon Trunk Sewer Joint Repair Project. Coordinate the Work with the adjacent projects as listed below:

a) SANDAG Coastal Rail Trail Rose Creek Bikeway Santa Fe Street

The Rose Creek segment of the Coastal Rail Trail will be built as a combination of a Class I bike path (completely separate from vehicle traffic) and as a protected bikeway (on the street and separated from vehicle traffic with a barrier, such as a raised curb). This new segment will connect with existing segments of the Rose Creek and Rose Canyon bike paths in the City of San Diego.

The Rose Creek Bikeway is part of the regional Coastal Rail Trail, a 44-mile trail extending between the City of Oceanside and Santa Fe Depot in Downtown San Diego. The project will improve an important connection between points to the north, such as Sorrento Valley, University City, and UC San Diego, and points to the south, such as Mission Bay, Pacific Beach, Mission Valley, and Downtown San Diego. The Rose Creek Bikeway will begin at the north end of Santa Fe Street and connect to the existing bike path at Damon Street and Mission Bay Drive, near the Mike Gotch Memorial Bridge over Rose Inlet. Construction may begin as early as August 2016.

Chris Carterette, AICP, Active Transportation Planner
Phone: (619) 699-7319, Email: chris.carterette@sandag.org

b) SANDAG Mid-Coast Corridor Transit Project

The Mid-Coast Trolley will extend service from Old Town Transit Center to the University City community, serving major activity centers such as the Mission Bay area, the VA Medical Center, the University of California, San Diego (UCSD), and Westfield UTC. Primary construction of the project is expected to begin in late of 2016, with service anticipated to begin in 2021.

Project Team
Phone: (877) 379-0110, Email: midcoast@sandag.org

David Hicks, Communications Manager
Phone: (619) 699-6939, Email: david.hicks@sandag.org

Greg Gastelum, Project Development Program Manager
Phone: (619) 699-7378, Email: greg.gastelum@sandag.org

Leslie Blanda, Project Development Program Manager
Phone: (619) 699-6907, Email: leslie.blanda@sandag.org

c) SANDAG Elvira to Morena Double Track

The Elvira to Morena Double Track project will add a 2.6-mile second main track from State Route 52 to just south of Balboa Avenue. When linked to double-tracked segments on either end of the project, the result will be a continuous 10.3-mile stretch of double track to improve passenger and freight operations in the LOSSAN coastal rail corridor. The existing railroad track will also be realigned to straighten several curves in the north end of the project. Work will commence in Fall 2016 and is anticipated to conclude in 2019.

Sharon Humphreys, Senior Engineer
Phone: (619) 595-5305, Email: sharon.humphreys@sandag.org

d) SDG&E Dry Utility Undergrounding Santa Fe Street

To enhance the aesthetics and electric reliability in local neighborhoods, San Diego Gas & Electric (SDG&E) and the City of San Diego are partners in undergrounding power lines. The dry utilities owned by SDG&E will be undergrounded in Santa Fe Street in preparation for the SANDAG projects described above.

Phone: (619) 533-3841, Email: undergrounding@sandiego.gov

David J. Emerson
Phone: (858) 654-1136, Email: demerson@semprautilities.com

APPENDIX G

CALTRANS PERMIT

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120 (REV. 6/2012)

Permit No.	
11-16-NUE-0199	
Dist/Co/Rte/PM	
11-SD-5/R25.95	
Date	
MAY 31, 2016	
Fee Paid	Deposit
$ EXEMPT	$ EXEMPT
Performance Bond Amount (1)	Payment Bond Amount (2)
$ 0.00	$ 0.00
Bond Company	
N/A	
Bond Number (1)	Bond Number (2)
N/A	N/A

In compliance with (Check one):

- ☒ Your application of MARCH 21, 2016
- ☐ Utility Notice No. _____ of _____
- ☐ Agreement No. _____ of _____
- ☐ R/W Contract No. _____ of _____

CITY OF SAN DIEGO
525 B STREET, SUITE 750 MS 908A
TO: SAN DIEGO, CA 92101

ATTN: MARYAM LIAGHAT
PHONE: (619) 533-5192 , PERMITTEE

And subject to the following, PERMISSION IS HEREBY GRANTED to:

enter upon State Highway right of way in San Diego County, City of San Diego, on Route 5, post mile R25.95 to access existing manholes to perform rehabilation for the existing underground trunk sewer main, as shown on the attached plans and in accordance with the requirements and conditions contained herein and as further directed or approved by the State's Inspector, Ralph Yanzon, cell (858) 688-1458 or by e-mail at ralph.yanzon@dot.ca.gov.

The State's Inspector shall be notified seven working days prior to starting work.

Working hours shall be as directed or approved by the State's Inspector.

No vehicles or equipment shall be parked within the highway right of way at any time, except for those vehicles or that equipment actually engaged in the work, during the working hours specified herein.

(CONTINUED)

THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY TO A NEW OWNER

The following attachments are also included as part of this permit *(Check applicable)*:

☒ Yes	☐ No	General Provisions
☐ Yes	☒ No	Utility Maintenance Provisions
☒ Yes	☐ No	Special Provisions
☐ Yes	☒ No	A Cal-OSHA permit, if required: Permit No. _____
☐ Yes	☒ No	As-Built Plans Submittal Route Slip for Locally Advertised Projects
☐ Yes	☒ No	Water Pollution Control Plan

In addition to fee, the permittee will be billed actual costs for:

☐ Yes	☒ No	Review
☐ Yes	☒ No	Inspection
☐ Yes		Field Work

(If any Caltrans effort expended)

☒ Yes ☐ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is complete before **MAY 31, 2017.**

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.
No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

SM:sm
cc: Permits
BStinnett, Reg. Mgr.
RYanzon, Inspector
Permittee
Contractor

APPROVED:

Laurie Berman, District Director

for Ann M. Fox, District Permit Engineer

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 to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814

EM91 1436

The following District Standard Special Provisions are generalizations of the Department Standard Specifications and are included only as a Permittee convenience. Permittee's attention is directed to the current Department Standard Specifications for complete, unabridged, specification requirements.

Once begun, that portion of the work within the State Highway right of way shall be prosecuted to completion as rapidly as possible.

All personnel on foot within the State Highway right of way shall wear personal protective equipment, including safety glasses, hard hats and American National Standards Institute (ANSI) compliant Class II vests. In addition, all personnel working at night, on foot within the State Highway right of way shall wear ANSI Class III warning garments.

The Permittee is responsible for locating and protecting all utilities both underground and aerial. Any costs incurred for locating and protecting and/or relocating any utilities shall be borne by the Permittee.

Permittee Permittee's Contractor is responsible for the actual cost of inspection, which may be more or less than the deposit. Permittee Permittee's Contractor will also be responsible for the actual cost of mark-out by Caltrans personnel. A bill or refund shall be sent upon satisfactory completion of the work. Payment of any bill is a condition of the permit.

All work shall be performed in accordance with the current Department of Transportation Standard Specifications and the Department of Transportation Encroachment Permit Annual Utility Provisions dated December, 2006.

The State of California, Department of Transportation, makes no assurance or expressed warranty that the plans are complete or that the planned construction fits field conditions. Should additional work or modifications of the work be required in order to meet established Department Standards or in order to fit field conditions, the work shall be performed by Permittee as directed by the State's Inspector at no cost to the State.

All work shall be coordinated with the State highway contractor's operations and under no circumstances shall the work granted herein interfere. All standards of construction shall be identical to similar work performed under adjacent highway contract.

Notwithstanding General Provision No. 4, your contractor is required to apply for and obtain an encroachment permit prior to starting work. A fee/deposit of $1,804.00 is required at the time of application. Also, your contractor must submit proof that they have obtained executed bonds in accordance with General Provision No. 24.

Traffic control when permitted or required shall be as directed and approved by the State's Inspector.

Notwithstanding General Provision 24, the Permittee's Contractor's bonds shall remain in full force through completion of the work and acceptance by the Department. Upon fulfillment of all obligations under this permit the Department will notify the Permittee when the Permittee's Contractor's bonds may be released.

All work shall be performed in accordance with the current Department of Transportation Standard Specifications and the Department of Transportation Storm Water Special Provisions for Minimal or No Impact dated September, 2012.

The provisions in this section will not relieve the Permittee from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, of the Standard Specifications.

Upon completion of the work, the attached card shall be completed and returned.

STORM WATER SPECIAL PROVISIONS for MINIMAL or NO IMPACT

TR-0400 (Rev 09/2012)

1. GENERAL: The purpose of these Special Provisions is to provide the Permittee with specifications for water pollution control to minimize, prevent, or control the discharge of material into the air, surface waters, groundwater, and storm sewers owned by the State or local agencies. These provisions are not intended to take the place of the Caltrans Water Pollution Control Program (WPCP) for projects where soil disturbance from work activities less than one acre, or work activities of one acre or more subject to the preparation of the Caltrans Storm Water Pollution Prevention Plan (SWPPP) that would require a waste discharge identification number or coverage under the California Construction General Permit *(Order No. 2009-0009-DWQ, NPDES No CAS000002).* The Permittee shall comply with the following Special Provisions and the direction of the State Representative.

2. NPDES REQUIREMENTS: The Permittee shall be responsible for full compliance with the Caltrans Storm Water Program and the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit requirements. It is the Permitte's responsibility to install, inspect, and repair or maintain facilities and devices used for water pollution control practices before performing daily work activities. Installation and maintenance responsibilities on the job site include: 1) soil stabilization materials in work areas that are inactive or prior to storm events, 2) water pollution control devices to control sediment and erosion, 3) implementation of spill and leak prevention procedures for chemical and hazardous substances stored on the job site. 4) material storage, 5) stockpile management, 6) waste management, 7) non-stormwater management, 8) water conservation, and 9) illicit connection, illegal discharge detection and reporting. The Permittee shall report to the state representative when discharges enter into receiving waters, adjacent property, drainage systems or when discharges could be a cause or a threat for water pollution. The Permittee shall also control illicit discharges or illegal dumping prior to start of daily work schedule. Copies of written notices or orders from the Regional Water Quality Control Board or other regulatory agency shall be provided to the State representative within 48 hours of reported activity. For additional information on storm water compliance, visit the State Water Resources Control Boards storm water Website at http://www.waterboards.ca.gov/water_issues/programs/stormwater

3. RESPONSIBILITY FOR DEBRIS REMOVAL: The Permittee shall be responsible for preventing sediment, trash, debris, and other construction waste from entering the street, the storm drains, local creeks, or any other bodies of water.

4. SPOILS AND RESIDUE: The Permittee shall vacuum any saw-cut concrete waste material, debris, residue, etc. No spoils, debris, residue, etc. shall be washed into a drainage system.

5. SWEEPING: Sweep paved roads at construction entrance and exit locations and surrounding paved areas daily within the job site during: 1) clearing and grubbing, 2) earthwork, 3) trenching, 4) soil disturbance, 5) pavement grinding and/or cutting, and 6) after observing tracking of material onto or off the State property. Keep dust to a minimum during sweeping activities. Use vacuum whenever dust generation is excessive or sediment pickup is ineffective. Roadways or work areas shall not be washed down with water. Street sweeping operations must conform to Section 13 Water Pollution Control of the State of California standard specifications for construction (most current version) http://www.dot.ca.gov/hq/esc/oe/specifications/SSPs/2010-SSPs/ .

6. VEHICLES AND EQUIPMENT: Permittee shall prevent all vehicles, equipment, etc. from leakage or mud tracking onto roadways. If leaks cannot be repaired immediately, remove the vehicle or equipment from the job site.

7. MAINTENANCE AND FUELING OF VEHICLES AND EQUIPMENT: Maintenance and fueling of equipment shall not result in any pollution at the job site. The Permittee shall immediately clean up spills/leaks, and properly dispose of contaminated soil and materials.

8. CLEANING VEHICLES AND EQUIPMENT: Limit vehicle and equipment cleaning or washing at the job site except what is necessary to control vehicle tracking or hazardous waste. The Permittee shall clean all equipment within a bermed area or over a drip pan large enough to prevent run-off. No soaps, solvents, degreasers, etc shall be used in State right of way. Any water from this operation shall be collected and disposed of at an appropriate site. Containment berms or dikes shall be used for fueling, washing, maintaining and washing vehicles or equipment in outside areas. Containment must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and storm drain inlets if within a flood plain, otherwise at least 50 feet if outside the floodplain. Keep adequate quantities of absorbent spill-cleanup material and spill kits in the fueling or maintenance area and on fueling trucks.

9. DIESEL FUELS: The use of diesel fuel from petroleum or other fossil fuel as a form-oil or solvent is not allowed.

10. WEATHER CONDITIONS AT WORKSITE: Any activity that would generate fine particles or dust that could be transported off site by stormwater shall be performed during dry weather.

11. HOT MIX ASPHALT: Runoff from washing hot mix asphalt shall not enter into any drainage conveyances.

12. PROTECTION OF DRAINAGE FACILITIES: The Permittee shall protect/cover gutters, ditches, drainage courses, and inlets with gravel bags, fiber rolls, State approved fabric filters, etc., to the satisfaction of the State representative during grading, paving, saw-cutting, etc. and materials must conform to Section 13-6.02 Materials for Water Pollution Control of the State of California standard specifications for construction (most current version). No such protection measures shall cause an obstruction to the traveling public. The Permittee shall implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site in accordance to section 13-4.03B(1-3) Spill Prevention and Control, Water Pollution Control, of the State of California standard specifications for construction (2010 version).

13. PAINT: Rinsing of painting equipment and materials is not permitted in state right-of-way. When thoroughly dry, dispose of the following as solid waste: dry latex paint, paint cans, used brushes, rags, gloves, absorbent materials, and drop cloths. Oil based paint sludge and unusable thinner shall be disposed of at an approved hazardous waste site.

14. CONSTRUCTION MATERIALS: Stockpile of all construction materials, including, but not limited to; pressure treated wood, asphalt concrete, cold mix asphalt concrete, concrete, grout, cement containing premixes, and mortar, shall conform to section 13-4.03C Material Management (Storage & Stockpiles), Water Pollution Control, of the State of California standard specifications for construction (2010 version).

15. CONCRETE EQUIPMENT: Concrete equipment shall be washed in a designated washing area in a way that does not contaminate soil, receiving waters, or storm drain systems.

16. EXISTING VEGETATION: Established existing vegetation is the best form of erosion control. Minimize disturbance to existing vegetation. Damaged or removed vegetation shall be replaced as directed by the State Representative.

17. SOIL DISTURBANCE: Soil disturbing activities shall be avoided during the wet weather season. If construction activities during wet weather are allowed in your permit, all necessary erosion control and soil stabilization measures shall be implemented in advance of soil disturbing activity.

18. SLOPE STABILIZATION AND SEDIMENT CONTROL: Consider a certified expert in Erosion and Sediment control in cases where slopes are disturbed during construction. The Permittee is directed to comply with Section 13.5 Temporary Soil Stabilization and Section 21 Erosion Control of the State of California (2010 version) standard specifications for construction during application of temporary soil stabilization measures to the soil surface. Fiber rolls or silt fences may be required down slope until permanent soil stabilization is established. Remove the accumulated sediment whenever the sediment accumulates to 1/3 of the linear sediment barrier height.

19. STOCKPILES: Stockpiles containing aggregate and/or soil shall be stored at least 100 feet from concentrated flows of storm water, drainage courses, and storm drain inlets if within a flood plain, otherwise at least 50 feet if outside the floodplain, and shall be covered and protected with a temporary perimeter sediment barrier. Cold mix stockpiles shall be stored on an impermeable surface and covered with 9mil plastic to prevent contact with water.

20. DISCOVERY OF CONTAMINATION: The State Representative shall be notified in case any unusual discoloration, odor, or texture of ground water, is found in excavated material or if abandoned, underground tanks, pipes, or buried debris are encountered.

21. SANITARY AND SEPTIC WASTE: Do not bury or discharge wastewater from a sanitary or septic system within the highway. Properly connected sewer facilities are free from leaks. With State Representative approval place portable sanitary facility at least 50 feet away from storm drains, receiving waters, and flow lines. Permittee must comply with local health agency provisions when using an on-site disposal system.

22. LIQUID WASTE: Prevent job site liquid waste from entering storm drain systems and receiving waters. Drilling slurries, grease or oil-free waste water or rinse water, dredging, wash water or rinse water running off a surface or other nonstorm water liquids not covered under separate waste water permits shall be held in structurally sound, leak-proof containers, such as portable bins or portable tanks. Store containers at least 50 feet away from moving vehicles and equipment. Liquid waste may require testing to determine hazardous material content prior to disposal

23. WATER CONTROL AND CONSERVATION: Manage water use in a way that will prevent erosion and the discharge of pollutants into storm drain systems and receiving waters. Direct runoff water, including water from water line repair from the job site to areas where it can infiltrate into the ground. Direct water from off-site sources around the job site or from contact with jobsite water.

24. PILE DRIVING: Keep spill kits and cleanup materials at pile driving locations. Park pile driving equipment over drip pans, absorbent pads, or plastic sheeting with absorbent material, and away from storm water run-on when not in use.

25. DEWATERING: Dewatering consists of discharging accumulated storm water, groundwater, or surface water from excavations or temporary containment facilities. All dewatering operations shall comply with the latest Caltrans guidelines. Contact State representative for approval of dewatering discharge by infiltration or evaporation, otherwise, any effluent discharged into a permitted storm water system requires approval from the Regional Water Quality Control Board. Prior to the start of dewatering, the Permittee shall provide the State Representative with a dewatering and discharge work plan that complies with section 13-4.01B Submittals, Water Pollution Control, of the State of California standard specifications for construction (2010 version). A copy of the Waste Discharge Permit and a copy of a valid WDID number issued by the Regional Board shall be provided to the State representative.

1. AUTHORITY: The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

2. REVOCATION: Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.

3. DENIAL FOR NONPAYMENT OF FEES: Failure to pay permit fees when due can result in rejection of future applications and denial of permits.

4. ASSIGNMENT: No party other than the permittee or permittee's authorized agent is allowed to work under this permit.

5. ACCEPTANCE OF PROVISIONS: Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.

6. BEGINNING OF WORK: When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.

7. STANDARDS OF CONSTRUCTION: All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."

8. PLAN CHANGES: Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.

9. INSPECTION AND APPROVAL: All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.

10. PERMIT AT WORKSITE: Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.

11. CONFLICTING ENCROACHMENTS: Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).

12. PERMITS FROM OTHER AGENCIES: This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.

13. PEDESTRIAN AND BICYCLIST SAFETY: A safe minimum passageway of 4' shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street. Attention is directed to Section 7-1.09 Public Safety of the Department Standard Specifications.

14. PUBLIC TRAFFIC CONTROL: As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. While providing traffic control, the needs and control of all road users [motorists, bicyclists and pedestrians, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA)] shall be an essential part of the work activity.

    Day and night time lane closures shall comply with the California Manual on Uniform Traffic Control Devices (Part 6, Temporary Traffic Control), Standard Plans, and Standard Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.

15. MINIMUM INTERFERENCE WITH TRAFFIC: Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the California Manual on Uniform Traffic Control Devices (Chapter 6E, Flagger Control).

16. STORAGE OF EQUIPMENT AND MATERIALS: The storage of equipment or materials <u>is not</u> allowed within State highway right-of-way, <u>unless specified</u> within the Special Provisions of this specific encroachment permit. If Encroachment Permit Special Provisions allow for the storage of equipment or materials within the State right of way, the equipment and material storage shall comply with Standard Specifications, Standard Plans, Special Provisions, and the Highway Design Manual. The clear recovery zone widths must be followed and are the minimum desirable for the type of facility indicated below: freeways and expressways - 30', conventional highways (no curbs) - 20', conventional highways (with curbs) – 1.5'. If a fixed object cannot be eliminated, moved outside the clear recovery zone, or modified to be made yielding, it should be shielded by a guardrail or a crash cushion.

17. CARE OF DRAINAGE: Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.

18. RESTORATION AND REPAIRS IN RIGHT OF WAY: Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).

19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.

20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.

21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.

22 **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of folded as-built plans within thirty (30) days after completion and approval of work in compliance with requirements listed as follows:

1. Upon completion of the work provided herein, the permittee shall send one vellum or paper set of As-Built plans, to the State representative. Mylar or paper sepia plans are not acceptable.
2. All changes in the work will be shown on the plans, as issued with the permit, including changes approved by Encroachment Permit Rider.
3. The plans are to be stamped or otherwise noted AS-BUILT by the permittee's representative who was responsible for overseeing the work. Any original plan that was approved with a State stamp, or Caltrans representative signature, shall be used for producing the As-Built plans.
4. If As-Built plans include signing or striping, the dates of signing or striping removal, relocation, or installation shall be shown on the plans when required as a condition of the permit. When the construction plans show signing and striping for staged construction on separate sheets, the sheet for each stage shall show the removal, relocation or installation dates of the appropriate staged striping and signing.
5. As-Built plans shall contain the Permit Number, County, Route, and Post Mile on each sheet.
6. Disclaimer statement of any kind that differ from the obligations and protections provided by Sections 6735 through 6735.6 of the California Business and Professions Code, shall not be included on the As-Built plans. Such statements constitute non-compliance with Encroachment Permit requirements, and may result in the Department of Transportation retaining Performance Bonds or deposits until proper plans are submitted. Failure to comply may also result in denial of future permits, or a provision requiring a public agency to supply additional bonding.

23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.

25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to relocate a permitted installation upon notice by the Department. Unless under prior property right or agreement, the permittee shall comply with said notice at his sole expense.

26. **ARCHAEOLOGICAL/HISTORICAL:** If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work, notify the Department's representative, retain a qualified archaeologist who shall evaluate the site, and make recommendations to the Department representative regarding the continuance of work.

27. **PREVAILING WAGES:** Work performed by or under a permit may require permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements are directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102.

28. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute.

The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, "State's contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

29. NO PRECEDENT ESTABLISHED: This permit is issued with the understanding that it does not establish a precedent.

30. FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:
A. The permittee, for himself, his personal representative, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that:
1. No person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. That in connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination shall be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.
3. That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the right of way.
4. That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A. Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.
5. That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the land and the facilities thereon, and hold the same as if said permit had never been made or issued.

31. MAINTENANCE OF HIGHWAYS: The permittee agrees, by acceptance of a permit, to properly maintain any encroachment. This assurance requires the permittee to provide inspection and repair any damage, at permittee's expense, to State facilities resulting from the encroachment.

32. SPECIAL EVENTS: In accordance with subdivision (a) of Streets and Highways Code Section 682.5, the Department of Transportation shall not be responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State and the city or county against any and all claims arising out of any activity for which the permit is issued.

The permittee understands and agrees to comply with the obligations of Titles II and III of the Americans with Disabilities Act of 1990 in the conduct of the event, and further agrees to indemnify and save harmless the State of California, all officers and employees thereof, including but not limited to the Director of Transportation, from any claims or liability arising out of or by virtue of said Act.

33. PRIVATE USE OF RIGHT OF WAY: Highway right of way shall not be used for private purposes without compensation to the State.

The gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.

34. FIELD WORK REIMBURSEMENT: Permittee shall reimburse State for field work performed on permittee's behalf to correct or remedy hazards or damaged facilities, or clear debris not attended to by the permittee.

35. NOTIFICATION OF DEPARTMENT AND TMC: The permittee shall notify the Department's representative and the Transportation Management Center (TMC) at least 7 days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur 3 days before closure or other potential traffic impacts. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department's representative shall be notified as soon as possible.

36. SUSPENSION OF TRAFFIC CONTROL OPERATION: The permittee, upon notification by the Department's representative, shall immediately suspend all lane closure operations and any operation that impedes the flow of traffic. All costs associated with this suspension shall be borne by the permittee.

37. UNDERGROUND SERVICE ALERT (USA) NOTIFICATION: Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT ANNUAL UTILITY PROVISIONS

TR - 0160 (Rev. 12/2006)

Any public utility or public corporation, who lawfully maintains a utility encroachment, or their agent, may perform routine or emergency maintenance on such facility in accordance with the following provisions:

UE1. EXCLUSIONS. These provisions do not authorize tree trimming, work on freeways, expressways, aerial capacity increases on designated "Scenic Highways," or other activities not specifically provided for in this permit.

UE2. POSSESSION OF PERMIT REQUIRED: The permit or a copy thereof shall be kept at the work site and must be shown to any Departmental representative or any law enforcement officer on demand. WORK SHALL BE SUSPENDED IF PERMIT IS NOT AT JOB SITE AS REQUIRED.

UE3. NOTICE REQUIRED: The permittee shall notify the Department's representative and the Transportation Management Center (TMC) 7 days before initiating a lane closure. A conformation notification should occur 3 days before closure. In emergency situations that may impact traffic, TMC and the Department's representative shall be notified as soon as possible.

UE4. STANDARDS OF WORK: All work shall conform to recognized standards of utility construction and Department's current Standard Specifications, Environmental and Stormwater requirements.

UE5. EMERGENCY REPAIRS: The permittee may make emergency repairs, alter traffic flow, and excavate through improved surfaces only when breaks in the conduit, cable, or pipeline over or under the pavement presents a definite public hazard or serious interruption of essential services. In such cases, the Department's representative shall be notified immediately.

UE6. OPEN EXCAVATIONS: No excavation shall be left open after daylight hours unless specifically authorized and adequate protection for traffic is provided in accordance with General Provisions, "Public Traffic Control." Backfill and pavement replacement shall be performed in accordance with General Provisions, "Restoration and Repairs in Rights of Way."

UE7. TRAFFIC CONTROL HOURS: Work requiring traffic control shall be conducted between 9:00 a.m. and 3:00 p.m. or as otherwise authorized by the Department's representative.

UE8. WORK PERMITTED - AERIAL:

1. Install additional capacity (in the same location), except facilities over the traveled way, on designated "Scenic Highways," or on Structures.
2. Maintain, inspect, remove, repair or replace (in the same location) all aerial facilities except over the traveled way or on Structures, this requires the placement of "H" poles and netting as per TR-0108 located in Appendix "E" of the Encroachment Permits Manual under a new permit.
3. Permittee is authorized to clear grasses from around base of poles and excavate around poles for inspection, including tamping and straightening.
4. Perform insulator washing and interconnect splicing of cables.
5. Install or remove service connections with potential to ground of 300 volts or less, except over the traveled way.
6. Install, maintain, remove, repair or replace aerial service connections with potential to ground of 300 volts or less, except over the traveled way, unless specifically stated in permit.
7. Installations and clearances shall be equal to those required by either the State of California Public Utilities Commission orders or the California Occupational Safety and Health Regulations (CAL-OSHA), Division of Industrial Safety, Safety Orders, promulgated in the California Code of Regulations, Title 8, Chapter 4, whichever is greater.

UE9. WORK PERMITTED - UNDERGROUND:

1. Maintain, inspect, remove, repair or replace (in the same location) all underground facilities except those requiring trenching in the traveled way.
2. Install additional capacity in existing ducts except for facilities not in compliance with the Department's current "Manual on High and Low Risk Facilities within Highway Rights of Way" or on Structures.
3. Install air flow monitoring transducers and piping in existing ducts.
4. Barholing, potholing, cleaning, rodding and placing float ropes.
5. Adjust access cover to grade and replace in kind or with larger size pull boxes.
6. Interconnect splicing of cables.
7. Install service connections perpendicular to the highway using either directional drilling, jacking and boring, or trenching methods as determined by the District Permit Engineer. Electrical service is restricted to a potential to ground of 300 volts or less. Gas and domestic water services are restricted to 2" in diameter or less.
8. Permanent pavement patching for work authorized by this permit.

UE10. POLE MAINTENANCE & CHEMICAL TREATMENT:

1. Utility Companies are to provide a list of the pole identification, locations, type of chemicals and quantities used for their pole treatment maintenance operations. This information shall be provided upon expiration of their annual permit or upon request of the Department during the annual/biennial permit life as needed.
2. Utility Companies shall submit copies of the MSDS sheets for all chemical compounds to be used in their pole treatment maintenance operations, in conjunction with the permit application submittal.
3. Utility Companies are to notify the District Landscape Specialist or their designee and the District Encroachment Permits Office when there is any change or modification in the type(s) of chemical used in their pole treatment maintenance operations.
4. Prior to any application of Tree Growth Regulators (TGR) approval shall be obtained from the District Landscape Specialist or their designee, and the products used must be on the Caltrans approved chemical list.

UE11 FAILURE TO COMPY: Failure to comply with the terms and conditions above shall be grounds for permit revocation.

APPENDIX H

LONG-TERM REVEGETATION MAINTENANCE AGREEMENT

LONG-TERM REVEGETATION MAINTENANCE AGREEMENT

This Long-Term Revegetation Maintenance Contract (LTRMC) 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."

RECITALS

A. Concurrent with execution of this LTRMC, the Parties entered into a general contract (Construction Contract) for the construction of **Rose Canyon Trunk Sewer Joint Repair** (Project), WBS/IO number **B-11025**, Bid No. # **K-17-1437-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 **Rose Canyon Trunk Sewer Joint Repair** (Maintenance Requirements). The performance of the terms of this LTRMC 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 LTRMC.

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 LTRMC by this reference.

B. **Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTRMC are incorporated into this LTRMC by this reference.

C. **Contract Term.** This LTRMC shall be effective upon completion of the Plant Establishment Period as described in 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 LTRMC is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK i.e., Part 1, Sections 212, 308, and 700 through Section 708 and The WHITEBOOK EOCP Section except as follows.

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:

   i. 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").

   ii. Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment guarantee provided under the Payment Bond for this Project, and the Performance guarantee provided under the Performance Bond for this Project, may be partially released, and thereby reduced, to an amount sufficient to cover all Phase 2 Work on this Project, with the remaining value of each bond type to be set and maintained through the date of completion of Phase 2 Work at a value not less than _____ Percent (_____%) of the Project's highest bond value for each bond type, but under no circumstances to be reduced to less than the actual cost of completion of all Phase 2 Work for this Project, whichever is higher ("Partial Bond Release").

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.

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 the written 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 for performance of this LTRMC (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 LTRMC shall commence when the City approves of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with SECTION 802 of the Construction Contract and shall continue for **60** 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 LTRMC.

1.5. License. The Contractor shall hold the following licenses in good standing:

a) C-27 State Contractor's License. Alternatively, the Contractor shall retain the services of a Subcontractor with a C-27 State Contractor's License.

b) Pest Control Advisor's License. Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.

c) Registration with the County Agriculture Commission.

d) Qualified Applicator's Certificate for Category B. This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.

e) 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 8:00 AM to 3:30 PM., Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to Contractor to perform Work during non-Working Hours.

Maintenance functions that generate excess noise, e.g., operations of power equipment which would cause annoyance to area residents, shall not begin before 7:00 a.m.

SECTION 2: ADMINISTRATION

2.1 Contract Administrator. The Public Works/Construction Management and Field Services Divisionis the Contract Administrator for the LTRMC. 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 LTRMC and the Contractor's performance of the Work rendered hereunder. When this LTRMC refers to communications to or with City, those communications shall be with the City, unless the City or this LTRMC specifies otherwise. Further, when this LTRMC 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 competent company representative who can be reached during Normal Working Hours and who is authorized to discuss matters pertaining to this LTRMC with the City. 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 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 sufficient supervisory and working personnel capable of promptly accomplishing on schedule, and to the satisfaction of City, all Work required under this LTRMC.

2.5 Contractor Inspections. The Contractor shall perform inspections of the Work site and 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.

PART 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 LTRMC. 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 LTRMC. 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 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 under this LTRMC, or other penalties.

If 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 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 entity shall be solely the responsibility of the Contractor, and may be deducted from the monthly payment to be made to the Contractor under this LTRMC.

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 LTRMC.

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 LTRMC shall not exceed $**CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM REVEGETATION MAINTENANCE CONTRACT – TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE 2015 WHITEBOOK, SECTION 802.** (Contract Price).

4.2 **Wage Rates.** Refer to the Construction Contract for Prevailing wages requirements for this LTRMC.

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 every month a detailed invoice and report of maintenance work performed. The Contractor's failure to submit the required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding of payment by the City.

4.4 **Final Payment.** The Contractor shall not receive the final payment until the following conditions have been completed to the City's satisfaction:

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 LTRMC.

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.

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 commencement of the Work, Contractor, at its sole cost and expense, shall provide to City the following bonds issued by a surety authorized to issue bonds in California and otherwise satisfactory to City:

A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price, 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.

A Performance Bond in an amount not less than the Contract Price to guarantee faithful performance of all Work, within the time prescribed, in a manner satisfactory to the City, and that 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 LTRMC.

5.2 **Insurance.** At all times during the term of this LTRMC, the Contractor shall maintain insurance coverage as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE."

The Contractor shall not begin the Work under this LTRMC until it has complied with the following:

a) 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

b) 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 LTRMC.

SECTION 6: MISCELLANOUS

6.1 Illness and Injury Prevention Program. The Contractor shall comply with all the mandates of Senate Bill 198 and specifically shall 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 performance of any Work.

6.2 City Standard Provisions. This LTRMC is subject to the following standard provisions:

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).

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.

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).

4. WHITEBOOK, Section 7-13.7, 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)).

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. 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.

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 LTRMC.

6.4 Assignment. The Contractor shall not assign the obligations under this LTRMC, whether by express assignment or by sale of the company, nor any monies due or to become due, without City's prior written approval. Any assignment in violation of this Section shall constitute a Default and is grounds for immediate termination of this LTRMC, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between 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 City. Any provisions of this LTRMC that may appear to give City any right to direct Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that Contractor shall follow the direction of City concerning the end results of the performance.

6.6 Covenants and Conditions. All provisions of this LTRMC 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 Jurisdiction, Venue, and Attorney's Fees. The jurisdiction and venue for any suit or proceeding arising out of or concerning this LTRMC, the interpretation or application of any of its terms, or any related disputes shall be the County of San Diego, State of California.

6.8 Successors in Interest. This LTRMC and all rights and obligations created by this LTRMC shall be in force and effect whether or not any Parties to this LTRMC have been succeeded by another entity, and all rights and obligations created by this LTRMC shall be vested and binding on any Party's successor in interest.

6.9 Integration. This LTRMC and the exhibits, attachments, and references incorporated into this LTRMC fully express all understandings of the Parties concerning the matters covered in this LTRMC. No change, alteration, or modification of the terms or conditions of this LTRMC, 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 an amendment to this LTRMC agreed to by both Parties. All prior negotiations and agreements are merged into this LTRMC.

6.10 Counterparts. This LTRMC 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 LTRMC, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this LTRMC, 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 LTRMC, 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 LTRMC shall not render any other provision of this LTRMC unenforceable, invalid, or illegal.

AT LEAST 1 PARAGRAPH OF THIS LTRMC MUST BE ON SAME PAGE SIGNATURES.

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 Resolution No. R-**INSERT NUMBER OF RESOLUTION AUTHORIZING ADVERTISING AND AWARD OF THE UNDERLYING CONSTRUCTION CONTRACT**, and by Contractor.

Dated this _____ day of_____, **INSERT YEAR**.

THE CITY OF SAN DIEGO

By:_____

Mayor or designee

I HEREBY CERTIFY I can legally bind **NAME OF CONTRACTOR TO BE DETERMINED DURING AWARD PROCESS** and that I have read this entire contract, this _____ day of _____, **INSERT YEAR**.

By:_____

Printed Name:_____

Title:_____

I HEREBY APPROVE the form of the foregoing Contract this

_____ day _____ of **INSERT YEAR**.

Jan I. Goldsmith, City Attorney

By:_____

Printed Name:_____

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 38791-35-D and 38791-36-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 work also includes biological monitoring of the Revegetation Area according to the schedule and methods specified in the Revegetation Plan. The monitoring work shall include all reporting tasks specified in the Revegetation plan.

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 LTRMC.

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 LTRMC, 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 LTRMC, 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 LTRMC. 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 LTRMC. 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 LTRMC. 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 LTRMC. 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 LTRMC. 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 CITY SUPPLEMENT, SECTION 802

EXHIBIT C

LICENSE DATA SHEET

State Contractor License Classification and Number:_____

Name of License Holder:_____

Expiration Date:_____

Pest Control Applicator's Name:_____

License Number:_____

Expiration Date:_____

Pest Control Advisor's Name:_____

License Number:_____

Expiration Date:_____

City of San Diego Business License Number:_____

Expiration Date:_____

APPENDIX I

SEWER MAINS AND MANHOLE REHABILITATION SAMPLE DATA TEMPLATES

REHAB DATE COLLECTION – SEWER MAINS										
FSN	**REHAB DATE**	**LENGTH**	**INSIDE DIAM**	**FUNCTIONAL DIAM**	**LINING TYPE DESC**	**LINING METHOD DESC**	**REHAB CONTRACTOR DESC**	**REHAB MATERIAL VENDOR**	**COMMENTS**	**ACCEPTANCE DATE**
65112	8/22/2006	312	8	7	PVC	SPIRAL WOUND	WESCO INFRA. TECHNOLOGIES,LP	RIBLOC	EXAMPLE - Leave this row in the table as it is.	8/22/2006

REHAB DATA COLLECTION – MANHOLES

MH FSN	REHAB DATE	LINING TYPE	LINING MATERIAL VENDOR	LINING SYSTEM	REHAB CONTRACTOR	RIM ELEVATION	INVERT ELEVATION	ACTUAL DEPTH (VF)	COMMENTS	ACCEPTANCE DATE
70536	3/28/2007	POLYURETHANE	ZEBRON	ZEBRON 386	ZEBRON CORPORATION	49.8	41.95	7	Leave this row as a sample.	3/28/2007

APPENDIX J

HABITAT MAP NORTH

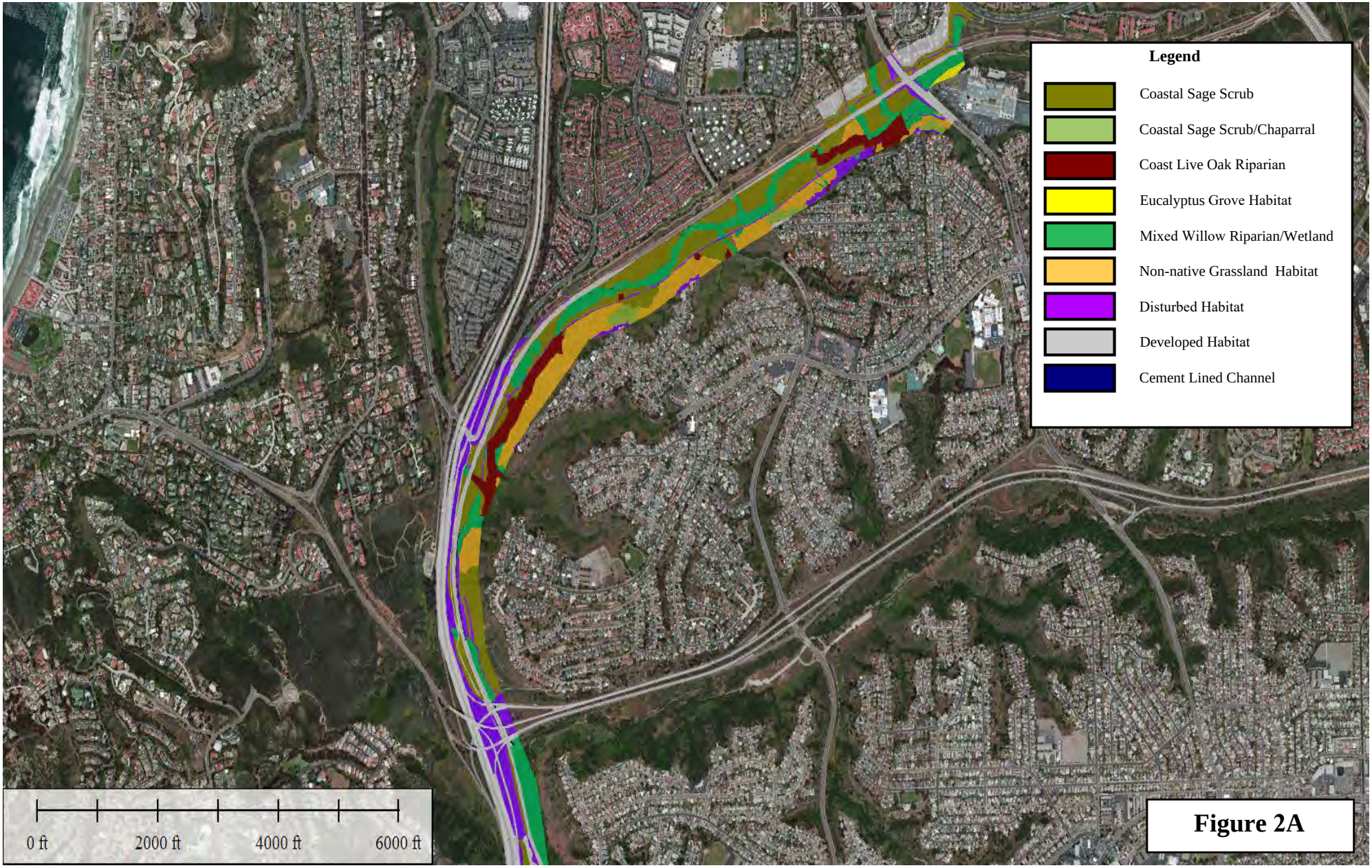

Figure 2A

Prepared By:

Hernandez Environmental Services

Habitat Map North

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

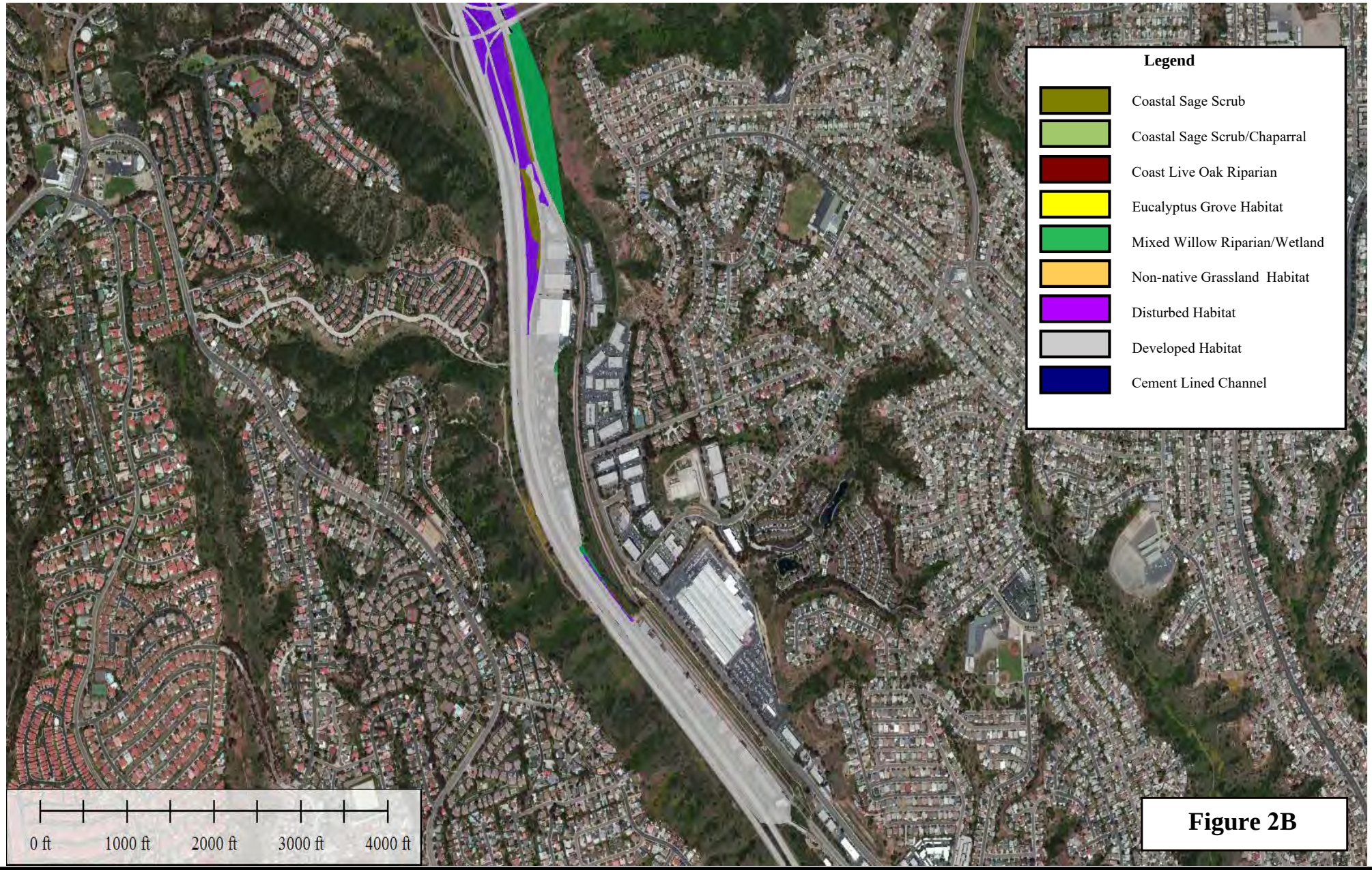

Figure 2B

Prepared By:

Hernandez Environmental Services

Habitat Map South

Rose Canyon Trunk Sewer
Joint Repair Project

San Diego, CA

APPENDIX K

SAMPLE OF PUBLIC NOTICES

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 7 a.m. to 4 p.m.

City of San Diego Contractor:
KTA Construction 619-719-3771

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

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KTA Construction 619-719-3771

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619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

This information is available in alternative formats upon request.

APPENDIX L

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

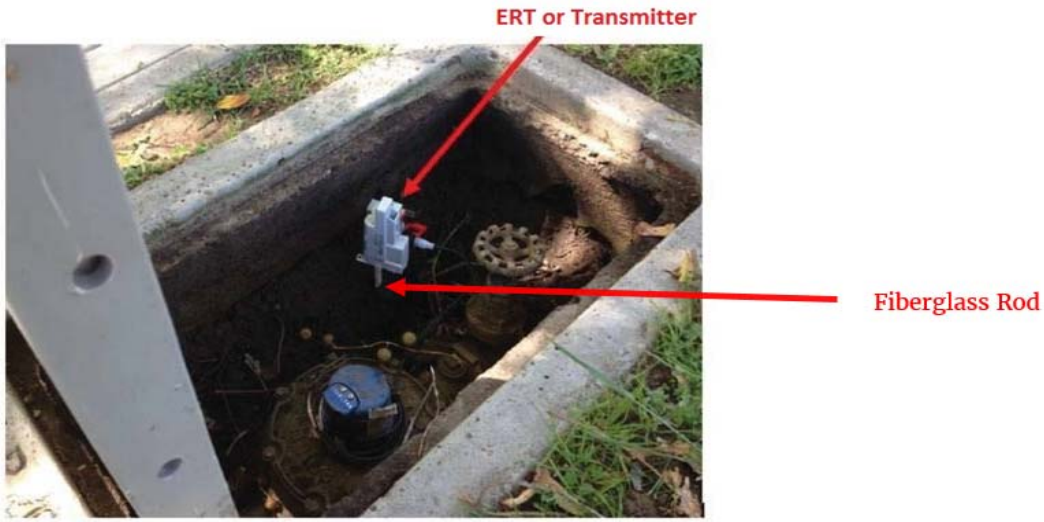


Photo 6 below is an example of disturbance that shall be avoided:

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

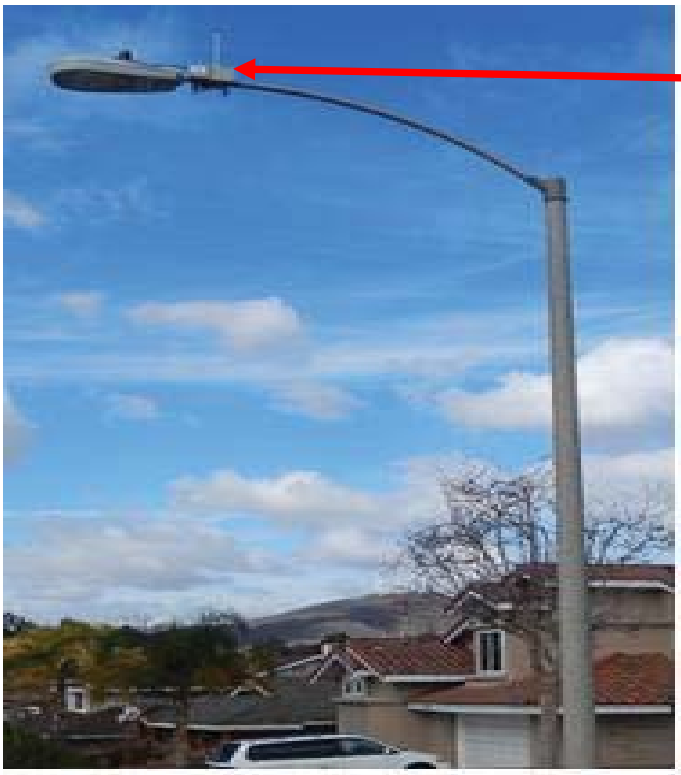
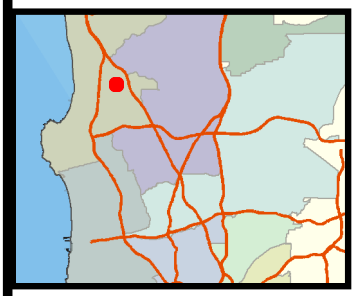


Photo 9

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 M

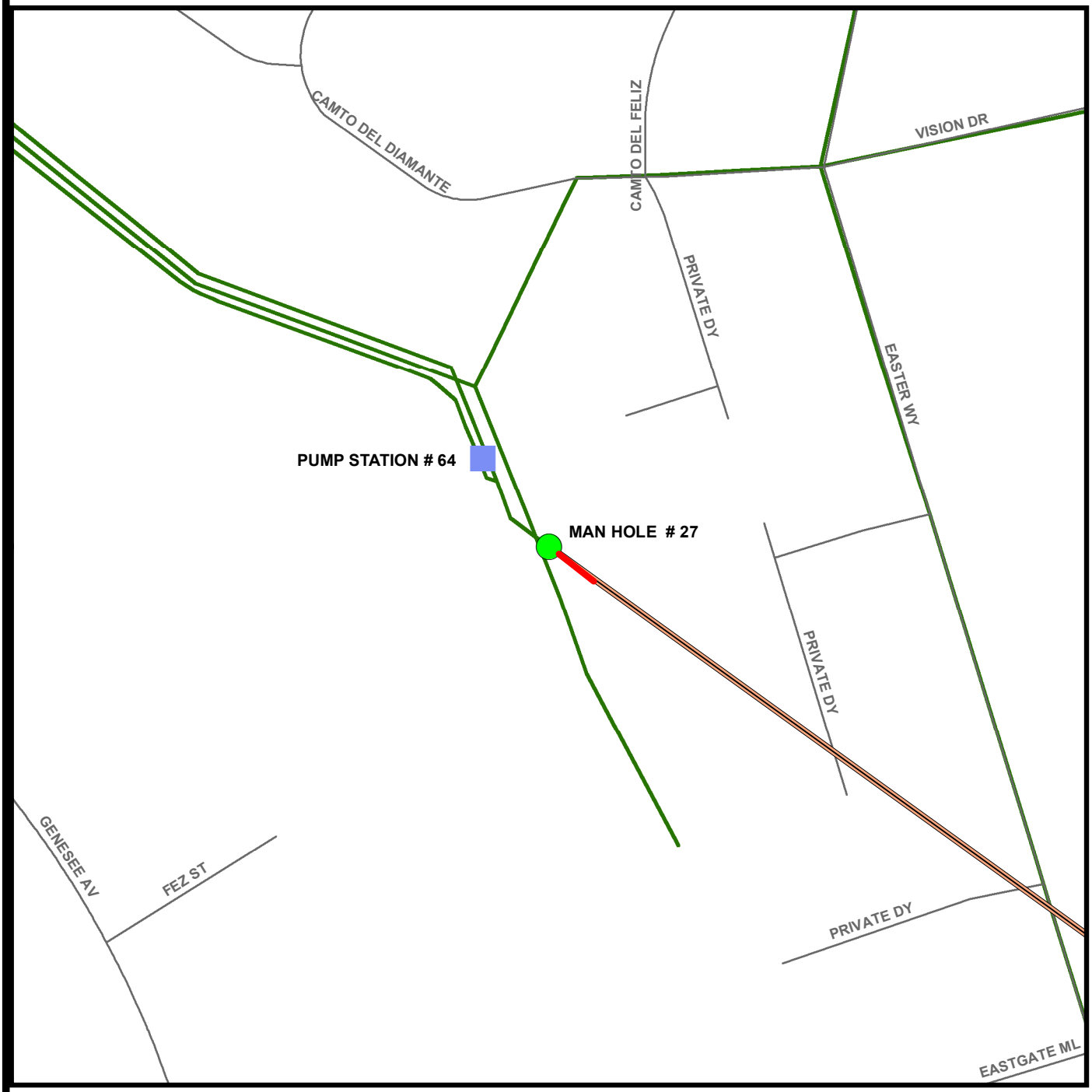
MANHOLE 27 AND 48-INCH LINING



The City of SAN DIEGO Public Works

Rose Canyon Trunk Sewer Joint Repair

SENIOR ENGINEER	PROJECT MANAGER	PROJECT ENGINEER	FOR QUESTIONS ABOUT THIS PROJECT
Michael Ninh	Maryam Liaghat	Bobak Madgedi	Call: (619) 533-4207
(619) 533-7443	(619) 533-5192	(619)-533-5241	Email: engineering@sandiego.gov



Legend

Manhole #27 — Rehab_main — PS # 64

0 0.0125 0.025 0.05 Miles

N W E S

COMMUNITY NAME: La Jolla and University City

COUNCIL DISTRICT: 1

SAP ID: B-11025

Date: Oct 7 , 2016

Rose Canyon Trunk Sewer Joint Repair

Appendix M – Manhole 27 and 48-Inch Lining (Rev. Dec. 2016)

MH FSN	Fac Typ	FBP	Map ID	US Main FSN	DS Main FSN	Depth	Invert Elevation	Lats	Action	Street Name	Thos Bros	Community	CD	Comments
80223	PS/FM	D07S	27	12380	12388	22	299.83	0	Rehab	Eastgate Mall and Easter Way Dr.	1228D1	University	1	US PUMP STA 64FM

FSN	US Main FSN	Map ID	DS Main FSN	FBP	Map ID	Inst Dt	Length	Size	Materials	Slope(%)	Action	Thos Bros	Community	CD	Comments
12388	80223	138	80305	DO7S	0	1/1/1969	50'	48"	PL RCP	0.70%	Rehab	1228D1	University	1	Line 50' from Manhole 27 only

APPENDIX N

WATER POLLUTION CONTROL PLAN

WATER POLLUTION CONTROL PLAN

for

Rose Canyon Trunk Sewer Joint Repair Project

Prepared for:

City of San Diego
2781 Caminito Chollas, MS 44
San Diego, CA 92105

Project Site Location:

4.7-mile pipeline extending from south of Rose Canyon Creek Bridge along Santa Fe Street through Rose Canyon

Contractor's Qualified Contact Person:

TBD

WPCP Prepared by:

GHD Inc.
175 Technology Drive, Suite 200
Irvine, CA 92618
(949) 648-5200

WPCP Preparation Date:

9/20/2015

Table of contents

Table index

1. Project Information

1.1 Project Description

The project consists of a bypass of the Rose Canyon Trunk Sewer Pipeline, and joint rehabilitation of a 4.5 mile section of the Rose Canyon Trunk Sewer (RCTS). The RCTS is 4.7 miles and extends from south of the Rose Canyon Creek Bridge along Santa Fe Street through Rose Canyon and connects to the existing 33-inch trunk sewer of the North City Water Reclamation Plant. The RCTS consists of pipe diameters ranging from 48-inches to 72-inches. The bypass pipeline will require clearing and grubbing of the earthen channel running along Rose Canyon Hiking Trail and Rose Creek a 303(d) listed water body for selenium and toxicity. Access locations/roads will be built toward manholes in order for maintenance to be completed on the pipeline.

The project will remove vegetation and sediment from the earthen channel to gain access to manholes along the RCTS pipeline. The project is not subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002) (CGP) and associated amendments because, as stated in the CGP, it disturbs less than one acre and does not require CGP coverage. In addition, the project is subject to multiple permits and a list of all the conditions will be included in the Individual Maintenance Plan (IMP) once permits are issued. Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes. No staging areas are required for this work. Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled on-site. The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

1.2 Unique Site Features

There will be one bypass pipe during the RCTS Pipeline rehabilitation. The existing earthen channel will experience clearing and grubbing to allow for access to the existing manhole structures.

Rose Creek is a 303(d) listed water body for selenium and toxicity

1.3 Scope and limitations

The project proposes to construct a diversion pipeline and two bypass pump stations along with the repair of the existing RCTS. The total disturbed area is anticipated to be less than one-acre.

1.4 Potential Pollutant Sources

The primary activities, related materials, and wastes that have the potential to pollute storm water include: a) Exposed soil areas from grubbing and clearing activities, b) Fuel and other fluids from heavy equipment, and c) General maintenance waste materials.

2. Pollutant Sources and Control Measures

2.1 Introduction

The selected temporary sediment, erosion and materials management control BMPs will be implemented on the project site. Implementation and locations of temporary BMPs are shown on the maintenance plan. The California Stormwater Quality Association (CASQA) Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. The following lists of BMPs and narratives explain how the selected BMPs will be incorporated into the project.

2.2 Temporary Soil Stabilization Practices

The provided Table 1 summarizes the temporary soil stabilization practices used and justifies those that will not be utilized.

Table 1 Temporary Soil Stabilization BMPs

BMP No.	BMP	Check if Used	Check if Not Used	If Not Used, State Reason
EC-1	Scheduling	X		
EC-2	Preservation of Existing Vegetation	X		
EC-3	Hydraulic Mulch		X	Other temporary soil stabilization BMPs will be used.
EC-4	Hydroseeding		X	Other temporary soil stabilization BMPs will be used.
EC-5	Soil Binder	X		
EC-6	Straw Mulch		X	Other temporary soil stabilization BMPs will be used.
EC-7	Geotextiles & Mats		X	Other temporary soil stabilization BMPs will be used.
EC-8	Wood Mulching		X	Other temporary soil stabilization BMPs will be used.
Temporary Concentrated Flow Conveyance Controls				
EC-9	Earth Dikes/Drainage Swales & Lined Ditches		X	Not feasible
EC-10	Velocity Dissipation Devices		X	Not feasible
EC-11	Slope Drains		X	Other temporary soil stabilization BMPs will be used.

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe and/or accessing existing manhole structures. The City will ensure all necessary personnel and equipment will be made available during the specific timeframe of the project. Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas. Native vegetation will be planted following the project and soil binders should be utilized prior to the establishment of the vegetation. All excavated materials will be hauled directly to an appropriate disposal facility upon removal from the channels. No stockpiling activities are anticipated. No soil

disturbing activities will be permitted outside the access roads/locations. The CASQA Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. Locations of the BMPs are shown on the Water Pollution Control Drawings (WPCDs) and are for guidance purposes.

2.3 Sediment Control Practices

The provided Table 2 summarizes the temporary sediment control practices used and justifies those that will not be utilized.

Table 2 Temporary Sediment Control BMPs

BMP No.	BMP	Check if Used	Check if Not Used	If Not Used, State Reason
SE-1	Silt Fence	X		
SE-2	Sediment Basin		X	Other sediment control BMPs will be used.
SE-3	Sediment Trap		X	Other sediment control BMPs will be used.
SE-4	Check Dam		X	Other sediment control BMPs will be used.
SE-5	Fiber Rolls	X		
SE-6	Gravel Bag Berm		X	Other sediment control BMPs will be used.
SE-7	Street Sweeping and Vacuuming	X		
SE-8	Sand Bag Berm		X	Other sediment control BMPs will be used.
SE-9	Straw Bale Barrier		X	Other sediment control BMPs will be used.
SE-10	Storm Drain Inlet Protection		X	Other sediment control BMPs will be used.

A majority of the project area will be within the earthen channel along the Rose Canyon Hiking Trail. The only sediment disturbing activities associated with the clearing and grubbing would be the removal of sediment and vegetation within the access locations. Clearing and grubbing will be conducted where the bypass pipe is placed along the existing dirt access road and within the access roads/locations for the existing manhole structures. All excavated materials removed from the channels will be hauled directly to an appropriate disposal facility. Street sweeping and vacuuming will occur as needed in the paved areas around the earthen channel maintenance reaches and focused on the surrounding local streets. No soil disturbing activities will be permitted outside the earthen channel. Silt fences will be constructed around the perimeter of the bypass pipe and the access roads/locations. Fiber rolls will be placed on the access locations with severe slopes, as needed. Vacuum trucks will be used as needed to remove any ponded or sediment laden water that may accumulate upstream of the fiber rolls.

The CASQA Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. Locations of the BMPs are shown on the WPCDs and are for guidance purposes.

2.4 Tracking Control Practices

The provided Table 3 summarizes the tracking control practices used and justifies those that will not be utilized.

Table 3 Tracking Control BMPs

BMP No.	BMP	Check if Used	Check if Not Used	If Not Used, State Reason
TC-1	Stabilized Construction Entrance/Exit		X	Other tracking control measures will be used.
TC-2	Stabilized Construction Roadway		X	Other tracking control measures will be used.
TC-3	Entrance/Outlet Time Wash		X	Other tracking control measures will be used.
SE-7	Street Sweeping and Vacuuming	X		

Existing paved roads/parking lots will be utilized and will be inspected and maintained throughout the project. Street sweeping will occur on paved areas (including parking lots and local streets) impacted by the project, as needed. Stabilized construction entrance/exits will be placed at access locations to City streets.

The CASQA Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. Locations of the BMPs are shown on the WPCDs and are for guidance purposes.

2.5 Wind Erosion Controls

Materials excavated shall be damp and unaffected by wind. A sweeper will operate regularly on the local roadways to control potential dust created by heavy equipment and truck traffic.

2.6 Non-Stormwater Management BMPs

The provided Table 4 summarizes the non-stormwater management practices used and justifies those that will not be utilized.

Table 4 Non-Stormwater Management BMPs

BMP No.	BMP	Check if Used	Check if Not Used	If Not Used, State Reason
NS-1	Water Conservation Practice	X		
NS-2	Dewatering Operations		X	No excavation
NS-3	Paving and Grinding Operations		X	There are no paving or grinding operations associated with this project.
NS-4	Temporary Stream Crossing		X	There are no temporary stream crossings associated with this project.
NS-5	Clear Water Diversion		X	No water will need to be diverted.
NS-6	Illicit Discharge/illegal dumping reporting	X		
NS-7	Potable Water/Irrigation	X		

Vehicle and Equipment Operations				
NS-8	Vehicle and Equipment Cleaning		X	Vehicle/equipment cleaning will be done offsite.
NS-9	Vehicle and Equipment Fueling		X	Vehicle/equipment fueling will be done offsite.
NS-10	Vehicle and Equipment Maintenance		X	Vehicle/equipment maintenance will be done offsite.

Silt Fences and fiber rolls will be utilized to prevent erosion and illicit discharges of sediment during storm events. After rehabilitation of the RCTS pipeline is completed, native plants will be reestablished in the cleared access locations.

The CASQA Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. Locations of the BMPs are shown on the WPCDs and are for guidance purposes.

2.7 Waste Management and Materials Pollution Control BMPs

The provided Table 5 summarizes the waste management practices used and justifies those that will not be utilized.

Table 5 Waste Management and Materials Pollution Control BMPs

BMP No.	BMP	Check if Used	Check if Not Used	If Not Used, State Reason
WM-1	Material Delivery and Storage	X		
WM-2	Material Use	X		
WM-3	Stockpile Management	X		
WM-4	Spill Prevention and Control		X	Tanks containing oil products will not be stored onsite.
WM-5	Solid Waste Management			
WM-6	Hazardous Waste Management	X		
WM-7	Contaminated Soil Management	X		
WM-8	Concrete Waste Management	X	X	.
WM-9	Sanitary/Septic Waste Management	X		
WM-10	Liquid Waste Management	X		

The BMPs selected above will be implemented on the project site. In the process of removing the excavated materials from the earthen channel, city crews may encounter contaminated soil or other hazardous materials and will follow the guidance of the applicable BMP fact sheets.

Other Waste Management and Materials Pollution Control BMPs

The project will include the following activities that have the potential for pollutant discharges:

- Vehicle and equipment leaks

Water will be conserved to the maximum extent practicable and any unplanned potable water discharges will be controlled following the guidance of NS-7. The contractor will notify the City of any illicit discharges or illegal dumping encountered during the project. Vehicle and equipment

cleaning is not allowed on the project site. Fueling will not be done on sight. Equipment will be inspected for fluid leaks and promptly cleaned up. There will be no storage of petroleum products or chemicals permitted onsite. Vehicles and Equipment are routinely inspected for leaks and immediately serviced if necessary. If any leaks were noticed they will be cleaned up immediately with dry methods and disposed of as a regulated waste.

The CASQA Construction Stormwater BMP Handbook should be used as guidance in the application of the BMPs. Locations of the BMPs are shown on the WPCDs and are for guidance purposes.

3. Water Pollution Control Drawings

The water pollution control drawings (WPCDs) are included as part of the construction package, Appendix B. The plans show the locations of the BMPs and any additional instructions. Boundaries of the silt fence as shown on the Plans are for guidance and must be approved by the Project Biologist. Contractor must consult with Project Biologist prior to clearing and grubbing to ensure minimal impact to the creek.

4. BMP Maintenance, Inspection, and Repair

The Qualified Contact Person will assign a monitor for daily inspection of the BMPs. Each morning, the monitor will check the National Weather Service Forecast (http://www.srh.noaa.gov), complete a BMP inspection checklist, perform any necessary BMP maintenance or repairs, and report the results to the Qualified Contact Person. Sample forms are included in Appendix A. The monitor completed BMP inspection checklists will be kept with the WPCP. A tracking or follow-up procedure shall follow any inspection that identifies deficiencies in BMPs. The inspection, maintenance, and repair program is shown below.

Table 6 WPCP Inspection, Maintenance, and Repair Program

BMP	Inspection Frequency		Maintenance/Repair Measures	
	Rainy	Non-Rainy		

The contractor will be responsible for the inspection and maintenance/repairs of implemented BMPs. The contractor will be also responsible for assigning team members who will maintain and implement the WPCP BMPs.

5. Weather Triggered Action Plan

The Qualified Contact Person shall monitor the weather forecast on a daily basis for predicted precipitation within the following 96 hours. The Qualified Contact Person shall monitor the forecast for the next 24, 48, 72 and 96 hours to determine if the forecast for precipitation is 50 percent or greater. If the forecast for precipitation is 50 percent or greater, the Qualified Contact Person shall calculate the amount of precipitation forecasted for each 24-hour period and the total precipitation for the forecasted storm event and record the information.

When there is a forecasted fifty percent (50%) or greater chance of likely precipitation of 0.50 inch or more, a pre-storm stormwater site inspection is required and the Qualified Contact Person shall ensure that the site is prepared for the forecasted storm event by implementing the following Weather Triggered Action Plan:

- Project activities will not be initiated unless there is a minimum three-day forecast of no precipitation.
- All work associated with excavating soil from its initial resting place shall cease immediately. The only work that shall continue in the channel is the loading and removal of already disturbed material.
- All BMPs shall be removed from the channel. These BMPs are only capable of treating low flows. In channel BMPs provide no benefit to water quality and are actually a liability because of the high probability that they will be washed downstream.
- Site preparation activities, such as street sweeping, shall be completed in the access and loading areas.

Appendices

List of Appendices

Appendix A – Sample Forms

Appendix B - Water Pollution Control Drawings – Site Maps

Appendix A – Sample Forms

Stormwater Maintenance BMP Inspection Report

PROJECT INFORMATION NAME AND SITE ADDRESS	CONTRACTOR NAME AND ADDRESS
WPCP Manager	Phone Number (s) including Emergency (24/7) Phone Number

General Information	
Inspector's Name	Date of Inspection

Weather Conditions: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

Precipitation Condition: ☐ None ☐ Misty ☐ Light Rain ☐ Rain ☐ Heavy Rain

Wind Condition: ☐ None ☐ Less than 5mph ☐ More than 5mph

Maintenance/Location

Site Inspection of Best Management Practices

If the inspection form does not contain enough lines for all locations, attach more pages for the BMP so that all locations are inspected and reported. List out all active BMPs (example: TC-1, WE-1, WM-1).

Activity	Observations and Comments
Temporary Soil Stabilization BMPs ☐ Yes ☐ No	
Temporary Sediment Control BMPs ☐ Yes ☐ No	
Wind Erosion Control BMPs ☐ Yes ☐ No	
Tracking Control Practices ☐ Yes ☐ No	

Stormwater Maintenance BMP Inspection Report

Non-Stormwater Management Practices ☐ Yes ☐ No	
Vehicle and Equipment Storage/Fueling/Maintenance Practices ☐ Yes ☐ No	
Dewatering ☐ Yes ☐ No	
Waste and Materials Pollution Management ☐ Yes ☐ No	
Hazardous Waste Management ☐ Yes ☐ No	

Additional Notes:

Daily Stormwater Inspection Report Certification	
The information contained in this inspection report was gathered from a field site inspection.	
Stormwater Inspector Name	Date Report Completed
Stormwater Inspector Signature	

The information contained in this inspection report was gathered and evaluated by qualified personnel before submittal. Based on my review of the information and inquiry of those who gathered and evaluated the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.	
WPCP Manager Name	Date
WPCP Manager Signature	Date

Channel Maintenance Daily Report

Date:_____ S M T W T F S (Circle Day)
Operation Lead:_____
Site Name/Facility:_____ Work Hours: _____ to _____
Master Program Map No:_____ Start Stop

Description of Work

Equipment

Equip No:	Description	Idle/Down	Additonal Remarks

Channel Material Removed

Type removed	Quantity(linear ft.)
Silt/Sand	
Debris	
Vegetation	

Stockpile Area Material Removed

Type	Quantity/Unit
Sediment	
Debris	
Vegetation	
Tires (#)	

Activities/ Observations:

☐ Inspection of construction stormwater BMPs
☐ Reviewed any noticed and/or reported violations
☐ Water quality sampling activities performed
☐ Procedures for impending heavy rain fall
☐ Toxic materials found*
☐ Cultural/Biological/Native American monitor present
☐ Biological resources observed ☐ No ☐ Yes*
☐ Cultural resources observed ☐ No ☐ Yes*

☐ Daily tailgate covering:
☐ Cultural ☐ Water Quality/BMPs
☐ Biological ☐ Noise ☐ Other(list):_____

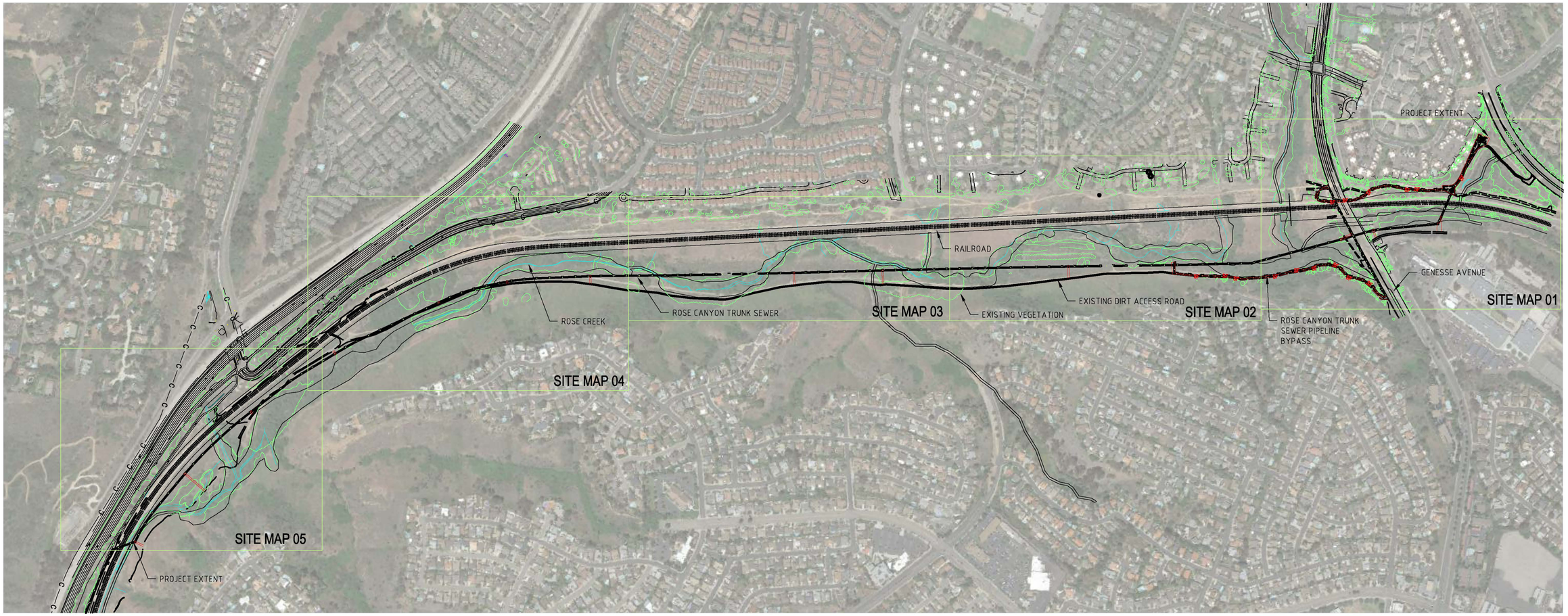
* If found/observed, describe in comments including list of resources, toxic materials, and/or hazardous material manifest

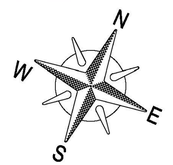
Channel Maintenance Daily Report

Additional Comments (Describe any unusual conditions, situations or special requirements needed to do the work such as diversion of water, construction of staging area, replacement of bank material, presence of utilities, etc)

Print Name Signature Title

Appendix B – Water Pollution Control Drawings – Site Maps





0 400 800 1200

SCALE 1"=400'

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP

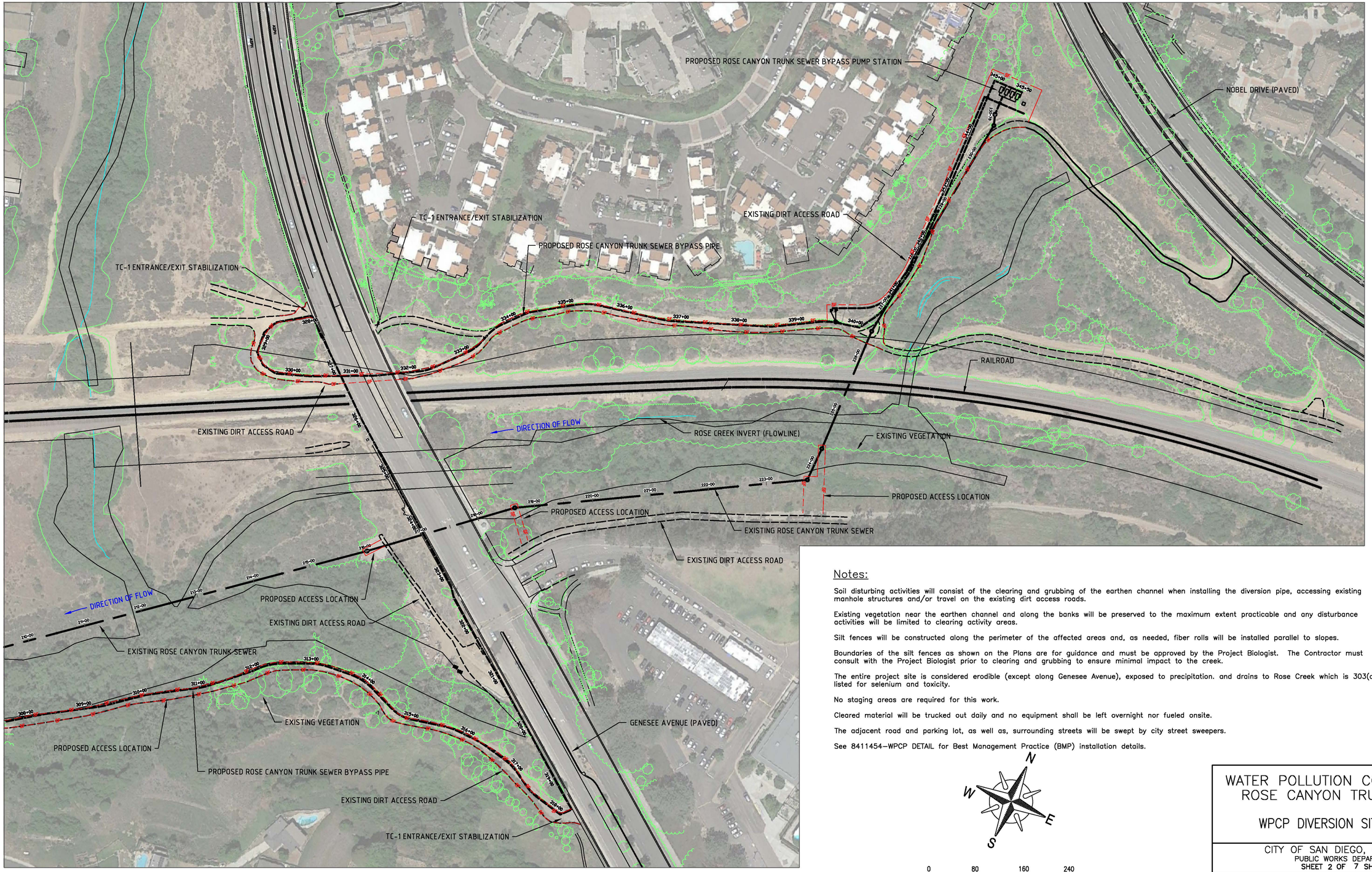
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

Plot Date: 28 October 2015 - 11:47 AM Plotted By: Alex Leu

Cad File No: \\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 - City of San Diego\8411454 - Rose Canyon\CADD\Exhibits\8411454 - WPCP Site Map-Title.dwg



Notes:

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe, accessing existing manhole structures and/or travel on the existing dirt access roads.

Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas.

Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes.

Boundaries of the silt fences as shown on the Plans are for guidance and must be approved by the Project Biologist. The Contractor must consult with the Project Biologist prior to clearing and grubbing to ensure minimal impact to the creek.

The entire project site is considered erodible (except along Genesee Avenue), exposed to precipitation. and drains to Rose Creek which is 303(d) listed for selenium and toxicity.

No staging areas are required for this work.

Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled onsite.

The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

See 8411454–WPCP DETAIL for Best Management Practice (BMP) installation details.

N W E S

0 80 160 240

SCALE 1"=80'

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP 01

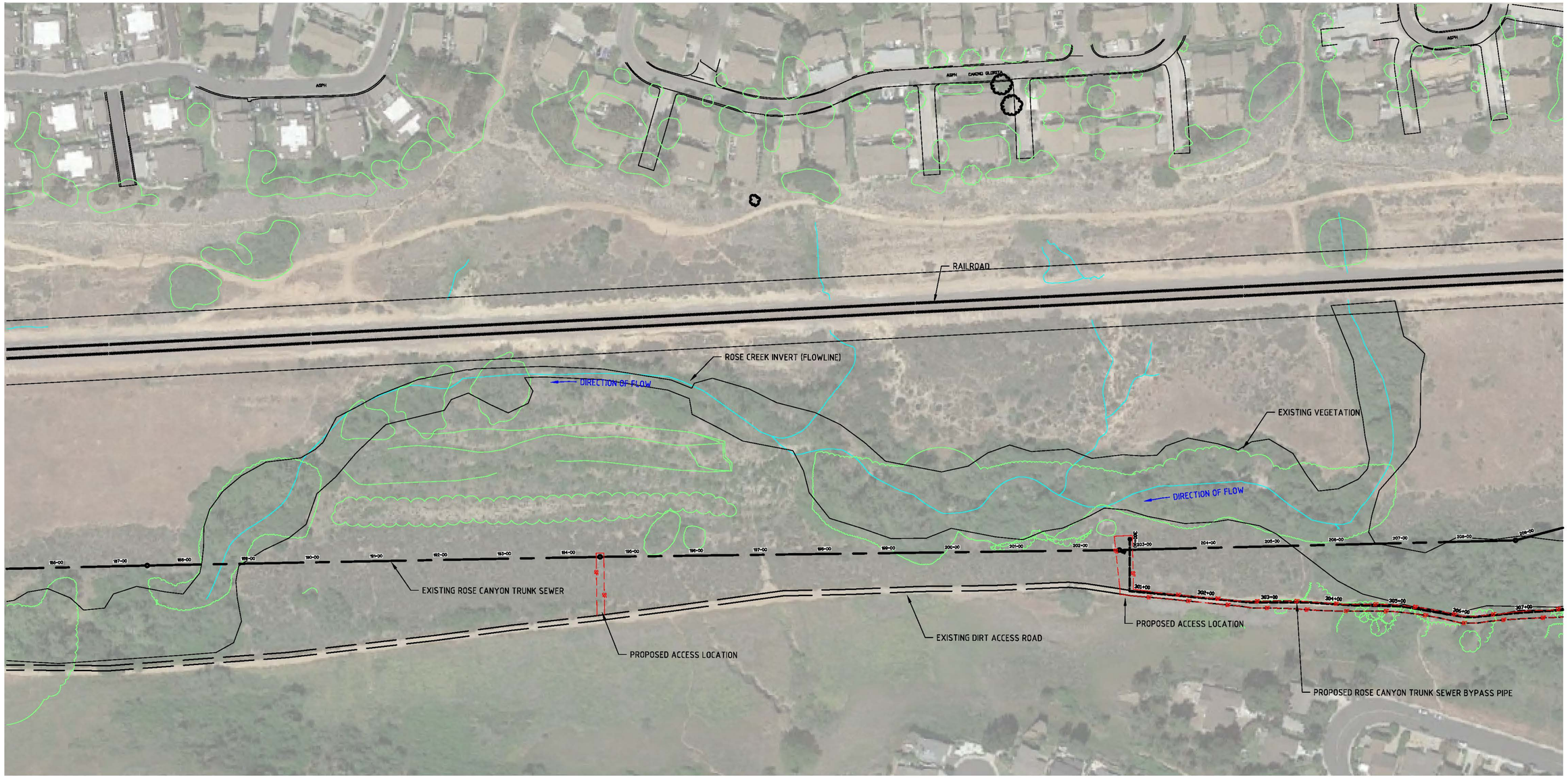
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 2 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

Plot Date: 28 October 2015 – 5:10 PM Plotted By: Alex Leu

Cad File No: \\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Exhibits\8411454 – WPCP Site Map–01.dwg



Notes:

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe, accessing existing manhole structures and/or travel on the existing dirt access roads.

Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas.

Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes.

Boundaries of the silt fences as shown on the Plans are for guidance and must be approved by the Project Biologist. The Contractor must consult with the Project Biologist prior to clearing and grubbing to ensure minimal impact to the creek.

The entire project site is considered erodible (except along Genesee Avenue), exposed to precipitation. and drains to Rose Creek which is 303(d) listed for selenium and toxicity.

No staging areas are required for this work.

Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled onsite.

The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

See 8411454–WPCP DETAIL for Best Management Practice (BMP) installation details.

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SCALE 1"=80'

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP 02

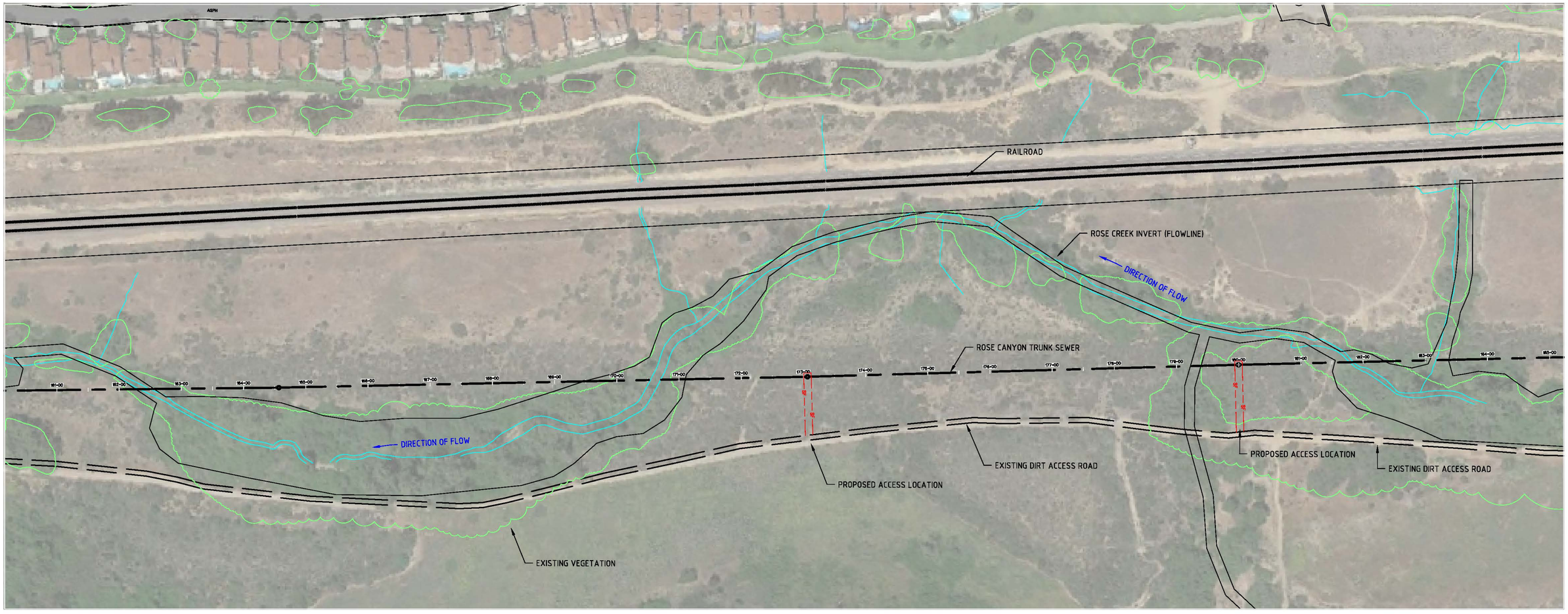
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 3 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

Plot Date: 28 October 2015 – 5:14 PM Plotted By: Alex Leu

Cad File No: \\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Exhibits\8411454 – WPCP Site Map–02.dwg



Notes:

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe, accessing existing manhole structures and/or travel on the existing dirt access roads.

Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas.

Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes.

Boundaries of the silt fences as shown on the Plans are for guidance and must be approved by the Project Biologist. The Contractor must consult with the Project Biologist prior to clearing and grubbing to ensure minimal impact to the creek.

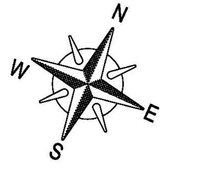
The entire project site is considered erodible (except along Genesee Avenue), exposed to precipitation. and drains to Rose Creek which is 303(d) listed for selenium and toxicity.

No staging areas are required for this work.

Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled onsite.

The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

See 8411454–WPCP DETAIL for Best Management Practice (BMP) installation details.



0 80 160 240

SCALE 1"=80'

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP 03

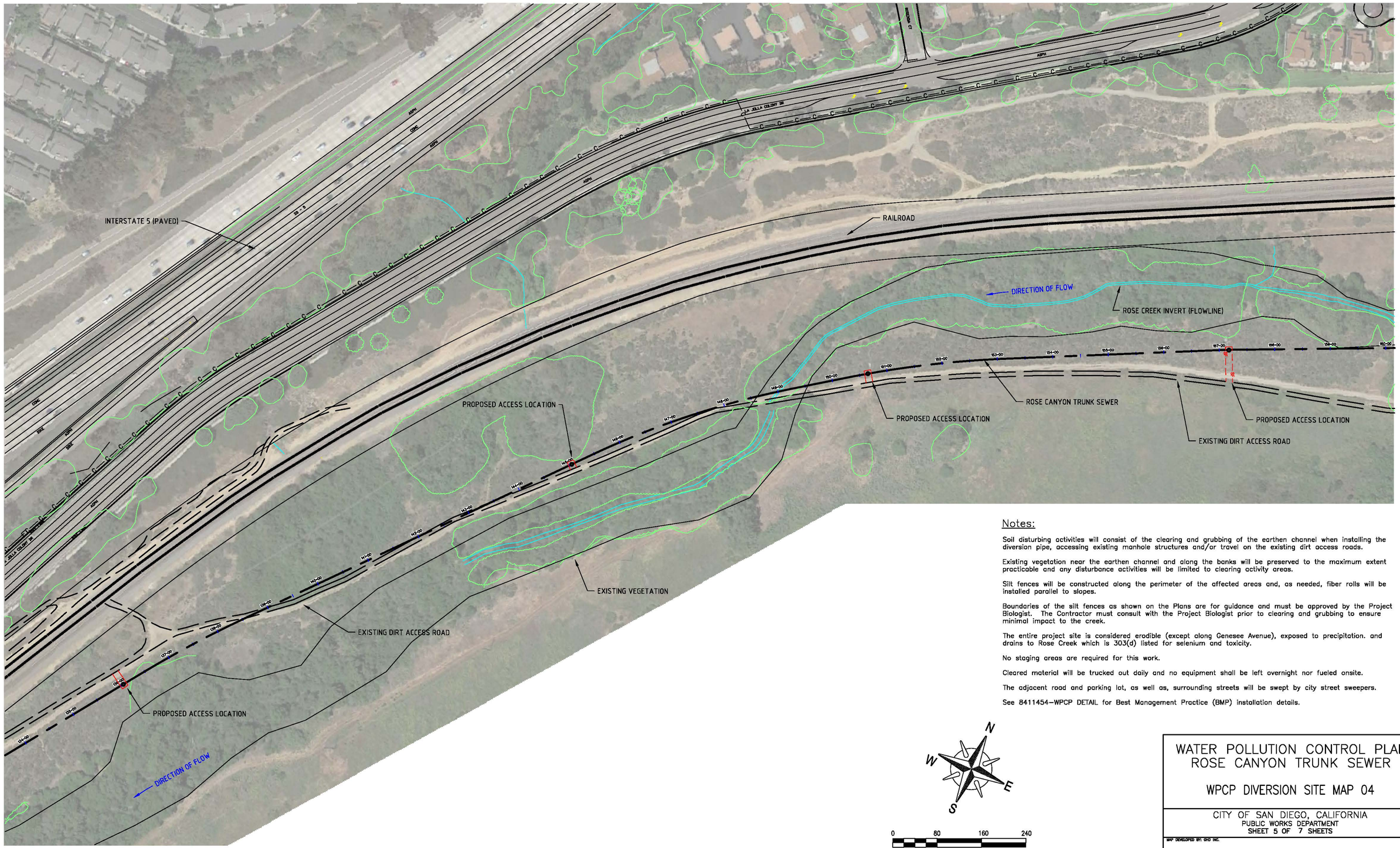
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 4 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

Plot Date: 29 October 2015 – 9:13 AM Plotted By: Alex Leu

Cad File No: \\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Exhibits\8411454 – WPCP Site Map–03.dwg



Notes:

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe, accessing existing manhole structures and/or travel on the existing dirt access roads.

Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas.

Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes.

Boundaries of the silt fences as shown on the Plans are for guidance and must be approved by the Project Biologist. The Contractor must consult with the Project Biologist prior to clearing and grubbing to ensure minimal impact to the creek.

The entire project site is considered erodible (except along Genesee Avenue), exposed to precipitation. and drains to Rose Creek which is 303(d) listed for selenium and toxicity.

No staging areas are required for this work.

Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled onsite.

The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

See 8411454–WPCP DETAIL for Best Management Practice (BMP) installation details.

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0 80 160 240
SCALE 1"=80'

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP 04

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 5 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

Plot Date: 28 October 2015 – 5:19 PM Plotted By: Alex Leu

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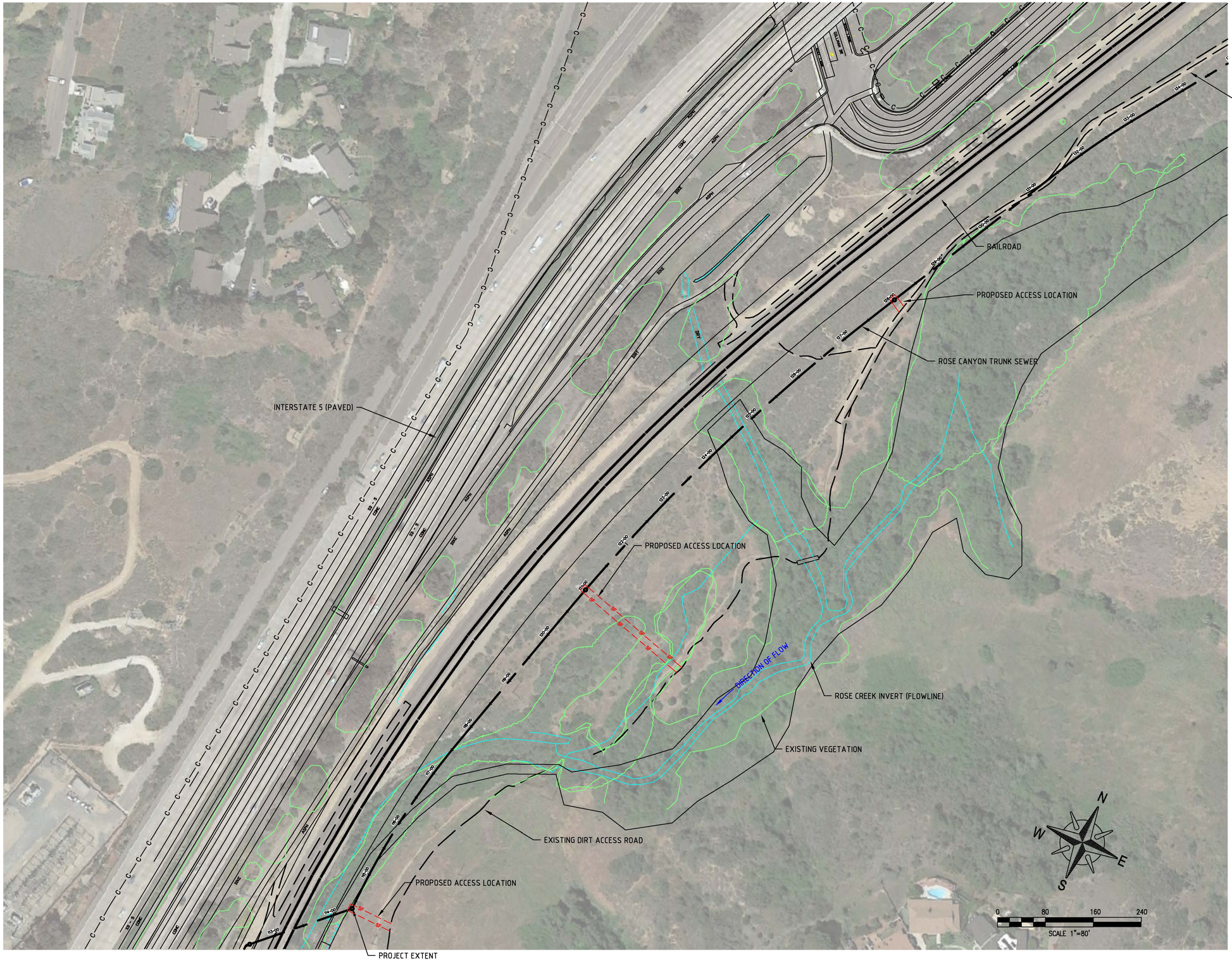

Notes:

Soil disturbing activities will consist of the clearing and grubbing of the earthen channel when installing the diversion pipe, accessing existing manhole structures and/or travel on the existing dirt access roads.

Existing vegetation near the earthen channel and along the banks will be preserved to the maximum extent practicable and any disturbance activities will be limited to clearing activity areas.

Silt fences will be constructed along the perimeter of the affected areas and, as needed, fiber rolls will be installed parallel to slopes.

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The entire project site is considered erodible (except along Genesee Avenue), exposed to precipitation. and drains to Rose Creek which is 303(d) listed for selenium and toxicity.

No staging areas are required for this work.

Cleared material will be trucked out daily and no equipment shall be left overnight nor fueled onsite.

The adjacent road and parking lot, as well as, surrounding streets will be swept by city street sweepers.

See 8411454–WPCP DETAIL for Best Management Practice (BMP) installation details.

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

WPCP DIVERSION SITE MAP 05

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 6 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLF PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

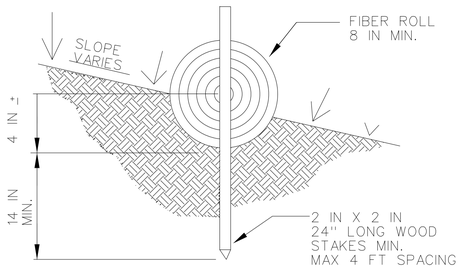
Plot Date: 28 October 2015 – 5:22 PM Plotted By: Alex Leu

Cad File No: \\ghdnet\ghd\US\San Diego\Projects\Legacy\Projects\07129 – City of San Diego\8411454 – Rose Canyon\CADD\Exhibits\8411454 – WPCP Site Map–05.dwg

EROSION AND SEDIMENT CONTROL NOTES:

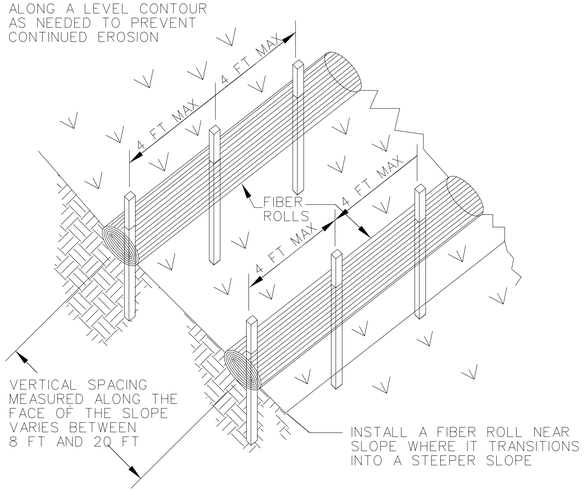
TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY OF SAN DIEGO "LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED WATER POLLUTION CONTROL PLAN (WPCP).
2. PROTECT MANHOLE ACCESS LOCATIONS THAT HAVE BEEN CLEAR AND GRUBBED THROUGH THE INSTALLATION OF SILT FENCES AROUND THE PERIMETER OF THE DISTURBED AREAS AND, AS NEEDED, FIBER ROLLS PARALLEL TO THE SLOPE.
3. STABILIZE COMPLETED ACCESS LOCATIONS WITH A BINDER WHILE NATIVE VEGETATION BECOMES ESTABLISHED TO PREVENT POTENTIAL EROSION.
4. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
5. THE CONTRACTOR OR QUALIFIED PERSON SHALL CHECK AND MAINTAIN ALL LINED AND UNLINED DITCHES AFTER EACH RAINFALL.
6. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
7. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
8. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
9. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
11. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
12. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
13. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
14. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING FOR THE AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED PERSON CAN PROVIDE EROSION/SEDIMENT CONTROL MEASURES.
15. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.
16. ANY STAMPING WITH PROHIBITIVE LANGUAGE DISTURBED BY CONSTRUCTION ACTIVITIES (E.G. "NO DUMPING - DRAINS TO OCEAN"), OR EQUIVALENT, OF ALL STORM WATER CONVEYANCE SYSTEM INLETS AND CATCH BASINS WITHIN THE PROJECT AREA MUST BE RESTORED.



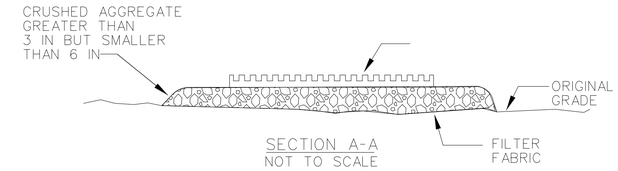
ENTRENCHMENT DETAIL
NOT TO SCALE

NOTE:
INSTALL FIBER ROLL ALONG A LEVEL CONTOUR AS NEEDED TO PREVENT CONTINUED EROSION

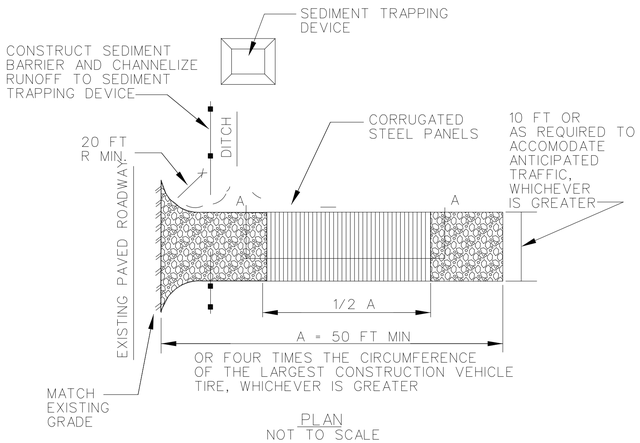


TYPICAL INSTALLATION
NOT TO SCALE

SE-5: FIBER ROLLS

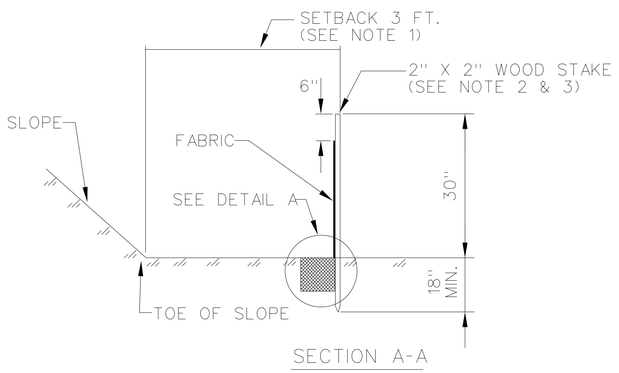


SECTION A-A
NOT TO SCALE

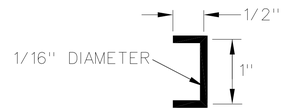


PLAN
NOT TO SCALE

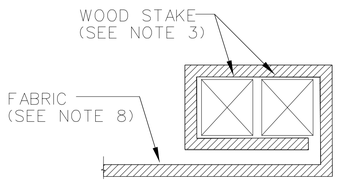
TC-1: ENTRANCE/EXIT STABILIZATION



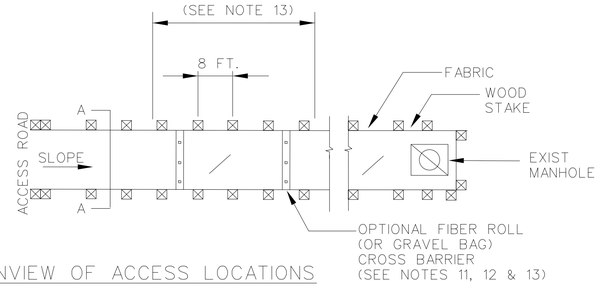
SECTION A-A



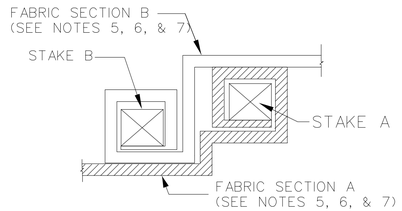
STAPLE DETAIL



END STAKE DETAIL (TOP VIEW)



PLANVIEW OF ACCESS LOCATIONS

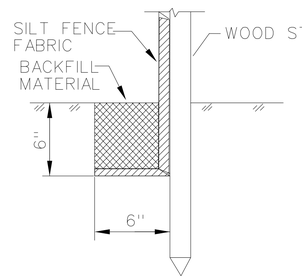


JOINING SECTION DETAIL (TOP VIEW)

SILT FENCE NOTES:

1. SETBACK DISTANCE MAY VARY TO FIT FIELD CONDITION.
2. STAKES SHALL BE SPACED AT 8 FT MAXIMUM AND SHALL BE POSITIONED ON DOWNSTREAM SIDE OF FENCE.
3. STAKE DIMENSIONS ARE NOMINAL.
4. MINIMUM 4 STAPLES PER STAKE. SEE STAPLE DETAIL.
5. AT JOINING SECTION, STAKES TO OVERLAP AND FENCE FABRIC TO FOLD AROUND EACH STAKE ONE FULL TURN. SECURE FABRIC TO STAKE WITH 4 STAPLES.
6. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT. THE TOPS OF THE STAKES SHALL BE SECURED WITH WIRE.
7. JOINING SECTIONS SHALL NOT BE PLACED AT SUMP LOCATIONS.
8. FOR END STAKE, FENCE FABRIC SHALL BE FOLDED AROUND TWO STAKES ONE FULL TURN AND SECURED WITH 4 STAPLES
9. THE LAST 8 FT OF FENCE SHALL BE TURNED UP SLOPE.
10. MAINTENANCE OPENINGS SHALL BE CONSTRUCTED IN A MANNER TO ENSURE SEDIMENT REMAINS BEHIND SILT FENCE.
11. CROSS BARRIERS SHALL BE A MINIMUM OF 1/3 AND A MAXIMUM OF 1/2 THE HEIGHT OF THE SILT FENCE.
12. FIBER ROLL ROWS AND LAYERS SHALL BE OFFSET TO ELIMINATE GAPS.
13. CONSTRUCT THE LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE SILT FENCE, IN NO CASE SHALL THE REACH LENGTH EXCEED 500 FT.
14. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

SE-1: SILT FENCE
ACCESS LOCATION DETAIL



DETAIL A

WATER POLLUTION CONTROL PLAN
ROSE CANYON TRUNK SEWER

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 7 OF 7 SHEETS

MAP DEVELOPED BY: GHD INC.

MICHAEL DOLE PE, QSD 24112
QUALIFIED SWPPP DEVELOPER CERT#

175 Technology Drive Suite 200

Irvine, CA 92618

T: 949.648.5200

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	Alex Leu	Michael Dole PE, QSP/QSD				

www.ghd.com

ATTACHMENT F

INTENTIONALLY LEFT BLANK

ATTACHMENT G

CONTRACT AGREEMENT

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Abhe & Svoboda, Inc., herein called "Contractor" for construction of **Rose Canyon Trunk Sewer Joint Repair**; Bid No. **K-17-1437-DBB-3**; in the amount of **Six Million Nine Hundred Thirty Three Thousand Two Hundred Fifty Four Dollars and Zero Cents ($6,933,254.00)**, which is comprised of the Base Bid.

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) Phase Funding Schedule Agreement, Long Term Revegetation Maintenance Contract.

   (e) That certain documents entitled **Rose Canyon Trunk Sewer Joint Repair**, on file in the office of the Public Works Department as Document No. **B-11025**, 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 **Rose Canyon Trunk Sewer Joint Repair**, **K-17-1437-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.

CONTRACT AGREEMENT (continued)

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: Albert P. Rechany
Deputy Director
Public Works Department

Date: 9/6/17

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By _____

Print Name: Pedro DeLara, Jr.
Deputy City Attorney

Date: 9/6/17

CONTRACTOR ABHE & SVOBODA, INC.

By _____

Print Name: ~~Gail Svoboda~~
President

Title: _____

Date: 060617

City of San Diego License No.: B20130425S2

State Contractor's License No.: 506526

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000000096

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.

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. **K-17-1437-DBB-3**; SAP No. (WBS/IO/CC) **B-11025**; 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.

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**

Bids will not be accepted until ALL forms are submitted as part of the bid submittal

BID BOND

See Instructions to Bidders, Bidder Guarantee of Good Faith
(Bid Security)

KNOW ALL MEN BY THESE PRESENTS,

That Abhe & Svoboda, Inc. as Principal, and

Western Surety 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

Rose Canyon Sewer Trunk Repair, Project No. L-17-1437-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 28th day of March, 2017

Abhe & Svoboda, Inc. (SEAL)	Western Surety Company (SEAL)
(Principal)	(Surety)
By: _____	By: _____
(Signature)	Michelle Halter, 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~~ Minnesota
County of Hennepin)

On March 28, 2017 before me, Heather R. Goedtel, Notary Public
(insert name and title of the officer)

personally appeared Michelle Halter, Attorney-in-Fact,
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~~ Minnesota that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

HEATHER R GOEDTEL
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2018

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Laurie Pflug, Jill N. Swanson, Brian D. Carpenter, Nicole Langer, Craig Olmstead, Jessica Hoff, Heather R. Goedtel, Michelle Halter, Individually

of Minneapolis, MN, 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 it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 17th day of February, 2017.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 17th day of February, 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 the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; 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 corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

June 23, 2021

J. MOHR NOTARY PUBLIC SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation 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 corporation this 28th day of March, 2017.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

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

Contractor Name: Abbe & Svoboda, Inc.

Certified By David Grant Title Area Manager

Name

Signature Date 03/28/17

USE ADDITIONAL FORMS AS NECESSARY

City of San Diego

CITY CONTACT: Michelle Muñoz - **Contract Specialist, Email**: MichelleM@sandiego.gov
Phone No. (619) 533-3482. **Fax No.** (619) 533-3633

ADDENDUM "D"

e - Bidding

FOR

ROSE CANYON TRUNK SEWER JOINT REPAIR

BID NO.: K-17-1437-DBB-3
SAP NO. (WBS/IO/CC): B-11025
CLIENT DEPARTMENT: 2000
COUNCIL DISTRICT: 1
PROJECT TYPE: JA, JB

BID DUE DATE:

2:00 PM
MARCH 28, 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:

3/13/2017
1) Registered Engineer — Date — Seal:

3/13/17
2) For City Engineer — Date — Seal

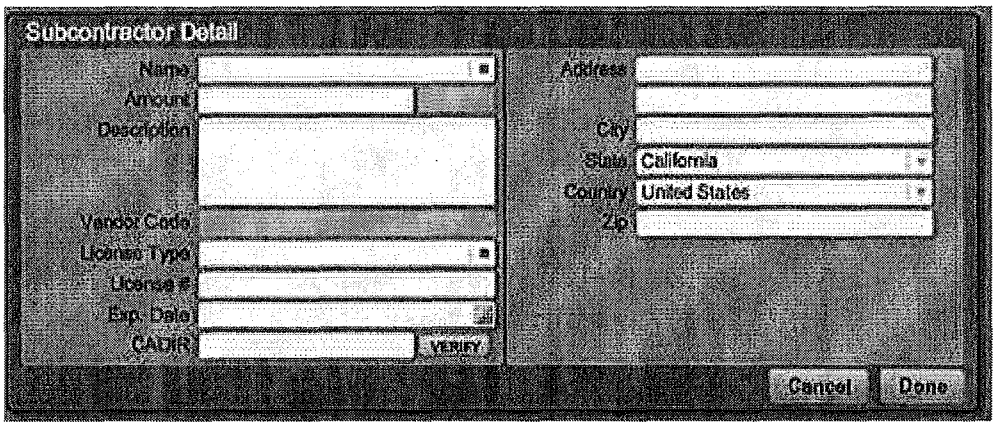
A. CHANGES TO CONTRACT DOCUMENTS

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. At the bottom of the List of Subcontractors form, it states that "The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification." Is the proof of certification required at bid time or post-bid? There is no spot on the electronic List of Subcontractors (see below) to list the type of certification (SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB), certifying agency and proof of certification. Please advise.



A1. This project is subject to the SLBE Program and has SLBE-ELBE subcontracting participation requirements listed on page 4. Proof of certification for SLBE, ELBE, and OBE firms is not required. Proof of certification for other firms can be added by attaching documentation with the bid on PlanetBids.

Q2. Please reference SSP 209 – Pressure Pipe. SSP 209-1.1.2 specifies a ceramic epoxy liner for the inside of bells. The Contractor can find

no instances of where this would be used on the project. Please identify the intent of the SSP as where this would be used.

A2. See Addendum "B", A14 for bypass design. Included in the event required for the bypass system.

Q3. Please reference SSP 209 – Pressure Pipe. SSP 209-1.1.2 specifies Flange gasket types. The Contractor can find no instances of where this would be used on the project. Please identify the intent of the SSP as where this would be used.

A3. Included in the event required for the bypass system.

Q4. Is the surveying for this project is done by the outside agency or the City?

A4. The City of San Diego's Field Survey section will perform surveying for this project.

Q5. Bid Item 21 should be a "joint cleaning per seal installation location" bid item as only repair locations are being cleaned under this bid item, not all 22,979 LF of pipe.

A5. Yes, clean the entire 22,979 LF.

Q6. Please provide additional details for the stop logs and City approved manufacturers. Details within the contract documents are insufficient.

A6. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 8., page 20 of 74 of this Addendum.

Q7. Please provide a scope for bid item 27. Is this one single large repair location? Hundreds of small locations? Thousands of really small locations? If a specific scope does not exist/cannot be currently identified, we suggest changing the bid item to an allowance as it is impossible to bid an undefined scope.

A7. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 9., page 27 of 74 of this Addendum. See Section F., ADDITIONAL CHANGES, page 71 of 74 of this Addendum.

Q8. Please revise the specification to allow Arrow-Lock as an equal. The manufacturer of the host pipe (Ameron) recommends repair of their pipe with Arrowlock, not Linabond. The City has also had an extensive history with use of Arrowlock to repair T-Lock (South Metro Interceptor Rehabilitation Project / West Point Loma Interceptor Project). Please revise the specification to allow arrowlock as an equal.

A8. Arrow - Lock has been approved by The City of San Diego as "Or Equal".

Q9. Only 1 manhole appears to be called for rehabilitation per Appendix M, however the bid item quantity for MH rehab far exceeds the depth of this one manhole. Please identify the additional manhole/s to be rehabilitated.

A9. The manhole rehabilitation has been removed from the Project. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 14., page 71 of 74 of this Addendum. See Section F., ADDITIONAL CHANGES, page 71 of 74 of this Addendum.

Q10. For the CIPP installation, are there diversions or bypass required?

A10. The manhole rehabilitation has been removed from the Project. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 14., page 71 of 74 of this Addendum. See Section F., ADDITIONAL CHANGES, page 71 of 74 of this Addendum.

Q11. Is there CCTV available for the reach to be CIPP lined?

A11. See A10 of this Addendum for CIPP installation.

Q12. Please provide a more accurate detail map/location for the CIPP installation.

A12. See A10 of this Addendum for CIPP installation.

Q13. Bid item CIPP Manhole lining: There is a line item for 48 VF of CIPP manhole lining which is good in case some manholes are found to be in need of repair during the pipeline repairs. Like all liners we need to specify the wall thickness: Estimate bid depths up to 10 feet using liners designed up to 15 feet deep and up to 8 feet of ground

water. Triplex or Poly Triplex model # 5600 or Multiplex # 25-46 all three meet the specifications.

A13. See A10 of this Addendum for CIPP installation.

Q14. We want to see if we could reduce the percentage for work that will be done by prime contractor from 50 to 30 percent in this contract. Please let us know if the joint repairs can be sub out or not?

A14. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 2., page 13 of 74 of this Addendum for Self-Performance.

Q15. There is no way to determine from the bid documents provided the extent of spalling concrete repairs which may be needed at the joints. In the absence of any information, please confirm that the Contractor is to include this undetermined QTY repair in the unit price for Internal Pipe Seal (Bid Items (22-26). Conversely, please confirm that these repairs will be paid for separately and treated as extra work.

A15. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 9., page 27 of 74 of this Addendum. See Section F., ADDITIONAL CHANGES, page 71 of 74 of this Addendum for related bid items.

Q16. Please let the Contractor know if any approved or/equal products exist for this project.

A16. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 9., page 27 of 74 of this Addendum.

Q17. Plans & Specifications: There are two different Detail Drawings provided for the seals and retaining bands. The one in the Plans (page 24) is correct while the one in the Solicitation (page 218) appears to have never been corrected.

A17. Only drawing sheets with the City engineer's signature are acceptable and shall be considered by the bidders.

Q18. Lateral flow safety: There are a number of laterals that flow into this pipeline can these be plugged, diverted or bypassed into the parallel pipeline for the workers safety. Can the contractors get a list of these laterals and expected flows.

A18. The City does not have a list of laterals. Bid as is.

Q19. Anticipated flows in pipe: Based off of the slope and profile of the pipeline how high should the contractors expect the flows to be in the pipe and at what locations?

A19. Please bid as is.

Q20. To make it possible for all manufactures to use the joint materials that have been approved or will be approved by the City (should cover inspection and installation-no sole sourcing for one company).

A20. No sole-sourcing was ever included in the original contract documents. Additionally, WEKO-SEAL, Arrow - Lock and Link Pipe products were recommended as "Or Equal" per Addendum D Section Attachment E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 9., 500-1.14.6.1.

Q21. Determine if it is possible to make partial replacement of the joint like 50 percent of pipe circumferences.

A21. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 9., page 27 of 74 of this Addendum.

Q22. Please see attached submittal for the Internal Pipe Seals" Red Ex Internal Seal" for the Rose Canyon project

A22. Based upon our technical review of the product and information provided, the City deny the requested approval of the alternative internal pipe seal product as "Or Equal" for this project.

Q23. Please reference SSP Attachment A – Scope of work, item No. 4 Contract Time. Please confirm that working days will not be tolled during the wet season. In other words, please confirm that the Contract clock will stop and working days will not be counted when the Contractor is forced to shut down operations during the wet season.

A23. The Contract Time as referenced shall omit the recess period during a rain/wet season as defined by the City.

Q24. Please reference SSP Section 1-2 Working Hours. Limiting the Contractors working hours to 7 ½ hours per day will increase project costs to the City. Please confirm that the Project working hours may be a minimum of 8 ½ hours per working day. This allows the Contractor's work force to work their 8 paid hours with their mandated ½ hour lunch break.

A24. See Section E., Supplementary Special Provisions, Section 1 - Normal Working Hours, page 12 of 74 of this Addendum.

Q25. Please reference SSP App M Manhole 27 and 48" Lining – Please identify the upstream manholes required to bypass and isolate this item of work ,along with bypass requirements and anticipated flows to be handled when performing this work.

A25. See A10 of this Addendum for CIPP installation.

Q26. Regarding Bid Item 27 Chemical Welded PVC Lining Repairs, where are these repairs proposed?

A26. Refer to Addendum "B", A1. For link to ftp site.

Q27. The detail on page 218 Bidders Solicitation is not the same as Plan detail Sheet 24, please clarify.

A27. See A17 of this Addendum.

Q28. Please reference SSP 4-1.3.4 and 4-1.3.5. The Contractor understands the instruction to carry costs to cover the special inspection requirements for Copolymer Lining and Internal Pipe Seals. Based on a thorough investigation of all Contract Documents, there does not appear to be any other items of Work which would require the Contractor to carry costs to cover special inspections. Please confirm that this is true. If not, please identify any other items of Work which the City would like the Contractor to carry special inspection costs for.

A28. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 4., page 17 of 74 of this Addendum.

Q29. It mentions that supplemental agreements for extended revegetation and monitoring and emulsion aggregate slurry

attached to this contract need to be signed by the Bidder at the time of submission of the primary BID. There is no area on the electronic portal (PlanetBids) to submit this. There is only a spot for the "Bid Bond" and "Contractor's Certification of Pending Actions". Please advise if we are required to submit a signed LONG-TERM REVEGETATION MAINTENANCE AGREEMENT and if so, where do we submit it electronically?

A29. The LONG-TERM REVEGETATION MAINTENANCE CONTRACT will be established after award process of the project, SEE 2015 WHITEBOOK, SECTION 802.

Q30. Please reference SSP 800-1.6, 801-1.1 and other SSP references to the Project Biologist. Please confirm that the Project Biologist is a consultant retained and paid for by the City and not the Contractor.

A30. Refer to the contract document Section 802-5-d.

Q31. Please reference SSP 802-3.7, Plan Sheets L1 and L2, as well as repeated notes on the plans stating that all clear and grub to access manholes is by others. Is it the intent of the plans and specifications to have the Contractor plant, irrigate and maintain all the manhole access areas cleared and grubbed by others?

A31. Clearing and grubbing on maintenance access paths shall be performed by the City's crews, all clearing and grubbing in all other areas shall be done by the contractor. All disturbed areas in the project shall be maintained per Section 802-5 of contract document.

Q32. Please reference SSP APPENDIX H, LONG-TERM REVEGETATION MAINTENANCE AGREEMENT. Please confirm it is the City's intent to have the Contractor execute this agreement and maintain the planting areas for 5 years following the plant establishment period, including irrigation, weeding, trash pickup at the frequencies listed in App H as well as additional bond and insurance costs. This seems an expensive addition as well as being out of scope to a $9.5M, 18 month Project. Please consider letting the revegetation maintenance contract out as a separate contract so that a landscape maintenance Contractor who specializes in this type of work may perform the scope. Also, please reference SSP App H Section 4.1 Maximum

Compensation. There is no line item in the Contract SOV to assign a value to this scope of work.

A32. There is a line item for Long Term Revegetation in the Bid Item called "Revegetation and Erosion Control". See this addendum Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 10, page 67 of 74 for updates to requirements.

Q33. An aboveground irrigation system is mentioned in the specs but there no plans have been provided and they are not included in the bid sheets. Can you confirm those are needed and/or provide a copy of the irrigation system details?

A33. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 10- Appendix H, LONG TERM REVEGETATION MAINTENANCE AGREEMENT, page 67 of 74 of this Addendum.

Q34. The bid docs mention preparation of a Revegetation Plan. The specs include a seeding palette and success criteria so I am assuming one has already been prepared. If not, is this something that needs to be included in our cost? If it is an existing document, can you provide a copy?

A34. Bid per plan.

Q35. Can PEP begin while construction is still under way, perhaps on the other end of the project site? Or must all construction have cleared out from the site prior to PEP?

A35. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 10., Appendix H, page 67 of 74 of this Addendum.

Q36. Please specify working condition in the pipeline and safety concern.

A36. Refer to Contract Documents, Attachment D- Prevailing Wages pages 27-30. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 8., page 20 of 74 of this Addendum.

Q37. Can you tell me or email me the bid schedule for this job? I can't find it on any of the plans or specs.

A37. Bid Schedule is in PlanetBids and has been update per Section F., ADDITIONAL CHANGES, page 71 of 74 of this Addendum.

Q38. Based on the as-built information for Junction Structure #1, it does not appear that the specified lifting device for the stop logs will be able to be used to place the stop logs based on the placement of the stop logs being offset from the MH Lid as well as the height of the stop logs. Please confirm whether or not the lifting device is required.

A38. Revise answer from Addendum "B", A11: Please provide a lifting device and associated mounting hooks in accordance with Subsection 304-7.3.4 of this Addendum. We acknowledge the stop logs are offset from the manhole shaft and thus access is limited to manned entry for the by-hand installation and removal of the stop logs.

Q39. In the bidding document page 52 – item – 3304-7.3.2 – Stop Logs – item #1.

This calls out "Each stop log shall be 6, 12 or 18 inches tall." These logs need to manually handled so the weight and size will be a factor. The cost for 9ea. 6" stop logs vs. 3ea. 18" is greatly different. Please confirm what height of stop logs you need or if any size is allowed. In which case, everyone will be bidding 18" tall logs.

A39. See Section E., SUPPLEMENTARY SPECIAL PROVISIONS, Item 8., page 20 of 74 of this Addendum.

C. NOTICE INVITING BIDS

1. To Item 3. ESTIMATED CONSTRUCTION COST, page 4, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   3. ESTIMATED CONSTRUCTION COST: The City's estimated construction cost for this project is **$6,900,000.**

2. To Item 7. SUBCONTRACTING PARTICIPATION PERCENTAGES, page 4, Sub-item 7.1., **DELETE** in its entirety and **SUBSTITUTE** with the following:

7.1. The City has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1.	SLBE participation	**4.9%**
2.	ELBE participation	**10.4%**
3.	Total mandatory participation	**15.3%**

D. ATTACHMENTS

1. To ATTACHMENT A, SCOPE OF WORK, page 22, ITEM 1. SCOPE OF WORK, **DELETE** in their entirety and **SUBSTITUTE** with the following:

1. **SCOPE OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works, appurtenances for the construction of the Project as described below: Rehabilitation of 23,000' of 54" and 60" trunk sewer using mechanical seals with PVC liners repairs and installations of 32" bypass and pumping system and stop logs junction structure for diversion of flow to 42" trunk sewer during the construction.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **38791-01-D** through **38791-36-D**, inclusive.

2. To ATTACHMENT A, ESTIMATED CONSTRUCTION COST, page 22, ITEM 2., **DELETE** in their entirety and **SUBSTITUTE** with the following:

2. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **$6,900,000.**

E. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Section 1 - TERMS AND DEFINITIONS, ABBREVIATION, UNITS OF MEASURE, AND SYMBOLS, page 32, Item 1-2. TERMS AND DEFINITIONS **DELETE** in its entirety and **SUBSTITUTE** with the following:

   1-2 **TERMS AND DEFINITIONS**. To the City Supplement, item 54, Normal Working Hours", ADD the following:

   The **Normal Working Hours** are 7:00 AM to 4:30 PM.

2. To Section 2 – SCOPE AND CONTROL OF WORK, page 32, Item 2-3.2, Self Performance, **DELETE** in its entirety and **SUBSTITUTE** with the following:

   2-3.2 **Self Performance.** To the "GRENBOOK", 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.

3. To Section 3 – CHANGES IN WORK, **ADD** the following:

   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.

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.

4. To Section 4- CONTROL OF MATERIALS, page 33, Item 4-1.3.4, Inspection Paid For By the Contractor, **DELETE i**n its entirety and **SUBSTITUTE** with the following:

4-1.3.4 **Inspection Paid For By the Contractor.** To the "WHITEBOOK", ADD the following

2) The special inspections required are listed as follows:
   a. Copolymer and PVC Lining Systems
   b. Internal Pipe Seals

5. To Section 4- CONTROL OF MATERIALS, **ADD** the following:

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

6. To Section 7 – RESPONSIBILITIES OF THE CONTRACTOR, page 45, Item 7-8.7.9, Payment, **DELETE** in its entirety and **SUBSTITUTE** with the following:

7-8.7.9 Payment.

1. Payment for Flow Bypass System will be made at the lump sum bid price for Flow Bypass Pumping System. The payment includes all required labor, material, equipment, maintenance, monitoring of the bypass pumping facilities, removal, clean up and all other incidental costs related to the operation of bypass system during entire construction duration as required.
2. Payment for the HDPE sewer bypass piping will be made at the bid price per linear foot for 32-Inch Sewer Bypass Piping and 4-Inch Sewer Bypass piping.

7. To Section 9- PAYMENTS, **ADD** the following:

9-3.5 Field Orders.

2. The maximum field order amount for this contract has been established as $298,000.00 and shall be compensated in accordance with Subsection 3-3.2.

8. To Section 304-Metal Fabrication and Construction, **DELETE** in its entirety and **SUBSTITUTE** with the following**:**

304-5 **PAYMENT.** To the "WHITEBOOK", REVISE section "**304-5**" to "**304-6**".

304-7 STOP LOGS

304-7.1 **General.** The Contractor shall furnish all labor, materials, equipment and incidentals required to install and ready for operation stop logs, guide frames and stop log lifter as shown on the Plans and as specified herein. Stop logs shall be used by the Contractor to divert flow from the 54-inch PLRCP and into the 42-inch PLRCP at Junction Structure No. 1 near upstream limits of work (Sta. 224+25 +/-), thereby allowing for isolation of the 60-inch PLRCP for joint repairs downstream of the stop logs. See also Section 7-8.7 Flow Bypass

System for bypass that allows joint repairs upstream of Junction Structure No. 1 and for installation of the stop logs.

Junction Structure No. 1 is located in a dense mixed riparian sycamore willow woodland habitat area with a portion of the proposed access route within state, federal and city jurisdictionally protected waters and wetlands. The access route is also along a slope from a dirt access road. Contractor shall be responsible for all equipment necessary to safely traverse the slope. Vehicles will not be allowed or physically able to access this manhole. All equipment and means required to install the stop logs must be hand carried.

The current physical condition including the presence of a lining system and existing frame guiderails are unknown at this time. The Contractor shall make entry to assess and document the current condition (including digital photographs) and physical dimensions prior to the commencement of shop drawings.

304-7.2 Submittals.

1. Drawings showing dimensions and essential details required to locate and install the stop logs shall be submitted for the Engineer's approval.

2. Complete description of all materials including the material thickness of all structural components of the stop logs, guide frames and stop log lifter.

3. Installation drawings showing all details of construction, details required for installation, dimensions and anchor bolt locations.

4. Maximum bending stress and deflection of the stop logs under the maximum design head.

5. The location of the company headquarters and the location of the principle manufacturing facility. Provide the name of the company that manufactures the equipment if the supplier utilizes an outside source.

304-7.3 Materials.

1. Stop log assemblies shall be as specified herein and have the characteristics and dimensions shown on the Plans and measured in the field.

2. Leakage shall not exceed 0.05 gpm/ft of wetted seal perimeter.

3. The stop logs shall be provided with a continuous resilient seal along the bottom and both sides. The guide frames shall not incorporate seals.

4. Stop logs shall be of the height as shown in the Plans and they shall be designed to function properly when stacked in any order.

5. Stop logs shall be designed to drop into place under their own weight without any downward pressure necessary. Stacking stop plates are not acceptable in lieu of stop logs.

6. All structural components of the guide frames shall be fabricated of 316 stainless steel and shall have adequate strength to prevent distortion during normal handling, during installation and while in service.

7. All structural components of the guide frames shall be fabricated of 316 stainless steel and shall have adequate strength to prevent distortion during normal handling, during installation and while in service.

8. All welds shall be performed by welders with AWS certification.

9. Finish: Mill finish on aluminum and stainless steel. All aluminum in contact with concrete shall be shop coated with a heavy coat of bitumastic paint. Welds on aluminum shall be cleaned to provide a uniform finish. Welds on stainless steel shall be sandblasted to remove weld burn and scale.

10. Materials:

Components	Materials
Frame Guides and Invert	Stainless Steel, Type 316L, ASTM A240
Stop Logs	6061-T6 Aluminum
Lip Seal	Urethane, EPDM or Neoprene ASTM D-2000
Anchor Studs, Fasteners	Stainless Steel, Type 316, ASTM A276 and Nuts

304-7.3.1 Frame Guides. The frame guides or grooves and invert member shall be constructed of 316 stainless steel with a minimum thickness of 1/4-inch.

1. Frame design shall allow for embedded mounting or mounting directly to a wall with stainless steel anchor bolts and grout.

2. An invert member shall be provided across the bottom of the guides. The invert member shall be of the flushbottom type.

3. Frame mounted seals are not acceptable.

304-7.3.2 Stop Logs. The stop logs shall be constructed of extruded aluminum shapes with a minimum thickness of 5/16-inch.

1. Each stop log shall be 6-inches tall (maximum) and weigh no more than 25 pounds (maximum).

2. 306-18.7Maximum bending stress shall not exceed 7600 psi at the maximum operating head.

3. Two slots shall be provided in the top of each stop log for removal and installation via the stop log lifter.

4. Each stop log shall be outfitted with an identification tag indicating the manufacturer, width of the opening and maximum head rating at a minimum. Additional tags shall be included on each stop log that indicates "dry side" and "wet side". Tags shall be welded to each log.

5. Allowable manufacturers of the stop logs and associated equipment shall be furnished by Waterman, Hydro Gate, Rodney Hunt, or approved equal.

304-7.3.3 Seals. Each stop log shall be outfitted with a continuous resilient lip seal along the bottom and both sides to restrict leakage in accordance with the requirements listed in this specification.

1. The continuous lip seal shall be constructed of urethane or rubber and shall be mechanically retained to the stop log.

2. The lip seal shall be activated by a combination of the weight of the stop log and the differential water pressure, which pushes the seal against the inside of the groove assembly.

3. Stop logs that utilize rubber "J" seals or "P" seals are not acceptable.

304-7.3.4 Lifter. One stop log "lifter" lifting device shall be provided by the Contactor.

1. The lifter shall be constructed of aluminum and shall be outfitted with UHMW guide bars and stainless steel fasteners.

2. The lifter shall be provided with lifting hooks designed to engage the slots in the top of the stop logs. A lanyard release will be incorporated into the design.

3. The lifter shall be capable of installing and removing all stop logs of the same width whether they are installed or at the operating floor level.

4. The lifter shall be capable of applying a "pull-out force" sufficient enough to unseat each stop log under surcharged flow conditions.

5. The Contractor shall provide and install lifter mounting hooks (or other mounting devices) along the ceiling of Junction Structure No. 1 and positioned directly over the stop logs. The hooks (and mounting hardware) shall be 316 stainless steel and mounted to withstand the anticipated "pull-out force" including the weight of the lifter and single stop log.

304-7.3.5 Anchor Bolts. Anchor bolts shall be provided by the stop log manufacturer for mounting the guide frames.

1. Quantity and location shall be determined by the stop log manufacturer.

2. If epoxy type anchor bolts are provided, the stop log manufacturer shall provide the studs and nuts.

3. Anchor bolts shall have a minimum diameter of 1/2-inch.

304-7.4 Installation.

1. Installation of the stop logs, guide frames and appurtenances shall be done in a workmanlike manner. It shall be the responsibility of the Contractor to handle, store and install the equipment specified in this Section in strict accordance with the manufacturer's recommendations.

2. The Contractor shall review the installation drawings and installation instruction prior to installing the guide frames.

3. The guide frames shall be installed in a true vertical plane, square and plumb.

4. The Contractor shall fill the void in between the guide frames and the wall with non-shrink grout as shown on the installation drawing and in accordance with the manufacturer's recommendations.

304-7.5 **Field Testing.** After installation, all stop logs shall be field tested in the presence of the City to ensure that all items of equipment are in full compliance with this subsection. The stop logs shall be inserted into the guide frames to confirm that they operate in accordance with this special provision. Each stop log assembly shall be water tested by the Contractor, at the discretion of the City, to confirm that leakage does not exceed the specified allowable leakage.

304-7.6 **Payment.** To the SSP, DELETE in its entirety and SUBSTITUTE with the following: Payment for the fabrication and installation of the stop logs, lifter, and frame guides during the rehabilitation of the Rose Canyon Trunk Sewer will be made at the lump sum bid price for Bypass Stop Logs for Junction Structure #1. This bid item shall also include the removal and delivery of the stop logs and lifter to the City upon the completion of the associated work. Payment for the

manned entry for the removal and subsequent re-installation of stop logs due to high sewer flow event(s) shall be compensated under Stop Logs Removal and Re-Installation. Payment for these bid items shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 304-7.

9. To Section 500 – PIPELINE, MANHOLE, AND STRUCTURE REHABILITATION, pages 54 through 79, **DELETE** in its entirety and **SUBSTITUTE** with the following:

SECTION 500 – PIPELINE, MANHOLE, AND STRUCTURE REHABILITATION

500-1.1.1 General. To the "WHITEBOOK", ADD the following to i tem 1:

1. The Contractor shall furnish and install, between the limits shown on the Plans or on Contract Documents, a tight-fitting sewer rehabilitation liner. The allowed rehabilitation methods shall be as follows:

   a) Internal Pipe Seals shall conform to 500-1.14, "Internal Pipe Seals".

   b) Copolymer and PVC Lining for Piping shall conform to 500-1.15, "Copolymer and PVC Lining Systems for Piping".

ADD the following:

3. From visual and video inspection, it was discovered the T-lock lining weld strips at the 60-inch pipe joints were loose and pulling away from the pipe walls. The cement mortar has started to deteriorate behind the T-lock lining as a result of attack from hydrogen sulfide and sulfuric acid. The inspection demonstrates that

the failures of the welds existed throughout the pipeline although not at every joints.

4. An internal joint sealing system, meeting the requirements of this specification, shall be used to seal the joint area between two or more sections of pipe where joint damage is present. The means of sealing leaking or defective pipe joints by the installation of a mechanical sealing and/or PVC liner strip system which bridges the joint to prevent infiltration, or exfiltration or the corrosion of the host pipe.

5. The internal joint sealing system shall be designed to prevent leakage in the above described portions of the pipe or manhole throughout a 50 year design life.

6. The internal joint sealing system shall prevent the leakage of water into the pipe at the joints connecting each section. Leakage shall be construed to mean freely dripping water emanating at the interface between the seal and the pipe through the body of the seal itself. The seal shall remain flexible and have the capability to maintain a watertight seal throughout its design life.

7. The total number of joints are specified in the bid documents per the Engineers' preliminary evaluation, however the joints and method of repair need to be determined by Physical inspection and re-evaluated by the Contractor and the Resident Engineer to determine the exact number of affected joints and recommended method of repair. The Contractor shall be paid based on the actual number of joints to be repaired using the unit price. Section 3-2.2.3 of Greenbook for payment is not applicable due to uncertainty of the repair task.

8. The Contractor shall furnish and install, between the limits shown on the Plans, internal pipe seals at all joints, as directed by the Engineer, following the pre-construction CCTV inspection. The Contractor shall also be required to furnish and install patch repairs of the existing PVC liner with a copolymer lining system, as required.

   The manholes in Rose Canyon are located within or adjacent to environmentally sensitive areas. The Contractor is not authorized to trim any vegetation along the paths or manholes. All clearing and grubbing at those locations shall be completed by the City of San Diego Wastewater Collection – Canyons North Crew. City shall coordinate all clearing and grubbing coordinate with Engineer prior to the start of work. Access to Manhole No's 479, 466 and 460 is not allowed due to their location within state, federal and city jurisdictional waters and wetlands. Access to Manhole No.'s 452, 451, 455 and 449 will be along a slope. All equipment required to construct repairs must be hand carried as vehicles will not be allowed or physically able to access the manholes. Contractor shall be responsible for all equipment necessary to safely traverse the slopes.

500-1.1.2.1 Initial Submittals. To the WHITEBOOK, ADD the following:

4. Within 3 Working Days of the Bid opening date, the 3 apparent low bidders shall submit the following:

   a) Manufacturer Certification

   b) Authorize Installer Certificates

ADD:

500-1.11 Pipe Joint Failure Classifications.

500-1.11.1. General. The subject Rose Canyon Trunk Sewer joint failures are categorized in four (4) different conditions: 1 – Good, 2 – Poor, 3 – Bad, and 4 – Severe.

1. **Good Joints.** Joints in the pipeline where the existing PVC liner is firmly in place require no repairs or rehabilitation.

2. **Poor Joints.** The joints that show signs of minor separation or bubbling/blistering under the liner should be repaired using PVC weld strips in accordance with Subsection 500-1.15.

3. **Bad Joints.** Where the liner has peeled in localized areas or there is evidence of wet spots, minor corrosion or wear along the concrete surface, the area shall be repaired using a copolymer lining system or new PVC liner in accordance with Subsection 500-1.15.

4. **Severe Joints.** This case is defined as joints where the liner has been largely detached and significant areas of corrosion are observed. Such repairs will require an Internal Pipe Seal in accordance with Subsection 500-1.14.

ADD:

500-1.14 Internal Pipe Seals.

500-1.14.1 General. The work covered under this subsection includes the furnishing of all materials, tools, equipment and labor related to furnish and install internal pipe joint seals of 54-inches to 60-inches in diameter for those damaged joints classified as Severe Joints in accordance with Subsection 500-1.11.1.

The seals are meant for installation in pipelines with operating pressures of up to 45 psi.

500-1.14.2 Codes and Standards. Materials used in the fabrication, assembly, and installation of internal pipe seals shall comply with the following ASTM and AWS Standards:

ASTM A240 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ASTM C150 Standard Specification for Cement Mortar

ASTM D395 Standard Test of Rubber Compression Set

ASTM D412 Standard Test Method for Rubber Properties in Tension

ASTM D573 Standard Test Method for Rubber Deterioration in Air Oven

ASTM D1171 Standard Test Method for Rubber Deterioration Surface Ozone Cracking Outdoors or Chamber

ASTM D2000 Standard Classification System for Rubber Products in Automotive Application

ASTM D2240 Standard Test Method for Rubber Property Durometer Hardness

ASTM D3568 Standard Test Method for Rubber Evaluation for EPDM

ASTM D3900 Standard Test Methods for Rubber Determination of Ethylene Units in Ethylene-Propylene Copolymers (EPM) and in Ethylene-Propylene- Diene Terpolymers (EPDM) by Infrared Spectrometry

AWS A5.4 Specification for Stainless Steel Electrodes for

Shielded Metal Arc Welding

AWS D1.6 Structural Welding Code - Stainless Steel

500-1.14.3 Qualifications. The Contractor shall engage either the pipe seal manufacturer or any other entity accepted by the seal manufacturer (as fully trained for installing the seals) for the installation of the seals. The manufacturer or qualified entity shall provide continuous field inspection, instruction, and direction to the Contractor during the installation of the pipe seals to insure that the work, including but not limited to, the surface preparation, installation procedures and seal testing, are performed per the manufacturer's recommendations. A reference list of at least ten (10) such installations shall be submitted. All personnel involved with the direct placement, installation and testing of the internal seal shall have proper training and shall, upon request, provide training certification.

Internal pipe seals shall have an approved testing device or mechanism to allow pressure (leak) testing after installation.

500-1.14.4 Submittals. Plans, Specifications, installation procedures and schedules, installer qualifications, testing procedures and details, safety training and other data showing complete details of the fabrication, construction, and installation of internal pipe seals, together with complete data covering all materials proposed for use, shall be submitted in accordance with General Requirements. A copy of the Contractor's and Foreman's factory training certificate shall be provided with the bid.

Submittals shall indicate the ASTM designation for the material from which each component is fabricated.

500-1.14.5 Shipping, Handling, and Storage. Internal pipe seals shall at all times be shipped, handled and stored in a manner that will ensure installation in sound, undamaged condition.

1. Delivery schedules shall be controlled to minimize long-term storage at the site and overcrowding of construction spaces.

2. Materials and equipment shall be transported and stored in supplier's unopened containers or packaging and in accordance with supplier's written instructions, with seals and labels intact and legible.

   a) Rubber membranes shall be individually sealed in plastic bags and packaged in a manner that will not damage or deform them. Rubber membranes shall not be removed from plastic bag until time of use and shall be stored in a cool dry environment.

   b) Labels shall indicate contents and expiration date of material.

500-1.14.6 Acceptable Seal Manufacturers and Installers.

500-1.14.6.1 Acceptable Seal Manufacturers. Internal pipe seals shall be manufactured by Cretex Specialty Products, HydraTech Engineered Products, Miller Pipeline WEKO-SEAL, or approved equal. For considering as equal, the manufacturer shall demonstrate that they meet or exceed the minimum dimensions in 500-1.14.7. Reference lists including project name, seal sizes, application, year of installation and contact details shall be submitted.

500-1.14.6.2 Acceptable Seal Installers. Installers shall install internal pipe seals similar to the sizes required for this Project. Reference lists including project name, seal sizes, application, year of installation and contact details shall be submitted. Installers must provide proof of current certification from the seal manufacturer for the installation of the seals supplied by the manufacturer.

500-1.14.7 Materials and Equipment.

500-1.14.7.1 General. Each internal pipe seal shall consist of an EPDM rubber membrane, stainless steel 316 bands to hold the

rubber membrane, shims, wedges and other items in place to make it a complete assembly. The bearing surface of the rubber membrane shall have seals at each end. The typical inside diameter (ID) width and overall width of the seals for the four seal types shall be as indicated below (may vary depending on manufacturer):

Standard seal:	5.75 inches ID; 11.17 inches overall; with 2 stainless steel bands
Extra-wide seal:	9.00 inches ID; 14.44 inches overall; with 3 stainless steel bands
Double-wide seal:	16.00 inches ID; 21.44 inches overall; with 4 stainless steel bands
Double-wide sleeve:	53.44 inches ID; 58.88 inches overall; with 10 stainless steel bands (Join three double-wide seals)

500-1.14.7.2 EPDM Rubber Joint Liner. The EPDM rubber membrane used for the pipe seal shall fully comply with ASTM D2000, ASTM D3900 and ASTM D3568 and shall meet the following requirements:

1. Ingredients of the EPDM polymer shall be listed in FDA Title 21 Code of Federal Regulations Section 177.2600 with the final material not supporting microbiological growth when used in potable or sea water or in humid aerobic conditions.

2. The volume change of the rubber shall not exceed 3 percent after immersion in fresh or sea-water at 212°F for 70 hours.

3. The stress relaxation shall not exceed 12 percent when tested from a time of 30 minutes to 24 hours.

4. No voids, cracks, or similar defects shall be witnessed during visible inspection.

5. The EPDM material shall have the following Physical

Properties:

Durometer ASTM D 2240	65 +/- 5	
Tensile (psi) ASTM D 412	1,450 min	
Elongation (%) ASTM 0412	250 min.	
Heat Aged ASTM 0573	70 hours @ 158°F	
Durometer	+/- 15	
Tensile change (%)	+/- 30	
Elongation change (%)	50 max.	
Compression set ASTM D395B	22 hours 158°F	
Permanent Set (%)	25 max.	
Ozone Resistance (%)	85 min.	

500-1.14.7.3 EPDM Joint Splicing.

1. The splice in the EPDM rubber seal shall be made using compression molding method with virgin rubber of the same compound with which the seal is manufactured. A minimum width of 1/4 inch shall be maintained at the interface.

2. The joint shall be vulcanized at 330°F minimum temperature with 2000 psi pressure.

3. The joint shall not be manufactured with any glue, adhesive or equivalent.

4. While gripping the seal at approximately 6 inches on each side of the spliced joint and bending around a 3-inch min., diameter, mandrel should not produce any visible separation. No voids, cracks, or similar defect shall be witnessed during this bend test.

5. The number of joint splices shall be minimized per the manufacturer's equipment capabilities.

500-1.14.7.4 Bands, Shims and Wedges.

1. Retaining bands shall be stainless steel 316L conforming to ASTM A240 and shall be at least 2

inches wide. Thickness of retaining bands shall be selected by the manufacturer depending on seal diameter. The weld wire shall conform to AWS A5.4.

2. All materials such as push tabs, shims, wedges, and hardware shall be made of the same material as the base material.

3. The retaining bands shall be rolled to the radius of the pipe. The radius shall be obtained based on field measurements.

4. Shims shall be manually finished to the required radius and all edges shall be deburred.

500-1.14.7.5 Physical Requirements of Retaining Bands.

Tensile Strength (min.)	70,000 psi
Yield Strength (min.)	25,000 psi
Elongation in 2 inch (min.)	40%
Brinell Hardness (max.)	217
Weld Wire	70,000 psi
Finish/ condition	annealed

500-1.14.7.6 Design Consideration. The retaining band shall not buckle under installation loading. The maximum stress in the push tab welds shall conform to AWS D1.6. The maximum stress in the push tab welds shall not exceed the ultimate tensile strength in the weld wire or stick. The compressive force created in the retaining band due to thermal expansion shall not buckle under installation loading. The hydrodynamic pressure shall not exceed the minimum friction force created by the hydraulic expander under installation loading.

500-1.14.7.7 Test Valve. A test valve shall be installed in the rubber seal to enable pressure test after pipe seals have been installed. The test valve shall be made of stainless steel 316 material and shall be equipped with a means to seal or plug the valve after testing. Means of sealing with a threaded 316 stainless steel plug or equivalent shall include a non-toxic Teflon thread sealant.

500-1.14.8 Execution.

500-1-14.8.1 General. All work associated with the installation and testing of internal pipe seals shall comply with the applicable Federal, State, and local codes and standards. All workers shall be properly trained in the hazards and risk associated with working in confined spaces. Contractor shall provide and operate a safe working environment for the crews working inside the pipelines including adequate ventilation, extra fuel onsite for the blowers, atmospheric monitoring, fall protection and retrieval wenches. Prior to installation, pipe seals should be visually inspected by a qualified installer to ensure that seal material is free of defects. If quality or condition of material is in doubt, the seals shall not be used.

Areas of the pipeline where the PVC liner has been damaged shall be photographed and measured. This information shall be presented to the Engineer for their evaluation. If directed by the Engineer, an additional seal shall be installed over the damaged area and paid for at the unit bid price if the Contractor is working in the same manhole to manhole section of the pipeline.

Active infiltration that will interfere with the internal pipe seal installation shall be evaluated by the Engineer and when directed by the Engineer, chemically grouted by the Contractor and paid for as extra work. See Section 201-7 for grout specifications.

500-1.14.8.2 Site Preparation Work. The following steps shall be followed:

1. Installation work shall be performed with the pipeline isolated from service and an adequate safety boundary has been established and approved by all parties. The pipeline shall have been dewatered (if applicable) and are maintained at atmospheric pressure throughout the duration of the installation work.

2. All permits, as required by the local and state codes, or by the City shall have been processed and received and shall be available for review.

3. All pipe seals, materials, consumables and tools required for completion of work shall be verified as in good working condition. All equipment and tools required for installation and testing shall have valid calibration certificates.

4. Means of providing continuous forced air ventilation shall be provided and maintained to establish a safe oxygen level for confined space entry.

500-1.14.8.3 Cleaning. Remove all dirt, scale and other debris from pipe walls in area where pipe seals are to be installed. The cleaned area shall extend a minimum of 1 inch beyond the required sealing area. Cleaning operations shall be accomplished by hand brushing, pneumatic brushing, and/or oil-free air jet.

All materials removed by the cleaning operation shall be intercepted and removed at the nearest manhole and disposed of at an approved location.

All projections at the location of the seal installation or those hindering access to the seal location shall be removed by mechanical means.

During cleaning, protect pipeline and coating system from

damage. Any damage that may occur during the cleaning process shall be repaired at no cost to the City of San Diego by an acceptable and approved method.

500-1.14.8.4 Joint Preparation. Joint preparation shall be performed in accordance with the manufacturer's installation instructions. The following general guidelines are provided for reference:

1. Provide photographic documentation of the joint before and after joint preparation. A location or joint number shall be clearly visible in the photograph.

2. The pipe shall be pre-marked with a grease chalk to properly define the seal position and the area of pipe to be surface prepared.

3. High surface imperfections in the areas of the sealing surface shall be removed/ground flush where the lip seal(s) will come into contact with the existing pipe surface.

4. Loose cement shall be removed using a high pressure water blaster or mechanical means. Low areas shall be filled with a premixed cementitious grout suitable for structural repairs.

5. If the reinforcing steel is exposed remove the concrete a minimum of 1-inch behind all exposed reinforcement where at least 2-inches of continually exposed reinforcement is visible. Provide an aggregate fractured surface and clean the repair surface prior to the placement of grout.

6. Grout for structural repairs shall be non-metallic, controlled expansion, high strength, versatile non-shrink grout meeting the requirements of CRD-C-588-70, CRD-C-621-81, ASTM C-827-82 and ASTM C-191-79. When mixed to a mortar or "plastic" consistency, the cementitious grout shall have

minimum one day compressive strength of 6,000 psi and a 28 day compressive strength of 9,400 psi.

7. Gaps at the joints that are produced by offset, separated or misaligned pipes shall be filled to the full depth and rendered flush with the surface of the pipe with a suitable non-toxic filler material as described in Section 201-3.

8. Repaired areas should closely match both the texture and integrity of the undamaged adjacent concrete surfaces.

9. The exposed edge of the PVC liner shall be sealed using Sikadur 31, Sikaflex 1A, or equal to prevent leaking during the air test of the joint.

10. Measurement of the repair width and selecting the type of seal required shall be per Table 1. The pipe seal ID must exceed a minimum of 1/2 inch beyond the damaged section of the PVC liner. All lip seals on each side of the repair shall be pressed on the PVC liner against a sound area of the pipe. The repair widths may vary depending on manufacturer.

Table 1: Internal Pipe Seal Minimum Dimensions

Seal Type	Repair Width	OD Width	ID Width	SS Bands	Pipe Size
Standard	4 3/4"	11 3/16"	5 3/4"	2	60"
Extra-Wide	8"	14 7/16"	9"	3	60"
Double-Wide	15"	21 7/16"	16"	4	54-60"
Double-Wide Sleeve	51 9/16"	58"	52 9/16"	10	60"

500-1.14.8.5 Seal Installation. Installation of the seal shall be performed in accordance with the manufacturer's installation instructions. The following steps are general installation guidelines any are not exhaustive.

1. Install the type of EPDM rubber seal that complies with Table 1 in accordance with the manufacturer's installation procedure.

2. Clean the area around the joint where the joint seal will make contact with the PVC liner and mark the leading and trailing edges on the PVC liner. The inside edge of the interior lip seal shall be positioned a minimum of 1/2 inch beyond the edge of the repair section and shall be pressed on the PVC liner against sound concrete pipe.

3. Lubricate the prepared seal area with an approved lubricant. The lubricant functions as an aid in fitting the seal and is not credited with seal tightness.

4. Verify that the seating surface of the rubber seal is free of any dirt, scale or other debris.

5. Position the seal such that the lip seals run parallel with the joint and are located per the markings on the pipe. The pressure test valve should be located at either the 9:00 or 3:00 position.

6. Install metal shims underneath the wedge area in the seal grooves for each band prior to installing the metal retaining bands in the seal. These shims enable radial loads to be transmitted evenly to the rubber seal as the bands are expanded.

7. Position the retaining bands in the seal grooves.

8. Position the seal expander in line with the retaining band and ensure that the retaining band remains in the groove. Expand the bands using the hydraulic expander.

9. Install a locking piece (wedge) in the exposed gap between the expanded band ends. The wedge size shall be selected so as to provide interference fit.

10. Repeat "5" through "7" for subsequent bands on the same seal.

11. Perform a second expansion of each of the retaining bands a minimum of 30 minutes after the first expansion using the same pressure range as the first expansion.

12. Replace wedge pieces with larger sizes if required to provide interference fit.

500-1.14.8.6 Seal Testing. Testing of the seal shall be performed in accordance with the manufacturer's installation instructions. The following general guidelines are not intended to be inclusive of all testing procedures.

1. A pressure test shall be performed to assure the seal has been installed correctly. After a minimum of 30 minutes has elapsed, the test shall be conducted.

2. Pressure test shall be performed through the air test valve to check the air tightness around the leading and trailing edges of the seal on both outside edges. Pressurize to 10 psig (± 2 PSIG) through the seal test valve. Apply an approved soap test solution to the seal ends and inspect for leakage.

3. If the pressure test indicates leakage, determine cause and repeat installation steps.

4. In the event a second pressure test fails, notify manufacturer for evaluation and direction before performing additional work on the failed seal.

5. Depressurize the seal and isolate the test port.

6. Remove all installation hardware, pressure gauges, and consumables from the pipe.

7. Photographic documentation shall be provided of the installed seal. A location or joint number shall be clearly visible in the photograph.

500-1.14.8.7 Quality Control and Documentation. The documentation described below is based on using a hydraulic expander. If a different method is used for installing the bands, relevant details like the torque to be applied shall be documented.

1. The seal manufacturer shall provide to installer documentation detailing seal installation and forms to be used as a checklist that all steps required for proper seal installation and testing have been completed.

2. The manufacturer shall provide a manufacturer's representative on the project site for a minimum of two days at the start of the installation of each diameter size liner and two days every other week from then on. If installations are postponed for over 30 days, at the restart of the installations, the manufacturer's representative shall restart the schedule on the first week of installations.

3. The manufacturer shall appoint a qualified technician the responsibility of recording all data associated with seal installation and testing including, but not limited to, the following:

   a) Pipe sealing surface condition has been properly prepared and all voids have been filled and high areas removed.

   b) The sealing surface area of the seal is free of debris.

c) The seal has been properly located over the joint.

d) Record the time of day in which each band is installed.

e) Record the pressure of hydraulic expander for each band and confirm expander is maintained at correct pressure.

f) Record the time of day of second expansion of each band and confirm that 30 minutes has elapsed between the first and second expansion.

g) Record the pressure of hydraulic expander for each band and confirm expander is maintained at correct pressure during second expansion.

h) Record whether larger wedge was installed for each band.

i) Record the time of day to confirm that 30 minutes has elapsed from second expansion prior to start of pressure test.

j) Record time and pressure for first pressure test.

k) Record status of first pressure test.

l) Record that seal is depressurized and test plug has been plugged.

m) Record that all tools, equipment, hardware and consumables have been removed from piping.

4. The Contractor shall present a copy of a signed and dated "Installation and Testing Verification" form to the City for each seal installed.

500-1.14.10 Payment. Payment for the material and installation of internal pipe seals for the rehabilitation of the Rose Canyon Trunk Sewer will be made at the per unit bid price based on pipe diameter and seal type. Payment for these bid items shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 500-1.14.

ADD:

500-1.15 Copolymer and PVC Lining Systems for Piping.

500-1.15.1 General. This subsection sets forth the requirements for the structural polymer PVC Co-Lining system manufactured by Linabond Inc., PVC lining system manufactured by Ameron, or approved equal for rehabilitating pipes in accordance with the limits shown on the Plans and CCTV inspection results. These specific repair methods are for those damaged joints classified as Poor or Bad Joints in accordance with Subsection 500-1.11.1

The Contractor shall furnish and install all labor, equipment, materials and incidentals required to rehabilitate existing reinforced concrete pipe as shown on the Plans and the CCTV inspection results. Work shall include, but not be limited to, cleaning of concrete surfaces, reinforcing steel treatment and repair, application of a primer, Structural Polymer, activator, PVC Lining System, seam material and testing. Rehabilitation shall be continuous and shall connect to existing PVC lining and to manhole lining without any gaps, holes, or defects that may allow corrosion of cementitious material.

500-1.15.2 Quality Assurance.

500-1.15.2.1 Qualifications. The work shall be performed by a lining Contractor or subcontractor who is licensed and certified by the manufacturer of the protective lining system specified. Each applicator who will be applying the protective lining system shall be certified by the

manufacturer.

500-1.15.2.2 Standardization. Materials and supplies provided shall be the standard products of manufacturers. The standard products of manufacturers other than those specified will be accepted when it is demonstrated to the Engineer that they are equal in composition, durability, and usefulness for the purpose intended. Requests for substitution shall be in accordance with 4-1.6 and shall include directions for application and descriptive literature on safe storage, handling and disposal of the product.

500-1.15.2.3 Quality Control by Contractor. To demonstrate conformance with the specified requirements for the materials, the Contractor shall provide the services of an independent testing laboratory which complies with the requirements of ASTM E329. The testing laboratory shall sample and test PVC and structural polymer materials as required in this subsection. Costs of testing laboratory services shall be borne by the Contractor.

500-1.15.2.4 References. This subsection contains references to the following documents. They are a part of this subsection as specified and modified. In case of conflict between the requirements of this subsection and those of the listed documents, the requirements of this subsection shall prevail.

ASTM C501 Test Method for Relative Resistance of Unglazed Tile by the Taber Abraser

ASTM C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

ASTM C881 Specification for Epoxy-Resin Base Bonding Systems for Concrete

ASTM C920 Specification for Elastomeric Joint Sealants

ASTM D256 Test Methods for Impact Resistance of Plastics

ASTM D412 Test Method for Rubber Properties in Tension

ASTM D638 Test Method for Tensile Properties of Plastics

ASTM D695 Test Method for Compressive Properties of Rigid Plastics

ASTM D792 Test Methods for Specific Gravity and Density of Plastics

ASTM D1004 Test Method for Initial Tear Resistance of Plastic Film and Sheeting

ASTM D1044 Test Method for Resistance of Transparent Plastics to Surface Abrasion

ASTM D1621 Standard Test Method for Compressive Properties Of Rigid Cellular Plastics

ASTM D1653A Test Method for Water Vapor Transmission of Organic Film

ASTM D1752 Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction

ASTM D2240 Test Method for Rubber Property - Durometer Hardness

ASTM D4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser

ASTM D4258 Standard Practice for Surface Cleaning Concrete for Coating

ASTM D4259 Standard Practice for Abrading Concrete

ASTM D4262 Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces

ASTM E329 Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

ASTM F1249 Method for Water Transmission Rate through Plastic Film and Sheeting

ICRI 310.2 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

NACE SP0188 Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

SSPWC Standard Specification for Public Works Construction Section 210-2 Plastic Liner

500-1.15.2.5 Performance and Design Requirements. The PVC sheet liner, sealant material and surface activator shall act as a cured seam sealant through molecular bonding and shall conform to the chemical resistance test requirements of SSPWC Subsection 210-2.3.3 for chemical solutions at listed concentrations.

The installed PVC lining shall remain leak proof up to a minimum hydrostatic pressure that is equivalent to 15 feet above the invert of the manhole. PVC liner shall meet the requirements of 210-2.3.

500-1.15.2.6 Training Certification. Manufacturer certification shall be required of applicators used for the liner and structural polymer installation work, including pumping and computer equipment operators.

500-1.15.2.7 Services of Manufacturer. The Contractor shall require the coating manufacturers to furnish the following services:

1. The manufacturer's representative shall provide at least three 8-hour days of on-site observation and site specific recommendations relative to surface preparation, mixing, application, curing, and final testing of its product on test areas.

2. Manufacturer shall have a technical representative on site during liner installation and structural

polymer application. Representative shall confirm that cleaning and surface preparation meet manufacturer's requirements and installation is in accordance with manufacturer's recommendations.

3. The manufacturer's representative shall provide technical support to resolve field problems associated with the manufacturer's products furnished under this Contract or the application thereof throughout the duration of the Work.

4. The lining manufacturer shall provide written certification that the lining subcontractor's Supervisor and each applicator performing work on the project has been trained and approved to apply the selected lining system.

500-1.15.3 Submittals.

1. The Contractor should provide 5 references for each specified or comparable coating systems. Include the name, address, and the telephone number for the owner of each installation for which the Contractor applied the protective coating.

2. The manufacturer shall provide written certification that the coating Contractor's supervisor and each applicator performing Work on the project have been trained and approved by the manufacturer to apply the selected coating system. The manufacturer shall state whether or not it has verified that the Contractor is going to use the proper mixing, coating application, heating, and environmental control equipment for the specified coating products.

3. Provide a written letter from the Contractor stating that they are certified by the manufacturer in the application of the specified coating systems. The letter shall state the manufacturer and model number of mixing, heating, and pumping

equipment to be used to apply the specified coating system.

500-1.15.3.1 Product Data Sheet.

1. For each concrete rehabilitation product to be used the Contractor shall submit the following product data.

   a) Technical data sheet for each product used, including statements on the suitability of the material for the intended use.

   b) Instructions and recommendations for surface preparation, mixing, handling, application, curing and proper storage.

   c) Material safety data sheet for each product used.

   d) Plastic liner proof of compliance with requirements of 210-2.3.

   e) Written certification from the manufacturer(s) of the selected rehabilitation products that the rehabilitation materials are compatible with each other.

   f) The manufacturer(s) shall provide written certification that the concrete repair subcontractor's Supervisor and each of the applicators performing work on the project has been trained and is an approved applicator for the repair materials selected.

   g) Test reports on previously tested polymer mortar materials shall be accompanied by the manufacturer's statement that the previously tested material is the same type, quality, manufacture, and make as that proposed for use in this project. Test reports are required for epoxy resin and aggregates. The evidence

shall show that deficiencies mentioned in the report of that inspection have been corrected.

2. The following submittals are required:

   a) Lining system design details and system materials.

   b) Manufacturer's application instructions, including:

      i. Product Material Safety Data Sheets.

      ii. Certified laboratory test reports for structural polymer density and pipe pH.

      iii. Maximum storage life and storage requirements.

      iv. Mixing and proportioning requirements (as applicable).

      v. Environmental requirements for application and worker safety, including ventilation, humidity, and temperature ranges.

      vi. Information and data on adhesive products and cleaners used in the repair of the existing and installation of the new liner.

      vii. Thickness of activator and structural polymer or mastic applied over the surface of the PVC sheet and at joints, respectively.

      viii. Curing time.

ix. Proof that the chemical resistance test specified in Subsection 210-2.3.3 will be met.

x. Shape, size and type of material of forms used for the installation of the PVC lining system. Description of the forms installation and removal procedure.

3. A layout and application sequencing plan which includes PVC individual sheet dimension and order of application. This plan shall be approved by the Engineer before starting work specified in this Subsection.

500-1.15.3.2 Daily Project Records. The Contractor shall maintain an accurate written daily record of the amount of each material used for the protective lining system that is delivered to the job each day, and the amount used in the lining system each day. At the end of each work shift, the Contractor shall furnish to the Engineer a signed copy of the daily record, along with the amount (square feet) of protective lining system installed during that shift.

500-1.15.4 Products.

500-1.15.4.1 Material Delivery. Approved materials shall be shipped in original manufacturer's containers and such additional packaging as needed to protect the materials from damage during transport. Containers shall be plainly labeled to show manufacturer's name, product name, batch number, date of manufacture, quantity of contents and storage requirements.

500-1.15.4.2 Material Storage. Stored materials shall be protected from excessive heat, cold and weathering. Activator treated PVC sheeting delivered to the job site shall be protected from debris contamination and maintained at 70°F minimum.

500-1.15.4.3 Structural Polymer. Structural polymer shall be a high solids polyurethane. It shall be non-flow and shall be resistant to weathering, aging, dilute (10%) solutions of sulfuric acid and intermittent wetting by raw sewage. Structural Polymer shall be Linabond Structural Polymer Mastic as manufactured by Linabond, Inc., Los Angeles, CA, or equal. The testing of the structural polymer material shall comply with the requirements specified in ASTM D1621.

500-1.15.4.4 PVC Sheet Liner. To the SSP, DELETE in its entirety and SUBSTITUTE with the following: Polyvinyl chloride lining material shall be a homogenous thermoplastic sheet recommended by the manufacturer of the structural polymer; Vinylthane liner by Linabond, Inc., Arrow-Lock liner by Ameron, or equal. Liner shall conform to Subsection 210-2 (except paragraph 210-2.4.2) and shall exhibit the following minimum physical properties:

Specific gravity, ASTM D792	1.33
Hardness, Shore A ASTM D2240	84
Tensile, ASTM D882	2,300 psi
Elongation, ASTM D882	300%
Brittle Point, Model E ASTM D746	-22°F
Tear Strength, ASTM D1004	250 psi
Thickness	40 mils
Color	White

500-1.15.4.5 Surface Activator. Surface activator shall be a catalytic polyurethane providing cross linking with the PVC sheet liner and the structural polymer and shall be Linabond CLA-2 as manufactured by Linabond, Inc., Los Angeles, CA, or equal. At this time.

500-1.15.4.6 Seam Material. This component is an expansionless version of structural polymer which retains the chemical and adhesive properties of the structural polymer while permitting relatively flat, smooth laps between adjacent PVC sheets. Seam material shall be of the type manufactured by Linabond, Inc., Los Angeles, CA, or equal.

500-1.15.4.7 Water Infiltration Cement Plug. This material is a single component, extremely fast setting, non-shrink, expansive type, hydraulic cement for repair of underwater concrete or concrete subject to hydrostatic water pressure. Approved products include the following:

1. Hydroplug as manufactured by Nox-Crete Products Group or equal.

2. Subac Underwater Cement as manufactured by Subac Underwater Cement or equal.

500-1.15.4.8 Concrete Resurfacer. Repair mortar with voids between ¼ inch and 2 inches in depth or width shall be a pneumatically or troweled cementitious, silica fume, fiber-reinforced, high strength shrinkage-compensated portland cement mortar. Approved products include the following:

1. Mortar Mix as manufactured by Rapid Set Construction Cement Products.

2. Cement All as manufactured by Rapid Set Construction Cement Products.

3. Five Star Structural Concrete V/O as manufactured by Five Star Products, Inc.

4. Or approved equal

500-1.15.4.9 Stainless Steel Fasteners. All counter sunk anchor bolts for anchoring the upstream termination strips shall be Type 316 stainless steel, similar to the 1/4-inch diameter Rawl Flat Head Steel Spike, No. 5632 or approved equal.

All anchor bolts shall provide a minimum 3 inches of embedment into the concrete pipe wall. Each anchor bolt shall be installed with Rawl/Sika Foil Fast two-part epoxy injection gel or equal. Anchor bolts shall be spaced 18 inches on center. Stainless steel 316 anchor bolts are a special order item and must be ordered as the first item of work.

500-1.15.4.10 Termination Strip. Termination (Batten) strips shall be 1/4-inch thick by 1 1/2-inches wide Type 316 stainless steel with counter sunk holes 18 inches on center to fit the anchor bolts specified.

500-1.15.4.11 Corrosion Inhibitor. Reinforcing steel, exposed by corrosion or during surface preparation operations, shall be treated with a water-based epoxy resin, anticorrosion coating and bonding agent such as Armatec 110 EpoCem, manufactured by the Sika Corporation, or equal.

500-1.15.5 Execution.

500-1.15.5.1 General. The Contractor shall follow the requirements of this subsection and the manufacturer's recommendations in terms of surface preparation, application equipment and techniques, and environmental limitations.

After the Contractor has cleaned all concrete surfaces, the Contractor shall thoroughly inspect all surfaces. The Contractor shall notify the Engineer, in writing, of any defects or discrepancies which will not allow him to complete his work properly. Commencement of work shall be construed as acceptance of the surfaces and it shall be the responsibility of the Contractor to correct any defect appearing in the surfaces, once the work has begun.

The general limits for PVC lining shall be as specified and shown with minor adjustments as directed by the Engineer based upon conditions observed. The Contractor's work shall result in the interior of the pipe designated for rehabilitation having a continuous PVC lining as shown on the Plans without holes, gaps, breaks, or unsealed seams.

The PVC lining shall be sealed to existing PVC liners and manhole rehabilitation material as shown or recommended by the manufacturer.

500-1.15.5.2 Environmental Limits. Lining and concrete repair shall not be performed if environmental conditions are not within the manufacturer(s) recommended limits. No lining work shall be performed under the following conditions:

1. Temperatures exceeding the manufacturer's recommended maximum and minimum allowable.

2. Dust or smoke laden atmosphere.

3. Damp or humid weather where relative humidity is above manufacturer's maximum allowable or greater than 85%.

The project is located in a sanitary sewer environment where the work will be exposed to hydrogen sulfide laden air and extended periods of high relative humidity. These "normal atmospheric conditions" may restrict the application and inhibit the cure of the specified lining systems. The Contractor shall provide facilities to maintain substrate and atmospheric conditions within the controlled environment, with respect to temperature and relative humidity, within the limits established by the manufacture of the product(s) selected to ensure proper application and cure of the lining systems.

500-1.15.5.3 Safety Requirements. In addition to the requirements of Section 7-10.4, Safety, a "breathing air" apparatus and compressor shall be provided for structural polymer spray and hydroblast cleaning operators, if ventilation air flows towards the operators or is required to meet Cal/OSHA breathing air requirements. The compressor shall be equipped with high temperature and carbon monoxide alarms and shall use an in-line filter bed to remove moisture. The Contractor shall provide compressed air breathing equipment for the Engineer and any other personnel, if working in close proximity to

mist produced by the structural polymer application and hydroblast cleaning.

500-1.15.5.4 Sequence of Work.

1. Structural Polymer

   a) The Contractor shall perform the work in the following sequence:

      i. Construction of temporary platform

      ii. Cleaning of pipe interior

      iii. Reinforcing steel treatment (if necessary)

      iv. Structural Reinforcement Repair (as directed by Engineer)

      v. Repair of concrete defects

      vi. Installation of welded wire mesh

      vii. Structural Polymer application

      viii. Installation of liner

      ix. Testing

2. Self-Forming Structural Polymer

   b) The Contractor shall perform the work in the following sequence:

      i. Construction of temporary platform

      ii. Cleaning of pipe interior

      iii. Reinforcing steel treatment (if necessary)

      iv. Structural Reinforcement Repair (as directed by Engineer)

v. Repair of concrete defects

vi. Installation of welded wire mesh

vii. Installation of liner

viii. Structural Polymer application

ix. Testing

500-1.15.5.5 Surface Preparation of Concrete. All loose, brown carbonated, deteriorated, or unsound concrete shall be removed in the immediate vicinity of the damaged documented areas to provide a substrate that is tightly adhered to the surfaces of the structure.

The Contractor shall cut and remove any loose existing delaminated PVC liner and the remaining edge of the liner shall be at an embedded locking (T-Lock) anchor that is tightly adhered to the wall.

Concrete surfaces shall be prepared per SSPC SP13 abrasive blasting to remove the top 0.125 inches of existing concrete and to produce a surface roughness equivalent to that of ICRI 310.2 Concrete Surface Profile 5.

All surfaces shall be cleaned using high pressure water. Water cleaning equipment including pumps, hoses, connectors, valves and nozzles shall be capable of producing a blast pressure of 5,000 psi. Contractor shall remove all grease, dirt, rocks, rust, spalled masonry (including mortar, concrete, and brick), and other deleterious materials and debris from the interior of the pipe. The finished interior surface shall consist of sound concrete with exposed aggregate.

In accordance with ASTM D4262, test to determine the pH of the concrete surface after the surface has been thoroughly blasted and cleaned. If the pH is outside the range recommended by the coating manufacturer, then the surface must be neutralized by removing concrete until a surface pH of 7 or greater is obtained prior to any coating

application. One pH test shall be performed every 50 square feet, or less, and at locations determined by the Coating Inspector.

The Contractor shall test for capillary moisture in accordance with ASTM D4263. Moisture tests shall be taken every 200 square feet or less and at locations determined by the Coating Inspector. If capillary moisture is present, the coating manufacturer shall be consulted to determine primer requirements and special coating application criteria.

The Contractor shall use a concrete mortar to rebuild the existing concrete to 2 inches in depth following abrasive blasting. Concrete mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against the edge of repair, working toward center. The Contractor shall use a trowel to repair the existing concrete with a high early strength mortar, as specified, prior to the installation of the epoxy primer. Hand application is not acceptable. The repaired concrete shall be finished with a masonry brush with 4-inch long Tampico fibers, completely cured, and dried according to the manufacturer's recommendations.

As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, and a fine mist of water. Moist curing should commence immediately after finishing.

After curing, and prior to coating, the repaired concrete shall be lightly abrasive blast cleaned to remove curing agents, laitance, surface contaminants and to produce a surface roughness equivalent to that of ICRI 310.2 Concrete Surface Profile 3.

Surfaces shall be cleaned of all dust and residual particles by dry air blast cleaning, vacuuming, or other approved methods prior to lining application as approved by the Coating Inspector.

The resurfaced concrete shall be examined by the Coating Inspector by tapping with a 1 pound hammer over the repair areas. If hollow and soft areas are present, the Contractor shall chip out the area and reapply the mortar.

500-1.15.5.6 Surface Preparation of Existing Liner. The Contractor shall cut and remove any existing delaminated PVC liner and the remaining edge of the liner shall be at an embedded locking (T-Lock) anchor that is tightly adhered to the wall.

The existing PVC liner shall be abraded with 60 Grit sandpaper and be detergent cleaned per SSPC SP1 when the new PVC liner will overlap it. Formula 409, or equal, shall be used to clean the existing liner prior to applying the material.

500-1.15.5.7 Reinforcing Steel Treatment. Where corrosion or surface preparation activities have exposed reinforcing steel the following procedure shall be used:

1. If half the diameter of the reinforcing steel, or more, is exposed, chip out behind the reinforcing steel a minimum of ½ inch for placement of grout or polymer concrete.

2. Abrasive blast all exposed reinforcing steel surfaces to remove all contaminants and corrosion products.

3. Determine section area loss of reinforcing steel. Perform structural reinforcement repair as directed by the Engineer. Directed structural reinforcement repair is a unit price bid item, and measurement and payment is separate from all other concrete repair. Structural reinforcement repair shall include providing and installing wire fabric and mortar as directed by the Engineer.

4. Structural reinforcement repair shall be used only when directed by the Engineer. Engineer shall determine and identify the area over which such

repair shall be performed, and the quantities and limits of wire mesh to be placed.

5. If the reinforcing steel has more than 50% of the cross sectional area lost along its exposed length, the reinforcing steel shall be replaced and spliced to sound, adjacent reinforcing steel. The Contractor shall remove enough of the concrete around the circumference of the reinforcing bar to accommodate the splices and/or coupler installation and to allow for bonding between the reinforcing steel and the new cementitious mortar material. Removals shall allow for a ½-inch gap around the circumference of the reinforcing steel or coupler.

6. Apply a 20 mil (wet) coat of corrosion inhibitor to all surfaces of the clean, exposed reinforcing steel with stiff brush or spray equipment. Cure to tack-free 2 to 3 hours.

7. Apply a second 20 mil (wet) coat of corrosion inhibitor and allow for 2-hour to 3-hour cure prior to placement of polymer mortar, cementitious mortar, or grout.

500-1.15.5.8 Repair of Concrete Defects. Cracks shall be filled with the specified polymer mortar according to the following procedure:

1. Deepen the crack as necessary to ensure a minimum depth of 1/8 inch.

2. Apply a scrub coat of the polymer mortar, prepared according to the manufacturer's recommendations, to the prepared substrate.

3. While the scrub coat is still wet, force the polymer mortar into the cavity.

500-1.15.5.9 Lining System Application. The application of the lining system shall be as follows:

1. Proportioning and Mixing: materials shall be mixed and proportioned in accordance with the manufacturer's written instructions with the equipment specified by the manufacturer. Pumping equipment and computer equipment utilizing an integrated DAQ system with built in alarms shall be approved manufacturer prior to use. All equipment shall be maintained and operated per the manufacturer's written instructions. Filters shall be checked twice daily (if operated) and cleaned as necessary. At all times during use, the spray equipment shall be attended by a qualified operator certified by the manufacturer.

2. Structural Polymer: Structural polymer shall only be applied to a clean, prepared and dry sound concrete surface, as specified above. Structural polymer shall cover all exposed aggregate, and provide a smooth surface for application of the PVC liner. Prior to application of the PVC sheets and rolling of same, the mastic shall provide a minimum of 1-inch thick cover over the surface of the exposed concrete aggregate material. In areas where the pipe reinforcing bars are exposed, the net cover over the reinforcement, before application and rolling of the PVC sheets, shall be 2 inches minimum. Structural polymer shall be applied in lifts not to exceed 1-inch thickness. The maximum thickness of the cumulative lifts shall be no more than 2 inches.

3. Application of the PVC liner after the installation of the structural polymer shall be in accordance with manufacturer specifications, but in any event not later than 45 minutes after application of the structural polymer, after which the area must be resprayed and allowed to tack again.

4. Activator: Apply activator to clean, dry PVC sheets in accordance with manufacturer's instructions. Allow to dry "tack-free" prior to embedding sheet in the structural polymer. Activator shall be applied to sheets in a warm (70 degree F minimum), protected environment and allowed to dry prior to shipment to the job site. Protect prepared sheet from debris contamination.

5. Sheet Liner: The activator prepared surface of the PVC sheet liner shall be pressed into the structural polymer and rolled to remove trapped air. Seams shall overlap a minimum of 4 inches in the downstream direction. Maximum size of sheets along the length of the pipe shall not exceed 8 feet in any dimension, and the PVC shall be in one continuous piece to cover the crown and sides of the pipe as shown on the Plans. PVC sheets shall be applied while the structural polymer is still tacky. Following the removal of the support system, the 4-inch overlapping seams shall be embedded in seam material as shown on the Plans.

6. Fiberglass Support Panels: A support system of the type used by manufacturer consisting of sections of flexible but stiff 4-foot wide by 12-foot long fiberglass panels, shall be pressed up by jacks into the new PVC liner surface while the structural polymer is finishing its exothermic reaction with the pipe. Each fiberglass panel section using four jack supports shall ensure that a very uniform flat finish formed pipe interior from the termination edges of the liner near the bottom of the pipe to the crown of the pipe is attained.

7. The form work shall be made of activated PVC liner sheets and shall provide a complete seal of all the concrete surfaces to be lined in accordance with the limits as shown on the Plans. Care shall be taken to keep the activated PVC liner sheets clean and free of

dust and protected from debris contamination. The Contractor shall utilize the maximum size PVC liner sheets possible with a minimum number of seams. The vertical and horizontal seams shall be joined with the "H" channels and the intersecting walls shall be joined using the preformed angles. The bottom, leading or terminating edges of the liner sheets shall be inserted in "J" Channels or joiner strips and sealed in accordance with the details shown in the Plans. All the PVC liner sheets, channels, and angles shall be activated and allowed to dry to tack free prior to joining. An adequate amount of sealant shall be applied to form a bead along the seam after joining.

8. Sheet Liner Terminations. The PVC lining system shall extend to the limits shown on the Plans. Where the new lining meets the existing lining, the new liner shall overlap the existing liner by a minimum of 4 inches. Methods for overlapping the existing liner at the downstream and leading (upstream) edge of the liner are shown on the Plans. Along the length of the pipe, on both sides, and on the upstream end where the end of the liner will terminate, saw-cut into the wall of the concrete pipe and embed the liner in structural polymer covered with seam material, as shown on the Plans.

500-1.15.5.10 Repairing Poor Joints. The joints classified as a Poor Joint shall be repaired in the following manner:

1. The joint shall be made with a separate 4-inch joint strip and two welding strips. The 4-inch joint strip shall be centered over the joint, heat-sealed to the lining, then welded along each edge to adjacent liner sheets with a 1-inch weld strip. The 4-inch joint strip shall lap over each sheet a minimum of 1/2-inch.

2. All welding of joints is to be in strict conformance with the specifications and instructions of the lining manufacturer. Welding shall fuse both sheets and weld strip together to provide a continuous joint equal in corrosion resistance and impermeability to the liner plate.

500-1.15.5.10 Repairing Bad Joints. The joints classified as a Bad Joint shall be repaired in the following manner:

1. The inside joint shall be filled with cement mortar in such a manner that the mortar shall not, at any point, extend into the pipe beyond a straight line connecting the surfaces of the adjacent pipe sections.

2. All mortar and other foreign material shall be removed from lining surfaces adjacent to the pipe joint, leaving them clean and dry.

3. Field joints in the lining at pipe joints shall be made with a joint flap with locking extension removed and extending approximately 4-inches beyond the pipe end. The joint flap shall overlap the lining in the adjacent pipe section a minimum of 1/2-inch and be heat-sealed in place prior to welding. The field joint shall be completed by welding the flap to the lining of the adjacent pipe using 1-inch weld strip.

4. Care shall be taken to protect the flap from damage. Excessive tension and distortion in bending back the flap to expose the pipe joint during laying and joint mortaring shall be avoided. At temperatures below 50 degree F, heating of the liner may be required to avoid damage.

5. All welding of joints is to be in strict conformance with the specifications and instructions of the lining manufacturer. Welding shall fuse both sheets and weld strip together to provide a

continuous joint equal in corrosion resistance and impermeability to the liner plate. Hot-air welding tools shall provide effluent air to the sheets to be joined at a temperature between 500 degrees and 600 degrees F. Welding tools shall be held approximately 0.5" from and moved back and forth over the junction of the two materials to be joined. The welding tool shall be moved slowly enough as the weld progresses to cause a small bead of molten material to be visible along both edges and in front of the weld strip.

500-1.15.6 Inspection and Testing. The surface of the installed liner will be visually inspected by the Coating Inspector for proper adhesion, air pockets, edge or seam defects, rips, tears, and punctures. The newly applied PVC liner shall be spark tested per NACE SP0188 and any defect that is identified by the spark test shall be properly repaired and retested. The spark testing shall be done with a Tinker and Rasor Holiday Detector (Model AP-W) or equal set at 20,000 volts.

To assure proper adhesion of the PVC lining to the structural polymer and the structural polymer to the concrete surface, the protective lining system shall have a "peel test" performed at locations previously designated by the Coating Inspector and prepared by the lining Contractor. The test shall be the "Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants" per ASTM C794 Designation ASTM C794 and modified for field test conditions. Preparation of the 1-inch wide pulling strips, during the Contractor's lining installation, shall be as directed by the Coating Inspector. The allowable minimum value for the peel strength test shall be per the protective lining system Manufacturer's recommendation but shall not be less than 16 pounds per linear inch after 3 days of curing at a minimum ambient temperature of 55°F.

500-1.15.6.1 Repair of Defects. The Contractor shall repair all defects found in the lining system. Areas with poor adhesion or air inclusions, edge or seam defects, punctures or other defects, shall be repaired. The repair may include cutting and removing all the defective areas and relining; drilling and injecting polyurethane seam material into defective areas and lining with a flexible PVC liner. The protective lining system used in the relining or the flexible PVC lining to be applied shall overlap the adjacent lined areas a minimum of 4 inches in all directions and shall be reinspected.

500-1.15.8 Payment. Payment for the material and application of joint repairs for Poor and Bad Joints for the rehabilitation of the Rose Canyon Trunk Sewer will be made at the per unit bid price based on each individual joint repair for either 54" or 60" trunk sewers. Payment for these bid items shall be full compensation for all equipment, labor, materials and incidentals required to satisfy the requirements of this subsection, 500-1.15.

10. To Appendix H - Long Term Revegetation Maintenance Agreement, page 403, Section 1: Maintanance Contract Summary, Item 1.3, Commencement of Work & Maintenance Period, **DELETE** in its entirety and **SUBSTITUTE** with the following:

1.3. Commencement of Work & Maintenance Period. This LTRMC shall commence when the City approves of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with SECTION 802 of the Construction Contract and shall continue for **25** months. A copy of the approval form is attached as Exhibit B.

11. To Appendix H - Long Term Revegetation Maintenance Agreement, page 405, Part 3 Work Site Maintenance, Item 3.2 Irrigation Water, **DELETE** in its entirety and **SUBSTITUTE** with the following:

3.2 Irrigation Water. The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall not irrigate 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 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 under this LTRMC, or other penalties.

If 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 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 entity **ADD** ed from the monthly payment to be made to the Contractor under this LTRMC.

12. To Appendix H,-Long Term Revegetation Maintenance Agreement, page 411, Exhibit A, Scope of Work, Item III, Method of Performing Work, **DELETE** in its entirety and **SUBSTITUTE** with the following:

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 Contractor provided portable irrigation system and weather patterns.

1. All irrigation shall be by a portable irrigation method in accordance with instructions from the Project Biologist. The Contractor shall furnish all hoses, nozzles, pumps, tanks, vehicles, sprinklers, etc. necessary to accomplish the irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.

2. 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.

B. 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 LTRMC. 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 LTRMC. 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.

13. To Appendix I, Sewer Mains and Manhole Rehabilitation Sample Data and Templates, pages 420 and 422, **DELETE** in their entirety.

14. To Appendix M, Manhole 27 and 48-inch Lining, page 435 through 437 **DELETE** in its entirety.

F. ADDITIONAL CHANGES

The following is an additional **Line Items Tab** in **PlanetBids**: For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been **Stricken out.**

Section	Item code	Description	Unit of Measure	Qty	Payment Reference	Extension
Main Bid		Field Orders (EOC Type II)	AL	1	9-3.5	$298,000.00
Main Bid	237110	Flow Bypass Pumping System	LS	1	7-8.7.9	
~~Main Bid~~	~~237110~~	~~Bypass Pumps Rental, Maintenance and Monitoring, and Diesel Fuel~~	~~MTH~~	~~3~~	~~7-8.7.9~~	

Section	Item code	Description	Unit of Measure	Qty	Payment Reference	Extension
~~Main Bid~~	~~237110~~	~~Bypass Manifold Piping and Valves including Air & Vacuum Valves~~	~~LS~~	~~1~~	~~7-8.7.9~~	
~~Main Bid~~	~~237110~~	~~Bypass Piping Connections to Sewers~~	~~LS~~	~~1~~	~~7-8.7.9~~	
~~Main Bid~~	~~237110~~	~~Cleaning Pipelines Prior to Repairs~~	~~LF~~	~~22979~~	~~500-1.1.9~~	
Main Bid	237110	Internal Pipe Seal Joint Repairs (54" Double-Wide Seal)	EA	~~36~~ 16	500-1.14.10	
Main Bid	237110	Internal Pipe Seal Joint Repairs (60" Standard Seal)	EA	~~56~~ 26	500-1.14.10	

Section	Item code	Description	Unit of Measure	Qty	Payment Reference	Extension
Main Bid	237110	Internal Pipe Seal Joint Repairs (60" Extra-Wide Seal)	EA	~~112~~ 62	500-1.14.10	
Main Bid	237110	Internal Pipe Seal Joint Repairs (60" Double-Wide Seal)	EA	~~890~~ 400	500-1.14.10	
Main Bid	237110	Internal Pipe Seal Joint Repairs (60" Sleeve Seal)	EA	~~56~~ 26	500-1.14.10	
Main Bid	237110	Poor Joint Repairs (54"or 60")	EA	310	500-1.15.8	
Main Bid	237110	Bad Joint Repairs (54" or 60")	EA	310	500-1.15.8	
Main Bid	541330	Biological Monitoring and Reporting (25 Months Plant Establishment Period)	LS	1	802-5	

Section	Item code	Description	Unit of Measure	Qty	Payment Reference	Extension
~~Main Bid~~	~~237110~~	~~Rehabilitate Existing Manhole with Cured In Place Manhole Liner~~	~~VF~~	~~48~~	~~500-2.11.6~~	
~~Main Bid~~	~~237110~~	~~Rehabilitate Sewer Main (48-inch)~~	~~LF~~	~~50~~	~~500-1.1.9~~	
~~Main Bid~~	~~237110~~	~~Stop Logs Installations for Dry Season #1 and Dry Season #2~~	~~LS~~	~~1~~	~~304-7.6~~	
~~Main Bid~~	~~237110~~	~~Chemical-Welded PVC Lining Repairs~~	~~SF~~	~~4600~~	~~500-1.15.8~~	
Main Bid	237110	Stop Logs Removal and Re-installation	EA	1	304-7.6	

James Nagelvoort, Director
Public Works Department

Dated: *March 15, 2017*
San Diego, California

JN/MCH/Lad

City of San Diego

CITY CONTACT: Michelle Muñoz - **Contract Specialist, Email:** MichelleM@sandiego.gov
Phone No. (619) 533-3482 **Fax No.** (619) 533-3633

ADDENDUM "C"

e - Bidding

FOR

ROSE CANYON TRUNK SEWER JOINT REPAIR

BID NO.: **K-17-1437-DBB-3**
SAP NO. (WBS/IO/CC): **B-11025**
CLIENT DEPARTMENT: **2000**
COUNCIL DISTRICT: **1**
PROJECT TYPE: **JA, JB**

BID DUE DATE:

2:00 PM
MARCH 28, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

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. NOTICE INVITING BIDS

1. To Item 4., Bid Due Date and Time, page 4, **DELETE** in its entirety and
SUBSTITUTE with the following:

4. BID DUE DATE AND TIME ARE: MARCH 28, 2017 at 2:00pm.

James Nagelvoort, Director
Public Works Department

Dated: *March 8, 2017*
San Diego, California

JN/MCH/Lad

City of San Diego

CITY CONTACT: Michelle Muñoz - **Contract Specialist, Email:** MichelleM@sandiego.gov
Phone No. (619) 533-3482, **Fax No.** (619) 533-3633

ADDENDUM "B"

e - Bidding

FOR

ROSE CANYON TRUNK SEWER JOINT REPAIR

BID NO.:	K-17-1437-DBB-3
SAP NO. (WBS/IO/CC):	B-11025
CLIENT DEPARTMENT:	2000
COUNCIL DISTRICT:	1
PROJECT TYPE:	JA, JB

BID DUE DATE:

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

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. Please provide copies of the CCTV inspection performed of the pipeline.

A1. Refer link below:

ftp://ftp.sannet.gov/OUT/Rose%20Canyon%20videos/Rose%20Canyon%20video%20001/

Q2. How much debris should the contractor expect within the pipeline as to accurately bid the pipeline cleaning bid item"?

A2. It is the contractor's responsibility to prepare their associated bid based upon their prior experience on similar projects and the CCTV data provided by the City.

Q3. Does Junction Structure #1 require rehabilitation?

A3. No.

Q4. What is the current lining system installed in Junction Structure #1?

A4. Unknown.

Q5. Per the bypass specification section sound attenuated pumps are required. It doesn't appear necessary to construct a massive sound wall with sound attenuated pumps.

A5. Sound wall design concept is a guide. It is the contractor's responsibility to provide a sewer bypass that satisfies the system hydraulics, City ordinances and meets the overall project objectives for the pipeline joint repairs.

Q6. Is there a yard/lay down area available to the contractor during the contract?

A6. No, the Contractor shall get approval from the City for appropriate location.

Q7. Please confirm that the liner in the 54" and 60" pipe is in fact Ameron T-Lock PVC.

A7. Confirmed based upon available documentation.

Q8. Are pictures of the liner joints available?

A8. See A1. for link to ftp site.

Q9. The Contractor is assuming that the existing liner exists for 360 degrees around the entire pipe surface. Please confirm.

A9. Confirmed.

Q10. Please provide any photo documentation the City may have to determine the extent of the existing PVC liner damage

A10. See A1. for link to ftp site.

Q11. Based on the as-built information for Junction Structure #1, it does not appear that the specified lifting device for the stop logs will be able to be used to place the stop logs based on the placement of the stop logs being offset from the MH Lid as well as the height of the stop logs. Please confirm whether or not the lifting device is required.

A11. No lifting devices are included in the scope. Contractor shall provide stop logs that can be manually installed and removed from within the structure due to the access limitations.

Q12. The plans call for a single 28" ID discharge HDPE pipe for the 32 MGD bypass. Would the City of San Diego be receptive to an alternate of two 22" ID HDPE discharge pipes with a pressure rating of 80 PSI offering over 3 times the peak bypass operating discharge system pressure. This would allow for redundancy should there be a catastrophic failure of one of the discharge lines the other line would remain in service while the repair is being made.

A12. The bypass design concepts provided in the Contract Documents are guidelines for planning and bidding purposes. It is the contractor's responsibility to provide a complete and functional bypass design that will require the review and approval of the Engineer.

Q13. Existing Video Tapes: Can you make the video tape data available on a drop box or other source so we can get a feel of the pipeline conditions even though they are of poor quality.

A13. See A1. for link to ftp site.

Q14. The plans call for a single 34" ID suction tube for the 32 MGD bypass. Would the city of San Diego be open to alternate design? By utilizing independent suction tubes for each of the four pumps. This design would offer redundancy should the single 34" ID suction tube become inoperable. Also, smaller independent suction tubes on each of the four pumps will maintain less surcharge in the sewer due to the smaller diameter openings. Additionally, both manholes (454 & 343) would be utilized to reduce the amount of suction interference on the bypass system.

A14. The bypass design concepts provided in the Contract Documents are guidelines for planning and bidding purposes. It is the contractor's responsibility to provide a complete and functional bypass design that will require the review and approval of the Engineer.

Q15. We have been asked to bid on the sewer bypass for this project and we have concerns about designing and operating a 32 MGD bypass from Manhole #343 per the plans and specifications. The bypass will need a very large reservoir storage in the manhole and pipelines upstream to allow the pumps time to prime and the reaction time to throttle up and down to respond to changes in the flow rate. The system schematic and details are calling out for a 34" ID suction pipe with a 45° bias cut on the end, a 34" ID pipe requires 3.94' of submergence to prevent vortexing (drawing air into the suction). That will require the surcharge level at peak design flow of 32 MGD to be approximately 7- 7.4' above invert (elevation of 221.36') giving approximately 4.5' of freeboard in the manhole. To install a bypass system as specified in the plans and specifications is quite risky, using a common suction is an undesirable way to accomplish multiple pump installations and should be avoided if possible. Common suctions are prone to pump priming issues and frequently require more time to prime and re-prime increasing the possibility of an overflow and spill.

A15. The bypass design concepts provided in the Contract Documents are guidelines for planning and bidding purposes. It is the contractor's responsibility to provide a complete and functional bypass design that will require the review and approval of the Engineer.

Q16. Our concern is that the two pipes that feed manhole 343 a 12" PVC sewer that comes from the East along the access road and a 48" RCP sewer line that comes down from Nobel Dr. will not hold enough volume for the bypass to operate safely. The 12" line can only hold approximately 5.9 gallons per linear foot and the 48" holds 94 gallons per linear foot. In order to properly design a safe bypass system you must know the invert elevations of upstream manholes to calculate the volume of fluid you will have as a buffer for every foot of surcharge. Can the City provide plans showing the two sewer lines and manholes upstream of manhole 343 up to an invert elevation of at least 225'?

A16. The bypass design concepts provided in the Contract Documents are guidelines for planning and bidding purposes. It is the contractor's responsibility to provide complete and functional bypass design that will require the review and approval of the Engineer.

C. NOTICE INVITING BIDS

1. To Item 4., Bid Due Date and Time, page 4, **DELETE** in its entirety and **SUBSTITUTE** with the following:

4. BID DUE DATE AND TIME ARE: MARCH 14, 2017 at 2:00pm.

James Nagelvoort, Director
Public Works Department

Dated: *February 10, 2017*
San Diego, California

JN/MCH/Lad

City of San Diego

CITY CONTACT: Michelle Muñoz - **Contract Specialist, Email:** MichelleM@sandiego.gov
Phone No. (619) 533-3482. **Fax No.** (619) 533-3633

ADDENDUM "A"

e - Bidding **FOR**

ROSE CANYON TRUNK SEWER JOINT REPAIR

BID NO.:	**K-17-1437-DBB-3**
SAP NO. (WBS/IO/CC):	**B-11025**
CLIENT DEPARTMENT:	**2000**
COUNCIL DISTRICT:	**1**
PROJECT TYPE:	**JA, JB**

BID DUE DATE:

2:00 PM
FEBRUARY 16, 2017
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTS
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101

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. In the event that the mandatory participation % is not met, and a GFE is required, is it required for all bidders or just the apparent low bidder? Please clarify.

A1. The Bid may be declared non-responsive if the BIDDER fails to meet the requirements of Section 7- Subcontracting Precipitation Percentage, Item 7, Sub-item 7.2 of Notice Inviting Bids of Contract Documents.

Q2. I downloaded the list Certified SLBEs / ELBEs and see no vendors for NAICS 91200 & 91400 are they on a different list?. Also I advertised Focus Notice, Trade Journal Notice SBE, & MBDA Notices, do I need to solicitation notices from the list provided online called "Equal Opportunity Contracting (EOC) ADVERTISEMENT RESOURCE DIRECTORY"?

A2. All bidders submitting Good Faith Effort are required to use the guidelines outlined in the Small Local Business (SLBE) Program INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL found at:
https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegfeinst.pdf.
SLBE-ELBE firms can be found under the Approved List by NAICs and Approved List by Vendor links found on the following site
https://www.sandiego.gov/eoc/programs/slbe
91200 & 91400 do not appear to be NAICS codes.

Q3. Does the City have a database of SLBE and ELBE firms? I would like to reach out to potential subcontractors as soon as possible in order to meet the subcontractor participation percentages.

A3. SLBE-ELBE firms can be found under the approved List by NAICs and Approved List by Vendor links found on the following site https://www.sandiego.gov/eoc/programs/slbe.

Q4. In regards to meeting the SLBE/ELBE mandatory participation, please confirm that in case the participation % is not met, we can submit a Good Faith Effort package. I understand the specs state we can submit a GFE if we don't meet the participation %, however, in my experience when it states mandatory, there is usually no option to submit a GFE as it is required that bidders meet the mandatory participation requirement.

A4. Refer to Notice Inviting Bids, Section 7 – Subcontracting Participation Percentages, Item 7.2.2 and 7.2.3.

Q5. I see that there is a Mandatory ELBE/SLBE requirement for this project.

This project involves extremely specialized and parts/materials/labor and will account for a substantial amount of the project alone; therefore, it will be impossible to meet this requirements.
Can you please remove this requirement from the project?

A5. Refer to this Addendum, Section C, Notice Inviting Bids, Sub-item 2.

Q6. Please advise as to whether or not the Rose Canyon Trunk Sewer Joint Repair Project is subject to Phased Funding.

A6. Yes, refer to Attachment B of Contract Documents.

C. NOTICE INVITING BIDS

1. To Item 4., Bid Due Date and Time, page 4, **DELETE** in its entirety and **SUBSTITUTE** with the following:

4. BID DUE DATE AND TIME ARE: FEBRUARY 16, 2017 at 2:00pm.

2. To Item 7., SUBCONTRACTING PARTICIPATION PERCENTAGES, Sub-Item 7.1., page 4, **DELETE** in its entirety and **SUBSTITUTE** with the following:

7.1. The City has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1.	SLBE participation	**4.6%**
2.	ELBE participation	**10.7%**
3.	Total mandatory participation	**15.3%**

James Nagelvoort, Director
Public Works Department

Dated: *January 19, 2017*
San Diego, California

JN/McH/Lad

Rose Canyon Trunk Sewer Joint Repair (K-17-1437-DBB-3), bidding on March 28, 2017 2:00 PM (Pacific) Printed 03/28/2017

Bid Results

Bidder Details

Vendor Name Abhe & Svoboda, Inc.
Address 880 Tavern Road
Alpine, CA 91901
United States

Respondee David Grant
Respondee Title Area Manager
Phone 619-659-1320 Ext.
Email david.grant@abheonline.com
Vendor Type PQUAL,CADIR,Local
License # 506526
CADIR 1000000096

Bid Detail

Bid Format Electronic
Submitted March 28, 2017 1:32:57 PM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 101657
Ranking 0

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Abhe&Svoboda,Inc_Contractor's Cert of Pending Actions	Abhe&Svoboda,Inc_Contractor's Cert of Pending Action.pdf	CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS
SBE/ELBE Certification of Subcontractors	SBE&ELBE Certification of Subcontractors.pdf	PROOF OF CERTIFICATION
Abhe&Svoboda,Inc_Bid Bond	Abhe&Svoboda,Inc_Bid Bond.pdf	Bid Bond

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment	References
	Main Bid						
1	Mobilization						
	237110	LS	1	$1,075,469.00	$1,075,469.00		9-3.4.1
2	Traffic Control						
	237310	LS	1	$375,683.00	$375,683.00		601-6
3	WPCP Development						
	541330	LS	1	$9,825.00	$9,825.00		7-8.6.4.2
4	WPCP Implementation						
	237990	LS	1	$67,146.00	$67,146.00		7-8.6.4.2

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment	References
5	Field Orders (EOC Type II)						
		AL	1	$298,000.00	$298,000.00		9-3.5
6	Caltrans Encroachment Permit (EOC Type I)						
	237310	AL	1	$40,000.00	$40,000.00		7-5.3
7	Bonds (Payment and Performance)						
	524126	LS	1	$105,000.00	$105,000.00		2-4.1
8	Biological Monitoring and Reporting (25 Month Plant Establishment Period)						
	541330	LS	1	$34,322.00	$34,322.00		802-5
9	Clearing and Grubbing						
	238910	LS	1	$16,379.00	$16,379.00		802-5
10	Construction Fencing and Access Route						
	237990	LS	1	$72,508.00	$72,508.00		802-5
11	32-Inch Sewer Bypass Piping						
	237110	LF	2109	$36.50	$76,978.50		7-8.7.9
12	4-Inch Sewer Bypass Piping						
	237110	LF	560	$3.50	$1,960.00		7-8.7.9
13	Flow Bypass Pumping System						
	237110	LS	1	$1,556,253.00	$1,556,253.00		7-8.7.9
14	Stop Logs Removal and Re-Installation						
	237110	EA	1	$33,123.00	$33,123.00		304-7.6
15	Bypass Stop Logs for Junction Structure #1						
	237110	LS	1	$23,580.00	$23,580.00		304-7.6
16	Sound Barriers						
	238310	LS	1	$26,200.00	$26,200.00		7-8.8.6
17	Cleaning and Video Inspection of Existing Pipelines and Culverts						
	237110	LF	22979	$2.50	$57,447.50		306-18.7
18	Video Inspection of Pipelines and Culverts for Acceptance						
	237110	LF	22979	$1.00	$22,979.00		306-18.7
19	Internal Pipe Seal Joint Repairs (54" Double-Wide Seal)						
	237110	EA	16	$3,810.00	$60,960.00		500-1.14.10
20	Internal Pipe Seal Joint Repairs (60" Standard Seal)						
	237110	EA	26	$2,881.00	$74,906.00		500-1.14.10

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment	References
21	Internal Pipe Seal Joint Repairs (60" Extra-Wide Seal)						
	237110	EA	62	$3,766.00	$233,492.00		500-1.14.10
22	Internal Pipe Seal Joint Repairs (60" Double-Wide Seal)						
	237110	EA	400	$3,947.00	$1,578,800.00		500-1.14.10
23	Internal Pipe Seal Joint Repairs (60" Sleeve Seal)						
	237110	EA	26	$12,718.00	$330,668.00		500-1.14.10
24	Poor Joint Repairs (54"or 60")						
	237110	EA	310	$822.50	$254,975.00		500-1.15.8
25	Bad Joint Repairs (54" or 60")						
	237110	EA	310	$1,110.00	$344,100.00		500-1.15.8
26	Revegetation and Erosion Control						
	561730	LS	1	$162,500.00	$162,500.00		802-5
				Subtotal	**$6,933,254.00**		
				Total	**$6,933,254.00**		

Subcontractors

Name & Address	Description	License Num	CADIR	Amount	Type
DLG Contractors Inc. PO Box 2361 Alpine, CA 91901 United States	Site Preparation, Scheduling, Survey, Traffic Control, WPCP Development and Implementation, Biological Services, Clearing and Grubbing, Construction Fencing and Access for Construction Route, Rental of Bypass Pumps and Maintenance, Stop Log Installation and Removal, Stop Log Procurement, Sound Barriers, Cleaning and Video Inspection Prior to Installations, Final Video for Acceptance	988588	1000003891	$941,598.00	LAT,MALE,SDB
Western Gardens Landscaping, Inc. 4616 Pannonia Rd. Carlsbad, CA 92008 United States	Re-Vegetation and Erosion Control	662550	1000004289	$120,000.00	PQUAL,SLBE,CADIR