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AUG 21 2015

COFFMAN SPECIALTIES, INC.

# City of San Diego

ORIGINAL

CONTRACTOR'S NAME: Coffman Specialties, Inc.  
 ADDRESS: 9685 Via Excelencia, Ste. 200, San Diego, CA 92126  
 TELEPHONE NO.: (858) 536-3100 FAX NO.: 858-536-3131  
 CITY CONTACT: Clementina Giordano, Contract Specialist, Email: Cgiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633  
JSleiman/RW Bustamante/egz

## CONTRACT DOCUMENTS



## FOR

### BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

VOLUME 1 OF 2

BID NO.: K-15-1227-DBB-3  
 SAP NO. (WBS/IO/CC): B-11010  
 CLIENT DEPARTMENT: 2111  
 COUNCIL DISTRICT: 8  
 PROJECT TYPE: AA

**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

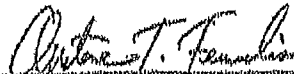
- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP
- THIS IS A U.S. DEPARTMENT OF TRANSPORTATION FUNDED CONTRACT THROUGH THE FAA.

**BID DUE DATE:**

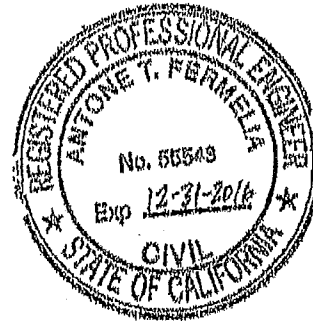
**2:00 PM**  
**JULY 9, 2015**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C**  
**SAN DIEGO, CA 92101**

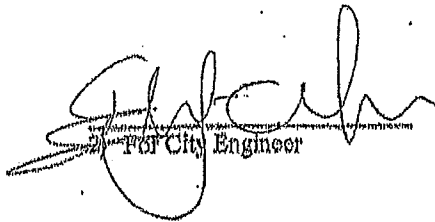
# ENGINEER OF WORK

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

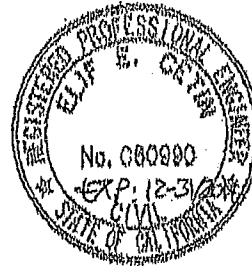
  
1) Registered Engineer

04/29/2015  
Date



  
2) Port City Engineer

4/29/2015  
Date





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# CITY OF SAN DIEGO, CALIFORNIA

## NOTICE INVITING BIDS

1. **RECEIPT AND OPENING OF BIDS:** Bids will be received at the Public Works Contracts at the location, time, and date shown on the cover of these specifications for performing work on **Brown Field (SDM) Airport Runway 8L/26R Rehab** (Project).
2. **SUMMARY OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described in ATTACHMENT A.
3. **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.
4. **SUBCONTRACTING PARTICIPATION PERCENTAGES:**
  - 4.1. The City affirms that in any contract entered into pursuant to this advertisement, DBE will be afforded full opportunity to submit Bids in response to this invitation.
  - 4.2. This Federally assisted project includes subcontracting participation percentages for DBE participation. DBE goal commitments and Good Faith Efforts (GFE) shall be made prior to bidding. DBE commitments and GFE made after the Bid opening will not be considered for the Award of Contract.
  - 4.3. This project is subject to the federal equal opportunity regulations and the following requirements. The City reserves the right to audit the Contractor's compliance with the federal requirements set forth below.
  - 4.4. Following are federally subcontracting participation percentages for this contract. For the purpose of achieving the subcontractor participation percentage, Additive or Deductive, and Type II Allowance Bid Items will not be included in the calculation.
  - 4.5. **FAA - CERTIFIED DBE Bidder(s)** shall meet the DBE goal or have a good faith effort. They receive no credit toward the goal for their own DBE status. The City has determined that the following goals shall apply to this project:

Total DBE Percentage	<b>13.0%</b>
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The Contractor shall meet the Project specific goals for DBE's as outlined in the Specifications or satisfy GFE documentation requirements.

4.6. For additional Equal Opportunity Contracting Program requirements, see Attachment C.

4.7. For additional Funding Agency Equal Opportunity Contracting Program requirements and provisions, see Attachment D.

**5. PRE-BID MEETING:**

5.1. There will be a Pre-Bid Meeting to discuss the scope of the Project, bidding requirements, pre-qualification process, and Equal Opportunity Contracting Program requirements and reporting procedures in the Public Works Contracts Conference Room, at 1010 Second Avenue 14<sup>th</sup> Floor, San Diego, CA 92101, at **10:00 AM**, on **JUNE 10, 2015**.

5.2. **The Pre-Bid Meeting has been designated as MANDATORY. All potential bidders are required to attend.** Bid will be declared **non-responsive** if the Bidder fails to attend the Pre-Bid Meeting when specified to be mandatory. Attendance at the Pre-Bid Meeting will be evidenced by the representative's signature on the attendance roster. It shall be the responsibility of the Bidder's representative to complete and sign the attendance roster. **No Bidder will be admitted after the specified start time of the mandatory Pre-Bid Meeting.**

5.3. To request a copy of the agenda on an alternative format, or to request a sign language or oral interpreter for this meeting, call the Public Works Contracts at (619) 533-3450 at least 5 Working Days prior to the Pre-Bid Meeting to ensure availability.

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

6.1. **Prior** to the Award of the Contract or each Task Order, you and your Subcontractors and Suppliers must register with the City's web-based vendor registration and bid management system, BidsOnline<sup>TM</sup> hosted by PlanetBids System. For additional information go to:

<https://pro.prismcompliance.com/default.aspx>.

6.2. 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.

7. **PRE-BID SITE VISIT:** The prospective Bidders are encouraged to visit the Work Site with the Engineer. The purpose of the Site visit is to acquaint Bidders with the Site conditions. To request a sign language or oral interpreter for this visit, call the Public Works Contract at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. A Pre-Bid Site Visit is offered when the details are provided as follows:

**Time: 1:30 PM**  
**Date: JUNE 10, 2015**  
**Location: 1424 Continental St., San Diego, CA 92154**

8. **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 2-1.1.2, "Joint Venture Contractors" in The WHITEBOOK for details.
9. **PREVAILING WAGE RATES:** Refer to Attachment D, Funding Agency Provisions.
10. **CERTIFICATION OF NONSEGRAGATED FACILITIES:** Refer to Attachment D, Funding Agency Provisions
11. **INSURANCE REQUIREMENTS:**
- 11.1. 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.
- 11.2. 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.
12. **PREQUALIFICATION OF CONTRACTORS:**
- 12.1. Contractors submitting Bid must be pre-qualified for the total amount proposed, inclusive of 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 will be deemed **non-responsive** and ineligible for award. Complete information and links to the online prequalification application are available at:  
<http://www.sandiego.gov/cip/bidopps/prequalification.shtml>
- 12.2. The completed application must be submitted online to the Public Works Contracts, Prequalification Program 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](mailto:dstucky@sandiego.gov).
- 12.3. As a result of 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™](#).
13. **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")	2012	PITS070112-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")*	2012	PITS070112-02
City of San Diego Standard Drawings*	2012	PITS070112-03
Caltrans Standard Specifications	2010	PITS070112-04
Caltrans Standard Plans	2010	PITS070112-05
California MUTCD	2012	PITS070112-06

Title	Edition	Document Number
City Standard Drawings - Updates Approved For Use (when specified)*	Varies	Varies
Standard Federal Equal Employment Opportunity Construction Contract Specifications and the Equal Opportunity Clause Dated 09-11-84	1984	769023
NOTE: *Available online under Engineering Documents and References at: <a href="http://www.sandiego.gov/publicworks/edocref/index.shtml">http://www.sandiego.gov/publicworks/edocref/index.shtml</a>		

14. **CITY'S RESPONSES AND ADDENDA:** The City at its option, may respond to any or all questions submitted in writing, via letter, or FAX in the form of an addendum. No oral comment shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addendum are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda on the form provided for this purpose in the Bid.
15. **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.
16. **CONTRACT PRICING FORMAT:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth in the Bid Proposal Form(s), Volume 2.
17. **SUBMITTAL OF "OR EQUAL" ITEMS:** See Section 4-1.6, "Trade Names or Equals" in The WHITEBOOK and as amended in the SSP.
18. **BUY AMERICAN PREFERENCES:**
  - 18.1. The contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP-funded projects are produced in the United States, unless the FAA has issued a waiver for the product, the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.
  - 18.2. A bidder or offeror must submit the appropriate Buy America certification (below) with all bids or offers on AIP funded projects. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive.
  - 18.3. By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that all steel and each manufactured good proposed for use on this project are made in the United States of 100% United States materials, unless 1) the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; 2) the FAA has issued a waiver for the product, as indicated by its inclusion in the FAA Nationwide Buy American Waivers Issued list, or 3) the item is listed by

the bidder or offeror below or on a separate and clearly identified attachment to this bid/proposal. For those items, the bidder or offeror will provide sufficient documentation to the sponsor to allow the sponsor to request and receive an FAA waiver for the product in advance of its use on the project. If the FAA does not issue a waiver, the bidder or offeror must use manufactured goods that meet the Buy American Preference requirement.

**19. AWARD PROCESS:**

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

**19.2.** 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.

**19.3.** This contract will be deemed executed, and effective, only upon the signing of the Contract by the Mayor or designee of the City.

**20. 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.

**21. 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.

**22. SUBMISSION OF QUESTIONS:**

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

Public Works Contracts  
1010 Second Avenue, 14<sup>th</sup> Floor  
San Diego, California, 92101  
Attention: [Contract Specialist listed on the front cover hereof]

OR:

Email address of the Contract Specialist listed on the front cover hereof.

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

- 22.3. Clarifications deemed by the City to be material shall be issued by Addenda and uploaded to the City's online bidding service.
- 22.4. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. It is the Bidder's responsibility to become informed of any Addenda that have been issued and to include all such information in its Bid.
23. **ELIGIBLE BIDDERS:** 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.
24. **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 with the Notice Inviting Bids and Contract forms.
25. **PROPOSAL FORMS:** Bid shall be made only upon the Bidding Documents i.e., Proposal form attached to and forming a part of the specifications. The signature of each person signing shall be in longhand.
- 25.1. Bidder shall complete and submit all pages in the "Bidding Document" Section (see Volume 2) as their Bid per the schedule given under "Required Documents Schedule," (see Volume 1). Bidder is requested to retain for their reference other portions of the Contract Documents that are not required to be submitted with the Bid. The entire specifications for the bid package do not need to be submitted with the bid.
- 25.2. The City may require any Bidder to furnish a statement of experience, financial responsibility, technical ability, equipment, and references.
- 25.3. Bids and certain other forms and documents as specified in the Volume 2 of 2 of the Contract Documents shall be enclosed in a sealed envelope and shall bear the title of the work and name of the Bidder and the appropriate State Contractors License designation which the Bidder holds.
- 25.4. Bids may be withdrawn by the Bidder prior to, but not after, the time fixed for opening of Bids.
26. **BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY):**
- 26.1. 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.



26.2. 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.

26.3. 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.

26.4. A Bid received without the specified bid security may be rejected as **non-responsive**.

**27. AWARD OF CONTRACT OR REJECTION OF BIDS:**

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

27.2. Bidders shall complete the entire Bid schedule (also referred to as "schedule of prices" or Proposal form). Incomplete price schedules will be rejected as being non-responsive.

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

27.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City from the Bidder within 3 Working Days, excluding Saturdays, Sundays, and state holidays, after the opening of Bids, of written notice which includes proof of honest, credible, clerical error of material nature, free from fraud or fraudulent intent, and of evidence that reasonable care was observed in the preparation of the Bid.

27.5. A non-selected Bidder may protest award of the Contract to the selected Bidder by submitting a written "Notice of Intent to Protest" including supporting documentation which shall be received by Public Works Contracts no later than 10 days after the City's announcement of the selected Bidder or no later than 10 days from the date that the City issues notice of designation of a Bidder as non-responsive in accordance with San Diego Municipal Code Chapter 2, § 22.3029, "Protests of Contract Award."

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

27.7. Each Bid package properly executed as required by these specifications shall constitute a firm offer, which may be accepted by the City within the time specified in the Proposal.

27.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of any proposed alternates, additive items or options, at its discretion that will be disclosed in the Volume 2 of 2.

**28. BID RESULTS:**

- 28.1.** The Bid opening by the City 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 public announcement will be posted in the City's web page <http://www.sandiego.gov/cip/index.shtml>, with the name of the newly designated Apparent Low Bidder.
- 28.2.** To obtain Bid results, either attend Bid opening, review the results on the City's web site, or provide a self-addressed, stamped envelope, referencing Bid number, and Bid tabulation will be mailed to you upon verification of extensions. Bid results cannot be given over the telephone.

**29. THE CONTRACT:**

- 29.1.** 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.
- 29.2.** 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.
- 29.3.** 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.
- 29.4.** 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.
- 29.5.** 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. 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.

- 30. 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.
- 31. CITY STANDARD PROVISIONS:** This contract is subject to the following standard provisions. See The WHITEBOOK for details.
- 31.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
- 31.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
- 31.3.** The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.
- 31.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
- 31.5.** 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.
- 31.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 31.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.
- 32. PRE-AWARD ACTIVITIES:**
- 32.1.** The selected contractor by the City to execute a contract for this Work shall provide the information required within the time specified in "Required Documents," of this bid package. Failure to provide the information within the time specified may result in the Bid being rejected as **non-responsive**.
- 32.2.** If the Bid is rejected as non-responsive, the selected contractor by the City to execute a contract for this Work shall forfeit the required Bid. The decision that the selected contractor by the City to execute a contract for this Work is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.
- 33. ADDITIVE ALTERNATES:**
- 33.1.** The additive alternates have been established to allow the City to compare the cost of specific portions of the Work with the Project's budget and enable the City to make decision prior to award. The award will be established as described in the Bid. The

City reserves the right to award the Contract for the Base Bid only or the Base Bid plus any combination of Additive Alternate.

**34. REQUIRED DOCUMENT SCHEDULE:**

- 34.1. The Bidder's attention is directed to the City's Municipal Code §22.0807(e), (3)-(5) for important information regarding grounds for debarment for failure to submit required documentation.
- 34.2. The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:

<http://www.sandiego.gov/eoc/forms/index.shtml>

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
1.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid
2.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid Bond
3.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Non-collusion Affidavit to be Executed By Bidder and Submitted with Bid under 23 USC 112 and PCC 7106
4.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Contractors Certification of Pending Actions
5.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Equal Benefits Ordinance Certification of Compliance
6.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Lobby Prohibition, Certification and Disclosure
7.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Instructions for Completion of SF-LLL, Disclosure of Lobbying Activities
8.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Disclosure of Lobbying Activities
9.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA35 - List of Subcontractors
10.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA40 - Named Equipment/Material Supplier List
11.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA45 - Subcontractors Additive/Deductive Alternate
12.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Buy American Certification. See Notice of Inviting Bids
13.	WITHIN 4 WORKING DAYS OF BID OPENING	ALL BIDDERS	Federal Good Faith Documentation
14.	WITHIN 4 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Proof of Valid DBE-MBE-WBE-DVBE Certification Status e.g., Certs.

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
15.	WITHIN 4 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	<ul style="list-style-type: none"> <li>• Form AA61 – List of Work Made Available</li> <li>• Letter of Intent</li> <li>• Utilization Statement</li> <li>• Certification of Nonsegregated Facilities</li> </ul>
16.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Names of the principal individual owners of the Apparent Low Bidder
17.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	If the Contractor is a Joint Venture: <ul style="list-style-type: none"> <li>• Joint Venture Agreement</li> <li>• Joint Venture License</li> </ul>
18.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Form BB05 - Work Force Report
19.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Agreement
20.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Payment and Performance Bond
21.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Certificates of Insurance and Endorsements
22.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - Drug-Free Workplace
23.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - American with Disabilities Act
24.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractors Standards - Pledge of Compliance

**CONTRACT FORMS**  
**AGREEMENT**

# CONTRACT FORMS

## ATTACHMENTS

## CONTRACT FORMS

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### CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Coffman Specialties, Inc., herein called "Contractor" for construction of **Brown Field (SDM) Airport Runway 8L/26R Rehab**, Bid No. **K-1--1227-DBB-3**, in the amount of Three Million Nine Hundred Thirty Five Thousand Dollars and 00/100 (\$3,935,000.00), which is comprised of the Base Bid plus Additive Alternate A.

IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:
  - (a) The attached Faithful Performance and Payment Bonds.
  - (b) The attached Proposal included in the Bid documents by the Contractor.
  - (c) Reference Standards listed in the Notice Inviting Bids and the Supplementary Special Provisions (SSP).
  - (d) That certain documents entitled **Brown Field (SDM) Airport Runway 8L/26R Rehab**, on file in the office of the Public Works Department as Document No. **B-11010** 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 **Brown Field (SDM) Airport Runway 8L/26R Rehab**, Bid Number **K-15-1227-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 FORMS (continued)

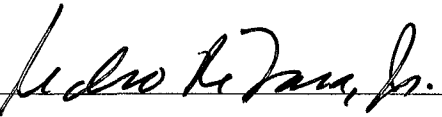
IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code 22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

Jan I. Goldsmith, City Attorney

By 

By 

Print Name: Stephen Samara, Principal  
Contract Specialist

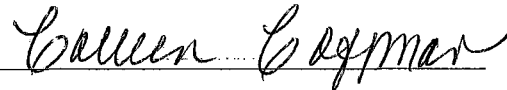
Print Name: Pedro De Lara, Jr.  
Deputy City Attorney

Date: 10/22/15

Date: 10/27/15

CONTRACTOR

COFFMAN SPECIALTIES, INC

By 

Print Name: COLLEEN COFFMAN

Title: PRESIDENT

Date: 8/21/15

City of San Diego License No.: B1991010369

State Contractor's License No.: 632358

**CONTRACT FORMS ATTACHMENTS**  
**PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND**

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**FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:**

Coffman Specialties, Inc., a corporation, as principal, and LIBERTY MUTUAL INSURANCE 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 Three Million Nine Hundred Thirthy Five Thousand Dollars and 00/100 (\$3,935,000.00) for the faithful performance of the annexed contract, and in the sum of Three Million Nine Hundred Thirthy Five Thousand Dollars and 00/100 (\$3,935,000.00) for the benefit of laborers and materialmen designated below.

**Conditions:**

If the Principal shall faithfully perform the annexed contract **Brown Field (SDM) Airport Runway 8L/26R Rehab**, Bid Number **K-15-1227-DBB-3**, 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 Chapter 3 of Division 5 of Title I of the Government Code of the State of California or under the provisions of Section 3082 et seq. 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.

**CONTRACT FORMS ATTACHMENTS (continued)**  
**PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND**

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

Dated AUGUST 21, 2015

Approved as to Form

COFFMAN SPECIALTIES, INC.  
Principal

By *Caitlin Coffman*

Caitlin Coffman  
Printed Name of Person Signing for Principal

Jan I. Goldsmith, City Attorney

By *Julio R. Davis, Jr.*  
Deputy City Attorney

LIBERTY MUTUAL INSURANCE COMPANY  
Surety

By *Charise Eberhard*  
Attorney-in-fact  
CHARISE EBERHARD

Approved:

By *Stephen Samara*  
Stephen Samara, Principal Contract Specialist

790 THE CITY DRIVE SOUTH, SUITE 200  
Local Address of Surety

ORANGE, CA 92868  
Local Address (City, State) of Surety

714-634-3311  
Local Telephone No. of Surety

Premium \$ 31,698.00

Bond No. 024059536

## ACKNOWLEDGMENT

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

State of California  
County of Orange

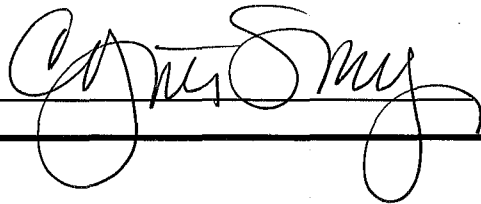
On August 21, 2015 before me, Cynthia S. Wozney, Notary Public  
(insert name and title of the officer)

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

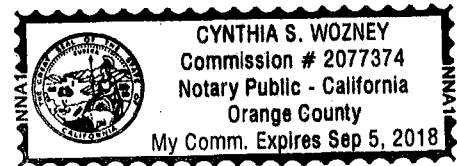
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing  
paragraph is true and correct.

WITNESS my hand and official seal.

Signature



(Seal)



**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.**

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6930830

American Fire and Casualty Company  
The Ohio Casualty Insurance Company

Liberty Mutual Insurance Company  
West American Insurance Company

**POWER OF ATTORNEY**

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Charise Eberhard; Cynthia S. Wozney; Denise Bennett; John M. Garrett; Paul A. Bland; Steven C. Mosier

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

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 31st day of March, 2015.



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

By: David M. Carey  
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss  
COUNTY OF MONTGOMERY

On this 31st day of March, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

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



COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Teresa Pastella, Notary Public  
Plymouth Twp., Montgomery County  
My Commission Expires March 28, 2017  
Member, Pennsylvania Association of Notaries

By: Teresa Pastella  
Teresa Pastella, Notary Public

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

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

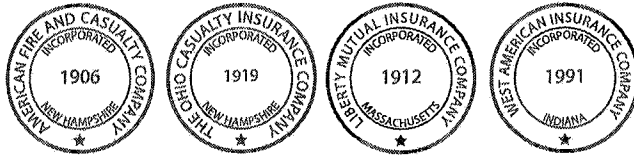
**ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings.** Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact,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

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

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

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

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 21ST day of AUGUST, 2015.



By: Gregory W. Davenport  
Gregory W. Davenport, Assistant Secretary

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

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

# CONTRACTOR CERTIFICATION

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## DRUG-FREE WORKPLACE

PROJECT TITLE: Brown Field (SDM) Airport Runway 8L/26R Rehab

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;

COFFMAN SPECIALTIES, INC.

(Name under which business is conducted)

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.

Signed *Colleen Coffman*

Printed Name COLLEEN COFFMAN

Title PRESIDENT

## CONTRACTOR CERTIFICATION

---

### AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

PROJECT TITLE: Brown Field (SDM) Airport Runway 8L/26R Rehab

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;

COFFMAN SPECIALTIES, INC.

(Name under which business is conducted)

has in place a 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.

Signed 

Printed Name COLLEEN COFFMAN

Title PRESIDENT

# CONTRACTOR CERTIFICATION

## CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

PROJECT TITLE: Brown Field (SDM) Airport Runway 8L/26R Rehab

I declare under penalty of perjury that I am authorized to make this certification on behalf of COFFMAN SPECIALTIES, INC., as Contractor, that I am familiar with the requirements of City of San Diego Municipal Code § 22.3224 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 § 22.3224.

Dated this 21 Day of AUGUST, 2015.

Signed 

Printed Name COLLEEN COFFMAN

Title PRESIDENT



**AFFIDAVIT OF DISPOSAL**

**WHEREAS**, on the \_\_\_\_\_ DAY OF \_\_\_\_\_, 2\_\_\_\_\_ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

Brown Field (SDM) Airport Runway 8L/26R Rehab

(Name of Project)

as particularly described in said contract and identified as Bid No. **K-16-1227-DBB-3**; SAP No. (WBS/IO/CC) **B-11010**; 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

## CONTRACTOR CERTIFICATION

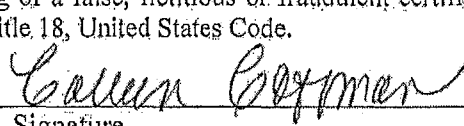
*Certificate of Compliance Based on Equipment and Materials Used on the Project (Non-building heavy construction projects such as runway or roadway construction; or equipment acquisition projects)*

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that all steel and each manufactured good proposed for use on this project are made in the United States of 100% United States materials, unless 1) the product is listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation subpart 25.108; 2) the FAA has issued a waiver for the product, as indicated by its inclusion in the FAA Nationwide Buy American Waivers Issued list; or 3) the item is listed by the bidder or offeror below or on a separate and clearly identified attachment to this bid/proposal. For those items, the bidder or offeror will provide sufficient documentation to the sponsor to allow the sponsor to request and receive an FAA waiver for the product in advance of its use on the project. If the FAA does not issue a waiver, the bidder or offeror must use manufactured goods that meet the Buy American Preference requirement.

Product	Country of Origin	% of United States Components and Subcomponents

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

12/22/15  
Date

  
Signature

COFFMAN SPECIALTIES, INC.  
Company Name

PRESIDENT  
Title

## ATTACHMENTS

**ATTACHMENT A**  
**SCOPE OF WORK**

## SCOPE OF WORK

- 1. SCOPE OF WORK:** The objective of this project is to rehabilitate Runway 8L/26R at Brown Field Airport. The work involves furnishing all labor, materials, equipment, services and construction of the project, which consists of a pavement rehabilitation in an effort to comply with current FAA standards and increase reliability and safety. The project elements include installation and maintenance of construction barricades; installation and maintenance of water pollution control devices; temporary airport facility closures; demolition and removal of existing pavements; relocation of miscellaneous electrical items including signs and lights, conduits, and pull boxes; installation of airfield improvements including new AC pavements; and installation of temporary blast fencing and Pulse Light Approach Slope Indicator (PLASD).

**1.1.** The Work shall be performed in accordance with:

**1.1.1.** The Notice Inviting Bids and Plans numbered **37992-1-D** through **37992-71-D**, inclusive.

- 2. CONSTRUCTION COST:** The City's estimated construction cost for this contract is **\$3,625,000.00**.
- 3. LOCATION OF WORK:** Brown Field Airport, San Diego, CA.
- 4. CONTRACT TIME:** The Contract Time for completion of the Work shall be **250 Working Days**.
- 5. 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(s) shall render the Bid as **non-responsive** and shall act as a bar to award of the Contract to any Bidder not possessing required license(s) at the time of Bid.

**5.1.** The City has determined the following licensing classification for this contract:

- CLASS A

**ATTACHMENT B**  
**INTENTIONALLY LEFT BLANK**

**ATTACHMENT C**  
**EQUAL OPPORTUNITY CONTRACTING PROGRAM**

## EQUAL OPPORTUNITY CONTRACTING PROGRAM

1. To The WHITEBOOK, Chapter 10, Sections D and E, DELETE each in its entirety, and SUBSTITUTE with the following:

### **D. CITY'S EQUAL OPPORTUNITY COMMITMENT.**

#### **1. Nondiscrimination in Contracting Ordinance.**

1. The Contractor, Subcontractors and Suppliers shall comply with requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

The Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. The Contractor shall provide equal opportunity for subcontractors to participate in subcontracting opportunities. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the contract and may result in contract termination, debarment, or other sanctions.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. Disclosure of Discrimination Complaints. As part of its Bid or Proposal, 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 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.
3. Upon the City's request, the Contractor agrees to provide to the City, within 60 days, a truthful and complete list of the names of all Subcontractors and Suppliers that the Contractor has used in the past 5 years on any of its contracts that were undertaken within San Diego County, including the total dollar amount paid by the Contractor for each subcontract or supply contract.
4. The Contractor further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against the Contractor up to and including contract termination, debarment and other sanctions for violation of the provisions of the Nondiscrimination in Contracting Ordinance. The Contractor further understands and agrees that the procedures, remedies and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.



**E. EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.**

1. The Contractor, Subcontractors and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

The Contractor shall not discriminate against any employee or applicant for employment on any basis prohibited by law. Contractor shall provide equal opportunity in all employment practices. Prime Contractor shall ensure their subcontractors comply with this program. Nothing in this section shall be interpreted to hold a prime contractor liable for any discriminatory practice of its subcontractors.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05), within 10 Working Days after receipt by the Bidder of Contract forms to the City for approval as specified in the Notice of Intent to Award letter from the City.
3. If a Work Force Report is submitted, and the City determines there are under-representations when compared to County Labor Force Availability data, the selected Bidder shall submit an Equal Employment Opportunity Plan.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:
  1. The Contractor shall maintain a working environment free of discrimination, harassment, intimidation and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work.
  2. The Contractor reviews its EEO Policy, at least annually, with all on-site supervisors involved in employment decisions.
  3. The Contractor disseminates and reviews its EEO Policy with all employees at least once a year, posts the policy statement and EEO posters on all company bulletin boards and job sites, and documents every dissemination, review and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
  4. The Contractor reviews, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintains written documentation of these reviews.
  5. The Contractor discusses its EEO Policy Statement with subcontractors with whom it anticipates doing business, includes the EEO Policy Statement in its subcontracts, and provides such documentation to the City upon request.

6. The Contractor documents and maintains a record of all bid solicitations and outreach efforts to and from subcontractors, contractor associations and other business associations.
7. The Contractor disseminates its EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit, maintains files documenting these efforts, and provides copies of these advertisements to the City upon request.
8. The Contractor disseminates its EEO Policy to union and community organizations.
9. The Contractor provides immediate written notification to the City when any union referral process has impeded the Contractor's efforts to maintain its EEO Policy.
10. The Contractor maintains a current list of recruitment sources, including those outreaching to people of color and women, and provides written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
11. The Contractor maintains a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.
12. The Contractor encourages all present employees, including people of color and women employees, to recruit others.
13. The Contractor maintains all employment selection process information with records of all tests and other selection criteria.
14. The Contractor develops and maintains documentation for on-the-job training opportunities, participates in training programs, or both for all of its employees, including people of color and women, and establishes apprenticeship, trainee, and upgrade programs relevant to the Contractor's employment needs.
15. The Contractor conducts, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourages all employees to seek and prepare appropriately for such opportunities.
16. The Contractor ensures the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

**ATTACHMENT D**  
**FEDERAL AVIATION ADMINISTRATION (FAA)**  
**FUNDING AGENCY PROVISIONS**

## FUNDING AGENCY PROVISIONS

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

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

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

	<u>Goal</u>
1. Minority Participation:	16.9%
2. Female Participation:	6.9%

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

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

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

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

### **2. EQUAL OPPORTUNITY CLAUSES:**

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

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

2. The equal opportunity clause located at 41 CFR 60-741.5, which contains the obligations imposed by Section 503 of the Rehabilitation Act of 1973.
3. The "Equal Opportunity Clause" (Resolution No. 765092) filed on December 4, 1978, in the Office of the City Clerk, San Diego, California and incorporated in the "Standard Federal Employment Opportunity Construction Contract Specifications (Executive Order 11246 - Document No. 769023, filed September 11, 1984, in the Office of the City Clerk, San Diego, California) is applicable to all non-exempt City construction contracts and subcontracts of \$2,000 or more.
4. Age Discrimination Act of 1975, Pub. L. 94-135.
5. Title VI of the Civil Rights Act of 1964, Pub. L. 88-352.
6. Section 13 of the Federal Water Pollution Control Acts Amendments of 1972, Pub. L. 92-5200 (the Clean Water Act).
7. Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112 (Executive Orders 11914 and 11250).
8. Women's Minority Business Enterprises, Executive Orders 11625, 12138 and 12432.
9. Section 129 of the Small Business Administration Reauthorization and Amendment Act of 1988, Pub. L. 100-590.

### 3. TITLE VI NONDISCRIMINATION REQUIREMENTS:

3.1. During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

3.1.1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Statutes and Authorities**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

3.1.2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3.1.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

**3.1.4. Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

**3.1.5. Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

1. Withholding payments to the contractor under the contract until the contractor complies; and/or
2. Cancelling, terminating, or suspending a contract, in whole or in part.

**3.1.6. Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

#### **4. STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS:**

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

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

1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign

2 or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
3. Maintain a current file of the names, addresses and telephone numbers of each minority and female walk-in applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
5. Develop on-the-job training opportunities, participate in training programs for the area, or both which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under C.1. above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreements; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignments, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, foreman, etc., prior to the initiation of Work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and dispositions of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
13. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
14. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

**5. VIOLATION OR BREACH OF REQUIREMENTS:**

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



**6. MONTHLY EMPLOYMENT UTILIZATION REPORTS:**

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

1. State of California Department of Transportation Payroll Report. Due to the City weekly.
2. Federal and Non-Federal Work in San Diego County. Submit an updated list only if work is complete or new contracts have been awarded during the span of this project.

**7. RECORDS OF PAYMENTS TO DBEs:**

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

**8. FEDERAL WAGE REQUIREMENTS FOR FEDERALLY FUNDED PROJECTS:**

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

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

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

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

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

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

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

8.8. The Aviation Safety and Capacity Expansion Act of 1990, provides that preference be given to steel and manufactured products produced in the United States when funds are expanded pursuant to a grant issued under the Airport Improvement Program.

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

9.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.

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

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

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

- 9.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 9.3.1.** For contracts entered into on or after April 1, 2015, Contractor and their subcontractors shall furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 9.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 9.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on design professionals and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.
- 9.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 9.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- 9.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Equal Opportunity Contracting Department at 619-236-6000.
- 9.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. As of March 1, 2015, no contractor or subcontractor may be listed on a bid or proposal for a public works

project unless registered with the DIR pursuant to Labor Code section 1725.5. As of April 1, 2015, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City upon request.

**9.9.1.** A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.

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

General Decision Number: CA150001 03/27/2015 CA1

Superseded General Decision Number: CA20140001

State: California

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

County: San Diego County in California.

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

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	02/13/2015
3	03/27/2015

ASBE0005-002 06/30/2014

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 35.44	19.36
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 24.34	16.09

ASBE0005-004 06/24/2013

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 16.95	10.23

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27

BRCA0004-008 11/01/2014

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 34.12	15.65

BRCA0018-004 06/01/2014

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38

TILE FINISHER.....	\$ 23.78	9.84
TILE LAYER.....	\$ 35.14	14.33

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BRCA0018-010 09/01/2013

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	10.34
TERRAZZO WORKER/SETTER.....	\$ 33.63	11.13

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CARP0409-002 07/01/2008

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

Amounts in "Rates" column are per day

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CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

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CARP0547-001 07/01/2009

	Rates	Fringes
CARPENTER		
(1) Bridge.....	\$ 37.28	10.58
(2) Commercial Building....	\$ 32.30	10.58
(3) Heavy & Highway.....	\$ 37.15	10.58
(4) Residential Carpenter..	\$ 25.84	10.58
(5) Residential Insulation Installer.....	\$ 18.00	8.16
MILLWRIGHT.....	\$ 37.65	10.58
PILEDRIVERMAN.....	\$ 37.28	10.58

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CARP0547-002 07/01/2009

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories Drywall Installer/Lather...\$ 21.00		8.58
Drywall Stocker/Scrapper...\$ 11.00		6.67
(2) All other work Drywall Installer/Lather...\$ 27.35		9.58

Drywall Stocker/Scraper...\$ 11.00 6.67

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ELEC0569-001 12/01/2014

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....	\$ 45.75	13.25
Electrician.....	\$ 45.00	13.22
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....	\$ 40.75	13.10
Electrician.....	\$ 40.00	13.07

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ELEC0569-005 09/01/2014

	Rates	Fringes
Sound & Communications		
Sound Technician.....	\$ 28.82	3%+10.81
Soundman.....	\$ 23.06	3%+ 9.17

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

SOUNDMAN: Wire-pulling, splicing, assembling and installing devices

SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, frequency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music. All of the above shall include the installation and transmission over fiber optics.

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ELEC0569-006 10/06/2014

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

Rates      Fringes

Traffic signal, street light  
and underground work  
Utility Technician #1.....\$ 28.75      3%+7.42  
Utility Technician #2.....\$ 23.90      3%+7.42

**STREET LIGHT & TRAFFIC SIGNAL WORK:**

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

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

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ELEC0569-008 06/03/2013

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 22.37	3%+3.30

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ELEC1245-001 06/01/2013

	Rates	Fringes
<b>LINE CONSTRUCTION</b>		
(1) Lineman; Cable splicer..	\$ 50.30	15.00
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 40.17	14.56
(3) Groundman.....	\$ 30.73	13.48
(4) Powderman.....	\$ 44.91	13.48

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

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\* ELEV0018-001 01/01/2015

	Rates	Fringes
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ELEVATOR MECHANIC.....\$ 49.90      28.38

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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ENGI0012-003 07/07/2014

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 39.05	22.25
GROUP 2.....	\$ 39.83	22.25
GROUP 3.....	\$ 40.12	22.25
GROUP 4.....	\$ 41.61	22.25
GROUP 5.....	\$ 41.86	22.25
GROUP 6.....	\$ 41.83	22.25
GROUP 8.....	\$ 41.94	22.25
GROUP 9.....	\$ 42.19	22.25
GROUP 10.....	\$ 42.06	22.25
GROUP 11.....	\$ 42.31	22.25
GROUP 12.....	\$ 42.23	22.25
GROUP 13.....	\$ 42.33	22.25
GROUP 14.....	\$ 42.36	22.25
GROUP 15.....	\$ 42.44	22.25
GROUP 16.....	\$ 42.56	22.25
GROUP 17.....	\$ 42.73	22.25
GROUP 18.....	\$ 42.83	22.25
GROUP 19.....	\$ 42.94	22.25
GROUP 20.....	\$ 43.06	22.25
GROUP 21.....	\$ 43.23	22.25
GROUP 22.....	\$ 43.33	22.25
GROUP 23.....	\$ 43.44	22.25
GROUP 24.....	\$ 43.56	22.25
GROUP 25.....	\$ 43.73	22.25
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 40.40	22.25
GROUP 2.....	\$ 41.18	22.25
GROUP 3.....	\$ 41.47	22.25
GROUP 4.....	\$ 41.61	22.25
GROUP 5.....	\$ 41.83	22.25
GROUP 6.....	\$ 41.94	22.25
GROUP 7.....	\$ 42.06	22.25
GROUP 8.....	\$ 42.23	22.25
GROUP 9.....	\$ 42.40	22.25
GROUP 10.....	\$ 43.40	22.25
GROUP 11.....	\$ 44.40	22.25

GROUP 12.....	\$ 45.40	22.25
GROUP 13.....	\$ 46.40	22.25
OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1.....	\$ 40.90	22.25
GROUP 2.....	\$ 41.68	22.25
GROUP 3.....	\$ 41.97	22.25
GROUP 4.....	\$ 42.11	22.25
GROUP 5.....	\$ 42.33	22.25
GROUP 6.....	\$ 42.44	22.25
GROUP 7.....	\$ 42.56	22.25

**PREMIUM PAY:**

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

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

**SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS**

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

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

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

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

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine

operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

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

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator;

Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

#### GROUP 9: Heavy Duty Repairman

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

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

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

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

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

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

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

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

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

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

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

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

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

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

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

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

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

#### CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

operator (jobsite)

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

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

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

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

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

GROUP 9: Crane operator (over 25 tons and up to and including  
50 tons mrc); Derrick barge operator (over 25 tons up to  
and including 50 tons mrc); Highline cableway operator;  
Hoist operator, stiff legs, Guy derrick or similar type  
(over 25 tons up to and including 50 tons mrc); K-crane  
operator; Polar crane operator; Self erecting tower crane  
operator maximum lifting capacity ten tons

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

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

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

200 tons, up to and including 300 tons mrc)

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

#### TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

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

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern



County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

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

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

to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

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 ENGI0012-004 08/01/2014

	Rates	Fringes
OPERATOR: Power Equipment		
(DREDGING)		
(1) Leverman.....	\$ 48.60	22.40
(2) Dredge dozer.....	\$ 42.63	22.40
(3) Deckmate.....	\$ 42.52	22.40
(4) Winch operator (stern winch on dredge).....	\$ 41.97	22.40
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 41.43	22.40
(6) Barge Mate.....	\$ 42.04	22.40

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 IRON0377-002 01/01/2015

Rates Fringes

Ironworkers:

Fence Erector.....	\$ 27.08	18.24
Ornamental, Reinforcing and Structural.....	\$ 33.50	28.20

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

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LABO0089-001 07/01/2013

Rates Fringes

LABORER (BUILDING and all other Residential Construction)

Group 1.....	\$ 26.98	15.42
Group 2.....	\$ 27.66	15.42
Group 3.....	\$ 28.37	15.42
Group 4.....	\$ 29.17	15.42
Group 5.....	\$ 31.10	15.42

LABORER (RESIDENTIAL CONSTRUCTION - See definition below)

(1) Laborer.....	\$ 24.88	13.75
(2) Cleanup, Landscape, Fencing (Chain Link & Wood),	\$ 23.59	13.75

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

at the job site behind the existing right of way

#### LABORER CLASSIFICATIONS

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

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

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

GROUP 4: Asphalt raker, luterman, ironer, apshalt dumpman and

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

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

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LABO0089-002 11/01/2012

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 27.98	13.39

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LABO0089-004 07/01/2013

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1.....	\$ 26.98	15.42
Group 2.....	\$ 27.66	15.42
Group 3.....	\$ 28.37	15.42
Group 4.....	\$ 29.17	15.42
Group 5.....	\$ 31.10	15.42

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer, Asphalt Rubber Material Loader, Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete

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

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

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, m makeing of joints, sealing, caulking, diapering including rubber gasket joints,

pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

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

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

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LABO0300-005 01/01/2014

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 28.00	15.25

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

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LABO1184-001 07/01/2014

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 31.65	13.33
(2) Vehicle Operator/Hauler.	\$ 31.82	13.33
(3) Horizontal Directional Drill Operator.....	\$ 33.67	13.33

(4) Electronic Tracking		
Locator.....	\$ 35.67	13.33
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 32.56	16.28
GROUP 2.....	\$ 33.86	16.28
GROUP 3.....	\$ 35.87	16.28
GROUP 4.....	\$ 37.61	16.28

LABORERS - STRIPING CLASSIFICATIONS

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

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

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

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/07/2013

Rates      Fringes

LABORER		
PLASTER CLEAN-UP LABORER....	\$ 27.45	16.36
PLASTER TENDER.....	\$ 30.00	16.36

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

Work at Military Bases - \$3.00 additional per hour:



Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

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PAIN0036-001 07/01/2014

Rates Fringes

Painters: (Including Lead Abatement)

(1) Repaint (excludes San Diego County).....\$ 26.89	12.28
(2) All Other Work.....\$ 30.27	12.28

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

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PAIN0036-010 10/01/2014

Rates Fringes

DRYWALL FINISHER/TAPER

(1) Building & Heavy Construction.....\$ 26.84	14.29
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....\$ 21.00	13.91

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PAIN0036-012 12/01/2014

Rates Fringes

GLAZIER.....\$ 39.80	17.33
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PAIN0036-019 07/01/2014

Rates Fringes

SOFT FLOOR LAYER.....\$ 26.77	12.75
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PLAS0200-005 08/06/2014

Rates Fringes

PLASTERER.....\$ 37.43 13.28

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

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PLAS0500-001 07/01/2014

Rates Fringes

CEMENT MASON/CONCRETE FINISHER  
GROUP 1.....\$ 22.29 17.10  
GROUP 2.....\$ 23.94 17.10  
GROUP 3.....\$ 26.57 17.25

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

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

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

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PLUM0016-006 07/01/2014

Rates Fringes

PLUMBER, PIPEFITTER,  
STEAMFITTER  
Camp Pendleton.....\$ 49.21 20.36  
Plumber and Pipefitter  
All other work except  
work on new additions and  
remodeling of bars,  
restaurant, stores and  
commercial buildings not  
to exceed 5,000 sq. ft.  
of floor space and work  
on strip malls, light  
commercial, tenant  
improvement and remodel  
work.....\$ 44.71 20.36  
Work ONLY on new additions  
and remodeling of  
commercial buildings,  
bars, restaurants, and  
stores not to exceed 5,000  
sq. ft. of floor space.....\$ 43.33 19.38  
Work ONLY on strip malls,

light commercial, tenant  
improvement and remodel  
work.....\$ 34.59      17.71

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PLUM0016-011 07/01/2014

Rates      Fringes

PLUMBER/PIPEFITTER

Residential.....\$ 36.15      16.28

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PLUM0345-001 07/01/2014

Rates      Fringes

PLUMBER

Landscape/Irrigation Fitter.\$ 29.27      19.75  
Sewer & Storm Drain Work....\$ 33.24      17.13

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ROOF0045-001 07/01/2012

Rates      Fringes

ROOFER.....\$ 25.08      7.28

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SFCA0669-001 07/01/2013

Rates      Fringes

SPRINKLER FITTER.....\$ 34.86      18.66

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SHEE0206-001 01/01/2012

Rates      Fringes

SHEET METAL WORKER

Camp Pendleton.....\$ 35.05      19.23  
Except Camp Pendleton.....\$ 33.05      19.23  
Sheet Metal Technician.....\$ 25.22      6.69

SHEET METAL TECHNICIAN - SCOPE:

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

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.40	20.50
GROUP 2.....	\$ 24.99	20.50
GROUP 3.....	\$ 25.19	20.50
GROUP 4.....	\$ 25.39	20.50
GROUP 5.....	\$ 25.59	20.50
GROUP 6.....	\$ 26.09	20.50
GROUP 7.....	\$ 27.59	20.50

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

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

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

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

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

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

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

GROUP 7: Repairman

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

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

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

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

#### Survey Rate Identifiers

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

Survey wage rates are not updated and remain in effect until a

new survey is conducted.  
Union Average Rate Identifiers

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

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

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#### WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

Wage and Hour Administrator

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

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

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

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

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

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END OF GENERAL DECISION

**11. FEDERAL LABOR STANDARDS PROVISIONS (Office of the Secretary of Labor 29 CFR 5):**

**Applicability**

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

**A. 1. Minimum Wages. (i)** All laborers and mechanics employed or working upon the site of the work, (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project) will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is

performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

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

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

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

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

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

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

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

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

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



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

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

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

Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at

<http://www.dol.gov/esa/whd/forms/wh347instr.htm>

or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Agency or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to the Federal Agency , the

contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or, owner).

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

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

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

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

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

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

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

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

the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination.

Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

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

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

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

responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

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

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

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

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

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

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

**b. Contract Work Hours and Safety Standards Act.** The provisions of this paragraph b are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

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

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

**(3) Withholding for unpaid wages and liquidated damages.** The Federal Agency or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b)(2) of this section.

**(4) Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (b)(1) through (4) of this section.

**C. In addition to the clauses contained in paragraph (b),** in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## **12. AGENCY SPECIFIC PROVISIONS:**

Note: Failure to comply with these specifications e.g., taking the specified steps prior to Bid opening, and to submit the forms located in Volume 2 with the Bid will lead to the Bid being declared **non-responsive** and, therefore, shall be rejected.

### **12.1. FAA Funded Contracts:**

**12.1.1.** All projects funded by the U.S. Department of Transportation Federal Aviation Administration [FAA] are subject to the equal opportunity requirements set forth at 49 CFR Part 26, as well as the following Federal Requirements.

**12.1.2.** The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. The provision shall be included in any agreements between Contractor and any Subcontractor.

**12.1.3.** To ensure there is equal participation of the DBE groups specified in 49 CFR 26.5, the City specifies a goal for Disadvantaged Business Enterprises (DBEs)

- 12.1.4. The Bidder shall make Work available to DBEs and select Work parts consistent with available DBE Subcontractors and Suppliers..
- 12.1.5. The Bidder Proposer shall meet the DBE goal shown in the Notice Inviting Bids or demonstrate that it made adequate GFE to meet this goal. Include a completed copy of the Form AA61, "List of Work Made Available" with the GFE documentation.
- 12.1.6. It is the Bidder's responsibility to verify that the DBE is certified as DBE at date of Bid opening or Proposal due date. For a list of DBEs certified by the California Unified Certification Program, go to: [http://www.dot.ca.gov/hq/bep/find\\_certified.htm](http://www.dot.ca.gov/hq/bep/find_certified.htm).
- 12.1.7. Only DBE participation will count towards the DBE goal. DBE participation will count towards the City's Annual Anticipated DBE Participation Level (AADPL) and the California statewide goal.
- 12.1.8. Credit for materials or supplies Contractor purchases from DBEs counts towards the goal in the following manner:
  - 1. 100% counts if the materials or supplies are obtained from a DBE manufacturer.
  - 2. 60% counts if the materials or supplies are obtained from a DBE regular dealer.
  - 3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."
- 12.1.9. The Contractor or Subcontractor will receive credit towards the goal if the Contractor or Subcontractor employs a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55.
- 12.1.10. Subcontracting Participation Goals:
  - 1. The Bidders are encouraged to take positive steps to diversify and expand their subcontractor solicitation base and to offer contracting opportunities to all eligible DBE certified Subcontractors. To support its Equal Opportunity Contracting commitment, the City has implemented a race-conscious and race neutral project specific goal methodology required for all FAA funded projects.
  - 2. The Bidder is required to meet the Project specific percentages for DBE's as outlined in the Notice Inviting Bids or satisfy good faith documentation requirements.
  - 3. The Bidder shall make good faith efforts, as defined in these specifications to meet the contract goal for DBE participation in the performance of this contract.

12.1.11. The Bidder shall include the City's DBE Policy Statement in all its Subcontracts.

**13. Trade Restriction Clause – 49 Cfr Part 30**

13.1. The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

13.1.1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

13.1.2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

13.1.3. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

13.1.4. Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

13.1.5. Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

13.1.6. The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

13.1.7. This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

13.1.8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

**13.1.9.** This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

**14. Clean Air And Water Pollution Control – 29 Cfr Part 18.36(I)(12)**

**14.1.** Contractors and subcontractors agree:

**14.1.1.** That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

**14.1.2.** To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

**14.1.3.** That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

**14.1.4.** To include or cause to be included in any construction contract or subcontract which exceeds \$100,000 the aforementioned criteria and requirements.

**15. Access To Records And Reports – 49 Cfr Part 18.36(I)**

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

**16. Rights To Inventions - 49 Cfr Part 18.36(I)(8)**

All rights to inventions and materials generated under this contract are subject to requirements and regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

**17. Energy Conservation Requirements – 49 Cfr Part 18.36**

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).



**18. GOOD FAITH EFFORT DOCUMENTATION SUBMITTALS:**

- 18.1.** The affirmative GFE steps documentation shall be submitted **within 4 Working Days of the Bid Opening**. If this documentation is not submitted when due, the City will declare the Bid **non-responsive** and reject it.
- 18.2.** The required documentation shall be submitted and logged in at the following address:

CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>TH</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101  
SUBJECT: AFFIRMATIVE GOOD FAITH EFFORT DOCUMENTATION  
BID NO. **K-16-1227-DBB-3**

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

**19. FORMS:**

- 19.1.** The Contractor shall demonstrate that efforts were made to attract DBEs on this contract. The Contractor and Subcontractors shall take the steps listed in these specifications to assure that DBEs are used whenever possible as sources of supplies, construction, equipment, or services. In addition to the specified GFE documentation, the Bidder shall submit the following forms.
- 19.2. VOLUME 1 FORMS** - The following forms in Volume 1 shall be completed and submitted within **4 Working Days of the Bid opening**. Failure to include any of the forms shall cause the Bid to be deemed **non-responsive**.
1. Form AA61 - List of Work Made Available
  2. Letter of Intent - Disadvantaged Business Enterprise
  3. Utilization Statement - Disadvantaged Business Enterprise

**20. APPENDIX:**

1. DBE Policy Statement For FAA Contracts Only
2. Certification of Nonsegregated Facilities

**FUNDING AGENCY PROVISIONS**

**FORMS**

**LIST OF WORK MADE AVAILABLE**

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

ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID



**UTILIZATION STATEMENT**  
**Disadvantage Business Enterprise (DBE)**

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner. *(Please mark the appropriate box)*

- The bidder/offeror is committed to a minimum of \_\_\_\_\_% DBE utilization on this contract.
  
- The bidder/offeror, while unable to meet the DBE contract goal of \_\_\_\_\_%, hereby commits to a minimum of \_\_\_\_\_% DBE utilization on this contract and submits the attached documentation as evidence demonstrating good faith efforts (GFE) in seeking participation by certified DBE firms.

The undersigned hereby further assures that the information included herein is true and correct, and that the DBE firm or firms identified within the submitted Letter-of-Intent forms have agreed to perform a commercially useful function for the indicated work elements.

The undersigned further understands that no changes to this statement may be made without prior approval from the Owner and the Federal Aviation Administration

\_\_\_\_\_  
 Bidder's/Offerors Firm Name

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date

**DBE UTILIZATION SUMMARY**

<u>Percentage</u>	<u>Contract Amount</u>	<u>DBE Amount</u>	<u>Contract</u>
DBE Prime Contractor	\$ _____ x 1.00 =	\$ _____	_____ %
DBE Subcontractor	\$ _____ x 1.00 =	\$ _____	_____ %
DBE Supplier	\$ _____ x 0.60 =	\$ _____	_____ %
DBE Manufacturer	\$ _____ x 1.00 =	\$ _____	_____ %
Total Amount DBE		\$ _____	_____ %
DBE Goal		\$ _____	_____ %

\* If the total proposed DBE participation is less than the established DBE goal, Bidder must provide written documentation of the good faith efforts as required by 49 CFR Part 26.

**FAA FUNDING AGENCY PROVISIONS**

**APPENDIX**

## **DBE POLICY STATEMENT FOR FAA CONTRACTS**

The City of San Diego (Sponsor) has established a Disadvantaged Business Enterprise (DBE) program in accordance with the requirements of the U.S. Department of Transportation (DOT). As a recipient of funding from the DOT, the City of San Diego signed an assurance to comply with the provisions of 49 CFR Part 26, "Participation by Disadvantaged Business Enterprise in DOT Programs."

It is the policy of the Airports Division that DBE's, as defined in 49 CFR Part 26, shall have the maximum opportunity to participate in the performance of contracts assisted in whole or in part by funds granted by the DOT.

The Airports Division prohibits discrimination against any person because of race, color, sex, or national origin, in the award or performance of any contract subject to the requirements of 49 CFR Part 26.

The Airports Division will require its employees, agents, and contractors to adhere to the provisions of this program.

This policy statement is disseminated to appropriate departments of the City of San Diego, to organizations of minority and disadvantaged businesses and to non-minority business and community organizations of the City of San Diego.

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Deputy Director, Airports Division

Date: \_\_\_\_\_

**CERTIFICATION OF NONSEGREGATED FACILITIES**

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

Dated this \_\_\_\_\_ Day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Signature of Contractor/Principal

\_\_\_\_\_  
Printed Name of Contractor/Principal

\_\_\_\_\_  
Title



**ATTACHMENT E**  
**SUPPLEMENTARY SPECIAL PROVISIONS**

## **SUPPLEMENTARY SPECIAL PROVISIONS**

The following Supplementary Special Provisions (SSP) modifies the following documents:

- 1) Standard Specifications for Public Works Construction (The GREENBOOK) currently in effect.
- 2) The City of San Diego Standard Specifications for Public Works Construction (The WHITEBOOK).

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### **SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS**

#### **1-2 TERMS AND DEFINITIONS.**

**Normal Working Hours.** To the City Supplement, ADD the following:

See Technical Specification sections G-100-1.9.A.3 and G-100-1.9.B for additional Working Hours. The Normal Daytime Working Hours are 7:00 AM to 4:00 PM. Off peak and nighttime work hours are 10:00PM to 6:00AM. Accelerated work hours are 2 -10 hour shifts, 7:00AM – 5:00AM. Certain phases of work are dependent on the other phases being constructed and operational, while other phases are required to work within nighttime periods to minimize the impact to airport operations. During Phase 2 the Contractor may request to work on Saturdays, in order to stay on schedule. If Saturday work is authorized by the Engineer, operations on Saturday will not be counted as contract time or as an official working day.

### **SECTION 2 - SCOPE AND CONTROL OF WORK**

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

1. You must perform, with your own organization, Contract work amounting to at least 50% of the base bid alone or base bid and any additive alternate(s) that together when added from the basis of award.

#### **2-5.3.1 General.** To the City Supplement, ADD the following

7. For products for which an AML is available, products listed in the AML shall be used. A submittal review will be conducted for products not identified on an AML on a case-by-case basis when:
  - a) The product type or category is not in the AML.
  - b) The AML does not list at least two available manufacturers of the product.

- c) The material or manufacturer listed in the AML is no longer available. Documentation to substantiate the product is no longer available or in production is required as part of the submittal.

In the case of conducting a submittal review when required by the Plans or Special Provisions, or when requested by the Engineer, all submittals shall be accompanied by the City's submittal form.

The Product Submittal Form is available for download at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

**2-7 SUBSURFACE DATA.** ADD the following:

- 4. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests of subsurface conditions at the Work Site:
  - 1. Geotechnical Data Report (GDR) dated April 17, 2014 by Allied Geotechnical Engineers, Inc.
- 5. The report(s) listed above is(are) available for review as shown in the contract Appendices.

**2-9.1 Permanent Survey Markers.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

Pursuant to Division 3, Chapter 15 of the Business and Professions Code, the Contractor shall not disturb survey monuments that "control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control" until they have been tied out by a Registered Land Surveyor or Registered Civil Engineer authorized to practice land surveying within the State of California.

The Contractor shall submit to the Engineer a minimum of 7 Days prior to the start of the Work a list of controlling survey monuments which may be disturbed. The Agency (or the owner on a Private Contract) will:

- a) set survey points outside the affected work area that reference and locate each controlling survey monument that may be disturbed,
- b) file a Corner Record or Record of Survey with the County Surveyor after setting the survey points to be used for re-establishment of the disturbed controlling survey monuments, and
- c) file a Corner Record of Record of Survey with the County Surveyor after re-establishment of the disturbed controlling survey monuments.

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

- 5. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:

1. Report of Burrowing Owl Survey dated July, 2014 by ESA
6. The report(s) listed above is(are) available for review as shown in the contract Appendices.

#### **SECTION 4 - CONTROL OF MATERIALS**

**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.

**4-1.6 Trade Names or Equals.** To the City Supplement, DELETE in its entirety and SUBSTITUTE the following:

Three hard copies and one digital copy of all designer reviewed submittals must be provided to the Engineer.

You must submit your list of proposed substitutions for “an equal” (“or equal”) item(s) **no later than 5 working days after the determination of the Apparent Low Bidder** and on the City’s Product Submittal Form available at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

#### **SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK**

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

Do not work in the areas where there is currently a moratorium issued by the City. The areas subject to moratorium are listed here:

- a) 300 feet from any occupied burrow of burrowing owls (*Speotyto cunicularia* hypugaea) from February 1 to August 31 (inclusive).

#### **SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR**

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

The insurance provisions herein must not be construed to limit your indemnity obligations contained in the Contract.

**7-3.1 Policies and Procedures.**

1. You must 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 must 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. Payment for insurance is included in the various items of Work as bid by you, and 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 must 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 must 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 must 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 must be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You must maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense must be outside the policy limits. Policy coverage must be in liability limits of not less than the following:

<u>General Annual Aggregate Limit</u>	<u>Limits of Liability</u>
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 must 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 must be outside the limits of the policy.

### 7-3.2.5

#### **Contractors Builders Risk Property Insurance..**

1. You must provide at its expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance must be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits must be 100% of this contract value of the Work plus 15% to cover administrative costs, design costs, and the costs of inspections and construction management.
2. Insured property must include material or portions of the Work located away from the Site but intended for use at the Site, and must cover material or portions of the Work in transit. The policy or policies must include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies must cover the cost of removing debris, including demolition.
3. The policy or policies must provide that all proceeds thereunder must be payable to the City as Trustee for the insured, and must name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. We as Trustee will collect, adjust, and receive all monies which may become due and payable under the policy or policies, may compromise any and all claims thereunder, and will apply the proceeds of such insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance must be identified in the policy or policies documents and responsibility for paying the part of any loss not covered because of the application of such deductibles must be apportioned among the parties except for the City as follows: if there is more than one claimant for a single occurrence, then each claimant must pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City must be entitled to 100% of its loss. The Contractor must pay the City any portion of that loss not covered because of a deductible, at the same time the proceeds of the insurance are paid to the City as trustee.
5. Any insured, other than the City, making claim to which a deductible applies must be responsible for 100% of the loss not insured because of the deductible. Except as provided for under California law, the policy or policies must provide that the City is entitled to 30 days prior written notice (10 days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

**7-3.3 Rating Requirements.** Except for the State Compensation Insurance Fund, all insurance required by this contract as described herein must 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 must 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 must 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.**

- a) You must 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.
- b) To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.
- c) The additional insured coverage for projects for which the Engineer's Estimate is \$1,000,000 or more must 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.
- d) The additional insured coverage for projects for which the Engineer's Estimate is less than \$1,000,000 must 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 must 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 must provide that any insurance maintained by the City

and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

- 7-3.5.1.3 Project General Aggregate Limit.** The policy or policies must 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 must reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit must 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 must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.
- 7-3.5.5 Builders Risk Endorsements.**
- 7-3.5.5.1 Waiver of Subrogation.** The policy or policies must be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from work performed by the Named Insured for the City.
- 7-3.5.5.2 Builders Risk – Partial Utilization.** If the City desire to occupy or use a portion or portions of the Work prior to Acceptance in accordance with this contract, the City will notify you and you must immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies must not be cancelled or lapse on account of any such partial use or occupancy. You must obtain the endorsement prior to our occupation and use.
- 7-3.6 Deductibles and Self-Insured Retentions.** You must pay for all deductibles and self-insured retentions. You must 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 must 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 must follow the form of the primary policy or policies e.g., all endorsements.



7-4 **WORKERS' COMPENSATION INSURANCE.** DELETE in its entirety and SUBSTITUTE with the following:

7-4.1 **Workers' Compensation Insurance and Employers Liability Insurance.**

1. In accordance with the provisions of §3700 of the California Labor Code, you must 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 must be not less than the following:

<u>Workers' Compensation</u>	<u>Statutory Employers Liability</u>
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 require 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 must comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

7-4.1.1 **Waiver of Subrogation.** The policy or policies must 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:

The Contractor will obtain, the following permits:

1. Electrical Permit
2. Building Permit
3. All associated permits required per contract documents and Federal Aviation Administration

7-10.5.3 **Steel Plate Covers.** Table 7-10.5.3(A), REVISE the plate thickness for 5'-3" trench width to read 1 3/4".

7-15 **INDEMNIFICATION AND HOLD HARMLESS AGREEMENT.** To the City Supplement, fourth paragraph, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Your duty to indemnify and hold harmless does not include any claims or liability arising from the established active or sole negligence, or willful misconduct of the City, its officers, or employees.

**7-16**            **COMMUNITY LIAISON.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

**ADD:**

**7-16**            **COMMUNITY OUTREACH.**

**7-16.1**        **General.**

1. To ensure consistency with the City's community outreach plan for the project, the City will work with the Contractor to inform the public (which includes, but is not limited to, property owners, renters, homeowners, business owners, recreational users, and other community members and stakeholders) of construction impacts. Efforts by the Contractor to mitigate construction impacts by communicating with the public require close coordination and cooperation with the City.
2. The Contractor will perform the community outreach activities required throughout the Contract Time.
3. The Contractor shall closely coordinate the Work with the businesses, institutions, residents and property owners impacted by the Project. Example duties of the Contractor include notification to the businesses, institutions and residents of the commencement of construction activities not less than 5 days in advance, coordination of access for vehicular and pedestrian traffic to businesses, institutions and residences impacted by the Project, reporting of Contractor activities at all Project progress meetings scheduled by the Engineer, attendance to the Project Pre-construction Meeting, attendance at 2 community meetings, response to community questions and complaints related to Contractor activities, and written documentation including logging in all inquiries and complaints received into the City's Public Contact Log located on the City's SDShare site:

<http://sdshare/forums/ecp/PITS/picr/Lists/Public%20Contact%20Log/AllItems.aspx>

4. The Contractor shall execute the Information Security Policy Acknowledgement Form - For Non-City Employees within 15 days of the award of the Contract if:
  - a) The contact information for the Contractor is made available on any outreach materials or;
  - b) The Contractor will be the primary point of contact to resolve project related inquiries and complaints.
5. Electronic Communication.

All inquiries and complaints will be logged in to the City's SDShare site within 24 hours of receipt of inquiries and complaints.

Any updates or a resolution of inquiries, and complaints shall be documented in the City's SDShare site within 24 hours.

Copies of email communications shall be saved on to the City's SDSShare site as individually as an Outlook Message Format (\*.msg).

All graphics, photos, and other electronic files associated with the inquiries and or complaints shall be saved into the individual record.

6. **When specified**, present your Exclusive Community Liaison to the Engineer, in writing, within 15 days of the award of the Contract.

#### 7-16.1.1 **Quality Assurance.**

1. During the course of community outreach, the Contractor shall ensure that the character of all persons that conduct community outreach (distributing door hangers, attending community meetings, interacting with the public, etc.) on behalf of the Contractor shall:
  - a. Have the ability to speak and comprehend English and/or Spanish, as appropriate for the community or public they are informing,
  - b. Possess and display easily verifiable and readable personal identification that identifies the person as an employee of the Contractor,
  - c. Have the interpersonal skills to effectively, professionally, and tactfully represent the project, Contractor, and City to the public.

#### 7-16.1.2 **Submittals.**

1. The Contractor shall submit to the Resident Engineer, for review and approval, all drafts of letters, notices, postcards, door hangers, signs, mailing lists, proposed addresses for hand-delivery, and any other notices and letters that are to be mailed and or distributed to the public.
  - a. Prior to distributing or mailing, the Contractor shall submit final drafts of letters, notices, postcards, door hangers, signs, and any other notices and letters to the Resident Engineer for final review and approval. Submit a PDF copy of the approved door hangers to the Engineer.
  - b. After distributing or mailing, the Contractor shall submit verification of delivery and any copies of returned notices to the Resident Engineer. Submit a PDF copy of the approved letters and notices to the Engineer.
2. The Contractor will use the City's SDSShare site to identify and summarize communications (via phone, in person, and email) with the public within 24 hours of receipt, even if the Contractor's response to the individual is still incomplete. The Contractor will upload to the City's SDSShare site copies of all written, electronic, and verbal communications and conversations with the public.

#### 7-16.1.3 **Weekly Updates Recipients.** Submit a weekly correspondence with updates, traffic control issues and locations, lane closures, and any other pertinent information (with additional contact names given during award process) to the following recipients:

Elif Cetin , Senior Engineer, [Ecetin@sandiego.gov](mailto:Ecetin@sandiego.gov)  
Jihad Sleiman, Project Manager, [Jsleiman@sandiego.gov](mailto:Jsleiman@sandiego.gov)  
Resident Engineer, TBA, [XXX@sandiego.gov](mailto:XXX@sandiego.gov)

**7-16.2 Community Outreach Services.**

**7-16.2.1 Public Notice by Contractor.**

1. Post Project Identification Signs in accordance with section 7-10.6.2
2. Notify businesses, institutions, property owners, residents or any other impacted stakeholders, within a minimum 300 feet radius of the Project, of construction activities and utility service interruptions not less than 5 days in advance.
3. Furnish and distribute public notices in the form of door hangers using the City's format to all occupants and/or property owners along streets:
  - a. Where Work is to be performed at least 5 days before starting construction or survey activities or impacting the community as approved by the Resident Engineer.
  - b. Within 5 days of the completion of your construction activities where work was performed, the Contractor shall distribute public notices in the form of door hangers, which outlines the anticipated dates of Asphalt Resurfacing or Slurry Seal.
  - c. No less than 48 hours in advance and no more than 72 hours in advance of the scheduled resurfacing.
4. Leave the door hanger notices on or at the front door of each dwelling and apartment unit and at each tenant of commercial buildings abutting each of the street block segments. Where the front doors of apartment units are inaccessible, distribute the door hanger notices to the apartment manager or security officer.
5. Door Hanger Material: The Contractor shall use Blanks/USA brand, Item Number DHJ5B6WH, 1 ¼" Holes (removed), 2-up Jumbo Door Hanger in Bristol White, or approved equal.
6. Mailed Notice Material: The Contractor shall use Cougar by Domtar, Item Number 2834 or approved equal.
7. For all Work on private property, contact each owner and occupant individually a minimum of 15 days prior to the Work. If the Work has been delayed, re-notify owners and occupants of the new Work schedule, as directed by the Resident Engineer.
8. A sample of public notices is included in the Contract Appendix.

**7-16.2.2 Communications with the Public.**

1. Coordinate access for vehicular and pedestrian traffic to businesses, institutions and residences impacted by the Project.
2. The Contractor shall provide updates on construction impacts to the Resident Engineer. The Contractor shall notify the Resident Engineer in advance about time-sensitive construction impacts and may be required to distribute construction impact notices to the public on short notice.
3. The Contractor shall incorporate community outreach activities related to construction impacts in the baseline schedule and update the Resident Engineer with each week's submittal of the Three-Week Look Ahead Schedule.
4. At the request of the Resident Engineer, the Contractor shall attend and participate in project briefings at community meetings.
5. The Contractor shall coordinate with the Resident Engineer on all responses and actions taken to address public inquiries and complaints within 24-hours that they are received.

**7-16.2.3 Communications with Media.**

1. The City may allow members of the media access to its construction site(s) on a case-by-case basis only.
2. Occasionally, members of the media may show up at construction sites, uninvited. Members of the media (including, but not limited to newspaper, magazine, radio, television, bloggers, and videographers) do not have the legal right to be in the construction site without the City's permission.
3. In the event media representatives arrive near or on the construction site(s), the Contractor shall keep them off the site(s), in a courteous and professional manner, until a Public Information Officer is available to meet them at an approved location.
4. The Contractor shall report all members of the media visits to the Resident Engineer as quickly as possible, so that the City's Public Information Officer can meet with the members of the media at the construction site(s).
5. If the City allows members of the media to access a construction site, the Contractor shall allow the City to escort the media representatives while they are on the construction site and shall ensure their safety.
6. The Contractor shall require media representatives to sign in and out of the Site Visitor Log and to use Personal Protective Equipment.
7. The Contractor has a right to speak to members of the media about its company and its role on the project. All other questions shall be referred to the City.

**7-16.3 Exclusive Community Liaison Services.** If directed to conduct Exclusive Community Liaison Services, the Contractor shall retain an Exclusive Community Liaison for the Project whose sole responsibilities will be to implement 7-16.2 , “Community Outreach Services” and as follows:

1. Develop a contact list of community, tenants, property owners, and agencies with a stake in the project.
2. Prepare and present of materials in coordination with the Resident Engineer.
3. Respond to community questions and complaints related to Contractor activities.
4. Write, edit, update, or produce brochures, pamphlets and news releases.
5. Provide standard telephone inquiries and e-mail responses:
  - a) Respond to telephone calls and e-mails from the public.
  - b) Record calls and e-mails on the City’s SDSShare site.
6. Provide a monthly summary report of all inquiries and complaints, including the name of the person, source of inquiry (via information line or email), phone number, address, date, and time of inquiry, who responded, and a summary of resolutions or pending resolutions to the Resident Engineer.
7. Report Exclusive Community Liaison activities at all progress meetings scheduled by the Resident Engineer.
8. Attendance at pre-construction, community and stakeholders meetings.

**7-16.3.1 Exclusive Community Liaison Work Plan.** The Work plan for the Exclusive Community Liaison shall address the items of Work specified in these specifications. Present your Exclusive Community Liaison and submit your exclusive community outreach plan (in writing) **as specified** within 15 days of the Award of the Contract.

**7-16.4 Payment.** The Payment for the Community Outreach Service is included in the various Bid items. The payment for exclusive community liaison is in the bid item for “Exclusive Community Liaison Services.”

**7-20 ELECTRONIC COMMUNICATION.** ADD the following:

Virtual Project Manager will be used on this contract.

## **SECTION 9 - MEASUREMENT AND PAYMENT**

**9-3.2.5 Withholding of Payment.** To the City Supplement, item i), DELETE in its entirety and SUBSTITUTE with the following:

- i) Your failure to comply with 7-2.3, "PAYROLL RECORDS" and 2-16, "CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM."

**ADD:**

- 9-3.7 Compensation Adjustments for Price Index Fluctuations.** This Contract is not subject to the provisions of The WHITEBOOK for Compensation Adjustments for Price Index Fluctuations for the paving asphalt.

**SECTION 701 – WATER POLLUTION CONTROL**

- 701-2 GENERAL.** To the City Supplement, ADD the following:

4. Reference Technical Specifications Section P-156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control for Water Pollution Control requirements.

**SECTION 705 – WATER DISCHARGES**

- 705-2.6.1 General. Paragraph (3), CORRECT reference to Section 803 to read "Section 703."**

- 705-2.6.3 Community Health and Safety Plan.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

- 705-2.6.3 Community Health and Safety Plan.** See 703-2, "Community Health and Safety Plan."

**SECTION 707 – RESOURCE DISCOVERIES**

**ADD:**

- 707-1.1 Environmental Document.** The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department has prepared a **Final Mitigated Negative Declaration** for Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project, as referenced in the Contract Appendix. You must comply with all requirements of the **Final Mitigated Negative Declaration** and Burrowing Owl Survey Memorandum as set forth in the Contract Appendix A.

Compliance with the City's environmental document is included in the various Bid items, unless a bid item has been provided.

**END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)**

## TECHNICALS



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**SECTION M-100**

**MOBILIZATION AND DEMOBILIZATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This item shall consist of obtaining all required insurance, preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; furnishing and erecting a field office, and other facilities necessary for work on the project; and all other work and operations, as specified herein, which must be performed or cost incurred prior to beginning work on the various contract items at the project site.

**1.2 PRINCIPAL ITEMS OF MOBILIZATION**

- A. Mobilization shall include the following principal items:
1. Required insurance.
  2. Required bonds
  3. Permits for this project as required by these specifications
  4. Contractor shall prepare, submit and obtain approval from the FAA for construction activities required. FAA Form 7460-1 shall be used and submitted to the FAA at least 45 days before construction.
  5. Contractor shall prepare, submit and obtain approval from the FAA for FAA Form 7480-1, Notice for Construction, Alteration and Deactivation of Airports. FAA Form 7480-1 shall be submitted at least 90 days before construction.
  6. The Contractor's approved Baseline Construction Schedule
  7. Contractor's Staging and Laydown Area, including:
    - a. complete installation of all field offices and laboratories
    - b. site utilities,
    - c. power service and supply of temporary generator power as may be needed until power service is procured.
    - d. fencing and gates,
    - e. roadways and site improvements,
    - f. installation of anti-tracking plates,
    - g. supplies and other infrastructure requirements shown on the drawings and required by the specifications.
  8. Posting all required OSHA notices and establishing on-site safety programs.
  9. Submittals of Shop and Coordination Drawings and Job Mixes for the first thirty (30) days of construction.

10. Security badging and training as required per these specifications
11. Procurement and transport of long lead construction materials to the job site, including: Blast deflector fencing, PLASI and temporary electrical materials.
12. Procurement of barricades, flag lines, and construction fences as depicted in the construction drawings, or as required.
13. Survey, potholing, and electrical investigations as required and not otherwise provided for by the City per Section 2.9.2 of The City of San Diego Standard Specifications for Public Works Construction (The WHITEBOOK).
14. Contractor shall staff and maintain at least one (1) operational vacuum sweeper truck and at least one (1) water truck on site at all times during working hours.
15. Biological Resources
  - a. Contractor shall procure a certified biologist to perform the requirements contained in **Appendix A**, *Burrowing Owl Survey Memorandum, July 2014* and the MMRP for the Final Mitigated Negative Declaration No. 358563.
16. Historical Resources
  - a. Contractor shall procure a certified archaeologist and a Native American monitor to perform the requirements of Mitigation Measure HIST-1 of the City of San Diego Archeological Monitoring Program as outlined in the MMRP contained in **Appendix A**.
17. Pre-construction Training Workshop
  - a. Contractor shall procure the Asphalt Institute's pre-training workshop for HMA construction.
  - b. This 4 to 5 hour class is meant for all hands-on persons involved with the project (the paving crew(s), HMA Plant Operator(s), the QC and QA Lab Technicians, and the Inspectors).
  - c. It should take place within the last two weeks prior to paving.
  - d. At least 20 persons to be present
  - e. Contact :  
Robert P. Humer, PE., Sr. Regional Engineer (for CA, AZ, NV, OR, WA and HI) Asphalt Institute.  
3625 Thousand Oaks Blvd., Suite 278  
Westlake Village, CA 91362  
e-mail: rhumer@asphaltinstitute.org

### 1.3 DEMOLIZATION

- A. Demobilization shall include:
  1. Removal of construction facilities, including all utilities
  2. Removal of all equipment and remaining stockpiles off the site

3. Reconstruction of haul and service roads and taxiways to pre-construction conditions and approved by the Engineer.
4. Repair of existing structures, lighting and signage that may have been damaged during construction.
5. Final cleanup of the site after completion of the project
6. Submittal of as-built redline drawing to the City

**PART 2 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

**2.1 MEASUREMENT**

- A. Mobilization and Demobilization, excluding the procurement of Biological and Historical Resources, shall be measured for payment as one completed item
- B. Biological Resources shall be measured for payment as one completed item.
- C. Historical Resources shall be measured for payment as one completed item.

**2.2 PAYMENT**

- A. Payment for Mobilization and Demobilization will be made in partial payments as follows:
  1. Up to eighty (80) percent of the amount bid for mobilization and demobilization may be paid when the preparations described in Items 1.2, A, 1-12 above have been completed so that work can commence on other pay items.
  2. The remaining balance shall be paid as contractor facilities are dismantled and equipment is removed from the airport property.
- B. Biological Resources shall be paid for at the contract lump sum price.
- C. Historical Resources shall be paid for at the contract lump sum price.
- D. The right is reserved to require submittal of invoices, receipted bills, payrolls, and other appropriate documents to justify any or all payment under this item.
- E. Should the contract be altered as provided in the General Provisions, additional costs shall be included in the price for the individual items of additive work only. The contract prices for Mobilization and Demobilization shall not be altered.

Payment will be made under:

Item M-100-1	Mobilization and Demobilization .....	per Lump Sum
Item M-100-2	Biological Resources .....	per Lump Sum
Item M-100-3	Historical Resources .....	per Lump Sum

**END OF SECTION M-100**

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**PART I-GENERAL**  
**PROVISIONS SECTION G-10**  
**DEFINITION OF TERMS**

See 2012 Edition of the Standard Specifications for Public Works Construction as supplemented by the 2012 edition of the City of San Diego Standard Specifications for Public Works Construction (the "WhiteBook"). Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows in accordance with these two documents and as supplemented herein:

- 10-1 AASHTO.** See 2012 GreenBook, Section 1, Subsection 1-3.3 "Institutions".
- 10-2 ACCESS ROAD.** The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.
- 10-3 ADVERTISEMENT.** A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
- 10-4 AIP.** The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.
- 10-5 AIR OPERATIONS AREA.** For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
- 10-6 AIRPORT.** Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport.
- 10-7 ASTM.** See 2012 GreenBook, Section 1, Subsection 1-3.3 "Institutions".
- 10-8 AWARD.** See 2012 City Supplement, Section 1, Subsection 1-2, Terms and Definitions.
- 10-9 BIDDER.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".
- 10-10 BUILDING AREA.** An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
- 10-11 CALENDAR DAY.** Every day shown on the calendar.
- 10-12 CHANGE ORDER.** See GreenBook, Section 1, Subsection 1-2.
- 10-13.1 CITY.** City of San Diego, a political subdivision of the State of California, as created by law.

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Also See GreenBook, Section 1, Subsection 1-2 "Terms and Definitions" Agency and 2012 City Supplement.

- 10-13.2 CITY ENGINEER.** The Director, Department of Public Works, and the appointed official of the City of San Diego authorized to administer the contract.
- 10-14 CONTRACT.** See 2012 City Supplement, Section 1, Subsection 1-2, Terms and Definitions.
- 10-15 CONTRACT ITEM (PAY ITEM).** A specific unit of work for which a price is provided in the contract.
- 10-16 CONTRACTOR.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".
- 10-17 DRAINAGE SYSTEM.** The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
- 10-18 ENGINEER.** See GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".
- 10-19 EQUIPMENT.** All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.
- 10-20 EXTRA WORK.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".
- 10-21 FAA.** The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.
- 10-22 FEDERAL SPECIFICATIONS.** The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.
- 10-23 FORCE ACCOUNT.** Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.
- 10-24 INSPECTOR.** An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
- 10-25 HOLIDAY.** See 2012 City Supplement, Section 1, Subsection 1-2, Terms and Definitions.
- 10-26 INTENTION OF TERMS.** Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general



requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

**10-27 LABORATORY.** The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

**10-28 LIGHTING.** A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

**10-29 MAJOR AND MINOR CONTRACT ITEMS.** A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

**10-30 MATERIALS.** Any substance specified for use in the construction of the contract work.

**10-31 NOTICE TO PROCEED.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".

**10-32 OWNER.** The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only. Also See 2012 Supplement Section 1, Subsection 1.2 Terms and Definitions under Owner or City.

**10-33 PAVEMENT.** The combined surface course, base course, and subbase course, if any, considered as a single unit.

**10-34 PLANS.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions". In the above definitions, the following terms are defined as follows:

**Standard Plans**

The Standard Plans issued by the City of San Diego Standard Drawings.

**Project Plans**

The project plans are specific details and dimensions peculiar to the work and are supplemented by the Standard Plans insofar as the same may apply

**10-35 PROJECT.** See 2012 City Supplement, Section 1, Subsection 1-2, Terms and Definitions.

**10-36 PROPOSAL.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".

**10-37 RUNWAY.** The area on the airport prepared for the landing and takeoff of aircraft.

**10-38 SPECIFICATIONS.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".

**10-39 SPONSOR.** See definition above of "Owner."

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- 10-40 STRUCTURES.** Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
- 10-41 SUBGRADE.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions"..
- 10-42 SUPERINTENDENT.** The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.
- 10-43 SUPPLEMENTAL AGREEMENT.** A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.
- 10-44 SURETY.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".
- 10-45 TAXIWAY.** For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.
- 10-46 WORK.** See 2012 GreenBook, Section 1, Subsection 1-2 "Terms and Definitions".

**END OF SECTION**  
**G-10**

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**SECTION G-20**

**PROPOSAL REQUIREMENTS AND CONDITIONS**

- 20-1 ADVERTISEMENT (Notice Inviting Bids).** See “White Book” 2012 Edition.
- 20-2 PREQUALIFICATION OF BIDDERS.** See requirements outlined in “Notice Inviting Bids”.
- 20-3 CONTENTS OF PROPOSAL FORMS.** See requirements outlined in “Notice Inviting Bids”.
- 20-4 ISSUANCE OF PROPOSAL FORMS.** The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:
- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
  - b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.
  - c. Contractor default under previous contracts with the Owner.
  - d. Unsatisfactory work on previous contracts with the Owner.
- 20-5 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES.**
- An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section G-40 without in any way invalidating the unit bid prices.
- Implementation of the Safety Plan is incidental to the individual bid items and no separate payment shall be made.
- 20-6 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE.** See requirements outlined in “Notice Inviting Bids”.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

Also see GreenBook, Section 2, Subsection 2-7.

- 20-7 PREPARATION OF PROPOSAL.** The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) in clearly legible figures for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and number, the words shall govern. In case of error between unit price and the sum of the estimated quantity and stated unit price, the unit price shall govern.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

- 20-8 IRREGULAR PROPOSALS.** Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

- 20-9** **BID GUARANTEE.** See requirements outlined in "Notice Inviting Bids".
- 20-10** **DELIVERY OF PROPOSAL.** Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.
- 20-11** **WITHDRAWAL OR REVISION OF PROPOSALS.** A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.
- 20-12** **PUBLIC OPENING OF PROPOSALS.** See requirements outlined in "Notice Inviting Bids".
- 20-13** **DISQUALIFICATION OF BIDDERS.** A bidder shall be considered disqualified for any of the following reasons:
- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
  - b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
  - c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.
- 20-14** **RELIEF OF BIDDER.** Attention is directed to the provisions of Public Contract Code Sections 5100 to 5107, inclusive, concerning relief of bidders and in particular to the requirement therein, that if the bidder claims a mistake was made in the bid presented, the bidder shall give the Engineer written notice within 5 days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.

**END OF SECTION**

**G-20**

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## SECTION G-30

### AWARD AND EXECUTION OF CONTRACT

- 30-1 CONSIDERATION OF PROPOSALS.** After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.
- 30-2** Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:
- a. If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section G-20.
  - b. If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section G-20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

- 30-3 AWARD OF CONTRACT.** The award of a contract, if it is to be awarded, shall be made within 90 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein. Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

For AIP contracts, unless otherwise specified in this subsection, no award shall be made until the FAA has concurred in the Owner's recommendation to make such award and has approved the Owner's proposed contract to the extent that such concurrence and approval are required by 49 CFR Part 18.

- 30-4 CANCELLATION OF AWARD.** The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.
- 30-5 RETURN OF PROPOSAL GUARANTY.** All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

- 30-6 REQUIREMENTS OF CONTRACT BONDS.** See 2012 GreenBook, Section 2, Subsection 2-4 “Contract Bonds”.
- 30-7 EXECUTION OF CONTRACT.** See requirements outlined in “Notice Inviting Bids”.
- 30-8 APPROVAL OF CONTRACT.** See requirements outlined in “Notice Inviting Bids”.
- 30-9 FAILURE TO EXECUTE CONTRACT.** See requirements outlined in “Notice Inviting Bids”.

**END OF SECTION G-30**

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## SECTION G-40

### SCOPE OF WORK

**40-1 INTENT OF CONTRACT.** The intent of the contract is to provide for construction and completion, in every detail, of the work described on the plans and these contract documents for the Brown Field Airport Runway 8L-26R Rehabilitation. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

**40-2 ALTERATION OF WORK AND QUANTITIES.** The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

All supplemental agreements shall be approved by the FAA and shall include valid wage determinations of the U.S. Secretary of Labor when the amount of the supplemental agreement exceeds \$2,000. However, if the Contractor elects to waive the limitations on work that increase or decrease the originally awarded contract or any major contract item by more than 25 percent, the supplemental agreement shall be subject to the same U.S. Secretary of Labor wage determination as was included in the originally awarded contract. All supplemental agreements shall require consent of the Contractor's surety and separate performance and payment bonds.

**40-3 OMITTED ITEMS.** The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement. Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section G-90.



- 40-4 EXTRA WORK.** Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section G-90.

Extra Work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section G-10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

- 40-5 MAINTENANCE OF TRAFFIC.** It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section G-80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section G-70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flagperson, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. The Contractor shall make his/her own

estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection. The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

**40-6 REMOVAL OF EXISTING STRUCTURES.** All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the Owner when so utilized in the work.

**40-7 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK.** Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

- a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the Engineer; or
- c. Use such material for his/her own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

- 40-8 FINAL CLEANING UP.** Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the contractor has obtained the written permission of such property owner.

**END OF SECTION**  
**G-40**

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**SECTION G-50**

**CONTROL OF WORK**

**50-1 AUTHORITY OF THE ENGINEER.** The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

**50-2 CONFORMITY WITH PLANS AND SPECIFICATIONS.** All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to

provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications. The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

**50-3 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS.**

The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The Order of Precedence of contract documents shall be as described in the "White Book" 2010 Edition Section 2-5.2

**50-4 COOPERATION OF CONTRACTOR.** The Contractor will be supplied with five copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

**50-5 COOPERATION BETWEEN CONTRACTORS.** The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract. See "White Book" 2012 Edition Section 2-14 "Site Activities By The City or Separate Contractors."

**50-6 CONSTRUCTION LAYOUT AND STAKES.** The Engineer shall establish horizontal and vertical control. Bench marks and control are established and shown on the plans. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the

cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.

The Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer will make periodic checks of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans or established by the Engineer, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to: Clearing and Grubbing perimeter staking.

Rough Grade slope stakes at 100-foot stations.

Drainage Swales slope stakes and flow line blue tops at 50-foot stations.

Subgrade blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

- a. Runway – minimum 5 per station
- b. Taxiways – minimum 3 per station
- c. Holding apron areas – minimum 3 per station
- d. Roadways – minimum 3 per station

Base Course blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

- a. Runway – minimum 5 per station
- b. Taxiways – minimum 3 per station
- c. Holding apron areas – minimum 3 per station Pavement areas:
- d. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100 foot stations
- e. Between Lifts at 25 foot stations for the following section locations:

- (1). Runways – each paving lane width
  - (2). Taxiways – each paving lane width
  - (3). Holding areas – each paving lane width
- f. After finish paving operations at 50 foot stations
- (1) All paved areas – Edge of each paving lane prior to next paving lot
- g. Shoulder and safety area blue tops at 50 foot stations and at all break points with maximum of 50 foot offsets

Fence lines at 100 foot stations.

Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASI's, PAPI's, REIL's, Wind Cones, Distance Markers (signs), pull boxes and manholes.

Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes. Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting by the Contractor)

Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (i.e. paving lane).

NOTE: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer by the Contractor without additional cost to the Owner.

**50-7 AUTOMATICALLY CONTROLLED EQUIPMENT.** Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

**50-8 AUTHORITY AND DUTIES OF INSPECTORS.** Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract.

Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor. Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such can be referred to the Engineer for his/her decision.

**50-9 INSPECTION OF THE WORK.** Reference GreenBook Section 2, Subsection 2-11 Inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

**50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK.** All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section G-70.

No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

Also see 2012 GreenBook Section 4, Subsection 4-1.3 "Inspection Requirements."

**50-11 LOAD RESTRICTIONS.** The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not



relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

**50-12 MAINTENANCE DURING CONSTRUCTION.** The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

**50-13 FAILURE TO MAINTAIN THE WORK.** Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

**50-14 PARTIAL ACCEPTANCE.** If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

**50-15 FINAL ACCEPTANCE.**

Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

**50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES.** If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

**50-17 COST REDUCTION INCENTIVE.** The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of \$100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

- a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;
- b. An itemization of the contract requirements that must be changed if the proposal is adopted;

- c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;
- d. A statement of the time by which a change order adopting the proposal must be issued;
- e. A statement of the effect adoption of the proposal will have on the time for completion of the contract; and
- f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost-reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

**END OF SECTION G-50**

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**SECTION G-60**

**CONTROL OF MATERIALS**

**60-1 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.** The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

- a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, that is in effect on the date of advertisement; and,
- b. Produced by the manufacturer qualified (by FAA) to produce such specified and listed equipment.

The following airport lighting equipment is required for this contract and is to be furnished by the Contractor in accordance with the requirements of this subsection:

- a. Light Can Spacers
- b. L-867/868 Light Base and Transformer Housing

**60-2 SAMPLES, TESTS, AND CITED SPECIFICATIONS.** Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Engineer. The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request.

Unless otherwise designated, samples will be taken by a qualified representative of the Engineer. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy or electronic copy provided either in a Microsoft Office version software or PFD, of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

**60-3 CERTIFICATION OF COMPLIANCE.** See 2012 Greenbook Section 4, Subsection 4-1.5 Certificate of Compliance. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer. When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

**60-4 PLANT INSPECTION.** The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

- a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
- b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

**60-5 ENGINEER'S FIELD OFFICE.** No Field Office required. The Contractor shall provide access to any on-site office equipment or facilities provided for Contractor's own use to the Engineer as required throughout the duration of this work. Access to equipment shall include photocopy machine, water, and sanitary facilities. No direct payment will be made for providing this access. The cost hereof shall be included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

**60-6 STORAGE OF MATERIALS.** Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

**60-7 UNACCEPTABLE MATERIALS.** Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its used in the work.

**60-8 OWNER FURNISHED MATERIALS.** The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

**END OF SECTION**  
**G-60**



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**SECTION G-70**

**LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**

- 70-1 LAWS TO BE OBSERVED.** The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.
- 70-2 PERMITS, LICENSES, AND TAXES.** The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.
- 70-3 PATENTED DEVICES, MATERIALS, AND PROCESSES.** See 2012 GreenBook, Section 7, Subsection 7-11, "Patent Fees or Royalties".
- 70-4 RESTORATION OF SURFACES DISTURBED BY OTHERS.** The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work.

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

- 70-5 FEDERAL AID PARTICIPATION.** For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC) and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly

authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

- 70-6 SANITARY, HEALTH, AND SAFETY PROVISIONS.** The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his/her health or safety.

- 70-7 PUBLIC CONVENIENCE AND SAFETY.** The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section G-40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section G-80 hereinafter.

- 70-8 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS.** The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than 25 feet apart. Barricades, warning signs, and markings shall be paid for under Section G-101.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Standards for Airport Markings. Contractor shall prepare and submit to Engineer FAA Form 7460-1 a minimum of 45 days prior to commencing work to allow time to process through FAA.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that

may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer. Open-flame type lights shall not be permitted within the air operations areas of the airport.

**70-9 USE OF EXPLOSIVES.** Use of explosives is not authorized on this project.

**70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.** The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

**70-11 RESPONSIBILITY FOR DAMAGE CLAIMS.** The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit(s), action(s), or claim(s) for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

**70-12 THIRD PARTY BENEFICIARY CLAUSE.** It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

**70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC.** Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner .

Upon completion of any portion of the work, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50. No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions.)

Contractor shall refer to the approved safety plan to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

**70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK.** Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the

work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

**70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS.** As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation. If, in the Contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

**70-15.1 FAA FACILITIES AND CABLE RUNS.** The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

- a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.
- b. The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.
- c. If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.
- d. If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.
- e. If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

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**70-16 FURNISHING RIGHTS-OF-WAY.** See GreenBook Section 2, Subsection 2-8 "Right-Of-Way".

**70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS.** In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

**70-18 NO WAIVER OF LEGAL RIGHTS.** Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

**70-19 ENVIRONMENTAL PROTECTION.** The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

**70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS.** Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Also see GreenBook Section 6, Subsection 6-3.2 "Archaeological and Paleontological Discoveries".

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section G-40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section G-90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section G-80.

**END OF SECTION G-70**



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**SECTION G-80**

**PROSECUTION AND PROGRESS**

**80-1 SUBLETTING OF CONTRACT.** The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall perform, with his organization, an amount of work equal to at least 50 percent of the total contract cost.

**80-2 NOTICE TO PROCEED.** The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

**80-3 PROSECUTION AND PROGRESS.** Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval within 10 days after the effective date of the notice to proceed. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

**80-4 LIMITATION OF OPERATIONS.** See SECTION G-100, GENERAL PROJECT REQUIREMENTS.

**80-5 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT.** The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in

the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

**80-6 TEMPORARY SUSPENSION OF THE WORK.** The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to

unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

**80-7 DETERMINATION AND EXTENSION OF CONTRACT TIME.** The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

- a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

- (1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 4 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work

which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

- (2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.
- (3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.
- (4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section G-50.
- (5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

- b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

- c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he

believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

**80-8 FAILURE TO COMPLETE ON TIME.** See SECTION G-100, GENERAL PROJECT REQUIREMENTS.

**80-9 DEFAULT AND TERMINATION OF CONTRACT.** See 2012 GreenBook Section 6-4 Default by the Contractor.

**80-10 TERMINATION FOR NATIONAL EMERGENCIES.** The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

**80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS.** See SECTION G-100, GENERAL PROJECT REQUIREMENTS.

**END OF SECTION  
G-80**

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## SECTION G-90

### MEASUREMENT AND PAYMENT

**90-1 MEASUREMENT OF QUANTITIES.** All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 F (15 C) or will be corrected to the volume at 60 F (15 C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. See GreenBook Section 9, Subsection 9-2 "Lump Sum Work" for additional requirements.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

**90-2 SCOPE OF PAYMENT.** The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section G-70.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

**90-3 COMPENSATION FOR ALTERED QUANTITIES.** When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section G-40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

**90-4 PAYMENT FOR OMITTED ITEMS.** As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.



Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

**90-5 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK.** Extra work, performed in accordance with the subsection titled EXTRA WORK of Section G-40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profita. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

- a. **Miscellaneous.** No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- b. **Comparison of Record.** The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.
- c. **Statement.** No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:
  - (1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.
  - (2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
  - (3) Quantities of materials, prices, and extensions.
  - (4) Transportation of materials.
  - (5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not

specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

**90-6 PARTIAL PAYMENTS.** Partial payments will be made at least once each month as the work progresses. Said payments will be based upon estimates prepared by the Engineer of the value of the work performed and materials complete in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section.

No partial payment will be made when the amount due the Contractor since the last estimate amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, 10 percent of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (90 percent) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such 10 percent retainage shall be deducted.

When not less than 95 percent of the work has been completed, the Engineer may, at the Owner's discretion and with the consent of the surety, prepare an estimate from which will be retained an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final retained percentage or final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

**90-7 PAYMENT FOR MATERIALS ON HAND.** Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such

delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

- a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.
- b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.
- d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.
- e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials. The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

**90-8 PAYMENT OF WITHHELD FUNDS.** At the Contractor's option, he/she may request that the Owner accept (in lieu of the 10 percent retainage on partial payments described in the subsection titled PARTIAL PAYMENTS of this section) the Contractor's deposits in escrow under the following conditions.

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the 10 percent retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

**90-9 ACCEPTANCE AND FINAL PAYMENT.** When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section

G-50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section G-50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section G-50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

#### **90-10 CONSTRUCTION WARRANTY.**

- a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.
- b. This warranty shall continue for a period of one year from the date of final acceptance of the work. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work.
- c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of:
  - (1) The Contractor's failure to conform to contract requirements; or
  - (2) Any defect of equipment, material, workmanship, or design furnished by the Contractor.
- d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.
- e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

- f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.
- h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

**90-11 PROJECT CLOSEOUT.** Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the Engineer approves the Contractor's final submittal. The Contractor shall:

- a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.
- b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- c. Complete final cleanup in accordance with subsection 40-08, FINAL CLEANUP.
- d. Complete all punch list items identified during the Final Inspection.
- e. Provide complete release of all claims for labor and material arising out of the Contract.
- f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
- g. When applicable per state requirements, return copies of sales tax completion forms.
- h. Manufacturer's certifications for all items incorporated in the work.
- i. All required record drawings, as-built drawings or as-constructed drawings.
- j. Project Operation and Maintenance (O&M) Manual.
- k. Security for Construction Warranty.

**END OF SECTION**  
**G-90**

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**SECTION G-100**

**GENERAL PROJECT REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK**

- A. The Contractor shall include the furnishing of all supervision, labor, materials, tools, equipment and incidentals necessary to construct the Runway 8L-26R Pavement Rehabilitation and associated improvements at Brown Field Airport, including other pertinent and incidental work, in accordance with the project Plans, and Specifications, and Federal Aviation Administration requirements noted herein. Specific phasing requirements are shown on the plans and discussed in the following sections of these Specifications.
- B. Specific work tasks include, but are not limited to:
1. Installation and maintenance of construction area fencing, construction barricades, closure markings and all other phasing improvement as shown on the plans.
  2. Construction of temporary crushed aggregate base access road
  3. Temporary relocation of runway threshold
  4. Demolition and removal of pavements.
  5. Construction of new pavements.
  6. Permanent and temporary pavement marking.
  7. Additional work as indicated on the project plans, and as specified herein, and the Federal Aviation Administration requirements and specifications as noted and specified herein.

**1.2 OPERATIONAL SAFETY ON THE AIRPORT**

- A. The Contractor shall conduct all operations in a manner that will cause no interference with airplane traffic or normal operation of the airport. It is the contractor's responsibility to regulate the movements of his vehicles and equipment when it is necessary for a vehicle or piece of equipment to cross an active runway or taxiway, or when working within the safety area of an active taxiway or runway. Unescorted crossings of active runways and taxiways will not be allowed. All escorts shall be equipped with ground radios and shall contact the airport traffic control tower to receive permission to cross any active taxiways or runways. When an aircraft approaches work in progress adjacent to an active taxiway, the workers and equipment shall be withdrawn to a safe distance until the aircraft has passed. Aircraft shall always have the

right-of-way. Pullbacks made by the Contractor shall be considered incidental and no separate payment shall be made.

- B. In all operations, the Contractor shall be governed by the regulations and rules of the Airport and shall cooperate fully with the Engineer and Airport Manager. The Contractor shall refer to Section G-100-1.5 of these specifications regarding the operation of vehicles on the AOA. The Contractor shall also be bound by the operational safety requirements outlined in the Federal Aviation Administration (FAA) Advisory Circular No. 150/5370-2F, entitled "Operational Safety On Airports During Construction" and the provisions thereof. Should there be a conflict in the requirements, the provisions of the Plans and Specifications shall govern over the requirements in the FAA Advisory Circular. At all times, the Contractor shall keep the following requirements in mind:

1. Keep the airport operational for all users.
2. Minimize delays to aircraft operations.
3. Maintain safety of aircraft movement and airport operations as a whole.
4. Minimize delays to construction operations.
5. Minimize airport operation and construction activity conflicts.
6. Maintain a minimum of one (1) lane of traffic to ATCT and EEA buildings at all times.

### **1.3 INTERRUPTIONS AND STOPPAGES OF THE WORK DUE TO AIRCRAFT OPERATIONS AND HAZARDOUS CONDITIONS**

- A. Work Stoppages:

1. Construction may be stopped by the Engineer, any time he/she considers that the intent of the regulations regarding safety or Security Requirements is being violated or that a hazardous condition exists. This decision to suspend the operation will be final and will only be rescinded by the Engineer when satisfied that the Contractor has taken action to correct the condition and prevent recurrence.
2. Frequent inspections will be made by the Engineer or its authorized representative during the critical phases of the work to insure that the Contractor is following the recommended safety procedures. The Inspector shall report any violations or potential safety hazards to the Engineer who will in turn advise the Contractor of the concern for immediate correction by the Contractor.
3. Construction may also be stopped or suspended by Airport Management through the Engineer during periods of unsuitable weather, such as low visibility, or when it is necessary to provide an extra margin of safety to aircraft operations, or reduce other activities to keep the airport operational. Unsuitable weather is defined as atmospheric or environmental conditions which restrict construction

activities and/or affect operation of aircraft while approaching a runway to land: during landing; taxiing between runways, ramps, aprons, hangers, or loading zones; standing by to takeoff as determined by the Airport Management or the Engineer or his authorized representative. In addition, if a cloud condition is below 1000 feet above ground level and or the prevailing visibility is below three miles, as reported by the airport traffic control tower at Brown Field Airport or if environmental conditions which may, in the opinion of the Engineer, affect the final outcome, position, or condition of the construction work, maintenance work, or improvement of any sort or nature.

**B. Intermittent Construction Operations:**

1. Work in this contract will occur on the AOA (Air Operation Area). Construction may require closing of certain areas by the Airport. However, some work may be done on an intermittent basis. The Contractor shall maintain constant communication with the Engineer when working on an AOA location, and immediately obey all instructions from the Engineer. Failure to obey instructions or maintain proper communication will be cause to suspend the Contractor's operations in such areas until satisfactory conditions are assured. Intermittent delays which can be expected to be a normal condition while working on an active airport include holding for aircraft on active taxiways, and holding short of NAVAID critical areas. No compensation or time extensions will be granted for such delays.
2. When directed to cease construction and move from the area, the Contractor shall immediately respond and move all material, equipment and personnel outside areas. Operations shall not be resumed until directed by the Engineer. Every reasonable effort will be made to cause minimum disturbance to the Contractor's operations; however, no guarantee can be made as to the extent to which disturbance can be avoided.
3. **Limitation of Operations:** The Contractor shall be responsible for controlling its operations and those of its subcontractors so as to provide for the free movement of aircraft in the operating areas of the AOA.

**1.4 JET BLAST**

- A. During all times during the construction work on this project, the Contractor shall be cognizant of the effects of jet blast and prop wash on the work site, materials, equipment and workers and shall take all steps necessary to ensure that no adverse effects from jet blast compromise safety. The Engineer reserves the right to shut down the Contractor's operations without compensatory contract time if he deems that the Contractor is not adequately protecting against possible jet blast damage to persons or property.



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## 1.5 MOTOR VEHICLES

### A. Operation

1. Motor vehicle operations within and on the Airport premises shall be governed generally by the provisions of the California State Motor Vehicle Codes and Traffic Direction procedures and signals for turns. Lights and safe-driving precaution shall be in conformity therewith. In addition, motor vehicles shall conform to all special regulations prescribed by the Airport regulations or procedures.
2. Traffic on perimeter roads, public thoroughfares and parking areas of the Airport is limited to those vehicles properly licensed to operate on public streets and highways.
3. All vehicular equipment in the AOA, access road, aircraft parking or storage areas shall at all times comply with any lawful signal or direction of the Engineer, or Brown Field Airport employees. All traffic signs, lights and signals shall be obeyed, unless otherwise directed by the Engineer.
4. All persons operating motorized equipment of any character on any area shall operate the same in a careful and prudent manner and at a rate of speed posted or fixed by this section. At no time shall vehicles be operated at speeds greater than is reasonable and proper under the conditions existing at the point of operation, taking into account traffic and road conditions, view, and obstructions. Operation of vehicles shall be consistent with all conditions so as not to endanger the life, limb, or property or the rights of others entitled to the use thereof.
5. All Contractor vehicles shall be equipped with operable yellow flashing beacons. Beacons must be lighted during all periods of vehicle operation and while vehicle is on the AOA.
6. Any person operating equipment in the Air Operations Area shall, in addition to this section, abide by all existing Federal Aviation Administration and other governmental rules and regulations.
7. No person shall operate any motor vehicle or motorized equipment on the aircraft movement or non-movement areas of the Airport at a speed in excess of twenty (20) miles [32 km/h] per hour, or the posted speed limit, whichever is lower, less where conditions warrant, unless specified otherwise elsewhere. Designated motor vehicle drive lanes shall be utilized where provided unless specific authorization to the contrary is given by the Engineer.
8. No person operating a motor vehicle or motorized equipment in the AOA shall in any way hinder, stop, slow, or otherwise interfere with the operation of any aircraft on the Airport.
9. All aircraft and emergency vehicles have priority over Contractor vehicles. Contractor vehicles shall yield right of way to aircraft and emergency vehicles.

Contractor shall ensure that under no circumstances will any contractor or subcontractor or other vehicle associated with the job pass beneath any part of an aircraft, or block the access to any parking area or delay any aircraft movement.

**B. Parking**

1. No parking is permitted on any Airport roadway as the primary purpose of the Airport roadways is for motor vehicle traffic.
2. No person shall park any motor vehicle, other equipment, or materials in the AOA of the Airport, except in a neat and orderly manner and at such points as prescribed by the contract documents.
3. Parking of construction workers' private vehicles shall also be in a public or private parking facility outside the AOA.

**C. Vehicle Identification**

1. All vehicular equipment operating within the AOA must display signs of commercial design on both sides of the vehicle, which identify the vehicle as belonging to the Contractor firm.
2. All Contractor vehicles must be equipped with 3 foot by 3-foot flags having a checkered pattern of International orange and white squares at least 1 foot on each side. For fabric color specifications, see FAA AC 150/5210-5D. Attach flag on top of vehicles with rigid pole so that the flag will be visible at all times. Vehicles without flags will not be permitted to enter the AOA.

**D. Load Limits**

1. When using airport roadways, the Contractor shall restrict the gross combination weight to 12,500 pounds, single axle maximum weight of 10,000 pounds, and a tandem axle weight maximum of 20,000 pounds. The vehicle weights are subject to verification by the Engineer.

**E. Operators of Vehicles**

1. All drivers operating vehicles on airport property must carry a valid United States driver's license on his/her person, appropriately endorsed for the type of equipment being operated.

**1.6 PERIMETER FENCE SECURITY**

- A. Contractor is required to ensure that the security of the airport is not compromised at any time.
- B. Contractor shall ensure that no gates are left open or fencing removed without approval of the Engineer. Adequate precautions shall be taken to prevent entrance of

unauthorized persons to Airport-restricted areas or inadvertent entry of dogs or large animals into the AOA.

**1.7 GATE GUARDS.**

- A. The contractor shall furnish trained personnel, approved by the owner, at the entrances to secure areas whenever these entrances are in use.
- B. All airport perimeter gates (new and existing) that are used by the contractor for operations shall require a gate guard at all times the gate is in use. The gate shall be closed and locked (with a lock provided by the owner) during off-hours, when construction is not in progress, and when the gate guards are not at the Station. The contractor shall be responsible for controlling access through the gate.
- C. All gate guards shall have communications equipment capable of contacting contractor management staff should any problems or questions arise.
- D. A minimum of one gate guard shall be provided at each AOA access gate. Guard shall review and log in each person entering the AOA. Guard shall check the equipment entering the AOA.

**1.8 DUST, DEBRIS AND DAMAGE CONTROL**

- A. Debris
  - 1. When Airport roadways and public highways are used in connection with construction under this contract, the Contractor shall remove all debris cluttering the surfaces of such roadways which is due to the operations of the Contractor, his subcontractors or suppliers. Trucks and equipment shall have all accumulated dirt, mud, rocks and debris removed before accessing the AOA, and when leaving the work area. Loads shall be struck flush and secured to prohibit loss of material. If spillage occurs, such roadways shall be swept clean immediately after such spillage to allow for safe operation of vehicles as determined by the Engineer. If the Contractor is negligent in cleanup and the City of San Diego forces are required to perform the work, the expense of said cleanup shall be paid by the Contractor.
- B. Foreign Object Debris (FOD)
  - 1. No loose material or waste capable of causing damage to aircraft or capable of being ingested into jet engines may be left in the working area, on or next to runways, taxiways, ramps, or aprons. The Contractor shall direct special attention to all areas, which are operational to aircraft during construction. These shall be kept clean and clear of all materials or debris at all time. Any food waste shall be promptly cleared to prevent attracting birds and animals.
- C. Existing Airport Pavements and Facilities
  - 1. The Contractor shall preserve and/or protect existing and new pavements and other facilities from damage due to construction operations. Existing pavements,

facilities, utilities, or equipment, which are damaged, shall be replaced or reconstructed to original strength and appearance at the Contractor's expense. The Contractor shall take immediate action to replace any damaged facilities and equipment and reconstruct any damaged area, which is to remain in service.

D. Dust Control

1. Dust resulting from salvage, demolition removal, or other construction activity work shall be controlled to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as flooding, pollution or pumping subgrade.

E. Best Management Practices

1. The Contractor must conduct his operations in accordance with the City of San Diego's Best Management Practices. The Contractor shall provide erosion control devices such as silt fences and sandbags as required and as directed by the Engineer.

**1.9 STORAGE AREAS**

- A. The Contractor Staging Area, depicted on the plans, shall be used to store all idle equipment, supplies and construction materials. Storage shall not interfere with operational areas.
- B. When not in use during working hours, and at all other times, all material and equipment shall be stored at the Contractor Staging Area indicated on the drawings unless the Engineer provides prior approval.
- C. Contractor shall not store materials or equipment in areas in which the equipment or materials will affect the operation of FAA electronic equipment.
- D. All equipment storage and movement shall have prior approval of the Engineer.
- E. No materials may be stored on the Aircraft Operating Area (AOA).
- F. Contractor's vehicles, equipment and materials shall be parked in the Contractor's staging area designated on the drawings with the restrictions listed thereon.
- G. The storage area shall be used to store all bulk materials needed for the project and may or may not be fenced at the Contractor's option. However, barricades with yellow flashing lights shall be installed where potential conflicts with aircraft or ground vehicular traffic exist. Stockpiles shall not penetrate the FAR Part 77 Imaginary Surfaces or present FOD problems. The Engineer shall first approve location of stockpiles of all bulk items (aggregates, etc.) in writing.
- H. The staging area shall be restored to its original condition at the completion of the project. The staging shall be cleaned and free of all excess material, stockpiles and debris at the completion of the project.

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**1.10 CONSTRUCTION PHASING**

A. The Contractor shall perform all construction work in accordance with the Construction Phasing Plans as shown and as described herein. The Contractor's schedule shall be prepared in accordance with the Section 6-1 of the Standards Works for Public Construction and shall be submitted to the Engineer prior to commencement of construction. It shall show all work to be completed within the contract time limit. Liquidated damages in the amounts specified in Section G-100-1.12 will be assessed if the Contractor fails to complete any phase within the specified allowable duration.

1. **Work within Area Limit Lines.** The limits of work for each construction Work Area/Phase are clearly shown on the Phasing plans, indicating offset distances from the centerlines of adjacent active runways and/or taxiways. For each phase, these lines show the limit of the work area in which the Contractor may have workers, equipment, and materials, and in which he may conduct work for that phase. The limits of work for each work area for construction are shown on the construction phasing plans, indicating offset distances from adjacent active runways, taxilanes and/or taxiways. For each Work Area, these lines show the limit of the work area in which the Contractor may have workers, equipment, and materials, and in which he may conduct work for that area, including barriers, fencing, etc.

No Construction activity is permissible within the designated Runway Safety Area (RSA)/ Taxiway Object Free Area (TOFA) while the subject runway/taxiway or taxilane is open to aircraft operations. Work within the RSA/TOFA shall only be accomplished during night shift operations unless otherwise specified. Prior to reopening a runway/taxiway/taxilane closed for construction for any period, all equipment and materials shall be moved outside of the RSA/TOFA, all barricades and lighting shall be established per plan requirements, no stockpiles shall remain within RSA/TSA, grade shall be covered in a manner to prevent dust, rock movement due to jet blast, or other objectionable movement of material onto the open runway/taxiway/taxilane, and the adjacent taxiway pavement shall be cleaned of all construction debris and sweep.

Contractor shall maintain FOD control measures and dust control of all haul routes to and from the construction site. All utilities within and passing through the Work/Area Phase shall be kept operational at all times, unless otherwise specified.

Engineer shall retain the right to shut down Contractor operations in any Work Area if these conditions are not being met.

2. **Operations.** The Contractor shall conduct all his operations in such a manner so as to maintain a smooth, safe, uninterrupted flow of aircraft and vehicular traffic adjacent to the work site. He/she shall also ensure that runway and taxiway safety areas adjacent to active aircraft operations are in conformance with FAA standards at all times.

- a. Limits of the various phases of work shall be clearly delineated with barricades, barricade lights and other markings as shown on the plans and specified herein, in order to deter aircraft and vehicles from entering the construction areas. The Contractor shall work closely with Airport Management personnel and the Engineer to ensure that the work is accomplished with minimal interference to aircraft movements.
  - b. The contractor shall be prepared to pullback his operations, workers, and equipment a maximum of fifteen (15) separate times, per work phase to allow for the safe passage of aircraft. Pullbacks made by the Contractor shall be considered incidental and no separate payment shall be made.
  - c. Whenever the Contractor is working adjacent to an active taxiway or next to an apron area that does not have alternative access to the airfield and aircraft approaches the work area, the Contractor will be required to "pull back" his operations, i.e., move workers, materials and equipment away from the taxiway. At no time shall a Contractor work within the safety area of an active taxiway or runway.
  - d. The Contractor shall maintain power supply for the runway lighting systems at all times, unless otherwise specified. When temporary bypasses of active lines are to be constructed in order to work on portions of the circuits, the circuits shall be de-energized and re-energized only in coordination with the Engineer.
3. **Work Time Restrictions.** Work shall be restricted by phase as indicated on the plans. The closures areas are defined as followed:
- a. Day/Unrestricted Closures Areas: Phases 0 and 2. Contractor work in these areas shall be during the hours of 8:00 AM and 5:00 PM, Monday through Friday for Phase 0 and during the hours of 7:00 AM and 6:00 PM, Monday through Saturday for Phase 2.
    - i) Barricade Lighting, as detailed on the plans, and temporary taxiway closure markings shall be erected and maintained around the perimeter of work areas as shown on the plans and shall be removed at the conclusion of each shift.
    - ii) The time allowances stated for all work shifts are totally inclusive of the Contractor moving onto the site, performing work activities, performing all clean-up, having the work area and haul routes inspected and approved by the Engineer, and moving off the site. The Contractor shall provide adequate lighting for the needs of the inspection personnel.
    - iii) Any Aircraft Operating Areas (AOA's) or adjoining runway, taxiway or taxilane safety area that does not pass inspection must remain closed until such time cleanup is performed and approved.

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- b. Accelerated Work Closures Areas: Phases 1 and 3. Contractor work in this area shall occur during two (2), ten (10) hour shifts, seven days a week.
- i) Barricade Lighting, as detailed on the plans, and temporary taxiway/runway closure markings shall be erected and maintained around the perimeter of work areas as shown on the plans and shall be removed at the conclusion of each shift.
  - ii) The time allowances stated for all work shifts are totally inclusive of the Contractor moving onto the site, performing work activities, performing all clean-up, having the work area and haul routes inspected and approved by the Engineer, and moving off the site. The Contractor shall provide adequate lighting for the needs of the inspection personnel.
  - iii) Any Aircraft Operating Areas (AOA's) or adjoining runway, taxiway or taxilane safety area that does not pass inspection must remain closed until such time cleanup is performed and approved.
- c. Off peak- Night Time Work Areas: Phases 1A and 3A. Contractor work in this area shall occur during hours of 10:00PM to 6:00AM, Monday through Friday.
- i) Barricade Lighting, as detailed on the plans, and temporary taxiway/runway closure markings shall be erected and maintained around the perimeter of work areas as shown on the plans and shall be removed at the conclusion of each shift.
  - ii) The time allowances stated for all work shifts are totally inclusive of the Contractor moving onto the site, performing work activities, performing all clean-up, installing and removing Runway Lighted Xs, having the work area and haul routes inspected and approved by the Engineer, and moving off the site. The Contractor shall provide adequate lighting for the needs of the inspection personnel.
  - iii) Any Aircraft Operating Areas (AOA's) or adjoining runway, taxiway or taxilane safety area that does not pass inspection must remain closed until such time cleanup is performed and approved.
4. **Phase Completion Requirements.** Each construction phase is discussed in detail below.
- a. The Contractor is subject to two separate types of Liquidated Damages relative to the phased work. Phase Liquidated Damages will be assessed for each calendar day beyond the stated completion period that any phase remains unfinished. Completion tasks necessary to relieve the Contractor of Phase Liquidated Damages are listed for each phase. A separate Total Project Liquidated Damage will be assessed for every day of delay after

the specified number of total contract days. Liquidated Damages amounts are described in Section G-100-1.12.

B. Phase Descriptions

1. Phase 0 – Mobilization

- a. Description of Work: Installation of temporary fences, trailers, and utility connections to create contractor laydown yard to the south west of the existing ATCT. Construction of test strip and reconstruction of existing vehicle access road.
- b. Duration: 66 Working days
- c. Work Hours: Monday – Friday, 8:00AM – 5:00PM
- d. Areas Closed to Aircraft Operations: None
- e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road. No crossing of active taxiways required
- f. Lighting/Marking Changes: No temporary airfield lighting or marking modifications

2. Phase 1A – Taxiway C Intersection

- a. Description of Work: Installation of temporary construction haul road and marking/lighting modifications to close Taxiway A east of Taxiway C. Installation of temporary barricades and a taxiway circuit bypass
- b. Duration: 1 Night
- c. Work Hours: 10:00PM – 6:00AM
- d. Areas Closed to Aircraft Operations: Taxiway C and Taxiway A East of Taxiway C
- e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway to work site.
- f. Lighting/Marking Changes: Installation of low profile barricades with red lights to close taxiway A. Taxiway A bypass circuit to deenergize all taxiway lights east of taxiway C. Black- out taxiway centerline east of taxiway C intersection. Cover airfield signs directing aircraft into the work zone.
- g. Coordination Items: Airport to issue appropriate NOTAMS

3. Phase 1 – Shortened Runway



- 
- a. Description of Work: Temporary marking and lighting modifications to shorten the runway. Installation of temporary blast fence. Installation of temporary PLASI
  - b. Duration: 56 Hours (From 10:00PM day one until 6:00AM day four)
  - c. Work Hours: Monday-Sunday, minimum of 2, 10-hour shifts
  - d. Areas Closed to Aircraft Operations: Runway 8L-26R, Taxiway A East of Taxiway C
  - e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
  - f. Impacts to NAVAID's: Deenergize existing 26R PAPI and REIL. Protect area with low profile barricades.
  - g. Lighting/Marking Changes: Installation of illuminated X's or runway closure markers. Runway bypass circuit to deenergize all lights east of taxiway C. Runway edge light modifications. Installation of PLASI. Runway Distance remaining sign modifications. Remove all runway markings to the East of Taxiway C. Installation of temporary runway displaced threshold, identifier and aiming points
  - h. Coordination Items: PLASI requires a flight check prior to being available for use. Airport to issue appropriate NOTAMS
4. Phase 2 – Runway Reconstruction
    - a. Description of Work: Runway reconstruction east of Taxiway C.
    - b. Duration: 80 Working Days
    - c. Work Hours: Monday – Saturday, 7:00AM – 6:00PM
    - d. Areas Closed to Aircraft Operations: Taxiway A East of Taxiway C
    - e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
    - f. Impacts to NAVAID's: PAPI and REIL remain deenergized
    - g. Lighting/Marking Changes: Maintain temporary installations completed in prior phases
  5. Phase 3 – Final Runway Configuration

- a. Description of Work: Removal of temporary runway marking and lighting modifications. Installation of final marking and lighting. Removal of temporary blast fence. Installation of enhanced centerline marking. Tie in pavement west of full reconstruction
  - b. Duration: 112 Hours (5 Consecutive Working Days)
  - c. Work Hours: Monday-Sunday, minimum of 2, 10-hour shifts
  - d. Areas Closed to Aircraft Operations: Runway 8L-26R, Taxiway A East of Taxiway C
  - e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
  - f. Impacts to NAVAID's: Reenergize existing PAPI and REIL.
  - g. Lighting/Marking Changes: Installation of illuminated X's or runway closure markers. Removal of all temporary marking and lighting. Return all marking and lighting to original configuration. Remove PLASI. Install enhanced centerline markings.
  - h. Coordination Items: PAPI requires a flight check prior to being available for use. Airport to cancel existing NOTAMs for shortened Runway
6. Phase 3A – Taxiway C Intersection
- a. Description of Work: Removal of temporary marking and lighting modification at the intersection of Taxiway C and Taxiway A
  - b. Duration: 1 Night
  - c. Work Hours: 10:00PM – 6:00AM
  - d. Areas Closed to Aircraft Operations: Taxiway C and Taxiway A East of Taxiway C
  - e. Contractor Access / Haul Routes: Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway to work site.
  - f. Lighting/Marking Changes: Removal of low profile barricades. Uncover signs, reinstall taxiway lights. Remove taxiway circuit bypass. Reinstall taxiway centerline markings.

## 1.11 CONTRACT TIME

- A. The Contractor shall complete all work within each Phase within the stipulated number of Working Days specified above, plus any extra time as may be allowed for delays or extra work as herein provided, commencing and including the date stipulated in the Notice to Proceed. No work shall be done on, Sundays or legal holidays without the written permission of the Engineer. Work schedules are described and detailed in Section G-100-1.9, Construction Phasing, and as outlined on the Phasing Plans.
- B. Should the Contractor discontinue the prosecution of the work for any reason, he/she shall notify the Engineer at least twenty-four (24) hours in advance of resuming operations.
- C. The Contractor shall make his own estimate of the inherent difficulties involved in completing the work under the conditions and phasing herein described. No additional payment will be made to compensate the Contractor for expenses necessitated by operational working restrictions on the project.

**1.12 DAILY INSPECTIONS OF RUNWAY SAFETY AREAS AND TAXIWAY OBJECT FREE AREAS**

- A. At the conclusion of each work shift in areas are scheduled to be reopened to aircraft traffic after each work shift, the Engineer will conduct an inspection of each of construction work area before Contractor's workers leave for the day. This inspection is to ensure that the site is safe for aircraft operations. All areas within runway safety areas (RSA's) and Taxiway Object Free Areas (TOFA's) shall satisfy the conditions described below before opening to aircraft traffic will be approved.
- B. Conditions that Inspectors will consider potentially hazardous and which must be corrected prior to reopening the runways and taxiways but are not limited to the following:
  - 1. Trenches, holes, or excavations on, or adjacent to, any open runway, taxiway or related RSA and TOFA. No hole, bump or trench in excess of three inches in height, depth or width may remain. Open excavations in pavement areas shall be backfilled and asphalt paved at the end of each work shift and prior to opening to aircraft traffic. Open excavations within the RSA or TOFA in excess of three inches in height shall be slurry backfilled or steel plated.
  - 2. Unmarked/unlighted holes or excavations in any apron, open taxiway, open taxilane, or RSA/TOFA.
  - 3. Mounds or piles of earth, construction materials, temporary structures, or other objects on or in the vicinity of any open runway, taxiway, taxilane or in a related RSA, TOFA, approach or departure area.
  - 4. Pavement drop-offs or pavement turf lips (either permanent or temporary) which would cause, if crossed at normal operating speeds, damage to aircraft that normally use the airport.
  - 5. Vehicles or equipment (whether operating or idle) on any open runway, taxiway, taxilane, or in any related RSA, TOFA, approach or departure area.

6. Vehicles, equipment, excavations, stockpiles, or other materials which could impinge upon NAVAID critical areas and degrade or otherwise interfere with electronic signals from radios or electronic NAVAIDs or interfere with visual NAVAID facilities. NAVAID critical areas are shown on the plans.
7. Unmarked utility, NAVAID, weather service, runway lighting, or other power or signal cables that could be damaged during construction.
8. Objects (whether marked/flagged or not) or activities anywhere on or in the vicinity of airport which could be distracting, confusing, or alarming to pilots during aircraft operations.
9. Unflagged/unlighted low visibility items (such as tall cranes, drills, etc.) in the vicinity of an active runway, or in any approach or departure area.
10. Misleading or malfunctioning obstruction lights.
11. Unlighted/unmarked obstructions in an approach to any open runway.
12. Inadequate approach/departure surfaces (needed to assure adequate landing/takeoff clearance over obstructions or work or storage areas).
13. Inadequate, confusing, or misleading (to pilots) marking/lighting of runways (including, displaced or relocated thresholds), taxiways, or taxilanes.
14. Water, dirt, debris, or other transient accumulation, which temporarily obscures pavement marking, pavement edges, or derogates the visibility of runway/taxiway marking, lighting or of construction and maintenance areas.
15. Inadequate or improper methods of marking, barricading, or lighting of temporarily closed portions of airport operation areas.
16. Trash or other materials with foreign object damage (FOD) potential, whether on runways, taxiways, aprons or related RSA/TOFA.
17. Inadequate fencing or other marking to separate construction or maintenance areas from open aircraft operating areas.
18. Inadequate control of vehicle and human access, and non-essential, non-aeronautical activities on open aircraft operating areas.
19. Improper radio communication maintained between construction/ maintenance vehicles and air traffic control tower or, other on-field communications facility (e.g., FAA Flight Service Station (FSS) or Unicom radio).
20. Construction/maintenance activities or materials which could hamper airport rescue and fire fighting (ARFF) vehicle access from ARFF stations to all parts of the runway/taxiway system, runway approach and departure areas, or aircraft parking locations.

21. Bird attractants such as edibles (food scraps, etc.), trees, brush, other trash, grass/crop seeding, or pond water on or near the airport.
  22. Vehicles involved in the project that do not meet safety requirements.
  23. Improperly marked, lighted and flagged vehicles involved in the project.
  24. Barricades that are located within the RSA or TOFA
- C. Any RSA or TOFA that does not pass inspection must be addressed by the Contractor prior to the completion of the shift.

### **1.13 LIQUIDATED DAMAGES**

- A. Liquidated damages for the various components of the work shall be assessed in the following amounts in accordance with this Section:
1. Phase Liquidated Damages. Liquidated damages will be assessed for failure to complete the milestone tasks required for each phase in the following amounts:
    - a. Phases 2; one thousand dollars (\$1,000) per calendar day shall be imposed for each additional day work continues beyond the contract days allowed for these phases.
    - b. Phase 1 and 3: two thousand dollars (\$2,000) per each 15-minute period shall be imposed for failure to open Runway 8L-26R after work shift, from the time indicated on the Contract Documents.
- B. For each consecutive calendar day over the Time of the Completion specified for each phase, the Contractor shall pay to the City, or have it withheld from monies due to it, the sum amounts specified above. These amounts will be deducted from the Contractor's progress payments, however, the City will waive from the final payment request Phase liquidated damages, should the Contractor complete the work within the time allowed for the overall completion of the project, thus allowing the Contractor to make up time lost in each individual phase.
- C. Completion of Total Project
1. Liquidated damages in the amount of five hundred dollars (\$500) per day shall be imposed for each additional calendar day work continues beyond the allowable 219 total Working Days. These amounts shall be *assessed in addition to* any liquidated damages in effect for any particular phases.
- D. The City of San Diego expressly denies that any progress payment made after the scheduled completion date constitutes a waiver of liquidated damages.

### **1.14 HAUL ROAD AND WORK AREA DELINEATORS**

- A. The Contractor shall delineate the edges of the haul road, from the Contractor Staging Area to the work areas, and shall delineate the edges of the various work areas, with

fencing, small signs or other methods shown on the plans to ensure that Contractor employees limit their vehicular access to their designated areas only. Signs shall be clearly marked with the Contractor's logo, and shall clearly show, with arrows or other symbols, the direction and location of the various sites. Delineation must be done in a manner, which will not interfere with any navigational aids and which will not introduce the potential for FOD or jet blast damage. Such fencing, signage or delineation shall be incidental under Item M-100.

- B. The Contractor shall submit his proposed access/haul route for each phase of work to the Engineer for review. Upon approval of haul routes the Contractor shall adhere to the access/haul routes throughout the entire phase. Access/Haul routes must be submitted 48 hours prior to beginning work in said work area.

## **PART 2 - MEASUREMENT AND PAYMENT**

### **2.1 MEASUREMENT AND PAYMENT**

- A. The Contractor shall make his own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased costs due to opening a portion of the contract work or for difficulties or costs associated with other staging considerations. No separate payment will be made for general project requirement or phasing the work under the requirements of this section.

**END OF SECTION G-100**

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## SECTION G-101

### CONSTRUCTION BARRICADES, FENCING, MARKERS AND SIGNS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. The contractor shall perform all work required by the plans and specifications for providing and maintaining construction barricades, fencing, markers, temporary jet blast deflectors and anchorages, and signs and as needed to facilitate safety during construction. Work shall be as shown on the plans, as specified hereafter, and as designated by the engineer.
- B. Because of its nature, Contractor shall anticipate providing and relocating items multiple times throughout the project as the work progresses. Unless otherwise stated, all items specified herein shall be provided, placed, maintained, relocated and replaced as necessary during the entire duration of the progress. Normal wear and tear for the duration of the project shall be anticipated and will not be considered grounds for additional payment.
- C. Where temporary pavement markings are required to temporarily reroute aircraft and vehicular traffic to accommodate construction it will be specified and measured for payment as "runway and taxiway painting – temporary" under Section P-620, Pavement Marking. Removal of temporary markings shall be as specified and paid in Section P-150, Removals.

##### 1.2 TEMPORARY CONSTRUCTION SAFETY FENCING

- A. The contractor shall provide and maintain construction safety fencing to delineate work area limits as shown on the plans. Location of fencing shall be as shown on the plans and as approved by the engineer and airport operations. The fencing lines are intended as a safety device to aid the contractor's workers and subcontractors in easily delineating areas of the airport which are off limits from those areas approved for his work activities. Fencing shall be 36" high, orange temporary safety fence, Tensar easy gardener BX 205116, or approved equal. Posts, excavation, backfill, and all other incidentals necessary for complete fencing installation, as detailed on the plans and as approved by the engineer, shall be included in this item, including periodic relocation as may be needed to accommodate construction phasing.

##### 1.3 CONSTRUCTION BARRICADES, DELINEATORS AND FLASHERS

- A. The contractor shall provide and maintain barricades of the types shown on the plans. Barricades shall be used to delineate airfield pavement work area limits for the project. Location of barricades shall be as shown on the plans or as approved by the engineer and airport operations. Maintenance of all barricades and flashers will be the sole responsibility of the contractor. No additional payment will be made for maintaining and moving barricades to accommodate the phasing.



#### **1.4 LOW PROFILE AIRFIELD BARRICADES**

- A. The contractor shall provide the amount of low-profile construction barricades required to delineate airfield pavement work area limits for the project. All barricades will need to be maintained in an operational state throughout the course of construction. Barricades that are leaking, damaged or have lights that are not working to the satisfaction of airport operations will need to be replaced.
- B. Barricades shall be low profile type 1, water-filled barricades. The Type 1 barricades shall be 10 inches in height, as shown on the plans, furnished in with orange and white reflective striping on two sides. They shall be constructed of resiliently deformable and frangible material, designed as modular, interlocking units, which will easily assemble, disassemble, and nest for compact storage. Barricade shape shall be low enough so as to not interfere with taxiing aircraft. The Type 1 barricade shall be furnished in alternating orange and white and will be installed so that the colors alternate on adjacent barricades. Each 96" length of barricade shall be equipped with at least one red omnidirectional steady burning light. Barricades shall meet the minimum requirements of FAA AC 150/5370-2, operational safety on airports during construction, latest edition. Barricades will be multi-barrier safety barricade model AR10- x96 or approved equal. Weighted wooden barricades will not be allowed.

#### **1.5 TEMPORARY AIRFIELD LIGHTING AND CIRCUITING**

- A. Temporary airfield lighting and visual aids, including temporary threshold lights, runway end lights, obstruction lights, blast deflector flood lights, and PLASI, conduit, junction cans, and light modifications shall be installed in accordance with the locations and details shown on the plans or as directed by the engineer, and in accordance with Section L-125, Airfield Electrical Work. The contractor shall coordinate with the engineer prior to connection of existing airfield lighting circuitry to confirm circuit capacity.

#### **1.6 CONSTRUCTION SIGNS**

- A. Where required on the plans, the contractor shall provide 16 gauge aluminum signs, with reflectorized faces and legends, for "stop" signs, "stop for aircraft" signs, taxiway designation signs, active runway signs and other signs as shown on the plans. Sizes, materials, and mounting methods shall be as indicated on the plans. Posts, excavation, backfill, and all other incidentals necessary for complete signs as detailed on the plans and as approved by the engineer shall be included in this item, including periodic relocation as may be needed to accommodate construction phasing.
- B. Messages and dimensions shall be as shown on the plans. Roadway signage shall conform to the requirements of the manual of uniform traffic control devices, latest edition.

### **1.7 LIGHTED "X" RUNWAY CLOSURE MARKERS**

- A. The airport will supply two generator-powered, trailer-mounted, portable lighted runway closure markers for contractor's use during the project. Each marker consists of an all-weather sign panel and illuminated "X".
- B. When directed, the contractor shall transport and operate each runway closure marker to the locations shown on the drawings and take-down and remove to the contractor's laydown area at the complete of each phase or as directed. The contractor shall protect, clean, and maintain the equipment throughout duration of the project, and shall supply fuel (diesel or gasoline as required) to continuously operate the closure marker when in place for runway closures. The contractor shall comply with all manufacture instructions when towing, storing, and operating the closure markers. When not in use, the markers shall be towed and stored in a safe location within the contractor's laydown area. At the project completion, lighted X markers shall be returned, fully fueled, in initial condition, and in working order to the City.

### **1.8 TEMPORARY JET BLAST DEFLECTOR**

- A. The Contractor shall supply and construct temporary jet blast deflectors and footings in accordance with Section F-162 and as shown on the drawings. The placement of temporary jet blast deflectors shall be as shown on the plans or as directed by the Engineer.
- B. The Contractor shall install temporary blast deflectors at the locations shown and within the allowable time periods to protect workers and equipment in specific work areas. Contractor shall properly align existing frames and panels to minimize re-drilling of holes, and to maintain segmented white/orange facing appearance.
- C. After installation of the temporary jet blast deflectors at the locations shown, the Contractor shall install obstruction lights as shown on the plans and in accordance with Section L-125, Airfield Electrical Work.
- D. All hardware for temporary blast deflector, including connectors, fasteners, bolts, washers, anchors and adhesives or grout shall be new at the initial installation, and provided by the contractor.
- E. At the end of a work phase when no longer required for construction, the temporary jet blast deflector components, including all bolts, connectors and hardware, shall be carefully dismantled, sorted, labeled, bundled and secured onto pallets, and delivered to the airport. All temporary anchorages shall be removed and patched after completion of work within each construction phase shown on the plans, and prior to asphalt overlay.

### **PART 2 - SUBMITTALS.**

2.1 Submittals required for this item include, but are not limited to:

- A. Temporary fencing (as required)
- B. Low profile airfield barricades

- C. PLASI
- D. Temporary airfield electrical equipment (lights, sign panels, etc.)
- E. Construction signs
- F. Temporary blast deflector including fasteners, anchorage, and adhesives.

### **PART 3 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

#### **3.1 Measurement**

- A. "Construction Barricades, Fencing, Markers and Signs" shall be measured for providing and maintaining construction barricades, signs, safety fencing, runway closure markers, and sign covers, modifying runway distance remaining signage, to facilitate safety during construction. Work shall be as shown on the plans and as specified herein and pursuant to the contract documents.
- B. "Temporary Jet Blast Deflector" shall be measured for all work required by the plans and contract documents for constructing temporary jet blast deflector for use as temporary blast protection during construction. Work includes anchors; fasteners; installation of jet blast structure, panels, painting of deflecting surfaces; and dismantling and removal when no longer required. At the completion of work, the temporary jet blast deflector shall become property of the City and delivered to Airport Operations. Work shall be as shown on the Plans, as specified herein, and as required by the contact documents.
- C. "Temporary Airfield Lighting and Circuiting" shall be measured for all temporary airfield lighting work required by the plans and contract documents, including installation of temporary obstruction lights, flood lights, runway end lights, runway edge light modifications, threshold lights, temporary PLASI, conduit, temporary cover plates, temporary conductors, isolation transformers, power adapters, junction cans, circuitry revisions needed for airfield lighting, and for removal of temporary lighting and restoration of existing lighting systems as required by the Construction Phasing Plans. This shall also include the procurement of and the modifications to the runway distance remaining signs as shown in the plans. At the completion of work, the temporary PLASI shall become the property of the City and delivered to Airport Operations. All work shall be as specified herein and Section G-100, and as required by the contract documents.

#### **3.2 Payment**

- A. Payment will be made at the contract unit price per lump sum for "Construction Barricades, Fencing, Markers and Signs", which price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to provide, maintain, replace as necessary and relocate the item for each phase/work area and throughout the duration of the project, and for cleaning and delivery to the Airport specified items.
- B. Payment will be made at the contract unit price per lump sum for "Temporary Jet Blast Deflector", which price shall be full compensation for furnishing all materials, labor,

CONSTRUCTION BARRICADES, FENCING, MARKERS AND SIGNS

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equipment, tools, and incidentals necessary to install and maintain the item throughout the duration of the associated work phase, to remove when no longer required, and deliver as specified to the airport.

- C. Payment will be made at the contract unit price per lump sum for "Temporary Airfield Lighting and Circuiting", which price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to provide, maintain, replace as necessary and relocate the item for each phase/work area and throughout the duration of the project and for cleaning and delivery to the Airport specified items.

Payment will be made under:

Item G-101-1	Construction Barricades, Fencing, Markers and Signs .....	per lump sum
Item G-101-2	Temporary Jet Blast Deflector .....	per lump sum
Item G-101-3	Temporary Airfield Lighting and Circuiting.....	per lump sum

**END OF SECTION G-101**

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**SECTION G-110**

**METHOD OF DETERMINING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. This section describes the Method of Determining the Percentage Within Limits (PWL) used to calculate adjusted pay factors for pavement. PWL determination shall be made in accordance with the FAA Standard Specification 110 as included and modified herein:

**SECTION 110**

**METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)**

**GENERAL**

*When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average ( $\bar{X}$ ) and sample standard deviation ( $S_n$ ) of the specified number ( $n$ ) of sublots for the lot and the specification tolerance limits,  $L$  for lower and  $U$  for upper, for the particular acceptance parameter. From these values, the respective Quality index(s),  $Q_L$  for Lower Quality Index and/or  $Q_U$  for Upper Quality Index, is computed and the PWL for the lot for the specified  $n$  is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.*

*There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.*

*It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the*

*responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.*

**METHOD FOR COMPUTING PWL**

*The computational sequence for computing PWL is as follows:*

*Divide the lot into n sublots in accordance with the acceptance requirements of the specification.*

*Locate the random sampling position within the subplot in accordance with the requirements of the specification.*

*Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.*

*Find the sample average (X) for all subplot values within the lot by using the following formula:*

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

*Where: X = Sample average of all subplot values within a lot*

*x1, x2 = Individual subplot values*

*n = Number of sublots*

*Find the sample standard deviation (S<sub>n</sub>) by use of the following formula:*

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2) / (n-1)]^{1/2}$$

*Where: S<sub>n</sub> = Sample standard deviation of the number of subplot values in the set*

*d1, d2, = Deviations of the individual subplot values*

*x1, x2, ... from the average value X*

*that is: d1 = (x1 - X), d2 = (x2 - X) ... dn = (xn - X)*

*n = Number of sublots*

*For single sided specification limits (i.e., L only), compute the Lower Quality Index Q<sub>L</sub> by use of the following formula:*

$$Q_L = (X - L) / S_n$$

Where:  $L$  = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with  $Q_L$ , using the column appropriate to the total number ( $n$ ) of measurements. If the value of  $Q_L$  falls between values shown on the table, use the next higher value of PWL.

For double-sided specification limits (i.e.  $L$  and  $U$ ), compute the Quality Indexes  $Q_L$  and  $Q_U$  by use of the following formulas:

$$Q_L = (X - L) / S_n \quad \text{and} \quad Q_U = (U - X) / S_n$$

Where:  $L$  and  $U$  = specification lower and upper tolerance limits

Estimate the percentage of material between the lower ( $L$ ) and upper ( $U$ ) tolerance limits (PWL) by entering Table 1 separately with  $Q_L$  and  $Q_U$ , using the column appropriate to the total number ( $n$ ) of measurements, and determining the percent of material above  $P_L$  and percent of material below  $P_U$  for each tolerance limit. If the values of  $Q_L$  fall between values shown on the table, use the next higher value of  $P_L$  or  $P_U$ . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where:  $P_L$  = percent within lower specification limit

$P_U$  = percent within upper specification limit

### EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

i) PWL Determination for Mat Density.

Density of four random cores taken from Lot A.

A-1 96.60

A-2 97.55

A-3 99.30

A-4 98.35

$n = 4$



Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95 \text{ percent density}$$

Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L=96.3$ )

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4348$$

Determine PWL by entering Table 1 with  $Q_L=1.44$  and  $n=4$ .

$$PWL = 98$$

PWL Determination for Air Voids.

Air Voids of four random samples taken from Lot A.

$$A-1 \quad 5.00$$

$$A-2 \quad 3.74$$

$$A-3 \quad 2.30$$

$$A-4 \quad 3.25$$

Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57 \text{ percent}$$

3. Calculate the standard deviation  $S_n$  for the lot.

$$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L = 2.0$ )

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

Determine  $P_L$  by entering Table 1 with  $Q_L = 1.41$  and  $n = 4$ .

$$P_L = 97$$

Calculate the Upper Quality Index  $Q_U$  for the lot. ( $U = 5.0$ )

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

Determine  $P_U$  by entering Table 1 with  $Q_U = 1.29$  and  $n = 4$ .

$$P_U = 93$$

Calculate Air Voids  $PWL$

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

### **EXAMPLE OF OUTLIER CALCULATION (Reference ASTM E 178)**

Project: Example Project

Test Item: Item P-401, Lot A.

i) Outlier Determination for Mat Density.

*Density of four random cores taken from Lot A. arranged in descending order.*

A-3 99.30

A-4 98.35

A-2 97.55

A-1 96.60

*Use  $n=4$  and upper 5 percent significance level of to find the critical value for test criterion = 1.463.*

*Use average density, standard deviation, and test criterion value to evaluate density measurements.*

*For measurements greater than the average:*

*If: (measurement - average)/(standard deviation) is less than test criterion,*

*Then: the measurement is not considered an outlier*

*for A-3 Check if  $(99.30 - 97.95) / 1.15$  greater than 1.463*

*1.174 is less than 1.463, the value is not an outlier*

*For measurements less than the average:*

*If (average - measurement)/(standard deviation) is less than test criterion,*

*Then the measurement is not considered an outlier*

*for A-1 Check if  $(97.95 - 96.60) / 1.15$  greater than 1.463*

*1.0 is less than 1.463, the value is not an outlier*

*NOTE: In this example, a measurement would be considered an outlier if the density was:*

*greater than  $(97.95 + 1.463 \times 1.15) = 99.63$  percent or,*

*less than  $(97.95 - 1.463 \times 1.15) = 96.27$  percent*

<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits ( $P_L$ and $P_U$ )	Positive Values of $Q$ ( $Q_L$ and $Q_U$ )							
	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$	$n=10$
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533

<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits ( $P_L$ and $P_U$ )	Positive Values of $Q$ ( $Q_L$ and $Q_U$ )							
	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$	$n=10$
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624

<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits (P <sub>L</sub> and P <sub>U</sub> )	Positive Values of Q (Q <sub>L</sub> and Q <sub>U</sub> )							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
49	-0.0363	- 0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	- 0.0260
48	-0.0725	- 0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	- 0.0900	-0.0843	-0.0817	- 0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	- 0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093

<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits ( $P_L$ and $P_U$ )	Positive Values of $Q$ ( $Q_L$ and $Q_U$ )							
	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$	$n=10$
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	- 0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	- 0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	- 0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	- 0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	- 0.4030	-0.4001	-0.3980
34	-0.5563	- 0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	- 0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	- 0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	- 0.6600	-0.6316	-0.6176	-0.6095	-0.6044	- 0.6008	-0.5982
27	-0.7636	- 0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282

<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits ( $P_L$ and $P_U$ )	Positive Values of $Q$ ( $Q_L$ and $Q_U$ )							
	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$	$n=10$
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118



<b>TABLE 1</b>								
<b>TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)</b>								
Percent Within Limits ( $P_L$ and $P_U$ )	Positive Values of $Q$ ( $Q_L$ and $Q_U$ )							
	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$	$n=10$
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

**END OF SECTION 110**

**PART 2 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

Work described in this section shall be considered incidental to other pay items and no separate payment will be made.

**END OF SECTION G-110**

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**SECTION G-120**

**NUCLEAR GAUGES**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. This section covers the use of nuclear gauges for materials testing. The use of nuclear gauges shall be in accordance with FAA Specification 120 as included and modified hereafter. The use of nuclear gauges shall be approved in advance by the Engineer.

***SECTION 120 - NUCLEAR GAUGES***

**120-1 TESTING.** *When the specifications provide for nuclear gauge acceptance testing of material for Items P-152, P-154, P-208, and P-209, (and other sections the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 2922 using the Direct Transmission Method. The nuclear gauge shall be calibrated in accordance with Annex A1. Calibration and operation of the gauge shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gauge must show evidence of training and experience in the use of the instrument. The gauge shall be standardized daily in accordance with ASTM D 2922, paragraph 8.*

*Use of ASTM D 2922 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. The moisture gauge shall be standardized daily in accordance with ASTM D 3017, paragraph 7.*

*The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 2922 is used.*

**120-2 PWL.** *When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.*

*The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in G-110 of these Specifications, Method of Determining Percentage within Specification Limits.*

*The lower specification tolerance limit (L) for density shall be:*

<b>TABLE 1. LOWER SPECIFICATION TOLERANCE LIMIT (L) FOR DENSITY</b>		
<b>Specification Item Number (Section Number)</b>	<b>Specification Tolerance (L) for Density, (percent of laboratory maximum)</b>	
<i>Earthwork Item P-152</i>	<i>90.5 (for cohesive material)</i>	<i>95.5 (for non-cohesive material)</i>
<i>Subbase Item P-154</i>	<i>95.5</i>	
<i>Cr. Aggr. Base Item P-209</i>	<i>97.0</i>	

*If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.*

**120-3 VERIFICATION TESTING.** *(For Items P-152 (Earthwork, Section P-152), and P-154 (Subbase, Section P-154) only.) The Contractor will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of:*

- a. compacting the material and determining the dry density and moisture-density in accordance with ASTM D 1557; and*
- b. comparing the result with the laboratory moisture-density curves for the material being placed. This verification process is commonly referred to as a "one-point Proctor". If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with ASTM D 1557.*

*Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.*

*The percent compaction of each sampling location will be determined by dividing the field density of each subplot by the laboratory maximum density for the lot.*

**END OF SECTION 120**

**PART 2 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

Work described in this section shall be considered incidental to other pay items and no separate payment will be made.

**END OF SECTION G-120**

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**SECTION G-150**

**CONTRACTOR QUALITY CONTROL PROGRAM**

**150-1 GENERAL.** The specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

- a. Adequately provide for the production of acceptable quality materials.
- b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
- c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

**150-2 DESCRIPTION OF PROGRAM.**

1. **General Description.** The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.
2. **Quality Control Program.** The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any

production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least 10 calendar days before the Notice to Proceed.

The Quality Control Program shall be organized to address, as a minimum, the following items:

- a. Quality control organization;
- b. Project progress schedule;
- c. Submittals schedule;
- d. Inspection requirements;
- e. Quality control testing plan;
- f. Documentation of quality control activities; and
- g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

**150-3 QUALITY CONTROL ORGANIZATION.** The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 150-03a and 150-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

- a. **Program Administrator.** The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

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Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

- (1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.
- (2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.
- (3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.
- (4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).
- (5) Highway materials technician certified at Level III by NICET.
- (6) Highway construction technician certified at Level III by NICET.
- (7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

- b. **Quality Control Technicians.** A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 150-06.
- (2) Performance of all quality control tests as required by the technical specifications and Section 150-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

- c. **Staffing Levels.** The Contractor shall provide sufficient qualified quality control



personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

**150-4 PROJECT PROGRESS SCHEDULE.** The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

**150-5 SUBMITTALS SCHEDULE.** The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

- a. Specification item number;
- b. Item description;
- c. Description of submittal;
- d. Specification paragraph requiring submittal; and
- e. Scheduled date of submittal.

**150-6 INSPECTION REQUIREMENTS.** Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 150-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

- a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.
- b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in

placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

**150-7 QUALITY CONTROL TESTING PLAN.** As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes. The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (e.g., P-401);
- b. Item description (e.g., Plant Mix Bituminous Pavements);
- c. Test type (e.g., gradation, grade, asphalt content);
- d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
- e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
- f. Responsibility (e.g., plant technician); and
- g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing. All quality control test results shall be documented by the Contractor as required by Section 150-08.

**150-8 DOCUMENTATION.** The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

- a. **Daily Inspection Reports.** Each Contractor quality control technician shall maintain a daily

log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description;
- (2) Compliance with approved submittals;
- (3) Proper storage of materials and equipment;
- (4) Proper operation of all equipment;
- (5) Adherence to plans and technical specifications;
- (6) Review of quality control tests; and
- (7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. **Daily Test Reports.** The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description;
- (2) Test designation;
- (3) Location;
- (4) Date of test;
- (5) Control requirements;
- (6) Test results;
- (7) Causes for rejection;
- (8) Recommended remedial actions; and
- (9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall

maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

**150-9 CORRECTIVE ACTION REQUIREMENTS.** The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

**150-10 SURVEILLANCE BY THE ENGINEER.** All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

- a. **NONCOMPLIANCE.** The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.
- b. In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:
  - (1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.
  - (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

**END OF SECTION G-150**

## SECTION P-101

### SURFACE PREPARATION

#### PART 1 - GENERAL

##### 1.1 GENERAL

- A. The Contractor shall perform all work required by the plans and specifications for surface preparation of asphalt pavements prior to bituminous overlays, emulsified asphalt slurry sealing, or other surface repair work as stated. All work shall be done as shown on the Plans or as directed by the Engineer. All work shall be in accordance with FAA Specification Item P-101 as included and modified hereafter.
- B. Work covered under this Section includes:
1. Cold milling of AC pavement.
  2. Preparation of joints and cracking sealing
  3. Rubber removal

#### ***ITEM P-101 SURFACE PREPARATION***

##### ***DESCRIPTION***

***101-1.1*** This item shall consist of preparation of existing pavement surfaces for overlay, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable drawings.

##### ***EQUIPMENT***

***101-2.1*** All equipment shall be specified hereinafter or as approved by the Engineer. The equipment shall not cause damage to the pavement to remain in place.

##### ***CONSTRUCTION***

##### ***101-3.1 REMOVAL OF EXISTING PAVEMENT***

***a. Concrete:*** Portland cement concrete pavement shall be removed and paid under Section P-150, Removals.

***b. Asphaltic Concrete:*** Asphaltic concrete pavement shall be removed and paid under Section P-150, Removals.

**101-3.2 PREPARATION OF JOINTS AND CRACKS.** All joints and cracks in bituminous pavements to be sealed with an emulsified asphalt slurry seal shall be cleaned of any existing joint and crack sealer, debris, and vegetation. Any excess joint or crack sealer on the surface of the pavement shall also be removed from the pavement surface. A soil sterilant shall be applied to the crack after cleaning and preparation has been completed.

**1. Crack Size Guidelines.** Crack preparation procedures depend on size. The following information shall be used when preparing cracks for sealing.

- a. **Hairline cracks.** Hairline cracks (less than 1/4 inch). Hairline cracks require no preparation.
- b. **Small cracks (1/4 to 2 inches).** Cracks that are 3/4 to 2 inches shall be prepared by cleaning the crack using a sandblaster, HCA heat lance, or wire brushes, followed by cleaning with compressed air. The crack must be clean and dry prior to filling.
- c. **Large cracks (greater than 2 inches).** Cracks wider than 2 inches shall be prepared in the same manner as failed AC sections. A saw shall be used to cut away damaged pavement to provide vertical faces and a section suitable for patching. The area shall then be cleaned and filled in accordance with asphalt as directed by the Engineer.

**2. Preparation of Cracks in AC Pavements.**

- a. **Cleaning.** All cracks shall be cleaned of any debris or laitance by use of a hot air lance, picks, stiff wire brushes and compressed air free of oil and water. The crack shall be dry prior to sealing.
- b. **Sealing.** Immediately before sealing, the cracks shall be blown out with compressed air free of oil and water. Only air compressors with operable oil and water traps shall be used to prepare the cracks for sealing. The crack faces shall be surface dry when the seal is applied. Sealing shall only be performed when the air temperature is higher than the dew point.

**3. FILLING CRACKS IN AC PAVEMENT GENERAL REPAIR.** Repair of cracks in AC pavement identified for crack filling shall be cleaned and prepared as described in 101-3.2.c. Crack filler shall be a hot-applied material conforming to ASTM D 6690, Type I, Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements. Cracks shall be filled within 0 to 1/8 inch of the surface, or in conformance with the manufacturer's recommendations. Cracks will be inspected for proper width, depth, alignment, and preparation, and will be approved by

*the Engineer before sealing is allowed. Sealants shall be installed in accordance with the following requirements:*

- a. **Hot Poured Sealants.** *The crack sealant shall be applied uniformly solid from bottom to top and shall be filled without formation of entrapped air or voids. The heating kettle shall be an indirect heating type, constructed as a double boiler. A positive temperature control and mechanical agitation will be provided. The sealant shall not be heated to more than 20°F (-11°C) below the safe heating temperature. The safe heating temperature can be obtained from the manufacturer's shipping container. A direct connecting pressure type extruding device with nozzles shaped for insertion into the joint will be provided. Any sealant spilled on the surface of the pavement, structures and/or lighting fixtures shall be removed immediately. Any material spilled outside the width of the joint shall be removed from the surface prior to constructing the overlay.*

**101-3.3 REMOVAL OF PAINT AND RUBBER.** *All paint and rubber over 1 ft wide that will affect the bond of the new overlay shall be removed from the surface of the existing pavement. Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, or sandblasting may be used. Any methods used shall not cause major damage to the pavement. Major damage is defined as changing the properties of the pavement or removing pavement over 1/8 in deep. If chemicals are used, they shall comply with the state's environmental protection regulations. No material shall be deposited on the runway shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans. This specification shall not be used for removal of rubber deposits to improve skid resistance or obliterate traffic markings where a new overlay is not to be constructed.*

**101-3.4 CONCRETE SPALL OR FAILED ASPHALTIC CONCRETE PAVEMENT REPAIR.** *Section not used.*

**101-3.5 COLD MILLING OF AC PAVEMENT.** *AC pavement shall be cold milled in accordance with Sections 302-5.2.1 through 302-5.2.5 in the Standard Specifications (Greenbook 2000). All match points shall be sawcut to a vertical edge unless a vertical cut can be made by milling in the transverse direction.*

*Only a minimal amount of water needed to facilitate the pavement milling operation shall be permitted. If the Engineer determines that excess water is being used, the contractor shall immediately reduce the water volume and remove all standing water completely from the surface to achieve a dry condition.*

*The milled surface shall be dry prior to placement of tack coat.*

## **METHOD OF MEASUREMENT**

### **101-4.1 MEASUREMENT**

Rubber Removal shall not be measured for payment but shall be considered incidental to the other bid items

**Crack sealing in Asphalt Pavement**, shall be measured and paid for per square foot in place performed in accordance with the specifications and accepted by the Engineer

**Cold Milling of Asphalt Pavement, ¼ to 3-inch Depth.** This item is for cold plane asphalt pavement ¼ to 3 inches variable depth as shown on the plans and as specified in herein, and as required by the contract documents, including removal and disposal of milled materials off Airport property. When surface correction is required, if the initial cut doesn't correct the condition, the Contractor shall re-plane the area and will be paid only once for the area of planning.

## **BASIS OF PAYMENT**

### **101-5.1 PAYMENT**

**A.** For "Asphalt Crack Sealing", payment shall be made at the contract unit price per linear foot measured in application of crack sealing, including pavement preparation and cleaning. The prices shall be full compensation for furnishing all labor, supervision, materials, layout, equipment, tools, and incidentals necessary to complete the item as specified herein and pursuant to the contract documents.

**a.** No additional payment will be made for difficulties encountered when placing sealant under restricted time or night periods, or in other areas subject to construction phasing restrictions.

**b.** Rubber removal shall not be measured for payment and shall be considered incidental to the other bid items

**B.** For "Cold Milling of AC Pavement," payment shall be made at the contract unit price per square yard for milling, hauling and disposal of all material as shown on the plans and as required in specifications. This price shall be full compensation for furnishing all labor, supervision, equipment, tools, and incidentals necessary to complete the item.

No separate payment will be made for performing this item under construction sequencing restrictions, including limited access or nighttime work areas.



*Payment will be made under:*

*Item P-101-1 Asphalt Crack Sealing.....per Linear Foot*

*Item P-101-2 Milling of AC Pavement..... per Square Yard*

**END OF ITEM P-101**

**PART 2 - SUBMITTALS**

Submittals required for this item include, but are not limited to: Equipment

**END OF SECTION P-101**

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**SECTION P-150**

**REMOVALS**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The contractor shall perform all work required by the plans and specifications for removing salvaging, abandoning, and/or disposing of existing pavements, bases, pavement markings and other miscellaneous items identified from within the limits designated on the plans, required by the specifications, or as directed by the engineer.
- B. Items identified to be “salvaged” and/or “relocated” shall be carefully removed and taken to a site as shown on the plans or as directed by the engineer. Maximum distance for such relocation and/or stockpiling will be to the contractors storage yard.
- C. Unless otherwise specified, all items designated to be “removed” shall be removed and legally disposed of off the airport property. Proof of legal disposal is required.
- D. Removal of item for salvage shall include labeling all pieces, members, and joints to provide a sequence for reassembly. Salvaged material shall be packaged and delivered to the Airport for storage.
- E. Whenever a pipeline, conduit, or other utility not shown on the Plans is encountered, the Contractor shall immediately inform the Engineer.
- F. All trash, debris, pavements, and other items being removed shall be disposed of legally off Airport property.

**PART 2 - CONSTRUCTION METHODS**

**2.1 GENERAL**

- A. All items designated or required to be removed shall be disposed of off Airport property, unless otherwise noted, and shall be transported to a legal disposal site(s). Proof of proper disposal at a legally authorized dumping site is required.
- B. Excavation required for any removals under this section will not be measured for payment, except as noted in Section G-100 General Requirements.
- C. No stockpiling of any material shall be allowed anywhere on the AOA except at the designated Stockpile Site.
- D. Prior to beginning any demolition operation the Contractor shall:
  - 1. Conform to Section 3303.9 of Uniform Building code for demolition of structures, safety of adjacent structures, dust control, runoff control and disposal.

2. Obtain required permits from authorities.
  3. Notify affected utility companies before starting work, and with adequate lead time to comply with their schedule and requirements.
  4. Provide, erect, and maintain temporary barriers, hazard lights, and security devices as needed.
  5. Mark locations of all utilities
- E. At all times during demolition operations the Contractor shall:
1. Provide adequate and appropriate equipment to transport materials.
  2. Maintain haul roads and stockpile sites in satisfactory condition.
  3. Protect existing landscaping materials, appurtenances and structures which are not to be demolished.
  4. Prevent movement or settlement of adjacent structures. Provide bracing and shoring as needed.
  5. Conduct demolition to minimize interference with adjacent structures.
  6. Cease operations immediately if adjacent structures appear to be in danger. Notify Engineer. Do not resume operations until directed.
  7. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.
  8. Sprinkle Work with water to minimize dust. Provide hoses and water connections for this purpose.
  9. Do not close or obstruct roadways or hydrants without permits.
  10. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

## 2.2 BACKFILLING OF VOIDS

- A. Unless otherwise indicated on the plans or directed by the Engineer, voids resulting from the abandonment or of removal structures, pipes, foundations and other items covered in this section shall be filled with suitable material approved by the Engineer, compacted to 90 percent of maximum density as determined by ASTM D1557. Backfill will not be measured for payment but will be considered incidental to the associated removal pay item.

- B. Where the plans indicate "Fill with Select Material to Grade" such material shall conform to the requirements for Select Material as discussed in Section P-152, Earthwork, of the Specifications.
- C. Removal of Pavement Materials All Asphalt Concrete (AC), and Portland Cement Concrete (PCC) pavement, identified for removal on the plans shall be removed within the limits and to the depths shown on the Plans, unless otherwise specified. AC and PCC pavement, including any embedded metal, shall be removed along clean straight lines by sawcutting at all joints, phase lines, and/or match lines before removal. Sawcuts shall be full depth. Where PCC pavement that is to be removed is adjacent to pavement to remain in service, the PCC shall be removed as described for full slab removal in Section P-600, Concrete Removal, Repair and Replacement, of these Specifications.
- D. All match points shall be sawcut to a vertical edge. Sawcutting will not be measured for payment but will be considered incidental to pavement removal.
- E. Existing pavement to remain in place that is damaged by the Contractor shall be repaired or replaced by the Contractor, at his expense, to the satisfaction of the Engineer. The repair or replacement method shall be approved by the Engineer prior to beginning the work.
- F. Removed PCC, removed AC, demolished items and all excavated earth materials shall be removed off site. All unbound materials within a pavement section that are identified for removal, including aggregate bases, subbases and subgrade will be paid as Unclassified Excavation under Section P-152, Earthwork, of these Specifications.

### **2.3 CHANGES IN PAVEMENT THICKNESS OR CHARACTER.**

- A. Pavement surface and base thickness information relative to the existing pavement sections shown in the Plans is according to information on file in the Engineer's office and represents the best information available at the time. No guarantee of the thicknesses shown is expressed or implied, and variations from the thickness shall not be construed to change the amount to be paid for pavement removal unless the change is considered to be excessive. The Contractor shall consider the following conditions to be normally expected variables and shall include accommodation for these situations in his bid prices.
- B. No additional compensation will be made for:
  - 1. PCC thickness up to and including 50% above the thickness indicated on the plans.
  - 2. AC thickness up to and including 100% higher than the thickness indicated on the plans.

3. Geogrid, filter fabric or other geotextiles as part of subsurface layers to be removed.
  4. Reinforcing steel in PCC. PCC with reinforcement will be measured as a separate bid item.
- C. The following changes will be considered significant changes and may be considered for additional compensation if the Contractor can demonstrate that they will have a significant impact on his operations:
1. PCC thickness more than 50% higher than the thickness indicated on the plans.
  2. AC Surface course thickness more than 100% higher than shown on the plans.

**2.4 COMPOSITE PAVEMENTS.** When pavements of bonded, composite bound layers are encountered (AC overlay on PCC, PCC overlay on AC, AC on CTB, etc.) measurement and payment will be made for each layer removed.

**2.5 CRUSHING PAVEMENT FOR RECYCLING.** All crushing and or pavement recycling shall be performed off airport property.

**2.6 PROTECTION OF ADJACENT PAVEMENT**

- A. When pavement removal results in damage to adjacent pavement to remain in place, the Contractor will be required, at his expense, to repair the pavement.
- B. For damaged asphalt concrete pavement, the damaged asphalt surface course shall be cut back at least 1 foot into sound surfacing. The removed, damaged pavement shall be replaced with asphalt concrete surfacing conforming to Section P-401, Asphalt Pavements – Surface Course, of these Specifications. The Contractor shall provide repair and compaction of underlying base course if it is determined to be necessary by the Engineer. Application of bituminous prime coat or tack coat in accordance with Sections P-602 and P-603, Bituminous Prime Coat and Bituminous Tack Coat, of these specifications will be applied to unbound and bound surfaces, respectively, prior to repaving. No payment will be made for this repair work.
- C. Damaged Portland Cement Concrete pavement shall be repaired in accordance with Section P-600, Concrete Removal, Repair and Replacement, of these Specifications.
- D. Type of repair shall depend on degree of damage, which shall be determined by the Engineer as discussed in the specification.

**2.7 REMOVAL OF PAVEMENT MARKINGS**

- A. The Contractor shall be required to obliterate or remove existing markings as indicated on the Plans, or directed by the Engineer, by the use of shotblasting or high pressure water to the satisfaction of the Engineer. Paint markings shall be removed from all

areas to receive an asphalt overlay or other asphaltic treatment. Paintovers (obliteration of existing markings by covering with paint or bituminous materials) will not be allowed.

- B. Upon completion of paint removal operations, any paint, pavement, or obliteration materials left on the pavement shall be removed by means of high performance vacuum. Areas where marking removals have occurred but where no subsequent overlay or surface treatment is planned shall have an emulsified slurry seal placed on them after marking removal to bring the pavement color back to its original color. The slurry seal shall be considered incidental to the marking removals bid item and no separate payment will be made. Application rate shall be as approved by the Engineer.

## **2.8 MAINTENANCE AND REPAIR OF HAUL ROAD**

- A. During removal and other work operations, and at the conclusion of the project, it will be the Contractor's responsibility to maintain the haul road in its initial condition and cross section. Material used to repair and rebuild the haul road shall be from Contractor-provided sources.
- B. Adequate sweeper trucks and water-distribution trucks shall operate as directed by the Engineer to eliminate dust and to Foreign Object Debris accumulation. Contractor shall take photographs and video tape the existing conditions of the asphalt road before and during the work and shall provide copies of photos and video to the Engineer to establish control conditions. . At the conclusion of the project, the contractor shall repair asphalt damage to the existing airport vehicle service road. Repairs and maintenance of the haul road and vehicle service road will be considered incidental to the project.

**2.9 DUST CONTROL** The Contractor is advised that control of dust during demolition operations is his sole responsibility and is of utmost importance in the safe operation of the airport. Airborne dust and debris can cause hazards to operating jet aircraft in addition to creating visibility concerns. Adequate use of water trucks or other methods of dust control shall be utilized at all times during demolition operations. The Engineer will retain the authority to cease all construction operations, with no modification to the allowable contract schedule, when excess dust is observed. Dust control measures will not be measured for payment, but will be considered incidental to other bid items.

## **2.10 PROTECTION OF EXISTING UTILITIES**

- A. The Contractor shall protect all existing utilities and improvements not designated for removal. The Contractor shall determine the exact locations and depth of all utilities indicated on the drawings. In addition to those indicated, the Contractor shall make exploratory excavations of all utilities. All such exploratory excavations shall be performed as soon as practicable after award of the Contract, and in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work. When such exploratory excavations show the utility locations as indicated on the

drawings to be in error, the Contractor shall so notify the Engineer. The number of exploratory excavations required should be that number which is sufficient to determine the alignment of the utility. All costs for such work shall be absorbed by the Contractor.

### **PART 3 - METHOD OF MEASUREMENT**

#### **3.1 MEASUREMENT**

- A. Remove AC Pavement payment shall be made at the unit price per square yard, as described on the bid schedule, and shall include the sawcutting, removal and off-site disposal. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. No separate payment will be made for sawcutting.
- B. Remove 10" PCC Pavement payment shall be made at the unit price per square yard, as described on the bid schedule, and shall include the sawcutting, removal and off-site disposal. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. No separate payment will be made for sawcutting.
- C. The quantity of pavement markings removal to be paid shall be for square footage in place removal in accordance with the specifications and accepted by the Engineer. Blacking out existing markings shall be measured and paid for under section P-620.

### **PART 4 - BASIS OF PAYMENT**

#### **4.1 PAYMENT**

- A. Payment shall be made at the contract unit price per square yard for "Remove AC Pavement". This price shall be full compensation for furnishing all materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.
- B. Payment shall be made at the contract unit price per square yard for "Remove 10" PCC Pavement". This price shall be full compensation for furnishing all materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.
- C. Payment shall be made at the contract unit price per square foot for "Remove Pavement Markings". This price shall be full compensation for furnishing all materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.



Payment will be made under:

Item P-150-1	Remove AC Pavement .....	Per Square Yard
Item P-150-2	Remove 10-inch PCC Pavement .....	Per Square Yard
Item P-150-3	Remove Pavement Markings.....	Per Square Foot

**END OF SECTION P-150**

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## SECTION P-152

### EARTHWORK

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. This item covers stripping, grubbing, scarification, excavation, grading, temporary stockpiling, disposal, placement, subgrade preparation, and compaction of all earthwork materials within the limits shown on the plans and constructed in accordance with FAA Specification, Item P-152, as included and modified hereafter.
- B. For all subgrade areas, subgrade preparation shall be performed as required below. Subgrade preparation shall consist of grading, forming, scarifying, watering or aerating, and compacting, as specified below, or as indicated on the Plans.
- C. Quantities of Asphalt or Portland Cement Concrete pavement to be removed prior to earthwork operations shall be measured and paid under applicable portions of Specification Section P-150, Removals. All underlying unbound base, subbase, filter fabric and subgrade materials under pavements requiring removal shall be measured and paid as Unclassified Excavation under this Section.
- D. The Contractor should refer to the project geotechnical reports referenced and should review the available soil boring logs.

#### **ITEM P-152 EXCAVATION AND EMBANKMENT**

##### **152-1 DESCRIPTION**

**152-1.1 GENERAL.** *This item covers excavation, disposal, placement, and compaction of all subsurface materials within the limits of the work required to construct airfield pavements. It also covers areas for airfield infield area grading, preparations for the installation of jet blast structure foundations, or other purposes shown on the plans. Work shall be completed in accordance with these specifications and in conformity to the dimensions and typical section(s) shown on the plans.*

**152-1.2 CLASSIFICATION.** *Unless otherwise specified, all material excavated shall be considered to be Unclassified Excavation, as defined below:*

- a. **Unclassified Excavation.** *Unclassified excavation shall consist of the excavation and re-use on-site as subgrade, embankment construction and/or backfill material, or the excavation and disposal*

*off airport property of all subsurface material, regardless of its nature, which is not otherwise classified and paid for under the following items.*

- b. Borrow Material.** *Not used.*
- c. Unsuitable Excavation.** *Any material containing vegetable or organic matter, such as muck, peat, organic silt, top soil, grass or sod shall be considered unsuitable for use in embankment construction, including the stripping of the top 2 to 3 inches of grass, sod, and top soils from existing non-paved areas. .*

*Unless otherwise stipulated, all unsuitable excavation will become the property of the Contractor and shall be hauled and disposed of off the Airport site, at the expense of the Contractor, to a suitably licensed facility. The Contractor shall conform to all Federal, State and Local laws and regulations regarding the removal, handling, and transport of unsuitable materials.*

- d. Select / Suitable Material.** *When “select material”, or “certified material”, is specified, the more suitable material as designated by the Engineer shall be used in constructing the subgrade, or in trench or structure backfilling. These selective materials shall be of the following quality, unless otherwise approved by the Engineer:*

- (1) Maximum Size: 3 inch*
- (2) Maximum Percent Passing #200 Sieve: 25%*
- (3) Maximum Liquid Limit (LL): 35*
- (4) Maximum Plasticity Index (PI): 12*

- e. Subgrade Preparation.** *Subgrade preparation shall consist of the scarification and recompaction of in-place subgrade soils to the depths shown on the plans or to a minimum of 12 inches and to the densities stated herein, preliminary to the construction of subbase, base courses and/or other pavement layer construction. Subgrade preparation is measured and paid as a separate pay item.*

## **152-2 CONSTRUCTION METHODS**

**GENERAL.** *Before beginning excavation, grading, and embankment operations in any area, all pavements shall be demolished and utilities shall be located in accordance with Section P-150, Removals.*

*The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material, and any excess suitable material, shall be disposed of off airport property at a legal disposal site.*

*When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. At the direction of the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.*

*If it is necessary to interrupt existing surface drainage, sewers or underdrainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for their protection and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.*

*The Contractor shall also ensure that the requirements of Section P-156 Temporary Air and Water Pollution, Soil Erosion and Siltation Control are met relative to surface drainage.*

**152-2.1 EXCAVATION.** *No excavation shall be started until the work has been staked out by the Contractor and until ground surface elevation information has been provided to, and approved by, the Engineer.*

*When the volume of the excavation exceeds that required to construct the subgrade to the grades indicated, the excess material shall be disposed of by the Contractor off airport property.*

*During excavation, the grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work. The Contractor shall provide temporary pumps, piping and other equipment necessary for proper drainage.*

- a. Selective Grading.** *When project earthwork results in an excess of excavated materials, selective grading shall be employed. The more suitable material, as designated by the Engineer, shall be used in constructing the subgrade, pipe or structure backfill, or in capping the pavement subgrade. If at the time of excavation it is not possible to place this material in its final location, it shall be temporarily stockpiled in approved areas within the work area. Stockpiled material will be measured for payment once, at the point of excavation.*

- b. Undercutting.** *Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for the subgrade shall be excavated to a minimum depth of 12 inches, or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified and disposed of off airport property. This excavated material shall be paid for at the contract unit price per cubic yard for Unclassified Excavation. The excavated area shall be refilled with suitable material obtained from the grading operations (or borrow material if approved by the Engineer) and compacted to specified densities. The necessary refilling will constitute a part of the embankment. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.*
- c. Overbreak.** *Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his/her decision shall be final. All overbreak shall be graded or removed by the Contractor and disposed of as directed; however, payment will not be made for the removal and disposal of overbreak that the Engineer determines was avoidable. Unavoidable overbreak will be measured and paid as Unclassified Excavation.*
- d. Removal of Utilities.** *The removal of existing structures and utilities required to permit the orderly progress of work shall be accomplished by the Contractor, unless otherwise shown on the plans (e.g., the utility). All existing foundations shall be excavated for at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled and with suitable material, as defined herein.*
- e. Compaction Requirements.** *The subgrade under areas to be paved shall be compacted to the relative densities, at depth, as stated in Table 1. For areas not to be paved, see 152-2.6. Maximum density shall be as determined by ASTM 1557. The material to be compacted shall be within +/- 2 percent of optimum moisture content before rolling to obtain the prescribed compaction (except for expansive soils).*

<b>TABLE 1 – SUBGRADE COMPACTION</b>								
<b>Depth/% Compaction Subgrade Soils</b>	<b>Percent Compaction per ASTM D 1557</b>							
	<b>Non-Cohesive Soils (PI &gt; 3)</b>				<b>Cohesive Soils (PI ≤ 3)</b>			
	100%	95%	90%	85%	95%	90%	85%	80%
	25"	25"- 44"	44"-64"	64"-81"	10"	10"-20"	20"-29"	29"-38"

If nuclear density machines are to be used for density determination, the machines shall be calibrated in accordance with ASTM D 6938. The nuclear equipment shall be calibrated using blocks of materials with densities that extend through a range representative of the density of the proposed embankment material. See Section 29, Nuclear Gauges, for additional guidance with nuclear density testing.

Tests for conformance with moisture and density requirements shall be made before and after compaction for every 1,000 cubic yards of compacted subgrade layer. Maximum compacted layer thickness shall be as defined in 152-2.7.

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet ahead of the paving operations or as directed by the Engineer.

In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to the line of finished grade of slope. All cut-and-fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the plans or as directed by the Engineer.

f. **Blasting.** Blasting will not be permitted.

**152-2.2 BORROW MATERIAL.** Not used.

**152-2.3 DRAINAGE EXCAVATION.** Not used.

**152-2.4 PREPARATION OF SUBGRADE AND EMBANKMENT (FILL) AREA.** In all subgrade areas to be paved, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing or scarifying to the depth shown on the plans, or to a minimum depth of 12 inches. This area

*shall then be graded, shaped, watered, and re-compacted as indicated in paragraph 152-2.7.*

*Where embankments are to be placed on natural slopes steeper than 3 to 1, horizontal benches shall be constructed as shown on the plans.*

*The necessary removals, clearing and grubbing, and the quantity of excavation removed will be paid for under the respective items of work.*

**152-2.5 FORMATION OF EMBANKMENTS.** *Embankments shall be formed in successive horizontal layers of not more than 8 inches in loose depth for the full width of the cross section, unless otherwise approved by the Engineer.*

*The grading operations shall be conducted, and the various soil strata shall be placed, to produce a soil structure as shown on the typical cross section or as directed. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.*

*Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of wind, rain, freezing, or other unsatisfactory conditions of the field. The Contractor shall drag, blade, or slope the embankment to provide proper surface drainage.*

*The material in the layer shall be within +/-2 percent of optimum moisture content before rolling to obtain the prescribed compaction. In order to achieve a uniform moisture content throughout the layer, wetting or drying of the material and manipulation shall be required when necessary. Should the material be too wet to permit proper compaction or rolling, all work on all of the affected portions of the embankment shall be delayed until the material has dried to the required moisture content. Sprinkling of dry material to obtain the proper moisture content shall be done with approved equipment that will sufficiently distribute the water. Sufficient equipment to furnish the required water shall be available at all times. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each 1,000 cubic yards of material placed per layer. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content in order to achieve the correct embankment density.*

*If nuclear density machines are to be used for density determination, the machines shall be calibrated in accordance with ASTM D 6938. The nuclear equipment shall be calibrated using blocks of materials with densities that extend through a range representative of the density of the proposed embankment material. See attached Section 29, Nuclear Gauges, for additional guidance with nuclear density testing.*



*For non-paved areas, rolling operations shall be continued until the embankment is compacted to not less than 95 percent of maximum density for non-cohesive soils, and 90 percent of maximum density for cohesive soils as determined by ASTM D 1557. Under all areas to be paved, the embankments shall be compacted to the densities, at depth, shown in 152-2.3.e, Table 1.*

*On areas outside of the pavement areas, no compaction will be required on the top 4 inches.*

*The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167.*

*Compaction areas shall be kept separate, and no layer shall be covered by another until the proper density is obtained.*

*During construction of the embankment, the Contractor shall route his/her equipment at all times, both when loaded and when empty, over the layers as they are placed and shall distribute the travel evenly over the entire width of the embankment. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay, or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.*

*In the construction of embankments, layer placement shall begin in the deepest portion of the fill. As placement progresses, layers shall be constructed approximately parallel to the finished pavement grade line.*

*When rock and other embankment material are excavated at approximately the same time, the rock shall be isolated and removed and other suitable material shall be incorporated under the future paved areas. Stones or fragmentary rock larger than 4 inches in their greatest dimensions will not be allowed in the top 6 inches of the subgrade. Rock fill shall be brought up in layers as specified or as directed and every effort shall be exerted to fill the voids with the finer material forming a dense, compact mass. Rock or boulders shall be disposed of off airport property, or crushed and reused in accordance with Section 57, Processed Miscellaneous Base.*

*When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet in thickness. Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of rock. These types of lifts shall not be constructed above an elevation 4 feet below the finished subgrade.*

*There will be no separate measurement of payment for compacted embankment, and all costs related to placing excavated materials in layers, compacting, disking, watering, mixing, sloping, maintaining drainage and other necessary operations for construction of embankments will be included in the contract price for Unclassified Excavation.*

*There will be no separate measurement for payment for any stockpile formation as may be required, or for disposal of excavated material off airport property. All costs for stockpile placement, shaping, formation, compaction, drainage maintenance, and legal disposal off-site shall be considered incidental to the contract price for Unclassified Excavation.*

**152-2.6 FINISHING AND PROTECTION OF SUBGRADE.** *After the subgrade has been substantially completed, the full width shall be conditioned by removing any soft or other unstable material that will not compact properly. The resulting areas and all other low areas, holes or depressions shall be brought to grade with suitable select material. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. Compaction shall be in accordance with 152-2.2.e, Table 1.*

*Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall take all precautions necessary to protect the subgrade from damage. The Contractor shall limit hauling over the finished subgrade to that which is essential for construction purposes.*

*All ruts or rough places that develop in a completed subgrade shall be smoothed and recompacted.*

*No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.*

**152-2.7 HAUL.** *All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

**152-2.8 TOLERANCES.** *In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a Contractor-provided 16-foot straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of 1/2-inch, or shall not be more than 0.05-foot from true grade as established by grade hubs or pins. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting by sprinkling and rolling.*

*On non-paved areas, including safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 foot from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.*

**152-2.9 TOPSOIL.** *Not used.*

**152-3 METHOD OF MEASUREMENT**

*The quantity of excavation to be paid for Unclassified Excavation shall be the number of cubic yards measured in its original position.*

*Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.*

*For payment specified by the cubic yard, measurement for all excavation shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by excavation cross sections shown on the plans, subject to verification by the Engineer. After completion of all excavation and embankment operations, and prior to the placing of base or subbase material, the final excavation shall be verified by the Engineer by means of field cross sections taken randomly at intervals determined by the Engineer, but not exceeding 500 linear feet.*

*Final field cross sections shall be employed if the following changes have been made:*

- a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 foot; or*
- b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 foot .*

*The quantity of subgrade preparation to be paid for shall be the number of square yards of subgrade scarified, shaped, watered and compacted to the requirements of this specification and approved by the Engineer.*

*Placement and compaction of materials to form fill or embankment will not be measured separately for payment. Such costs shall be considered incidental to*

*the unit prices bid for excavation of the material and no separate payment will be made.*

*Placement and maintenance of stockpiled materials will not be measured separately for payment. Such costs shall be considered incidental to the unit prices bid for excavation of the material and no separate payment will be made.*

**152-4 BASIS OF PAYMENT**

**152-4.1 PAYMENT**

*A. For "Unclassified Excavation" payment shall be made at the contract unit price per cubic yard for the quantity, measured in place, of base, subbase and subgrade materials excavated and used for the construction of project pavements, stockpiled, or disposed of legally off the airport site. This price shall be full compensation for excavating the materials and for transporting, placing, shaping, watering, compacting and/or disposing or stockpiling of the materials, and for furnishing all labor, supervision, equipment, tools, and incidentals necessary to complete the item.*

*B. For "Subgrade Preparation," payment shall be made at the contract unit price per square yard to scarify, grade, shape, water and recompact the subgrade as shown on the plans for the construction of project pavement. This price shall be full compensation for furnishing all labor, supervision, equipment, tools, and incidentals necessary to complete the item.*

*No separate payment will be made for earthwork embankment (fill) construction.*

*No separate payment will be made for constructing the items under construction sequencing restrictions, including limited access or nighttime work areas.*

*Unless otherwise specified, work performed under this section which is identified on the plans as "temporary" will be measured for payment in accordance with this specification.*

*Payment will be made under:*

- Item P-152-1 Unclassified Excavation .....per cubic yard*
- Item P-152-2 Subgrade Preparation .....per square yard*

**152-5 TESTING REQUIREMENTS**

<i>ASTM D 1556</i>	<i>Test for Density of Soil In Place by the Sand-Cone Method</i>
<i>ASTM D 1557</i>	<i>Test for Laboratory Compaction Characteristics of Soil Using Modified Effort</i>
<i>ASTM D 2167</i>	<i>Test for Density and Unit Weight of Soil In Place by the Rubber Balloon Method.</i>
<i>ASTM D 6938</i>	<i>Standard Test Method for In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth)</i>

**END OF ITEM P-152**

**PART 2 - SUBMITTALS.** Submittals required for this item include, but are not limited to:

- 2.1 Quality Testing for :
- A. Select/Suitable Material
  - B. Proof of legal disposal

**PART 3 - REMOVE AND REPLACE SUBGRADE**

3.1 Although the project is designed for the predominant soils, the Contractor shall be prepared to remove and replace isolated pockets of unacceptable subgrade materials should they be found on the project.

The Contractor shall advise the Engineer as soon as sensitive clays or unstable sand deposits are found. Within the limits identified and approved by the Engineer, these materials shall be removed and replaced to a depth of 24 inches below top of finished subgrade elevation. After excavation is completed, one layer of subgrade stabilization fabric, conforming to the requirements of Section Geotextiles T-920, shall be placed and the excavation shall be filled with material conforming Processed Miscellaneous Base. Material shall be placed and compacted in layers not to exceed 8 inches in thickness. Material shall be compacted to relative density at depth as outlined in 152-2.2.e, Table 1 of this section.

All work associated with remove and replace subgrade will be paid as unclassified excavation. All work shall be pre-approved by the Engineer in order to be eligible for payment under this item.

**END OF SECTION P-152**

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**SECTION P-154**

**SUBBASE COURSE**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall perform all work required by the plans and specifications for construction of aggregate subbase courses for airfield or road pavement subbase, for haul road surfacing, or for other uses as shown on the Plans. Work shall be done in accordance with FAA Specification Item P-154 as included and modified hereafter.

***ITEM P-154 SUBBASE COURSE***

**154-1 DESCRIPTION.** *This item shall consist of a subbase course composed of granular materials constructed on a prepared subgrade or underlying course in accordance with these specifications, and in conformity with the dimensions and typical cross section shown on the plans.*

**154-2 MATERIALS.**

**154-2.1 PMB MATERIAL SOURCES**

- a. *PMB may be obtained from two sources, at the Contractor's discretion:*

**(1)** *Produced by the Contractor from recycled materials produced under Section 150 of these Specifications, Removals, from the crushing of removed concrete and asphalt pavements. Actual production of PMB shall be considered incidental to the applicable removal item under Section 150.*

**(2)** *PMB obtained by the Contractor from other sources.*

- b. *If PMB is Contractor-provided from sources outside of the project limits, the bid price shall include the cost of acquiring the material. The bid price for PMB regardless of its source shall include all costs for transporting, handling, placing, shaping, watering and compacting the material.*
- c. *When PMB is accepted as a substitute for another material, it will be measured and paid under the original specification. In those instances, the Contractor shall consider the source of the material and associated costs in establishing bid prices for PMB provided under those specification sections.*

**154-2.2 MATERIAL QUALITY.** *Processed Miscellaneous Base shall conform to Section 200-2.5 of the Standard Specifications for Public Works Construction (SSPWC) "Greenbook", latest edition.*

**a. General.** *Processed miscellaneous base shall consist of broken or crushed asphalt concrete, portland cement concrete, railroad ballast, glass, crushed porcelain material, crushed rock, rock dust, or natural material. The material that is retained on a No. 4 sieve shall contain at least 25 percent particles with two or more fractured faces. The material shall be free of any detrimental quantity of soft, friable, thin, elongated or laminated pieces, disintegrated material, organic matter, oil, alkali, or other deleterious substance. The material may contain no more than 3 percent brick by weight as determined by California Test 202 as modified. Brick material retained on a No. 4 sieve shall be identified visually and separated manually. Brick quantification shall be based on total weight of dry sample.*

*Prior to crushing and processing salvaged asphalt and concrete materials as PMB, all materials not suitable for subbase materials shall be segregated, removed, and disposed of by the Contractor off airport property, including but not limited to joint sealant material, reinforcing steel, dowel bars, conduit, wire and cable, and any other material deemed unsuitable by the Engineer.*

**b. Grading.** *The material shall be uniformly graded and shall conform to one of the gradations in Table 1. (ASTM C 131 Test Grading A, B):*

TABLE 1. PROCESSED MISCELLANEOUS BASE GRADATION		
Sieve Size	Percentage Passing Sieve	
	Coarse	Fine
2"	100	100
1-1/2"	85-100	100
3/4"	50-85	85-100
3/8"	-	55-75
No. 4	25-45	35-60
No. 30	10-25	10-30
No. 200	2-9	2-9

**c. Quality Requirements.** *This material shall conform to the following requirements in Table 2. The Engineer may waive the percentage wear*



*requirements, provided the material has a minimum durability of 35 in accordance with California Test 229.*

<b>TABLE 2. Quality Requirements</b>		
<b>Tests</b>	<b>Test Method No.</b>	<b>Requirements</b>
R-Value	California 301	78 Minimum
Sand Equivalent	California 217	35 Minimum
Percentage Wear:	ASTM C131	
100 Revolutions		15 Maximum
500 Revolutions		52 Maximum

*The portion of the material passing the No. 40 sieve shall have a liquid limit of not more than 25 and a plasticity index of not more than 6 when tested in accordance with ASTM D 4318.*

- d. Testing.** *All PMB, whether Contractor-produced, or Contractor-furnished, shall be tested per these specifications and approved by the Engineer prior to acceptance.*
- e. Moisture-Density Requirements.** *Moisture content is critical to obtaining adequate compaction of PMB. To ensure proper moisture content PMB shall be tested at the source of production (or plant), at stockpile or storage locations, and at the point of placement.*

*Maximum density and optimum moisture content shall be established in accordance with ASTM D 1557. In-place field density shall be determined in accordance with ASTM D 1556. The moisture content of the material at the start of compaction shall be not more than 1 1/2 percentage points above, or below, the optimum moisture content. If PMB is free-draining and maintaining specified moisture content is difficult, the Engineer may specify an alternate minimum moisture content for placement and compaction of the material.*

- f. Contractor-Produced PMB.** *The material shall be produced from a crushing and screening plant with the proper blending as described in Section P-150 of these Specifications, Removals. The materials from these sources shall meet the requirements noted herein for gradation, quality, and consistency. It is the intent of this section to secure materials that will not require further mixing.*

*The moisture content of the material shall be approximately that required to obtain maximum density. When the entire PMB material is secured in a uniform and satisfactory condition and contains approximately the required moisture, such approved material may be moved directly to the spreading equipment for placing.*

*Any minor deficiency or excess of moisture may be corrected by surface sprinkling or by aeration. In such instances, some mixing or manipulation may be required, immediately preceding the rolling, to obtain the required moisture content. The final operation shall be blading or dragging, if necessary, to obtain a smooth uniform surface true to line and grade.*

- g. Plant Mixing of PMB.** *When materials from several sources are to be blended and mixed, the PMB material shall be processed in a central or travel mixing plant. The PMB material, together with any blended material, shall be thoroughly mixed with the required amount of water. After the mixing is complete, the material shall be transported to and spread on the underlying course without undue loss of the moisture content.*

*The Engineer may require additional and on-going monitoring of moisture content to ensure conformance with requirements.*

- h. Mix-in-Place PMB.** *Mix-in-Place PMB shall not be allowed.*

### **154-3 CONSTRUCTION METHODS**

**154-3.1 GENERAL.** *The subbase course shall be placed where designated on the plans or as directed by the Engineer. The material shall be shaped and thoroughly compacted within the tolerances specified.*

*Granular subbases which, due to grain sizes or shapes, are not sufficiently stable to support the construction equipment without movement shall be mechanically stabilized to the depth necessary to provide such stability as required by the Engineer. The mechanical stabilization shall principally include the addition of a fine-grained medium to bind the particles of the subbase material sufficiently to furnish a bearing strength, so that the course will not deform under the traffic of the construction equipment. The addition of the binding medium to the subbase material shall not increase the soil constants of that material above the limits specified.*

**154-3.2 OPERATION IN PITS.** *All work involved in clearing and stripping pits and handling unsuitable material encountered shall be performed by the Contractor at his own expense. The subbase material shall be obtained from pits or sources that have been approved. The material in the pits shall be excavated and handled in such manner that a uniform and satisfactory product can be secured.*

**154-3.3 PREPARING UNDERLYING COURSE.** *Before any subbase material is placed, the underlying course shall be prepared and conditioned as*

*specified. The course shall be checked and accepted by the Engineer before placing and spreading operations are started.*

*To protect the subgrade and to ensure proper drainage, the spreading of the subbase shall begin along the centerline of the pavement on a crowned section or on the high side of pavements with a one-way slope.*

**154-3.4 MATERIALS ACCEPTANCE IN EXISTING CONDITION.**

*When the entire subbase material is secured in a uniform and satisfactory condition and contains approximately the required moisture, such approved material may be moved directly to the spreading equipment for placing. The material may be obtained from gravel pits, stockpiles, or may be produced from a crushing and screening plant with the proper blending. The materials from these sources shall meet the requirements for gradation, quality, and consistency. It is the intent of this section of the specifications to secure materials that will not require further mixing. The moisture content of the material shall be approximately that required to obtain maximum density. Any minor deficiency or excess of moisture may be corrected by surface sprinkling or by aeration. In such instances, some mixing or manipulation may be required, immediately preceding the rolling, to obtain the required moisture content. The final operation shall be blading or dragging, if necessary, to obtain a smooth uniform surface true to line and grade.*

**154-3.5 PLANT MIXING.** *When materials from several sources are to be blended and mixed, the subbase material shall be processed in a central or travel mixing plant. The subbase material, together with any blended material, shall be thoroughly mixed with the required amount of water. After the mixing is complete, the material shall be transported to and spread on the underlying course without undue loss of the moisture content.*

**154-3.6 GENERAL METHODS FOR PLACING.** *The subbase course shall be constructed in layers. Any layer shall be not less than 3 inches nor more than 8 inches of compacted thickness. The subbase material shall be deposited and spread evenly to a uniform thickness and width. The material, as spread, shall be of uniform gradation with no pockets of fine or coarse materials. The subbase, unless otherwise permitted by the Engineer, shall not be spread more than 2,000 square yards in advance of the rolling. Any necessary sprinkling shall be kept within this limit. No material shall be placed in snow or on a soft, muddy, or frozen course.*

*When more than one layer is required, the construction procedure described herein shall apply similarly to each layer.*

*During the placing and spreading, sufficient caution shall be exercised to prevent the incorporation of subgrade, shoulder, or foreign material in the subbase course mixture.*

**154-3.7 FINISHING AND COMPACTING.** *After spreading or mixing, the subbase material shall be thoroughly compacted by rolling and sprinkling, when necessary. Sufficient rollers shall be furnished to adequately handle the rate of placing and spreading of the subbase course.*

*The field density of the compacted material shall be at least 100 percent of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite for airfield pavement subbase, and at least 95% for haul road surfacing. The laboratory specimens shall be compacted and tested in accordance with ASTM D 1557. The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2922. The moisture content of the material at the start of compaction shall not be below nor more than 2 percentage points above the optimum moisture content.*

*For material with more than 30% retained on the 3/4-inch sieve, AASHTO T180 should be used in lieu of D 1557.*

*If subbase material is free-draining and maintaining specified moisture content is difficult, the Engineer may specify an alternate minimum moisture content for placement and compaction of the material.*

*When nuclear density gauges are to be used for density determination, testing shall be in accordance with Section G-120 of these Specifications, Nuclear Gauges.*

*The course shall not be rolled when the underlying course is soft or yielding or when the rolling causes undulation in the subbase. When the rolling develops irregularities that exceed 1/2 inch when tested with a Contractor-provided 16-foot straightedge, the irregular surface shall be loosened and then refilled with the same kind of material as that used in constructing the course and again rolled as required above.*

*Along places inaccessible to rollers, the subbase material shall be tamped thoroughly with mechanical or hand tampers.*

*Sprinkling during rolling, if necessary, shall be in the amount and by equipment approved by the Engineer. Water shall not be added in such a manner or quantity that free water will reach the underlying layer and cause it to become soft.*

**154-3.8 ACCEPTANCE SAMPLING AND TESTING FOR DENSITY.** *Aggregate subbase course shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2400 square yards. A lot will consist of one-half day's production where a day's production is expected to consist of between 2400 and 4800 square yards.*

*Each lot shall be divided into two equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.*

*Each lot will be accepted for density when the field density is as specified in 154-3.7. The specimens shall be compacted and as specified in 154-3.7. The in-place field density shall be determined as specified in 154-3.7. If the specified density is not attained, the entire lot shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached.*

**154-3.9 SURFACE TEST.** *After the course is completely compacted, the surface shall be tested for smoothness and accuracy of grade and crown; any portion found to lack the required smoothness or to fail in accuracy of grade or crown shall be scarified, reshaped, recompacted, and otherwise manipulated as the Engineer may direct until the required smoothness and accuracy are obtained. The finished surface shall not vary more than 1/2 inch when tested with a Contractor-provided 16-foot straightedge applied parallel with, and at right angles to, the centerline.*

**154-3.10 THICKNESS.** *The thickness of the completed subbase course shall be determined by depth tests or sample holes taken at intervals so each test shall represent no more than 500 square yards. When the deficiency in thickness is more than 1/2 inch, the Contractor shall correct such areas by scarifying, adding satisfactory mixture, rolling, sprinkling, reshaping, and finishing in accordance with these specifications. The Contractor shall replace at his expense the subbase material where borings are taken for test purposes.*

*The use of survey for thickness determination is permitted.*

**154-3.11 PROTECTION.** *Work on subbase course shall not be conducted during freezing temperature nor when the subgrade is wet. When the subbase material contains frozen material or when the underlying course is, in the opinion of the Engineer, excessively wet, the construction shall be stopped.*

**154-3.12 MAINTENANCE.** *Following the final shaping of the material, the subbase shall be maintained throughout its entire length by the use of standard motor graders and rollers until, in the judgment of the Engineer, the subbase meets all requirements and is acceptable for the construction of the next course.*

#### **METHOD OF MEASUREMENT**

**154-4.1** *The yardage of subbase course to be paid for shall be the number of cubic yards of subbase course material placed, compacted, and accepted in the completed course. The quantity of subbase course material shall be*

*measured in final position based upon depth tests or cores taken as directed by the Engineer, or at the rate of 1 depth test for each 500 sq yd of subbase course, or by means of average end areas on the complete work computed from elevations to the nearest 0.01 ft. On individual depth measurements, thicknesses more than 1/2 in in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 in in computing the yardage for payment. Subbase materials shall not be included in any other excavation quantities.*

**BASIS OF PAYMENT**

**154-5.1** *Payment shall be made at the contract unit price per cubic yard for subbase course. This price shall be full compensation for furnishing all materials; for all preparation, hauling, and placing of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.*

*Payment will be made under:*

*Item P-154-1 Subbase Course.....per cubic yard*

**154-6 TESTING REQUIREMENTS**

<i>ASTM C 136</i>	<i>Sieve Analysis of Fine and Coarse Aggregates</i>
<i>ASTM D 422</i>	<i>Particle Size Analysis of Soils</i>
<i>ASTM D 1556</i>	<i>Density of Soil in Place by the Sand-Cone Method</i>
<i>ASTM D 1557</i>	<i>Test for Laboratory Compaction Characteristics of Soil Using Modified Effort</i>
<i>ASTM D 4318</i>	<i>Liquid Limit, Plastic Limit, and Plasticity Index of Soils</i>
<i>ASTM D 6938</i>	<i>Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)</i>
<i>AASHTO T180</i>	<i>Moisture-Density Relations of Soils Using a 10-lb. Rammer and a 18-in. Drop</i>

**END OF ITEM P-154**

**PART 2 - SUBMITTALS**

- 2.1** Submittals required for this item include, but are not limited to:  
A. Aggregate subbase

**END OF SECTION P-154**

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**SECTION P-156**

**TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION  
CONTROL**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall perform all work required by the plans and specifications for the temporary control of erosion, siltation, and pollution on the Airport in accordance with Section 701 – Water Pollution Control of the City Supplement to the 2012 Standard Specifications for Public Works Construction (the “WhiteBook”) and these special provisions. In case of conflict between these requirements, the more stringent requirement shall govern.
- B. Work includes providing and installing erosion control materials and maintaining them for the duration of the project – modifying where necessary to accommodate changes required as the project progresses. The Contractor shall carefully examine project sequencing and include costs for all installation, relocation, revision and maintenance of erosion control measures in his bid price.
- C. The Contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) and shall implement Best Management Practices (BMPs) in addition to the other requirements of this section.

**ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION,  
AND SILTATION CONTROL**

**156-1 DESCRIPTION.** *This item shall consist of temporary control measures as shown on the plans, or as ordered by the Engineer, required during the life of the contract to control water pollution, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, fiber mats, silt fences, fiber rolls, sand bags, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.*

*The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to ensure economical, effective, and continuous erosion control throughout the construction period.*

*Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.*

**156-2 MATERIALS**

**156-2.1 GRASS.** *Not Used*

**156-2.2 MULCHES.** *Not Used*

**156-2.3 FERTILIZER.** *Not Used.*

**156-2.4 SLOPE DRAINS.** *Not Used*

**156-2.5 SILT FENCES.** *Silt fence fabric shall be woven polypropylene with a minimum width of 36 inches and a minimum tensile strength of 0.45 kN. The fabric shall conform to the requirements in ASTM designation D4632 and shall have an integral reinforcement layer. The reinforcement layer shall be a polypropylene, or equivalent, net provided by the manufacturer. The permittivity of the fabric shall be between 0.1 sec<sup>-1</sup> and 0.15 sec<sup>-1</sup> in conformance with the requirements in ASTM designation D4491.*

**156-2.6 STABILIZED CONSTRUCTION ENTRANCES.** *Sediments and other materials may not be tracked from the construction site by vehicle traffic. The Contractor shall stabilize the entrance roadways so as to inhibit sediments from being deposited into the airport and public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.*

*At all points where construction traffic crosses airfield pavement, the Contractor shall install shaker plates or other devices to ensure that loose soil, rocks or other construction materials are not tracked onto the airfield pavement. In addition to other requirements in the contract documents for sweeper trucks, the Engineer may require sweeper trucks and operators to be dedicated during construction hours to all areas deemed to be likely sources of Foreign Object Debris (FOD) from such construction traffic.*

**156-2.7 OTHER.** *All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.*

**156-3 CONSTRUCTION REQUIREMENTS**

**156-3.1 GENERAL.** *In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.*

*The Contractor shall be responsible for ensuring compliance to the extent that construction practices, construction operations, and construction work are involved. The Engineer will monitor and inspect for compliance with the applicable regulations.*



**156-3.2 SCHEDULE.** *Prior to the start of construction, the Contractor shall submit schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits, and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer.*

*Several methods of controlling dust and other air pollutants exist, including exposing the minimum area of erodible earth; applying temporary mulch with or without seeding; using water sprinkler trucks; using covered haul trucks; using dust palliatives or penetration asphalt on haul roads; using plastic sheet coverings.*

**156-3.3 AUTHORITY OF ENGINEER.** *The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, to limit the surface area of erodible earth material exposed by excavation, borrow and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment.*

**156-3.4 CONSTRUCTION DETAILS.** *The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent erosion control work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.*

*Where erosion is likely to be a problem, demolition operations shall be scheduled and performed so that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages.*

*The Engineer will limit the area of demolition, excavation, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted*

*schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.*

*In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the Engineer, such work shall be performed by the Contractor at his/her own expense.*

*The Engineer may increase or decrease the area of erodible earth material to be exposed at one time as determined by analysis of project conditions.*

*The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.*

*Whenever construction equipment must cross watercourses at frequent intervals, and such crossings will adversely affect the sediment levels, temporary structures should be provided.*

*Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto. Harmful materials shall be any substances deleterious to water quality, and materials prohibited under Federal, State or local laws and regulations.*

**156-3.5 MAINTENANCE AND/OR REVISION OF EROSION CONTROL MEASURES.** *The Contractor shall be responsible for relocating or revising erosion control materials, devices and methods as the project sequencing advances. No additional payment will be made for additional erosion control measures needed to accommodate project sequencing. In addition, maintenance, including replacement of materials which have become worn or ineffective, shall be done in a timely manner at the sole expense of the Contractor.*

#### **METHOD OF MEASUREMENT**

**156-4.1** *Temporary Water Pollution, Soil Erosion, and Siltation Control will be paid at the contract lump sum price, which price shall constitute full compensation for all equipment, materials, labor, and supervision for providing and maintaining complete temporary erosion control services as described herein for the duration of the project.*

**156-4.2** *Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment*

*and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor with costs included in the contract prices bid for the items to which they apply.*

**BASIS OF PAYMENT**

*156-5.1 Temporary Water Pollution, Soil Erosion, and Siltation Control will be paid at the contract lump sum price, which price shall constitute full compensation for all equipment, materials, labor, and supervision for providing and maintaining complete temporary erosion control services as described herein for the duration of the project.*

*Payment will be paid for under:*

*Item P-156      Temporary Water Pollution, Soil Erosion, and Siltation Control  
..... per Lump Sum*

**END OF ITEM P-156**

**PART 2 - SUBMITTALS**

- 2.1 Submittals required for this item include, but are not limited to:
  - A. Materials
    - 1. Erosion control materials, methods or devices
    - 2. Fiber rolls
    - 3. Straw Bale Erosion Barrier

**END OF SECTION P-156**

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**SECTION P-215**

**BASE COURSE FROM RUBBLIZED CONCRETE PAVEMENTS**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall perform all work required by the plans and specifications for construction of base course from rubblized concrete pavements for airfield pavement as shown on the Plans. Work shall be done in accordance with FAA Specification Item P-215 as included and modified hereafter.

***ITEM P-215 BASE COURSE FROM RUBBLIZED CONCRETE PAVEMENTS***

***DESCRIPTION***

***215-1.1 GENERAL DESCRIPTION.*** This work consists of rubblizing and seating (rolling) the existing Portland cement concrete (PCC) pavement prior to placing a new bituminous concrete or PCC pavement. The work shall be accomplished in accordance with the standard specifications and details shown in the plans.

***MATERIALS***

***215-2.1 GENERAL.*** Only approved materials, conforming to the requirements of these specifications, shall be used in the work. They may be subjected to inspection and tests at any time during the progress of their preparation or use. The source of supply of each of the materials shall be approved by the Engineer before delivery or use is started. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to insure the preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed therein.

***215-2.2 PLANT MIX BITUMINOUS CONCRETE.*** Bituminous concrete for patching will be as described in Specification P-401. The weight in tons of the bituminous concrete patching material actually used in the work shall be determined in accordance with Item P-401.

**215-2.3 CRUSHED AGGREGATE BASE.** Aggregate base course for patching will be as described in Specification P-209. The weight in tons of the aggregate base course patching material actually used in the work shall be determined in accordance with Item P-209.

**215-2.4 UNCLASSIFIED EXCAVATION.** Unclassified excavation for patching will be the volume of materials removed in accordance with Specification P-152. The volume of material will be determined in accordance with Item P-152.

### **CONSTRUCTION METHODS**

**215-3.1 GENERAL.** The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified herein. All machinery and equipment owned or controlled by the Contractor, which he proposes to use on the work, shall be of sufficient size to meet the requirements of the work, and shall be such as to produce satisfactory work; all work shall be subject to the inspection and approval of the Engineer.

**215-3.2 RUBBLIZATION AND SEATING EQUIPMENT.** Rubblization shall be accomplished by the use of a pavement breaker machine that is capable of delivering sufficient energy to rubblize the pavement full-depth in a manner that completely destroys the concrete slab and all slab action. Sufficient seating equipment shall be used to thoroughly settle the rubblized concrete and to provide a smooth surface for the bituminous concrete overlay. The type of rubblization machine and the minimum types of associated rolling equipment used in the rubblization process shall be either the resonant breaker process or the multi-header breaker process. If necessary to achieve rubblization size requirements, Contractor may pre-fracture with a guillotine breaking device.

### **215-3.3 RESONANT BREAKER PROCESS.**

**215-3.3.1 Resonant Breaker Machine.** This is a self-contained, self-propelled resonant frequency breaker specifically designed for the purpose of rubblizing PCC pavement. The machine shall be capable of producing low-amplitude (1 inch maximum) blows of 2000 pounds force, and delivering blows to the existing PCC surface at a rate of not less than 44 cycles per second. If

*necessary, the breaker shall be equipped with a screen to protect nearby structures, vehicles or aircraft from flying chips during the fracturing process.*

**215-3.3.2 Resonant Breaker Seating Equipment.** *The contractor shall provide and use a smooth double steel drum vibratory roller. The roller shall have a gross weight of at least 10 tons, and be operated in the high frequency low amplitude vibratory mode, to settle and seat the rubblized pavement and provide a smooth surface for the bituminous concrete overlay.*

**215-3.4 MULTI-HEAD BREAKER PROCESS.**

**215-3.4.1 Multi-Head Breaker Machine.** *This is a self-contained, self-propelled multi-head breaker specifically designed for the purpose of rubblizing PCC pavement. The machine shall be capable of rubblizing the pavement a minimum width of 13 feet per pass. Pavement-breaking hammers shall be mounted laterally in pairs, with half the hammers in a forward row and the remainder diagonally offset in a rear row so there is continuous breakage from side to side. The lift height of the hammers shall be independently adjustable. If necessary, the breaker shall be equipped with a screen to protect vehicles from flying chips during the fracturing process.*

**215-3.4.2 Multi-Head Breaker Seating Equipment.**

**215-3.4.2.1** *The contractor shall provide and use the following seating equipment:*

**215-3.4.2.1.1 Z-Grid Roller.** *This is a vibratory steel drum roller fitted with a "Z" pattern grid on the drum face. The roller shall have a gross weight of at least 10 tons, as operated in the vibratory mode, to settle and seat the rubblized pavement, and provide a smooth surface for the bituminous concrete overlay.*

**215-3.4.2.1.2 Pneumatic-Tire Roller.** *A pneumatic-tire roller with a gross weight of at least 10 tons shall be used after the Z-grid roller to further settle and seat the rubblized pavement.*

**215-3.4.2.1.3 Smooth Steel Drum Vibratory Roller.** *The contractor shall provide and use a smooth steel drum vibratory roller. The roller shall have a*

*gross weight of at least 10 tons as operated in the vibratory mode, to settle and seat the rubblized pavement and provide a smooth surface for the bituminous concrete overlay.*

**215-3.4.2.2** *Rubblization machines and rollers of other design that will accomplish similar results may also be used with the approval of the Engineer. All rubblization and seating equipment necessary to perform the work will be considered essential to the completion of the project, and will not be paid for separately.*

**215-3.5 CONSTRUCTION REQUIREMENTS.**

**215-3.5.1 Preparation Prior to Rubblization.**

**215-3.5.1.1 Drainage System Installation.** *Prior to rubblization operations, drainage systems as specified on the plans shall be installed. Drainage systems shall be properly functioning for a minimum of two weeks prior to rubblization.*

**215-3.5.1.2 Removal of Existing Asphalt Surfaces.** *Prior to the rubblization operations, existing asphalt overlays and patches shall be removed from the PCC pavement surfaces to be rubblized. Existing full-depth asphalt patches shall remain in place, unless directed for removal by the Engineer.*

**215-3.5.1.3 Saw-Cut Joints.** *A new full-depth saw-cut joint shall be made along an existing joint at all pavements where rubblized PCC abuts pavement that will remain in place. All load transfer devices between the planned rubblization and PCC pavement remaining in place shall be severed.*

**215-3.5.1.4 Shouldering.** *Shoulder adjustments and/or any pavement widening shall be completed up to the elevation of the existing pavement grade prior to beginning the rubblization operations. These areas can be used to support the rubblization machines while the existing PCC pavement is being rubblized.*



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**215-3.5.2 Test Strip and Test Pit to Establish Procedure.**

**215-3.5.2.1 Test Strip.** Before the rubblization operations begin, the Engineer will designate a test section of approximately 150 feet by 12 feet. The contractor shall rubblize the test section using varying degrees of energy and/or various striking heights until a procedure is established that will rubblize the pavement to the required extent as contained in these specifications.

**215-3.5.2.2 Test Pit.** A 4-foot square test pit shall be excavated in the middle of the test strip, at a location selected by the Engineer, to determine that the breaker is producing pieces of the specified sizes as contained in these specifications. The rubblized particle sizes shall be checked throughout the entire depth of the pavement. The test pit material shall be removed from the project and the hole filled using coarse aggregate material as determined by the Engineer. The replacement material shall be placed and properly compacted by the contractor.

**215-3.5.2.3** The Engineer and the contractor shall mutually agree upon the rubblization procedure based upon compliance with the performance criteria contained herewithin. The established procedure shall be used to rubblize the remainder of the pavement. The contractor shall continuously monitor the rubblization operation, and make minor adjustments in the striking pattern, striking energy, number of passes, and other factors necessary to continually achieve acceptable breaking throughout the project. The contractor shall inform the Engineer of any major adjustments that may be required in the process to provide rubblized pavement that conforms to the specification requirements contained herein. Additional test pits may be required by the Engineer to confirm that the PCC pavement is adequately rubblized.

**215-3.6 RUBBLIZATION CRITERIA**

**215-3.6.1** The existing concrete pavement shall be rubblized into particles with at least 75% (as determined by visual observation) particles smaller than: 3 inches at surface; 12 inches in bottom half. For reinforced Portland cement concrete (RPCC) pavement, the reinforcing steel shall be substantially debonded from the concrete and left in place, unless protruding above the surface. Concrete pieces below the reinforcing steel shall be reduced to the greatest possible extent, and no individual piece shall exceed 15 inches in any dimension.

**215-3.6.2** *Due to lack of edge support, concrete pieces below the reinforcing steel up to 15 inches in any dimension will be accepted along the outside edge of the existing PCC pavement, up to 15 inches from the edge.*

**215-3.7 GENERAL RUBBLIZATION PROCEDURES.**

**215-3.7.1** *The rubblization shall be done in partial widths when necessary to maintain traffic as shown on the plans and contained in the contract documents.*

**215-3.7.2** *When the rubblization process is adjacent to active pavement, measures shall be taken to prevent debris from entering the active pavement.*

**215-3.7.3** *In areas where the pavement is to be overlaid prior to completion of the rubblization, the initial rubblization will extend a minimum of 2 feet beyond the width of the pavement to be overlaid.*

**215-3.7.4** *For the resonant breaker process, rubblizing shall begin at a free edge or previously broken edge and progress toward the opposite shoulder or longitudinal centerline of the pavement. Continuous coverage of the entire PCC pavement surface, overlapped if necessary to achieve adequate rubblization with the breaking shoe, shall be required. Additional passes of the resonant breaker machine may be required if larger concrete pieces remain above the reinforcement.*

**215-3.8 DUST CONTROL.** *The contractor shall minimize the dispersion of dust from the rubblization operation until the rubblized surface is overlaid with bituminous concrete. The contractor shall provide a water truck, operator, and all water necessary for dust-control purposes. Excessive water shall not be applied to the rubblized surface. Dust control is incidental to the rubblization process and will not be paid for separately. The Engineer shall approve dust-mitigation measures.*

**215-3.9 DAMAGE TO BASE, UNDERLYING STRUCTURES, AND OTHER**

**FACILITIES.** *The rubblization machine and rollers shall be operated in a*

*manner that will avoid damaging the base, underlying structures, utilities, drainage facilities, bridge approach slabs, bridge decks, and other facilities on the project. If any damage occurs, the contractor shall immediately cease his operations, notify the Engineer, and repair the damage at the direction of the Engineer. Repairs shall be made in a timely manner and at the expense of the contractor.*

**215-3.10 REMOVAL OF EXPOSED REINFORCING STEEL.** *Reinforcing steel in the rubblized pavement, if any, shall generally be left in place. Reinforcing steel that becomes exposed at the surface during the rubblization process or rolling operations shall be cut flush with the rubblized surface, or slightly below the surface, and removed from the project by the contractor. The contractor shall also remove any loose joint filler, expansion materials, or other similar items.*

**215-3.11 SEATING PROCEDURES.**

**215-3.11.1** *The contractor shall use the rolling equipment contained in these specifications as described below.*

**215-3.11.1.1 Resonant Breaker Process.** *The rubblized PCC pavement shall be rolled with a minimum of three passes over the entire width of the pavement with a vibratory steel drum roller. For this operation, a pass is defined as forward and back over the entire surface area. The Engineer may require additional passes to satisfactorily seat the rubblized pavement and provide a smooth surface that is ready for the bituminous concrete overlay. The roller shall be operated at a speed not to exceed 6 feet per second.*

**215-3.11.1.2 Multi-Head Breaker Process.**

**215-3.11.1.2.1** *Prior to placing the bituminous concrete overlay, the entire width of the pavement shall be rolled by vibratory and pneumatic-tire rollers following the sequence contained herein. For this operation, a pass is defined as forward and back over the entire surface area.*

**215-3.11.1.2.1.1** *After rubblizing, a minimum of two passes with the Z-grid roller shall follow the multi-head breaker machine, followed by a minimum of one pass with the pneumatic-tire roller.*

**215-3.11.1.2.1.2** *Immediately prior to bituminous concrete overlay, roll a minimum of one pass with the vibratory steel drum roller.*

**215-3.11.1.2.2** *The Engineer may require additional passes of the rolling equipment to satisfactorily compact the rubblized pavement and provide a smooth surface that is ready for the bituminous concrete overlay. Additional rolling at the direction of the Engineer shall be considered incidental to the work, and will not be paid for separately. Rolling should not be performed in wet conditions.*

**215-3.12 UNSTABLE AREA PATCHING.**

**215-3.12.1** *If unstable areas occur because of expansion of the existing concrete pavement, they shall be removed to a maximum length of 4 feet in length by 12 feet in width and replaced with full-depth bituminous concrete (patching) at the direction of the Engineer. Patching procedures shall conform to the standard specifications, and shall be completed prior to placing the bituminous concrete overlay. Patching will be paid for as a separate bid item as provided in the appropriate Specification Item.*

**215-3.12.2** *Areas of poor subgrade support that are identified during the rubblization and seating process shall be patched at the direction of the Engineer. Generally, the rubblized pavement, base course, and subgrade material will be removed from unstable areas. The material will be replaced with aggregate base course or hot mix asphalt as directed and compacted in lifts as required in the standard specifications.*

**215-3.13 PROGRESS OF THE WORK.** *In no instance shall more than 48 hours elapse between rubblizing the pavement and the placement of the bituminous concrete overlay. If rain occurs between these operations, this time limitation may be waived to allow sufficient time for the rubblized pavement to dry to the satisfaction of the Engineer.*

**METHOD OF MEASUREMENT**

**215-4.1 MEASUREMENT.** *Rubblization of concrete pavement will be measured by the square yard.*

***BASIS OF PAYMENT***

***215-5.1 CONCRETE PAVEMENT RUBBLIZATION.*** This item shall include full compensation for rubblizing the existing PCC pavement, rolling the pavement, and for all equipment, tools, labor and incidentals necessary to complete the work. In addition, this item shall include full compensation for all labor, equipment, tools, and incidentals necessary to furnish and apply water for dust control, provide test sections and test pits, saw-cut joints, cut and remove exposed concrete reinforcing material, remove joint filler and other debris, cleanup, waste removal and disposal, and preparation of the rubblized surface prior to the bituminous concrete overlay.

*Payment will be made under:*

*Item P-215-1 Rubblization .....per square yard*

***END OF ITEM P-215***

***END OF SECTION P-215***

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## SECTION P-401

### PLANT-MIX BITUMINOUS PAVEMENT

#### PART 1 - GENERAL

##### 1.1 GENERAL

- A. The Contractor shall perform all work required by the plans and specifications for construction of Asphalt Concrete Surface Course for Runways and Taxiways as shown on the plans and in accordance with FAA Specification Item P-401 as included and modified herein. In addition, for topics relevant to the construction of Asphalt Concrete Surface Course which are not addressed in P-401, Sections 203 and 302 of the Standard Specifications shall be applicable unless otherwise stipulated.
- B. Unless otherwise indicated on the plans, asphalt concrete for full strength airfield pavement covered under this section shall be used for:
  1. Surface Courses for pavement serving aircraft > 12,500# gross weight

#### **ITEM P-401 PLANT MIX BITUMINOUS PAVEMENTS**

##### **401-1 DESCRIPTION**

*This item shall consist of pavement courses composed of mineral aggregate and bituminous material mixed in a central mixing plant and placed on a prepared course in accordance with these specifications, and courses shall conform to the lines, grades, thicknesses, and typical cross sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.*

##### **401-2 MATERIALS**

**401-2.1 AGGREGATE.** *Aggregates shall consist of crushed stone, crushed gravel, or crushed slag with or without natural sand or other inert finely divided mineral aggregate. The portion of combined materials retained on the No. 4 sieve is coarse aggregate. The portion of combined materials passing the No. 4 sieve and retained on the No. 200 sieve is fine aggregate, and the portion passing the No. 200 sieve is mineral filler.*

**a. Coarse Aggregate.** *Coarse aggregate shall consist of sound, tough, durable particles, free from adherent films of matter that would prevent thorough coating and bonding with the bituminous material and shall be free from organic matter and other deleterious substances. The percentage of wear*

*shall not be greater than 40 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 12 percent, or the magnesium sulfate soundness loss shall not exceed 18 percent, after five cycles, when tested in accordance with ASTM C 88.*

*Aggregate shall contain at least 70 percent by weight of individual pieces having two or more fractured faces and 85 percent by weight having at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by crushing.*

*The aggregate shall not contain more than a total of 8 percent, by weight, of flat particles, elongated particles, and flat and elongated particles, when tested in accordance with ASTM D 4791 with a value of 5:1.*

*Slag shall be air-cooled, blast furnace slag, and shall have a compacted weight of not less than 70 pounds per cubic foot when tested in accordance with ASTM C 29.*

**b. Fine Aggregate.** *Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone, slag, or gravel that meets the requirements for wear and soundness specified for coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls.*

*The fine aggregate, including any blended material for the fine aggregate, shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.*

*The soundness loss shall not exceed 10% when sodium sulfate is used or 15% when magnesium sulfate is used, after five cycles, when tested per ASTM C88.*

*Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. The fine aggregate shall not contain more than 15 percent natural sand by weight of total aggregates. If used, the natural sand shall meet the requirements of ASTM D 1073 and shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.*

*The aggregate shall have sand equivalent values of 45 or greater when tested in accordance with ASTM D 2419.*



**c. Sampling.** *ASTM D 75 shall be used in sampling coarse and fine aggregate, and ASTM C 183 shall be used in sampling mineral filler.*

**d. Sources of Aggregates.** *Sources of aggregates shall be selected well in advance of the time the materials are required in the work. When the aggregates are obtained from a previously approved source, or an existing source producing aggregates that has a satisfactory service record in airport bituminous pavement construction for at least 5 years, samples shall be submitted 21 days prior to start of production. An inspection of the producer's operation will be made by the Engineer. When new sources are to be developed, the Contractor shall indicate the sources and shall submit a plan for operation 30 days in advance of starting production. Samples from test pits, borings, and other excavations shall be submitted at the same time. Approval of the source of aggregate does not relieve the Contractor in any way of the responsibility for delivery at the job site of aggregates that meet the requirements specified herein.*

**e. Samples of Aggregates.** *If requested by the Engineer, samples of aggregates shall be furnished by the Contractor at the start of production, and at intervals during production of bituminous mixtures. The sampling points and intervals will be designated by the Engineer. The samples will be the basis of approval of specific lots of aggregates from the standpoint of the quality requirements of this section. The Contractor shall furnish documentation and samples to the Engineer confirming that the aggregates meet the specification requirements.*

**401-2.2 MINERAL FILLER.** *If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D 242.*

**401-2.3 ASPHALT CEMENT BINDER.** *Asphalt cement binder shall conform to ASTM D6373 Performance Grade (PG) 76-22 M. A certificate of compliance from the manufacturer shall be included with the mix design submittal.*

*The supplier's certified test report with test data indicating grade certification for the asphalt binder shall be provided to the Engineer for each load at the time of delivery to the mix plant. A certified test report with test data indicating grade certification for the asphalt binder shall also be provided to the Engineer for any modification of the asphalt binder after delivery to the mix plant and before use in the HMA.*

**401-2.4 PRELIMINARY MATERIAL ACCEPTANCE.** *Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials:*

**a. Coarse Aggregate**

- (1) Percent of wear.
- (2) Soundness.
- (3) Clay lumps and friable particles
- (4) Percent fractured faces.
- (5) Flat and elongated particles
- (6) Unit weight of slag

**b. Fine Aggregate**

- (1) Liquid limit and Plasticity index.
- (2) Soundness
- (3) Clay lumps and friable particles
- (4) Percent natural sand
- (5) Sand equivalent.

**c. Mineral Filler**

- d. Asphalt Binder.** Test results for bituminous material shall include temperature/viscosity charts for mixing and compaction temperatures.

The certification(s) shall show the appropriate ASTM test(s) for each material, the test results, and a statement that the material meets the specification requirement.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

**401-2.5 ANTI-STRIPPING AGENT.** Any anti-stripping agent or additive if required shall be heat stable, shall not change the asphalt cement viscosity beyond specifications, shall contain no harmful ingredients, shall be added in recommended proportion by approved method, and shall be a material approved by the California Department of Transportation, Caltrans.

**401-3 COMPOSITION**

**401-3.1 COMPOSITION OF MIXTURE.** The bituminous plant mix shall be composed of a mixture of well-graded aggregate, filler, anti-strip agent

*if required, and bituminous material. The several aggregate fractions shall be sized, handled in separate size groups and shall be combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).*

**401-3.2 JOB MIX FORMULA.** *No bituminous mixture for payment shall be produced until a job mix formula has been approved in writing by the Engineer. The bituminous mixture shall be designed using procedures contained in Chapter 5, Marshall Method of Mix Design, of the Asphalt Institute's Manual Series No. 2 (MS-2), Mix Design Methods for Asphalt Concrete, sixth edition, except ASTM D 6926 and ASTM D 6927 shall be used. The manual hammer in ASTM D 6826 shall be used for the mix design procedure.*

*The design criteria in Table 1 are target values necessary to meet the acceptance requirements contained in paragraph 401-5.2b. The criteria are based on a production process which has a material variability with the following standard deviations:*

*Stability (lbs.) = 270*

*Flow (0.01 inch) = 1.5*

*Air Voids (%) = 0.65*

*If material variability exceeds the standard deviations indicated, the job mix formula and subsequent production targets shall be based on a stability greater than shown in Table 1, and the flow and air voids shall be targeted close to the mid-range of the criteria in order to meet the acceptance requirements.*

*Tensile Strength Ratio (TSR) of the composite mixture, as determined by ASTM D 4867, shall not be less than 75. Anti-stripping agent shall be added to the asphalt, as necessary, to produce a TSR of not less than 75. If an anti-strip agent is required, it will be provided by the Contractor at no additional cost to the Owner.*

*The job mix formula shall be submitted in writing by the Contractor to the Engineer at least 30 days prior to the start of paving operations and shall include as a minimum:*

- a. Percent passing each sieve size for total combined gradation, individual gradation of all aggregate stockpiles and percent by weight of each stockpile used in the job mix formula.*
- b. Percent of asphalt cement.*
- c. Asphalt performance, viscosity or penetration grade, and type of modifier if used.*

- d. Number of blows of hammer compaction per side of molded specimen.*
- e. Mixing temperature.*
- f. Compaction temperature.*
- g. Temperature of mix when discharged from the mixer.*
- h. Temperature-viscosity relationship of the PG asphalt cement binder showing the acceptable range of mixing and compaction temperatures.*
- i. Plot of the combined gradation on the Federal Highway Administration (FHWA) 45 power gradation curve.*
- j. Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight versus asphalt content.*
- k. Percent natural sand.*
- l. Percent fractured faces.*
- m. Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).*
- n. Tensile Strength Ratio (TSR).*
- o. Anti-strip agent (if required).*
- p. Date the job mix formula was developed.*

*The Contractor shall submit to the Engineer the results of verification testing of three (3) asphalt samples prepared at the optimum asphalt content. The average of the results of this testing shall indicate conformance with the job mix formula requirements specified in Tables 1, 2 and 3.*

*When the project requires asphalt mixtures of differing aggregate gradations, a separate job mix formula and the results of job mix formula verification testing must be submitted for each mix.*

*The job mix formula for each mixture shall be in effect until a modification is approved in writing by the Engineer. Should a change in sources of materials be made, a new job mix formula must be submitted within 15 days and approved by the Engineer in writing before the new material is used. After the initial production job mix formula(s) has/have been approved by the Engineer and a new or modified job mix formula is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified job mix formula will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified job mix formula.*

*Job mix formula not developed within the previous 90 days-will not be accepted.*

<b>TABLE 1. MARSHALL DESIGN CRITERIA</b>	
<b>Test Property</b>	<b>Criteria</b>
Number of blows	75
Stability, pounds minimum	2,150
Flow, 0.01 in.	10-14
Air voids (percent)	2.8 - 4.2
Percent voids in mineral aggregate, minimum	See Table 2

<b>TABLE 2 MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE</b>	
<b>Maximum Particle Size</b>	<b>Minimum Voids in Mineral Aggregate</b>
in.	Percent
1/2	14
3/4	13
1	12
1-1/4	11

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM C 136 and C 117. Unless otherwise specified, the Contractor shall select one gradation from those in Table 3, appropriate to the lift thickness as stated herein.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF), shall have a gradation within the limits designated in Table 3 and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine. Mixes may be submitted with any of the approved gradations listed in Table 3, except that the

*maximum aggregate size for any mix shall not be more than one-half the thickness of the lift for which it is intended.*

<b>TABLE 3</b>			
<b>AGGREGATE – BITUMINOUS PAVEMENTS – P-401</b>			
<b>Sieve Size</b>	<b>Percentage by Weight Passing Sieves</b>		
	<b>1-1/4 inch Max</b>	<b>1 inch Max</b>	<b>3/4 inch Max</b>
1-1/4 in.	100	-	-
1 in.	86-98	100	-
3/4 in.	68-93	76-98	100
1/2 in.	57-81	66-86	79-99
3/8 in.	49-69	57-77	68-88
No. 4	34-54	40-60	48-68
No. 8	22-42	26-46	33-53
No. 16	13-33	17-37	20-40
No. 30	8-24	11-27	14-30
No. 50	6-18	7-19	9-21
No. 100	4-12	6-16	6-16
No. 200	3-6	3-6	3-6
Asphalt percent	4.5-7.0	4.5-7.0	5.0-7.5

*Deviations from the final approved mix design for bitumen content and gradation of aggregates shall be within the action limits for individual measurements as specified in paragraph 401-6.5a. The limits still will apply if they fall outside the master grading band in Table 3.*

*The maximum size aggregate used shall not be more than one-half of the thickness of the course being constructed, except where otherwise shown on the plans or approved by the Engineer.*

*The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated into the Asphalt Institute Manual Series No. 2 (MS-2), Chapter 3.*

**401-3.3 RECYCLED ASPHALT CONCRETE.** *Section not used.*

**401-3.4 JOB MIX FORMULA (JMF) LABORATORY.** *The Contractor's laboratory used to develop the JMF shall be accredited in accordance with ASTM D3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the JMF must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.*

**401-3.5 TEST SECTION.** *Prior to full production, the Contractor shall prepare and place a quantity of bituminous mixture according to the job mix formula. The amount of mixture shall be sufficient to construct a test section 300 ft. long and 20 ft. wide, placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. A cold joint is an exposed construction joint at least 4 hours old or whose mat has cooled to less than 160° F. The cold joint must be cut back using the same procedure that will be used during production in accordance with 401-4.13. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in construction of the test section shall be the same type and weight to be used on the remainder of the course represented by the test section*

*The test section shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 401-5.1 and 401-5.2. The test section shall be divided into equal sublots. As a minimum the test section shall consist of 3 sublots.*

*The test section shall be considered acceptable if; 1) stability, flow, mat density, air voids, and joint density are 90 percent or more within limits, 2) gradation and asphalt content are within the action limits specified in paragraphs 401-6.5a and 5b, and 3) the voids in the mineral aggregate are within the limits of Table 2.*

*If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the*

specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable section has been constructed and accepted in writing by the Engineer. Once an acceptable test section has been placed, payment for the initial test section and the section that meets specification requirements shall be made in accordance with paragraph 401-8.1.

Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the job mix formula. If aggregates produced by the plant do not satisfy the gradation requirements or produce a mix that meets the JMF, it will be necessary to reevaluate and redesign the mix using plant-produced aggregates. Specimens shall be prepared and the optimum bitumen content determined in the same manner as for the original design tests.

The Contractor will not be allowed to place the test section until the Contractor Quality Control Program, showing conformance with the requirements and Paragraph 401-6.1, has been approved, in writing, by the Engineer.

#### **401-4 CONSTRUCTION METHODS**

**401-4.1 WEATHER LIMITATIONS.** The bituminous mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.

<b>TABLE 4 BASE TEMPERATURE LIMITATIONS</b>	
<b>Mat Thickness</b>	<b>Deg. F (Deg. C)</b>
3 in. or greater	40 (4)
Greater than 1 in. but less than 3 in.	45 (7)
1 in. or less	50 (10)

**401-4.2 BITUMINOUS MIXING PLANT.** Plants used for the preparation of bituminous mixtures shall conform to the requirements of ASTM D 995 with the following changes:

**a. Requirements for All Plants.**



- (1) Truck Scales.** *The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. Scales shall have a certificate signed by a licensed weigh master shall be supplied for all material delivered to the site.*

*In lieu of scales, and if approved by the Engineer, asphalt mixture weights may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total paving mixture. Contractor must furnish calibration certification of the weighing system prior to mix production and as often thereafter as requested by the Engineer.*

- (2) Testing Facilities.** *The Contractor shall provide laboratory facilities at the plant for the use of the Engineer's acceptance testing and the Contractor's quality control testing. The Engineer will always have priority in the use of the laboratory. The lab shall have sufficient space and equipment so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The lab shall also meet the requirements of ASTM D 3666.*

*The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-1/2 feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 degrees F +/- 5 degrees F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials.*

*Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities.*

*The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.*

*As a minimum, the plant testing laboratory shall have:*

- (a) *Adequate artificial lighting*
- (b) *Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.*
- (c) *Fire extinguishers (2), Underwriter's Laboratories approved*
- (d) *Work benches for testing, minimum 2-1/2 feet by 10 feet.*
- (e) *Desk with 2 chairs*
- (f) *Sanitary facilities convenient to testing laboratory*
- (g) *Exhaust fan to outside air, minimum 12 inch blade diameter*
- (h) *A direct telephone line and telephone including a FAX machine operating 24 hours per day, seven days per week*
- (i) *File cabinet with lock for Engineer*
- (j) *Sink with running water, attached drain board and drain capable of handling separate material*
- (k) *Metal stand for holding washing sieves*
- (l) *Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates*
- (m) *Mechanical shaker and appropriate sieves (listed in JMF, Table 3) meeting the requirements of ASTM E-11 for determining the gradation of coarse and fine aggregates in accordance with ASTM C 136*
- (n) *Marshall testing equipment meeting ASTM D 6926, ASTM D 6927, manual and automatic compaction equipment capable of compacting three specimens at once and other apparatus as specified in ASTM C 127, D 2172, D 2726, and D 2041*
- (o) *Oven, thermostatically controlled, inside minimum 1 cubic foot*
- (p) *Two volumetric specific gravity flasks, 500 cc*
- (q) *Other necessary hand tools required for sampling and testing*

- (r) *Library containing contract specifications, latest ASTM volumes 4.01, 4.02, 4.03 and 4.09, AASHTO standard specification parts I and II, and Asphalt Institute Publication MS-2.*
- (s) *Equipment for Theoretical Specific Gravity testing including a 4,000 cc pycnometer, vacuum pump capable of maintaining 30 ml mercury pressure and a balance, 16-20 kilograms with accuracy of 0.5 grams*
- (t) *Extraction equipment, centrifuge and reflux types and ROTOflex equipment*
- (u) *A masonry saw with diamond blade for trimming pavement cores and samples*
- (v) *Telephone*

*Approval of the plant and testing laboratory by the Engineer requires all facilities and equipment to be in good working order during production, sampling and testing. Failure to provide the specified facilities shall be sufficient cause for disapproving bituminous plant operations.*

The Owner shall have access to the lab and the plant whenever Contractor is in production.

**(3) Inspection of Plant.** *The Engineer, or Engineer's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.*

**(4) Storage Bins and Surge Bins.** *Use of surge and storage bins for temporary storage of hot bituminous mixtures will be permitted as follows:*

- (a) *The bituminous mixture may be stored in surge bins for a period of time not to exceed 3 hours.*
- (b) *The bituminous mixture may be stored in insulated storage bins for a period of time not to exceed 24 hours.*

*The bins shall be such that mix drawn from them meets the same requirements as mix loaded directly into trucks.*

*If the Engineer determines that there is an excessive amount of heat loss, segregation, or oxidation of the mixture due to temporary storage, no temporary storage will be allowed.*

**401-4.3 HAULING EQUIPMENT.** Trucks used for hauling bituminous mixtures shall have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, the truck beds shall be lightly coated with a minimum amount of an approved asphalt release agent. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

**a. Material transfer vehicle (MTV).** Material transfer vehicles used to transfer the material from the hauling equipment to the paver, shall use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.

**401-4.4 BITUMINOUS PAVERS.** Bituminous pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of bituminous plant mix material that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

The paver shall have a receiving hopper of sufficient capacity to permit a continuous and uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers shall be setup for nominal 12.5' paving lanes with screed extensions and augers installed to provide a continuous supply of mix in front of the screed. Consideration should be given to utilizing pavers set up for paving 25' lane widths to minimize the number of longitudinal joints to be tested.

The paver shall be equipped with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the

*proper elevation to obtain the required surface. Paving operations utilizing slope control will not be allowed.*

*The controls shall be capable of working in conjunction with any of the following attachments:*

- a. Ski-type device of not less than 30 feet in length.*
- b. Taut stringline (wire) set to grade.*
- c. Short ski or shoe.*
- d. Laser control.*

*If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.*

**401-4.5 ROLLERS.** *Rollers of the vibratory, steel wheel, and pneumatic-tired type shall be used. They shall be in good condition, capable of operating at slow speeds to avoid displacement of the bituminous mixture. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.*

*All rollers shall be specifically designed and suitable for compacting hot mix bituminous concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used. Depressions in pavement surfaces caused by rollers shall be repaired by the Contractor at its own expense.*

*The use of equipment that causes crushing of the aggregate will not be permitted.*

**401-4.6 Nuclear Densometer.** *The Contractor shall have on site a nuclear densometer during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the nuclear densometer and obtain accurate density readings for all new bituminous concrete. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the nuclear densometer or technician.*

**401-4.7 PREPARATION OF BITUMINOUS MATERIAL.** *The bituminous material shall be heated in a manner that will avoid local*

*overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature. The temperature of the bituminous material delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325 degrees F (160 degrees C), unless otherwise required by the manufacturer.*

**401-4.8 PREPARATION OF MINERAL AGGREGATE.** *The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350 degrees F (175 degrees C) when the asphalt is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.*

**401-4.9 PREPARATION OF BITUMINOUS MIXTURE.** *The aggregates and the bituminous material shall be weighed or metered and introduced into the mixer in the amount specified by the job mix formula.*

*The combined materials shall be mixed until the aggregate obtains a uniform coating of bitumen and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D 2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all bituminous mixtures upon discharge shall not exceed 0.5 percent.*

*For batch plants, wet mixing time begins with the introduction of bituminous material into the mixer and ends with the opening of the mixer discharge gate. Distribution of aggregate and bituminous material as they enter the pugmill, speed of mixer shafts, and arrangement and pitch of paddles are factors governing efficiency of mixing. Prolonged exposure to air and heat in the pugmill harden the asphalt film on the aggregate. Mixing time, therefore, should be the shortest time required to obtain uniform distribution of aggregate sizes and thorough coating of aggregate particles with bituminous material.*

**401-4.10 PREPARATION OF THE UNDERLYING SURFACE.** *Immediately before placing the bituminous mixture, the underlying course shall*

*be cleaned of all dust and debris. A prime coat or tack coat shall be applied in accordance with Sections P-602 and P-603 of these specifications (Bituminous Prime Coat and Bituminous Tack Coat, FAA Items P-602 or P-603, respectively). A tack coat shall be applied in accordance with Section P-603 when paving on existing paved surfaces, including asphalt base course, and shall be applied between all lifts of multiple lift asphalt paving, regardless of age.*

**401-4.11 LAYDOWN PLAN, TRANSPORTING, PLACING, AND FINISHING.** *Prior to the placement of the bituminous mixture, the Contractor shall prepare a laydown plan for approval by the Engineer. This is to minimize the number of cold joints in the pavement. The laydown plan shall include the sequence of paving laydown by stations, width of lanes, temporary ramp location(s), and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (i.e. milling, paving, rolling, cooling, etc.). Modifications to the laydown plan shall be approved by the Engineer.*

*The bituminous mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements of paragraph 401-4.3. Deliveries shall be scheduled so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.*

*For all runway, taxiway and apron pavements, the Contractor shall use a stringline to place each lane of each lift of bituminous surface course. However, at the Contractor's option, Contractor shall use stringline for first lift of bituminous surface course and then survey the grade of that lift. Provided grades of that lift of bituminous surface course meet the tolerances of paragraphs 401-5.2b(6), then Contractor may place successive lifts of bituminous surface course using a long ski, or laser control per paragraph 401-4.4. However, Contractor shall survey each lift of bituminous surface course and certify to Engineer that every lot of each lift meets the grade tolerances of paragraph 401-5.2b(6) before the next lift can be placed without a stringline. If the grades of a single lot do not meet the tolerances of 401-5.2b(6), then the Contractor shall use a stringline for each entire lift. Corrective action in paragraph 401-5.2b(6) applies to the final lift of surface course; however, for multiple lift construction, the Contractor shall correct to ensure the final lift of surface course is a nominal 3 inches or as dictated by the typical sections.*

*The Contractor shall use a material transfer vehicle to deliver mix to the paver for all work on the runway.*

*The initial placement and compaction of the mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250 degrees F (121 degrees C). The Contractor shall provide a thermometer onsite to test the temperature of each truck load.*

*Edges of existing bituminous pavement abutting the new work shall be saw cut and carefully removed as shown on the drawings and painted with bituminous tack coat before new material is placed against it.*

*Upon arrival, the mixture shall be placed to the full width by the asphalt paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 12.5 ft except where edge lanes require less width to complete the area. Additional screed sections shall not be attached to widen paver to meet the minimum lane width requirements specified above unless additional auger sections are added to match. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot; however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet from transverse joints in the previous course.*

*Transverse joints in adjacent lanes shall be offset a minimum of 10 feet except as dictated when utilizing off peak paving techniques.*

*On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. Areas of segregation in the surface course, as determined by the Engineer, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of 2 inches deep. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.*

**401-4.12 COMPACTION OF MIXTURE.** *After placing, the mixture shall be thoroughly and uniformly compacted by power rollers. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor.*

*The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any*



*displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.*

*Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained.*

*To prevent adhesion of the mixture to the roller, the wheels shall be equipped with a scraper and kept properly moistened using a water soluble asphalt release agent approved by the Engineer. Excessive water will not be permitted.*

*In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power driven tampers. Tampers shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.*

*Any mixture that becomes loose and broken, mixed with dirt, contains check cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.*

**401-4.13 JOINTS.** *The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.*

*The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint.*

*Longitudinal joints which are irregular, damaged, uncompacted, or otherwise defective, or which have been left exposed for more than 4 hours, or whose surface temperature has cooled to less than 160° F, shall be cut back 6 inches to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be clean, dry and given a tack coat of bituminous tack prior to placing any fresh mixture against the joint. The cost of this work and tack coat shall be considered incidental to the cost of the bituminous course.*

**401-4.14 SKID RESISTANT SURFACES/SAW-CUT GROOVING.**

*Not Used*

**401-4.15 NIGHTTIME PAVING.** *Paving during nighttime construction shall require the following:*

- a. All paving machines, rollers, distribution trucks and other vehicles required by the Contractor for his operations shall be equipped with artificial illumination sufficient to safely complete the work.*
- b. Minimum illumination level shall be twenty (20) horizontal foot candles and maintained in the following areas:*
  - (1) An area of 30 feet wide by 30 feet long immediately behind the paving machines during the operations of the machines.*
  - (2) An area 15 feet wide by 30 feet long immediately in front and back of all rolling equipment, during operation of the equipment.*
  - (3) An area 15 feet wide by 15 feet long at any point where an area is being tack coated prior to the placement of pavement.*
- c. As partial fulfillment of the above requirements, the Contractor shall furnish and use, complete artificial lighting units with a minimum capacity of 3,000 watt electric beam lights, affixed to all equipment in such a way to direct illumination on the area under construction.*
- d. In addition, the Contractor shall furnish portable floodlight units as necessary to achieve quality requirements. It shall be left to the Engineer's sole judgment as to whether the Contractor has supplied a satisfactory amount of lighting units.*
- e. If the Contractor places any out of specification mix in the project work area, the Contractor is required to remove it at its own expense, to the satisfaction of the Engineer. If the Contractor has to continue placing non-payment bituminous concrete, as directed by the Engineer, to make the surfaces safe for aircraft operations, the Contractor shall do so to the satisfaction of the Engineer.*
- f. See Section G-100, General Requirements and Phasing Summary, for other requirements relative to opening night work areas to aircraft traffic after each shift. It is the Contractor's responsibility to leave the facilities to be paved in a safe condition ready for aircraft operations. The Contractor shall allow sufficient time for the mat to cool to a surface temperature of 160° to mitigate rutting from aircraft loading. No consideration for extended closure time of the area being paved will be given. As a first order of work for the next paving shift, the Contractor shall remove all out of specification material and replace*

*with approved material to the satisfaction of the Engineer. When the above situations occur, there will be no consideration given for additional construction time or payment for extra costs.*

#### **401-5 MATERIAL ACCEPTANCE**

**401-5.1 ACCEPTANCE SAMPLING AND TESTING.** *All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Contractor. Testing organizations performing these tests, except profilograph testing, shall meet the requirements of ASTM D 3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction. All equipment in Contractor furnished laboratories shall be calibrated by an independent testing organization prior to the start of operations at the Contractor's expense.*

**a. Plant-Produced Material.** *Plant-produced material shall be tested for stability, flow, and air voids on a lot basis. Sampling shall be performed at the plant. Samples shall be taken in accordance with ASTM D 979. A lot will consist of:*

- *one day or shift's production not to exceed 2,000 tons, or*
- *a half day or shift's production where a day's production is expected to consist of between 2,000 and 4,000 tons, or*
- *similar subdivisions for tonnages over 4,000 ton.*

*Where more than one plant is simultaneously producing material for the job, the lot sizes shall apply separately for each plant.*

*Each truck sampled at the plant shall be identified such that when arriving on site it can be tracked and the location of the placement of its load can be recorded.*

**(1) Sampling.** *Each lot will consist of four equal sublots. Sufficient material for preparation of test specimens for all testing will be sampled by the Contractor on a random basis, in accordance with the procedures contained in ASTM D 3665. One set of laboratory compacted specimens will be prepared for each sublot in accordance with ASTM D 6926, at the number of blows required by paragraph 401-3.2, Table 1. The manual hammer in ASTM D 6926 shall be used. Mechanical hammers may be used if they are*

*calibrated for each specific mix to the same manual hammer density by varying the number of blows. Each set of laboratory compacted specimens will consist of three test portions prepared from the same sample increment.*

*The sample of bituminous mixture may be put in a covered metal tin and placed in an oven for not less than 30 minutes, nor more than 60 minutes, to stabilize to compaction temperature. The compaction temperature of the specimens shall be as specified in the job mix formula.*

- (2) Testing.** *Sample specimens shall be tested for stability and flow in accordance with ASTM D 6927. Air voids will be determined by the Contractor in accordance with ASTM D 3203.*

*Prior to testing, the bulk specific gravity of each test specimen shall be measured by the Contractor in accordance with ASTM D 2726 using the procedure for laboratory-prepared thoroughly dry specimens, or ASTM D 1188, whichever is applicable, for use in computing air voids and pavement density.*

*For air voids determination, the theoretical maximum specific gravity of the mixture shall be measured one time for each subplot in accordance with ASTM D 2041, Type C, D or E container. The value used in the air voids computation for each subplot shall be based on theoretical maximum specific gravity measurement for the subplot.*

*The stability and flow for each subplot shall be computed by averaging the results of all test specimens representing that subplot.*

- (3) Acceptance.** *Acceptance of plant produced material for stability, flow, and air voids shall be determined by the Engineer in accordance with the requirements of paragraph 401-5.2b.*

- b. Field Placed Material.** *Material placed in the field shall be tested for mat and joint density on a lot basis.*

- (1) Mat Density.** *The lot size shall be the same as that indicated in paragraph 401-5.1a and shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each subplot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than one foot from a transverse or longitudinal joint.*

- (2) Joint Density.** *The lot size shall be the total length of longitudinal joints constructed by a lot of material as defined in paragraph 401-5.1a. The lot shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each subplot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. All coring shall be centered on the joint. The minimum core diameter for joint density determination shall be 5 inches.*
- (3) Sampling.** *Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. Samples will be taken in accordance with ASTM D979. The minimum diameter of the sample shall be five inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Cored pavement shall be cleaned and core holes shall be filled in a manner acceptable to the Engineer and within one day after sampling or prior to reopening the runway, whichever is first.*
- (4) Testing.** *The bulk specific gravity of each cored sample will be measured by the Contractor in accordance with ASTM D 2726. Samples will be taken in accordance with ASTM D979. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the average bulk specific gravity of all laboratory prepared specimens for the lot, as determined in paragraph 401-5.1a(2). The bulk specific gravity used to determine the joint density at joints formed between different lots shall be the lowest of the bulk specific gravity values from the two different lots.*
- (5) Acceptance.** *Acceptance of field placed material for mat density will be determined by the Engineer in accordance with the requirements of paragraph 401-5.2b(1). Acceptance for joint density will be determined in accordance with the requirements of paragraph 401-5.2b(3).*
- c. Partial Lots — Plant-Produced Material.** *When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or other minor tonnage placements*

*to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.*

*The last batch produced where production is halted will be sampled, and its properties shall be considered as representative of the particular subplot from which it was taken. In addition, an agreed to minor placement will be sampled, and its properties shall be considered as representative of the particular subplot from which it was taken. Where three sublots are produced, they shall constitute a lot. Where one or two sublots are produced, they shall be incorporated into the next lot, and the total number of sublots shall be used in the acceptance plan calculation, i.e.,  $n = 5$  or  $n = 6$ , for example. Partial lots at the end of asphalt production on the project shall be included with the previous lot.*

- d. Partial Lots – Field Placed Material.** *The lot size for field placed material shall correspond to that of the plant material, except that, in no cases, shall less than three (3) cored samples be obtained, i.e.,  $n = 3$ .*

**401-5.2 ACCEPTANCE CRITERIA.**

- a. General.** *Acceptance will be based on the following characteristics of the bituminous mixture and completed pavement as well as the implementation of the Contractor Quality Control Program and test results:*

- (1)** *Stability*
- (2)** *Flow*
- (3)** *Air voids*
- (4)** *Mat density*
- (5)** *Joint density*
- (6)** *Thickness*
- (7)** *Smoothness*
- (8)** *Grade*

*Mat density and air voids will be evaluated for acceptance in accordance with paragraph 401-5.2b(1). Stability and flow will be evaluated for acceptance in accordance with paragraph 401-5.2b(2). Joint density will be evaluated for acceptance in accordance with paragraph 401-5.2b(3).*

*Thickness will be evaluated by the Engineer for compliance in accordance with paragraph 401-5.2b(4). Acceptance for smoothness will be based on the criteria contained in paragraph 401-5.2b(5). Acceptance for grade will be based on the criteria contained in paragraph 401-5.2b(7).*

*The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of bituminous mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.*

**b. Acceptance Criteria.**

**(1) Mat Density and Air Voids.** *Acceptance of each lot of plant produced material for mat density and air voids shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment shall be determined in accordance with paragraph 401-8.1.*

**(2) Stability and Flow.** *Acceptance of each lot of plant produced material for stability and flow shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, the Contractor shall determine the reason and take corrective action. If the PWL is below 80 percent, the Contractor must stop production until the reason for poor stability and/or flow has been determined and adjustments to the mix are made.*

**(3) Joint Density.** *Acceptance of each lot of plant produced material for joint density shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot is equal to or exceeds 90 percent, the lot shall be considered acceptable. If the PWL is less than 90 percent, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80 percent, the Contractor shall cease operations until the reason for poor compaction has been determined. If the PWL is less than 71*

*percent, the pay factor for the lot used to complete the joint shall be reduced by 5 percentage points. This lot pay factor reduction shall be incorporated and evaluated in accordance with paragraph 401-8.1.*

**(4) Thickness.** *Thickness of each lift of surface course shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by the Contractor using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point shall not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the Engineer to circumscribe the deficient area.*

**(5) Smoothness.** *The final surface shall be free from roller marks. After the final rolling, but not later than 24 hours after placement, the surface of each lot shall be tested in both longitudinal and transverse directions for smoothness to reveal all surface irregularities exceeding the tolerances specified. The Contractor shall furnish paving equipment and employ methods that produce a surface for each pavement lot having an average profile index meeting the requirements of paragraph 401-8.1d when evaluated with a profilograph; and the finished surface course of the pavement shall not vary more than 1/4 inch when evaluated with a 12-foot straightedge. When the surface course smoothness exceeds specification tolerances which cannot be corrected by diamond grinding of the surface course, full depth removal and replacement of surface course corrections shall be to the limit of the longitudinal placement. Corrections involving diamond grinding will be subject to the final pavement thickness tolerances specified. The Contractor shall apply a surface treatment per Item P-626 to all areas that have been subject to grinding as directed by the Engineer.*

**(a) Transverse measurements.** *Transverse measurements will be taken for each lot placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the Engineer.*



(i) *Testing shall be continuous across all joints, starting with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Smoothness readings will not be made across grade changes or cross slope transitions; at these transition areas, the straightedge position shall be adjusted to measure surface smoothness and not design grade or cross slope transitions. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between these two high points. High spots on final surface course > 1/4 inch in transverse direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.*

(ii) *The joint between lots shall be tested separately to facilitate smoothness between lots. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface, with half the straightedge on one side of the joint and the other half of the straightedge on the other side of the joint. Measure the maximum gap between the straightedge and the pavement surface in the area between these two high points. One measurement shall be taken at the joint every 50 feet or more often if directed by the Engineer. Deviations on final surface course > 1/4 inch (6mm) in transverse direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Each measurement shall be recorded and a copy of the data shall be furnished to the Engineer at the end of each days testing.*

(b) *Longitudinal measurements. Longitudinal measurements will be taken for each lot placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet;*

*and at the third points of paving lanes when widths of paving lanes are 20 ft or greater.*

*(i) Longitudinal Short Sections. Longitudinal Short Sections are when the longitudinal lot length is less than 200 feet and areas not requiring a profilograph. When approved by the Engineer, the first and last 15 feet of the lot can also be considered as short sections for smoothness. The finished surface shall not vary more than 1/4 inch when evaluated with a 12-foot straightedge. Smoothness readings will not be made across grade changes or cross slope transitions; at these transition areas, the straightedge position shall be adjusted to measure surface smoothness and not design grade or cross slope transitions. Testing shall be continuous across all joints, starting with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between these two high points. Deviations on final surface course > 1/4 inch in longitudinal direction will be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.*

*(ii) Profilograph Testing. Profilograph testing shall be performed by the contractor using approved equipment and procedures as described as ASTM E1274. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate "must grind" bumps and the Profile Index for the pavement using a 0.2 inch blanking band. The bump template must span one inch with an offset of 0.4 inches. The profilograph must be calibrated prior to use and operated by a factory or State DOT approved operator. Profilograms shall be recorded on a longitudinal scale of one inch equals 25 feet and a vertical*

*scale of one inch equals one inch. A copy of the reduced tapes shall be furnished to the Engineer at the end of each days testing.*

*The pavement must have an average profile index meeting the requirements of paragraph 401-8.1d. High spots, or "must grind" spots, on final surface course in longitudinal direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.*

*(iii) Final profilograph of runway. Final profilograph, full length of runway, shall be performed to facilitate testing of smoothness between lots. Profilograph testing shall be performed by the contractor using approved equipment and procedures as described as ASTM E1274. The pavement must have an average profile index meeting the requirements of paragraph 401-8.1d. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate "must grind" bumps and the Profile Index for the pavement using a 0.2 inch blanking band. The bump template must span one inch with an offset of 0.4 inches. The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch equals 25 feet and a vertical scale of one inch equals one inch. A copy of the reduced tapes shall be furnished to the Engineer at the end of each days testing. Profilograph of final runway shall be performed one foot right and left of runway centerline and 15 feet right and left of centerline. Any areas that indicate "must grind" will be corrected as directed by the Engineer.*

*Smoothness testing indicated in the above paragraphs except paragraph (iii) shall be performed within 24 hours of placement of material. Smoothness testing indicated in paragraph (iii) shall be performed within 48 hours of paving completion. The primary purpose of smoothness testing is to identify areas that may be prone to ponding of water which could lead to hydroplaning of aircraft. If the contractor's machines and/or*

*methods are producing significant areas that need corrective actions then production should be stopped until corrective measures can be implemented. If corrective measures are not implemented and when directed by the Engineer, production shall be stopped until corrective measures can be implemented.*

**(6) Grade.** *Grade shall be evaluated on the first day of placement and then as a minimum, every 50 feet to allow adjustments to paving operations if measurements do not meet specification requirements. The Contractor must submit the survey data to the Engineer by the following day after measurements have been taken. The finished surface of the pavement shall not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch. The finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and all breaks in grade transversely (not to exceed 50 feet) to determine the elevation of the completed pavement. The Contractor shall pay the cost of surveying of the level runs that shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer. The lot size shall be 2,000 square yards. When more than 15% of all the measurements within a lot are outside the specified tolerance, or if any one shot within the lot deviates 3/4 inch or more from planned grade, the Contractor shall remove the deficient area to the depth of the final course plus 1/2 inch of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off provided the course thickness complies with the thickness specified on the plans. The surface of the ground pavement shall have a texture consisting of grooves between 0.090 and 0.130 inches wide. The peaks and ridges shall be approximately 1/32 inch higher than the bottom of the grooves. The pavement shall be left in a clean condition. The removal of all of the slurry resulting from the grinding operation shall be continuous. The grinding operation should be controlled so the residue from the operation does not flow across other lanes of pavement. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.*

**c. Percentage of Material Within Specification Limits (PWL).**  
*The percentage of material within specification limits (PWL) shall be*

determined in accordance with procedures specified in Section **Error! Reference source not found.**, Method of Determining Percentage within Specification Limits. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

- d. **Outliers.** All individual tests for mat density and air voids shall be checked for outliers (test criterion) in accordance with ASTM E 178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

<b>TABLE 5</b>		
<b>ACCEPTANCE LIMITS FOR STABILITY, FLOW, AIR VOIDS, AND DENSITY</b>		
<b>Test Property</b>	<b>Pavements Designed for Aircraft Gross Weights of 60,000 lbs or More or Tire Pressure Greater than 100 psi</b>	
<b>Number of Blows</b>	<b>75</b>	
	<b>Specification Tolerance</b>	
	<b>L</b>	<b>U</b>
<i>Stability, minimum pounds</i>	1,800	—
<i>Flow, 0.01-inch</i>	8	16
<i>Air voids total mix (percent)</i>	2.0	5.0
<i>Mat Density (percent)</i>	96.3	—
<i>Joint density (percent)</i>	93.3	—

The criteria in Table 5 is based on production processes which have a variability with the following standard deviations:

Surface Course Mat Density (%), 1.30

Base Course Mat Density (%), 1.55

Joint Density (%), 2.1

The Contractor should note that:

- (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 98 percent with 1.30% or less variability,

(2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 97.5 percent with 1.55% or less variability, and

(3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 96 percent with 2.1% or less variability.

**401-5.3 RESAMPLING PAVEMENT FOR MAT DENSITY.**

**a. General.** Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the Engineer. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-5.1b and 401-5.2b(1). Only one resampling per lot will be permitted.

(1) A redefined PWL shall be calculated for the resampled lot. The number of tests used to calculate the redefined PWL shall include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

**b. Payment for Resampled Lots.** The redefined PWL for a resampled lot shall be used to calculate the payment for that lot in accordance with Table 6.

**c. Outliers.** Check for outliers in accordance with ASTM E 178, at a significance level of 5 percent.

**401-5.4 LEVELING COURSE.** Any course used for truing and leveling shall meet the requirements of paragraph 401-3.2, 401-5.2b(1) for air voids and 401-5.2b(2), but shall not be subject to the density requirements of paragraph 401-5.2b(1) for mat density and 401-5.2b(3). The leveling course shall be compacted with the same effort used to achieve density of the test section. The truing and leveling course shall not exceed a nominal thickness of 1-1/2 inches. The leveling course is the first variable thickness lift of an overlay placed prior to subsequent courses.

**401-6 CONTRACTOR QUALITY CONTROL**

**401-6.1 GENERAL.** The Contractor shall develop a Quality Control Program in accordance with these Specifications. The program shall address all elements that affect the quality of the pavement including, but not limited to:

**a. Mix Design**

- b. Aggregate Grading*
- c. Quality of Materials*
- d. Stockpile Management*
- e. Proportioning*
- f. Mixing and Transportation*
- g. Placing and Finishing*
- h. Joints*
- i. Compaction*
- j. Surface Smoothness*
- k. Personnel*
- l. Laydown Plan*

*The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by paragraph 401-6.3 of these Specifications. As a part of the process for approving the Contractor's plan, the Engineer may require the Contractor's technician to perform testing of samples to demonstrate an acceptable level of performance.*

*No partial payment will be made for materials that are subject to specific quality control requirements without an approved plan.*

**401-6.2 TESTING LABORATORY.** *The lab shall meet the requirements of ASTM D3666 including all necessary equipment, materials, and current reference standards to comply with the specifications. The Contractor shall provide a fully equipped asphalt laboratory located at the plant or job site. The Contractor shall provide the Engineer with certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.*

*The effective working area of the laboratory shall be a minimum of 300 square feet with a ceiling height of not less than 7.5 feet. Lighting shall be adequate to illuminate all working areas. It shall be equipped with heating and air conditioning units to maintain a temperature of 70 degrees F plus 5 degrees.*

*Laboratory facilities shall be kept clean and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted*

access to inspect the Contractor's laboratory facility and witness quality control and acceptance activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

**401-6.3 QUALITY CONTROL TESTING.** The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved Quality Control Program as required by of these Specifications. The testing program shall include, but shall not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

All testing may be witnessed by the Engineer and/or by the City of San Diego Standards Division.

- a. Asphalt Content.** A minimum of two asphalt content tests shall be performed per lot in accordance with ASTM D6307 or ASTM D2172 if the correction factor in ASTM D6307 is greater than 1.0. The asphalt content for the lot will be determined by averaging the test results.
- b. Gradation.** Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.
- c. Moisture Content of Aggregate.** The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.
- d. Moisture Content of Mixture.** The moisture content of the mixture shall be determined once per lot in accordance with ASTM D 1461 or AASHTO T329.
- e. Temperatures.** Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the bitumen in the storage tank, the mixture at the plant, and the mixture at the job site.
- f. In-Place Density Monitoring.** The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.



**g. Additional Testing.** Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.

**h. Monitoring.** The Engineer reserves the right to monitor any or all of the above testing.

**401-6.4 SAMPLING.** When directed by the Engineer, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

**401-6.5 CONTROL CHARTS.** The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each subplot will be calculated and monitored by the Quality Control laboratory.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

**a. Individual Measurements.** Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

<b>CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS</b>		
<b>Sieve</b>	<b>Action Limit</b>	<b>Suspension Limit</b>
3/4 inch	0%	0%
1/2 inch	±6%	±9%
3/8 inch	±6%	±9%
No. 4	±6%	±9%

<b>CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS</b>		
<b>Sieve</b>	<b>Action Limit</b>	<b>Suspension Limit</b>
No. 16	±5%	±7.5%
No. 50	±3%	±4.5%
No. 200	±2%	±3%
Asphalt Content	±0.45%	±0.70%

- b. Range.** Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of  $n = 2$ . Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for  $n = 3$  and by 1.27 for  $n = 4$ .

<b>CONTROL CHART LIMITS BASED ON RANGE(Based on <math>n = 2</math>)</b>	
<b>Sieve</b>	<b>Suspension Limit</b>
1/2 inch	11 %
3/8 inch	11 %
No. 4	11 %
No. 16	9 %
No. 50	6 %
No. 200	3.5 %
Asphalt Content	0.8 %

- c. Control Chart Modification.** Charts are based on 3/4-inch max aggregate. If 1" or 1.5" max aggregate used:

(1) Amend Individual Measurement chart as follows:

Sieve	Action Limit	Suspension Limit
1 inch or 1-1/2 inch	0%	0%
3/4 inch	6%	11%

(2) Delete 1-inch and 3/4 inch Action and Suspension Limits

(3) Revise 1/2 -inch limits to:

Sieve	Action Limit	Suspension Limit
1/2-inch	0%	0%

(4) delete 1/2-inch sieve from Range Chart

**d. Corrective Action.** The Contractor Quality Control Program shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

- (1) One point falls outside the Suspension Limit line for individual measurements or range; or
- (2) Two points in a row fall outside the Action Limit line for individual measurements.

**401-6.6 QUALITY CONTROL REPORTS.** The Contractor shall maintain records and shall submit reports of quality control activities daily, in accordance with the Contractor Quality Control Program.

**401-7 MEASUREMENT.**

**401-7.1 MEASUREMENT** Plant mix bituminous concrete pavement shall be measured by the number of tons of bituminous mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

**401-8 BASIS OF PAYMENT.**

**401-8.1 PAYMENT.** Payment for a lot of bituminous concrete pavement meeting all acceptance criteria as specified in Paragraph 401-5.2 shall be made based on results of tests for smoothness, mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1a for mat density and air voids and 401-8.1c for smoothness, subject to the limitation that:

- a. The total project payment for plant mix bituminous concrete pavement shall not exceed 100 percent of the product of the contract unit price and the total number of tons of bituminous mixture used in the accepted work (See Note 1 under Table 6).
- b. The price shall be full compensation for furnishing all materials, for all preparation, mixing, and placing and compaction of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

No separate payment will be made for constructing the item under construction sequencing restrictions, including limited access or nighttime work areas.

Unless otherwise specified, work performed under this section which is identified on the plans as "temporary" will be measured for payment in accordance with this specification.

No separate payment will be made for Lab services for Acceptance, Sampling, Inspection, Testing and Quality Control Testing as specified herein. If a separate bid item has not been included for the item of work described or shown in the Contract Document, payment shall be included in the various bid items.

- c. **Basis of adjusted payment.** The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100 percent or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100 percent or higher. The lot pay factor shall be the lower of the two values when calculations for both mat

*density and air voids are less than 100 percent. If PWL for joint density is less than 71 percent then the lot pay factor shall be reduced by 5 percent but be no higher than 95 percent.*

<b>TABLE 6. PRICE ADJUSTMENT SCHEDULE <sup>1</sup></b>	
<b>Percentage of Material Within Specification Limits (PWL)</b>	<b>Lot Pay Factor (Percent of Contract Unit Price)</b>
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4PWL – 12
Below 55	Reject <sup>2</sup>

<sup>1</sup> Although it is theoretically possible to achieve a pay factor of 106 percent for each lot, actual payment above 100 percent shall be subject to the total project payment limitation specified in paragraph 401-8.1.

<sup>2</sup> The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50 percent of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1. Payment in excess of 100 percent for accepted lots of bituminous concrete pavement shall be used to offset payment for accepted lots of bituminous concrete pavement that achieve a lot pay factor less than 100 percent.

- d. Profilograph Smoothness.** When the final average profile index (subsequent to any required corrective action) does not exceed 7 inches per mile, payment will be made for that section at the contract unit price for the completed pavement. If the final average profile index (subsequent to any required corrective action) exceeds 7 inches per

*mile, but does not exceed 15 inches per mile, the Contractor may elect to accept a contract unit price adjustment in lieu of reducing the profile index.*

- e. Basis of Adjusted Payment for Smoothness.** Price adjustment for pavement smoothness will be made in accordance with Table 7. The adjustment will apply to the total tonnage of asphalt concrete within a lot of pavement and shall be applied with the following equation:

$$(Tons\ of\ asphalt\ concrete\ in\ lot) \times (lot\ pay\ factor) \times (unit\ price\ per\ ton) \times (smoothness\ pay\ factor) = payment\ for\ lot$$

**Table 7. Average Profile Index Smoothness Pay Factor**

(Inches per mile per 1/10 mile)	Short Sections	Pay Factor
00.0 - 7	00.0 - 15.0	100%
7.1 - 9	15.1 - 16	98%
9.1 - 11	16.1 - 17	96%
11.1 - 13	17.1 - 18	94%
13.1 - 14	18.1 - 20	92%
14.1 - 15	20.1 - 22	90%
15.1 & up	22.1 & up	Corrective work required <sup>1</sup>
<sup>1</sup> The Contractor shall correct pavement areas not meeting these tolerances by removing and replacing the defective work. If the Contractor elects to construct an overlay to correct deficiencies, the minimum thickness of the overlay shall not be less than twice the size of the maximum size aggregate. The corrective overlay shall not violate grade Criteria and butt joints shall be constructed by sawing and removing the original pavement in compliance with the thickness/maximum aggregate size ratio. Skin patching shall not be permitted.		

- f. Payment.** Payment will be made under:

Item P-401-1 Bituminous Surface Course.....per Ton

**401-9 TESTING REQUIREMENTS**

- ASTM C 29 Bulk Density ("Unit Weight") and Voids in Aggregate
- ASTM C 88 Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- ASTM C 117 Materials Finer than 75µm (No.200) Sieve in Mineral Aggregates by Washing
- ASTM C 127 Specific Gravity and Absorption of Coarse Aggregate

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<i>ASTM C 131</i>	<i>Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine</i>
<i>ASTM C 136</i>	<i>Sieve Analysis of Fine and Coarse Aggregates</i>
<i>ASTM C 183</i>	<i>Sampling and the Amount of Testing of Hydraulic Cement</i>
<i>ASTM C 566</i>	<i>Total Evaporable Moisture Content of Aggregate by Drying</i>
<i>ASTM D 75</i>	<i>Sampling Aggregates</i>
<i>ASTM D 979</i>	<i>Sampling Bituminous Paving Mixtures</i>
<i>ASTM D 995</i>	<i>Mixing Plants for Hot-Mixed Hot-Laid Bituminous Paving Mixtures</i>
<i>ASTM D 1073</i>	<i>Fine Aggregate for Bituminous Paving Mixtures</i>
<i>ASTM D 1074</i>	<i>Compressive Strength of Bituminous Mixtures</i>
<i>ASTM D 1188</i>	<i>Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens</i>
<i>ASTM D 1461</i>	<i>Moisture or Volatile Distillates in Bituminous Paving Mixtures</i>
<i>ASTM D 2041</i>	<i>Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures</i>
<i>ASTM D 2172</i>	<i>Quantitative Extraction of Bitumen from Bituminous Paving Mixtures</i>
<i>ASTM D 2419</i>	<i>Sand Equivalent Value of Soils and Fine Aggregate</i>
<i>ASTM D 2489</i>	<i>Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures</i>
<i>ASTM D 2726</i>	<i>Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures</i>
<i>ASTM D 2950</i>	<i>Density of Bituminous Concrete in Place by Nuclear Methods</i>
<i>ASTM D 3203</i>	<i>Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures</i>
<i>ASTM D 3665</i>	<i>Random Sampling of Construction Materials</i>

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<i>ASTM D 3666</i>	<i>Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials</i>
<i>ASTM D 4125</i>	<i>Asphalt Content of Bituminous Mixtures by the Nuclear Method</i>
<i>ASTM D 4318</i>	<i>Liquid Limit, Plastic Limit, and Plasticity Index of Soils</i>
<i>ASTM D 4791</i>	<i>Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate</i>
<i>ASTM D 4867</i>	<i>Effect of Moisture on Asphalt Concrete Paving Mixtures</i>
<i>ASTM D 5444</i>	<i>Mechanical Size Analysis of Extracted Aggregate</i>
<i>ASTM D 5581</i>	<i>Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6" Diameter Specimen)</i>
<i>ASTM D 6926</i>	<i>Preparation of Bituminous Specimens Using Marshall Apparatus</i>
<i>ASTM D 6927</i>	<i>Marshall Stability and Flow of Bituminous Mixtures</i>
<i>ASTM E 11</i>	<i>Wire-Cloth Sieves for Testing Purposes</i>
<i>ASTM E 178</i>	<i>Dealing with Outlying Observations</i>
<i>ASTM E 1274</i>	<i>Measuring Pavement Roughness Using a Profilograph</i>
<i>AASHTO T 30</i>	<i>Mechanical Analysis of Extracted Aggregate</i>
<i>AASHTO T 110</i>	<i>Moisture or Volatile Distillates in Bituminous Paving Mixtures</i>
<i>The Asphalt Institute's</i>	<i>Mix Design Methods for Asphalt Concrete Manual No. 2 (MS-2)</i>

**401-10 MATERIAL REQUIREMENTS**

<i>ASTM D 242</i>	<i>Mineral Filler for Bituminous Paving Mixtures</i>
<i>ASTM D 946</i>	<i>Penetration Graded Asphalt Cement for Use in Pavement Construction</i>
<i>ASTM D 3381</i>	<i>Viscosity-Graded Asphalt Cement for Use in Pavement Construction</i>
<i>ASTM D 4552</i>	<i>Classifying Hot-Mix Recycling Agents</i>



*AASHTO M320 Performance Graded Asphalt Binder*

***END OF ITEM P-401***

**PART 2 - SUBMITTALS**

**2.1** Submittals required for this item include, but are not limited to:

- A. Job Mix Formula (See 401-3.2)
- B. Aggregates (See 401-2.5)
- C. Bitumen (See 401-2.4)
  - 1. Plant and Equipment ( See 401-4.2)
  - 2. Laboratory Certifications (See 401-3.5)
  - 3. Testing Facility Certification (See 401-4.2)
  - 4. Laydown Plan (See 401-4.10)

**END OF SECTION P-401**

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**SECTION P-403**

**PLANT MIX BITUMINOUS PAVEMENTS -BASE COURSE**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall perform all work required by the plans and specifications for construction of Asphalt Concrete Base Course for pavement areas as shown on the Plans and in accordance with FAA Specification Item P-403 as included and modified herein. In addition, for topics relevant to the construction of Asphalt Concrete Base Course which are not addressed in P-403, Sections 203 (Bituminous Materials) and 301 (Treated Soil, Subgrade Preparation and Placement of Base Materials) of the Standard Specifications shall be applicable unless otherwise stipulated.
- B. Asphalt pavement base course will be either P-403 or "Asphalt Concrete Pavement" as indicated on the plans or as directed by the Engineer.

**1.2 USES OF THIS SECTION**

- A. Unless otherwise indicated on the plans, asphalt concrete covered under this section shall be used for:
  - 1. Base Courses for pavement serving all aircraft weight categories
  - 2. Leveling Courses for pavement serving all aircraft weight categories

**ITEM P-403 PLANT MIX BITUMINOUS PAVEMENTS  
(BASE, LEVELING OR SURFACE COURSE)**

**403-1 DESCRIPTION**

**403-1.1** *This item shall consist of a base, surface course composed of mineral aggregate and bituminous material mixed in a central mixing plant and placed on a prepared course in accordance with these specifications. Courses shall conform to the lines, grades, thicknesses, and typical cross sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.*

**403-2 MATERIALS**

**403-2.1 AGGREGATE.** *Aggregates shall consist of crushed stone, crushed gravel, or crushed slag with or without natural sand or other inert finely divided mineral aggregate. The portion of combined materials retained*

on the No. 4 sieve is coarse aggregate. The portion of combined materials passing the No. 4 sieve and retained on the No. 200 sieve is fine aggregate, and the portion passing the No. 200 sieve is mineral filler.

- a. Coarse Aggregate.** Coarse aggregate shall consist of sound, tough, durable particles, free from adherent films of matter that would prevent thorough coating and bonding with the bituminous material and shall be free from organic matter and other deleterious substances. The percentage of wear shall not be greater than 40 percent for surface courses and 50 for base courses, when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 10 percent, or the magnesium sulfate soundness loss shall not exceed 13 percent, after five cycles, when tested in accordance with ASTM C 88.

Aggregate shall contain at least 70 percent by weight of individual pieces having two or more fractured faces and 85 percent by weight having at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by crushing.

The aggregate shall not contain more than a total of 8 percent, by weight, of flat particles, elongated particles, and flat and elongated particles, when tested in accordance with ASTM D 4791 with a value of 5:1.

Slag shall be air-cooled, blast furnace slag, and shall have a compacted weight of not less than 70 pounds per cubic foot when tested in accordance with ASTM C 29.

- b. Fine Aggregate.** Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone, slag, or gravel that meets the requirements for wear and soundness specified for coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. The fine aggregate, including any blended material for the fine aggregate, shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. The fine aggregate shall not contain more than 15 percent natural sand by weight of total

aggregates. If used, the natural sand shall meet the requirements of ASTM D 1073 and shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

The aggregate shall have sand equivalent values of 45 or greater when tested in accordance with ASTM D 2419.

- c. **Sampling.** ASTM D 75 shall be used in sampling coarse and fine aggregate, and ASTM C 183 shall be used in sampling mineral filler.
- d. **Sources of Aggregates.** Sources of aggregates shall be selected well in advance of the time the materials are required in the work. When the aggregates are obtained from a previously approved source or an existing source producing aggregates that has a satisfactory service record in airport bituminous pavement construction for at least 5 years, samples shall be submitted 21 days prior to start of production. An inspection of the producer's operation will be made by the Engineer. When new sources are to be developed, the Contractor shall indicate the sources and shall submit a plan for operation 30 days in advance of starting production. Samples from test pits, borings, and other excavations shall be submitted at the same time. Approval of the source of aggregate does not relieve the Contractor in any way of the responsibility for delivery at the job site of aggregates that meet the requirements specified herein.
- e. **Samples of Aggregates.** If requested by the Engineer, samples of aggregates shall be furnished by the Contractor at the start of production, and at intervals during production of bituminous mixtures. The sampling points and intervals will be designated by the Engineer. The samples will be the basis of approval of specific lots of aggregates from the standpoint of the quality requirements of this section.

The Contractor shall furnish documentation and samples to the Engineer confirming that the aggregates meet the specification requirements.

**403-2.2 MINERAL FILLER.** If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D 242.

**403-2.3 ASPHALT CEMENT BINDER.** Asphalt cement binder shall conform to ASTM D6373 Performance Grade (PG) 64-10. A certificate of compliance from the manufacturer shall be included with the mix design submittal.

*The supplier's certified test report with test data indicating grade certification for the asphalt binder shall be provided to the Engineer for each load at the time of delivery to the mix plant. A certified test report with test data indicating grade certification for the asphalt binder shall also be provided to the Engineer for any modification of the asphalt binder after delivery to the mix plant and before use in the HMA..*

**403-2.4 PRELIMINARY MATERIAL ACCEPTANCE.** *Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials:*

**a. Coarse Aggregate**

- (1) Percent of wear*
- (2) Soundness*
- (3) Clay lumps and friable particles*
- (4) Percent fractured faces*
- (5) Flat and elongated particles*
- (6) Unit weight of slag*

**b. Fine Aggregate**

- (1) Liquid limit and Plasticity index*
- (2) Soundness*
- (3) Clay lumps and friable particles*
- (4) Percent natural sand*
- (5) Sand equivalent*

**c. Mineral Filler**

**d. Asphalt Binder.** *Test results for asphalt binder shall include temperature/viscosity charts for mixing and compaction temperatures.*

*The certification(s) shall show the appropriate ASTM test(s) for each material, the test results, and a statement that the material meets the specification requirement.*

*The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.*

**403-2.5 ANTI-STRIPPING AGENT.** Any anti-stripping agent or additive if required shall be heat stable, shall not change the asphalt cement viscosity beyond specifications, shall contain no harmful ingredients, shall be added in recommended proportion by approved method, and shall be a material approved by Caltrans.

### **403-3 COMPOSITION**

**403-3.1 COMPOSITION OF MIXTURE.** The bituminous plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and bituminous material. The several aggregate fractions shall be sized, handled in separate size groups, and shall be combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

**403-3.2 JOB MIX FORMULA.** No bituminous mixture for payment shall be produced until a job mix formula has been approved in writing by the Engineer. The bituminous mixture shall be designed using procedures contained in Chapter 5, MARSHALL METHOD OF MIX DESIGN, of the Asphalt Institute's Manual Series No. 2 (MS-2), Mix Design Methods for Asphalt Concrete, sixth edition, and shall meet the requirements of Tables 1, 2 and 3.

The Tensile Strength Ratio (TSR) of the composite mixture, as determined by ASTM D 4867, shall not be less than 75. Anti-stripping agent shall be added to the asphalt, as necessary, to produce a TSR of not less than 75. If an anti-strip agent is required, it will be provided by the Contractor at no additional cost to the Owner.

The job mix formula shall be submitted in writing by the Contractor to the Engineer at least 30 days prior to the start of paving operations and shall include as a minimum:

- a. Percent passing each sieve size for total combined gradation, individual gradation of all aggregate stockpiles and percent by weight of each stockpile used in the job mix formula
- b. Percent of asphalt cement
- c. Asphalt performance, viscosity or penetration grade, and type of modifier if used
- d. Number of blows of hammer compaction per side of molded specimen
- e. Mixing temperature
- f. Compaction temperature
- g. Temperature of mix when discharged from the mixer

- h. Temperature-viscosity relationship of the asphalt cement*
- i. Plot of the combined gradation on the Federal Highway Administration (FHWA) 45 power gradation curve*
- j. Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight versus asphalt content*
- k. Percent natural sand*
- l. Percent fractured faces*
- m. Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria)*
- n. Tensile Strength Ratio (TSR)*
- o. Anti-strip agent (if required)*
- p. Date the job mix formula was developed.*

*The Contractor shall submit to the Engineer the results of verification testing of three (3) asphalt samples prepared at the optimum asphalt content. The average of the results of this testing shall indicate conformance with the job mix formula requirements specified in Tables 1, 2 and 3.*

*When the project requires asphalt mixtures of differing aggregate gradations, a separate job mix formula and the results of job mix formula verification testing must be submitted for each mix.*

*The job mix formula for each mixture shall be in effect until a modification is approved in writing by the Engineer. Should a change in sources of materials be made, a new job mix formula must be submitted within 15 days and approved by the Engineer in writing before the new material is used. After the initial production job mix formula(s) has/have been approved by the Engineer and a new or modified job mix formula is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified job mix formula will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified job mix formula.*

<b>TABLE 1. MARSHALL DESIGN CRITERIA</b>	
<b>Test Property</b>	<b>Criteria</b>
Number of blows	75
Stability, pounds minimum	2,150
Flow, 0.01 in.	10-14
Air voids (percent)	2.8 - 4.2



<b>TABLE 1. MARSHALL DESIGN CRITERIA</b>	
<b>Test Property</b>	<b>Criteria</b>
Percent voids in mineral aggregate, minimum	See Table 2

<b>TABLE 2 MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE</b>	
<b>Maximum Particle Size</b>	<b>Minimum Voids in Mineral Aggregate</b>
<b>in.</b>	<b>Percent</b>
1/2	14
3/4	13
1	12
1-1/4	11

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM C 136 and C 117. Unless otherwise specified, the Contractor shall select one gradation from those in Table 3, appropriate to the lift thickness as stated herein.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF), shall have a gradation within the limits designated in Table 3 and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine.

<b>TABLE 3</b>			
<b>AGGREGATE – BITUMINOUS PAVEMENTS – P-403</b>			
<b>Sieve Size</b>	<b>Percentage by Weight Passing Sieves</b>		
	<b>1-1/4 inch Max</b>	<b>1 inch Max</b>	<b>3/4 inch Max</b>
1-1/4 in.	100	-	-
1 in.	86–98	100	-
3/4 in.	68–93	76-98	100
1/2 in.	57–81	66-86	79-99
3/8 in.	49–69	57-77	68-88
No. 4	34–54	40-60	48-68
No. 8	22–42	26-46	33-53
No. 16	13–33	17-37	20-40
No. 30	8–24	11-27	14-30
No. 50	6–18	7-19	9-21
No. 100	4–12	6-16	6-16
No. 200	3–6	3-6	3-6
Asphalt percent	4.5–7.0	4.5-7.0	5.0-7.5

*Deviations from the final approved mix design for bitumen content and gradation of aggregates shall be within the action limits for individual measurements as specified in paragraph 403-6.5a. The limits still will apply if they fall outside the master grading band in Table 3.*

*The maximum size aggregate used shall not be more than one-half of the thickness of the course being constructed except where otherwise shown on the plans or approved by the Engineer.*

*The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when*

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*aggregates of varying specific gravities are used, as indicated in the Asphalt Institute Manual Series No. 2 (MS-2), Chapter 3.*

**403-3.3 RECYCLED ASPHALT CONCRETE.** *Not used.*

**403-3.4 TEST SECTION.** *Prior to full production, the Contractor shall prepare and place a quantity of bituminous mixture according to the job mix formula. The amount of mixture shall be sufficient to construct a test section 300 feet long and 20 feet wide, placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. A cold joint is an exposed construction joint at least 4 hours old or whose mat has cooled to less than 160°F. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in construction of the test section shall be the same type and weight to be used on the remainder of the course represented by the test section. If night construction is required, the test section will be constructed under the same lighting and timing restrictions as planned for production paving.*

*The Test Section shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 403-5.1 and 403-6.3. The test section shall be divided into equal sublots. As a minimum the test section shall consist of 3 sublots.*

*The test section shall be considered acceptable if the average mat density of the test section cores is greater than or equal to 98 percent and the average joint density of the test section cores is greater than or equal to 95 percent.*

*If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable section has been constructed and accepted in writing by the Engineer. Once an acceptable test section has been placed, payment for the initial test section and the section that meets specification requirements shall be made in accordance with paragraph 403-8.1.*

*Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the job mix formula. If the aggregates produced by the plant do not satisfy the gradation requirements or produce a mix that meets the JMF, it will be necessary to reevaluate and redesign the mix using plant-produced aggregates.*

*Specimens shall be prepared and the optimum bitumen content determined in the same manner as for the original design tests.*

*Contractor will not be allowed to place the test section until the Contractor Quality Control Program, showing conformance with these specification requirements and has been approved, in writing, by the Engineer.*

**403-3.5 JOB MIX (JMF) FORMULA LABORATORY.** *The Contractor's laboratory used to develop the job mix formula (JMF) shall meet the requirements of ASTM D 3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the JMF must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.*

#### **403-4 CONSTRUCTION METHODS**

**403-4.1 WEATHER LIMITATIONS.** *The bituminous mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.*

<b>TABLE 4 BASE TEMPERATURE LIMITATIONS</b>	
<b>Mat Thickness</b>	<b>Deg. F (Deg. C)</b>
3 in. or greater	40 (4)
Greater than 1 in. but less than 3 in.	45 (7)
1 in. or less	50 (10)

**403-4.2 BITUMINOUS MIXING PLANT.** *Plants used for the preparation of bituminous mixtures shall conform to the requirements of ASTM D 995 with the following changes:*

**a. Requirements for All Plants.**

**(1) Truck Scales.** *The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. A certificate signed by a licensed weigh master shall be supplied for all material delivered to the site.*

*In lieu of scales, and as approved by the Engineer, asphalt mixture weights may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total paving mixture. Contractor must furnish calibration certification of the weighing system prior to mix production and as often thereafter as requested by the Engineer.*

**(2) Testing Facilities.** *The Contractor shall provide laboratory facilities at the plant for the use of the acceptance testing and the Contractor's quality control testing. The Engineer will always have access to use of the laboratory. The lab shall have sufficient space and equipment so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The lab shall also meet the requirements of ASTM D 3666.*

*The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-1/2 feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 degrees F +/- 5 degrees F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials.*

*Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities.*

*The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.*

*As a minimum, the plant testing laboratory shall have:*

- (a)** *Adequate artificial lighting*
- (b)** *Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.*

- (c) Fire extinguishers (2), Underwriter's Laboratories approved*
- (d) Work benches for testing, minimum 2-½ feet by 10 feet.*
- (e) Desk with 2 chairs*
- (f) Sanitary facilities convenient to testing laboratory*
- (g) Exhaust fan to outside air, minimum 12 inch blade diameter*
- (h) A direct telephone line and telephone including a FAX machine operating 24 hours per day, seven days per week*
- (i) File cabinet with lock for Engineer*
- (j) Sink with running water, attached drain board and drain capable of handling separate material*
- (k) Metal stand for holding washing sieves*
- (l) Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates*
- (m) Mechanical shaker and appropriate sieves (listed in JMF, Table 3) meeting the requirements of ASTM E-11 for determining the gradation of coarse and fine aggregates in accordance with ASTM C 136*
- (n) Marshall testing equipment meeting ASTM D 6926, ASTM D 6927, or ASTM D 5581 as necessary, manual and automatic compaction equipment capable of compacting three specimens at once and other apparatus as specified in ASTM C 127, D 2172, D 2726, and D 2041*
- (o) Oven, thermostatically controlled, inside minimum 1 cubic foot*
- (p) Two volumetric specific gravity flasks, 500 CC*
- (q) Other necessary hand tools required for sampling and testing*
- (r) Library containing contract specifications, latest ASTM volumes 4.01, 4.02, 4.03 and 4.09, AASHTO standard specification parts I and II, and Asphalt Institute Publication MS-2.*

- (s) Equipment for Theoretical Specific Gravity testing including a 4,000 cc pycnometer, vacuum pump capable of maintaining 30 ml mercury pressure and a balance, 16-20 kilograms with accuracy of 0.5 grams*
- (t) Extraction equipment, centrifuge and reflux types and ROTOflex equipment*
- (u) A masonry saw with diamond blade for trimming pavement cores and samples*
- (v) Telephone*

*Approval of the plant and testing laboratory by the Engineer requires all facilities and equipment to be in good working order during production, sampling and testing. Failure to provide the specified facilities shall be sufficient cause for disapproving bituminous plant operations.*

*The Owner shall have access to the lab and at the plant whenever Contractor is producing asphalt for the project.*

**(3) Inspection of Plant.** *The Engineer, or Engineer's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.*

**(4) Storage Bins and Surge Bins.** *Use of surge bins or storage bins for temporary storage of hot bituminous mixtures will be permitted as follows:*

- (a) The bituminous mixture may be stored in surge bins for a period of time not to exceed 3 hours.*
- (b) The bituminous mixture may be stored in insulated storage bins for a period of time not to exceed 24 hours.*

*The bins shall be such that mix drawn from them meets the same requirements as mix loaded directly into trucks.*

*If the Engineer determines that there is an excessive amount of heat loss, segregation or oxidation of the mixture due to temporary storage, no temporary storage will be allowed.*

**403-4.3 HAULING EQUIPMENT.** *Trucks used for hauling bituminous mixtures shall have tight, clean, and smooth metal beds. To prevent the mixture*

*from adhering to them, the truck beds shall be lightly coated with a minimum amount of an approved asphalt release agent. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.*

- α. Material transfer vehicle (MTV). Material transfer Vehicles shall be required due to the improvement in smoothness and decrease in both physical and thermal segregation. To transfer the material from the hauling equipment to the paver, use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.*

**403-4.4 BITUMINOUS PAVERS.** *Bituminous pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of bituminous plant mix material that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.*

*The paver shall have a receiving hopper of sufficient capacity to permit a continuous and uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers shall be setup for nominal 12.5' paving lanes with screed extensions and augers installed to provide a continuous supply of mix in front of the screed. Consideration should be given to utilizing pavers set up for paving 25' lane widths to minimize the number of longitudinal joints to be tested. The paver shall be equipped with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. Paving operations utilizing slope control will not be allowed.*

*The controls shall be capable of working in conjunction with any of the following attachments:*

- α. Ski-type device of not less than 30 feet in length.*



- b. Taut stringline (wire) set to grade.*
- c. Short ski or shoe.*
- d. Laser control.*

*If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement and/or base course that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.*

**403-4.5 ROLLERS.** *Rollers of the vibratory steel wheel, and pneumatic-tired type shall be used. They shall be in good condition, capable of operating at slow speeds to avoid displacement of the bituminous mixture. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.*

*All rollers shall be specifically designed and suitable for compacting hot mix bituminous concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used. Depressions in pavement surfaces caused by rollers shall be repaired by the Contractor at its own expense.*

*The use of equipment that causes crushing of the aggregate will not be permitted.*

- a. Nuclear Densometer.* *The Contractor shall have on site a nuclear densometer during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the nuclear densometer and obtain accurate density readings for all new bituminous concrete. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the nuclear densometer or technician.*

**403-4.6 PREPARATION OF BITUMINOUS MATERIAL.** *The bituminous material shall be heated in a manner that will avoid local overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature. The temperature of the bituminous material delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325 degrees F (160 degrees C), unless otherwise required by the manufacturer.*

**403-4.7 PREPARATION OF MINERAL AGGREGATE.** *The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350 degrees F (175 degrees C) when the asphalt is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.*

**403-4.8 PREPARATION OF BITUMINOUS MIXTURE.** *The aggregates and the bituminous material shall be weighed or metered and introduced into the mixer in the amount specified by the job mix formula.*

*The combined materials shall be mixed until the aggregate obtains a uniform coating of bitumen and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D 2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles.*

*For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all bituminous mixtures upon discharge shall not exceed 0.5 percent. For batch plants, wet mixing time begins with the introduction of bituminous material into the mixer and ends with the opening of the mixer discharge gate. Distribution of aggregate and bituminous material as they enter the pugmill, speed of mixer shafts, and arrangement and pitch of paddles are factors governing efficiency of mixing. Prolonged exposure to air and heat in the pugmill hardens the asphalt film on the aggregate. Mixing time, therefore, should be the shortest time required to obtain uniform distribution of aggregate sizes and thorough coating of aggregate particles with bituminous material.*

**403-4.9 PREPARATION OF THE UNDERLYING SURFACE.** *Immediately before placing the bituminous mixture, the underlying course shall be cleaned of all dust and debris. A prime coat or tack coat shall be applied in accordance with Sections P-602 and P-603 of these specifications, Bituminous Prime Coat and Bituminous Tack Coat (FAA Items P-602 or P-603, respectively). A tack coat shall be applied in accordance with Section P-603, Bituminous Tack Coat (FAA Item P-603) when paving on existing paved*

*surfaces, including asphalt base course, and between all lifts of multiple lift asphalt paving.*

**403-4.10 LAYDOWN PLAN, TRANSPORTING, PLACING, AND FINISHING.** *Prior to the placement of the bituminous mixture, the Contractor shall prepare a laydown plan for approval by the Engineer. This is to minimize the number of cold joints in the pavement. The laydown plan shall specifically address the paving operations to be performed during night shifts or continuous full runway closures. This type of paving is generally called off peak paving and requires special considerations such as spare equipment, as discussed elsewhere, and a major cleanup effort at the end of each shift to return the runway surface to operation. The laydown plan shall include the sequence of paving laydown by stations, width of lanes, temporary ramp location(s), and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (i.e. milling, paving, rolling, cooling, etc.). Modifications to the laydown plan shall be approved by the Engineer.*

*The bituminous mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements of paragraph 403-4.3. Deliveries shall be scheduled so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.*

*During the base course paving, the Contractor may utilize depth control for replacing the pavement removed as part of the milling operation. For all runway and taxiway pavements, Contractor shall use a stringline to place each lane of each lift of bituminous surface course. However, at the Contractor's option, Contractor shall use stringline for first lift of bituminous surface course and then survey the grade of that lift. Provided grades of that lift of bituminous surface course meet the tolerances of paragraphs 403-5.2b(5), then Contractor may place successive lifts of bituminous surface course using a long ski, or laser control per paragraph 403-4.4. However, Contractor shall survey each lift of bituminous surface course and certify to Engineer that every lot of each lift meets the grade tolerances of paragraph 403-5.2b(5) before the next lift can be placed without a stringline. If the grades of a single lot do not meet the tolerances of 403-5.2b(5), then the Contractor shall use a stringline for each entire lift. Corrective action in paragraph 403-5.2b(6) applies to the final lift of surface course; however, for multiple lift construction, the Contractor shall correct to ensure the final lift of surface course is a nominal 3 inches or as dictated by the typical sections.*

*The Contractor shall use a material transfer vehicle to deliver mix to the paver for all runway paving.*

*The initial placement and compaction of the mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250°F (121°C). The Contractor shall provide a thermometer onsite to test the temperature of each truck load.*

*Edges of existing bituminous pavement abutting the new work shall be saw cut and carefully removed as shown on the drawings and painted with bituminous tack coat before new material is placed against it. Longitudinal cuts with a milling machine such that a generally square cut is made will be acceptable.*

*Upon arrival, the mixture shall be placed to the full width by a bituminous paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 12.5 ft except where edge lanes require less width to complete the area. Additional screed sections shall not be attached to widen paver to meet the minimum lane width requirements specified above unless additional auger sections are added to match. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot; however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet from transverse joints in the previous course.*

*Transverse joints in adjacent lanes shall be offset a minimum of 10 feet except as dictated by off peak paving.*

*On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. Areas of segregation in the course, as determined by the Engineer, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of 2 inches deep. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.*

**403-4.11 COMPACTION OF MIXTURE.** *After placing, the mixture shall be thoroughly and uniformly compacted by power rollers. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor.*

*The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.*

*Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained.*

*To prevent adhesion of the mixture to the roller, the wheels shall be equipped with a scraper and kept properly moistened using a water soluble asphalt release agent approved by the engineer. Excessive water will not be permitted.*

*In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power driven tampers. Tampers shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.*

*Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.*

**403-4.12 JOINTS.** *The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.*

*The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint.*

*Longitudinal joints which are irregular, damaged, uncompacted, or otherwise defective, or which have been left exposed for more than 4 hours, or whose surface temperature has cooled to less than 160°, shall be cut back 6 inches to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be cleaned and dry and given a tack coat of bituminous material prior to placing any fresh mixture against the joint. The cost of this work and tack coat shall be considered incidental to the cost of the bituminous course.*

**403-4.13 NIGHTTIME PAVING.** *Paving during nighttime construction shall require the following:*

- a. *All paving machines, rollers, distributor trucks and other vehicles required by the Contractor for his operations shall be equipped with artificial illumination sufficient to safely complete the work.*
- b. *Minimum illumination level shall be twenty (20) horizontal foot candles and maintained in the following areas:*
  - (1) *An area of 30 feet wide by 30 feet long immediately behind the paving machines during the operations of the machines.*
  - (2) *An area 15 feet wide by 30 feet long immediately in front and back of all rolling equipment, during operation of the equipment.*
  - (3) *An area 15 feet wide by 15 feet long at any point where an area is being tack coated prior to the placement of pavement.*
- c. *As partial fulfillment of the above requirements, the Contractor shall furnish and use, complete artificial lighting units with a minimum capacity of 3,000 watt electric beam lights, affixed to all equipment in such a way to direct illumination on the area under construction.*
- d. *In addition, the Contractor shall furnish portable floodlight units as necessary to achieve quality requirements. It shall be left to the Engineer's sole judgment as to whether the Contractor has supplied a satisfactory amount of lighting units.*
- e. *If the Contractor places any out of specification mix in the project work area, the Contractor is required to remove it at its own expense, to the satisfaction of the Engineer. If the Contractor has to continue placing non-payment bituminous concrete, as directed by the Engineer, to make the surfaces safe for aircraft operations, the Contractor shall do so to the satisfaction of the Engineer.*
- f. *See Section G-100, General Requirements, for other requirements relative to opening night work areas to aircraft traffic after each shift. It is the Contractor's responsibility to leave the facilities to be paved in a safe condition ready for aircraft operations. The Contractor shall allow sufficient time for the mat to cool to a surface temperature of 160° to mitigate rutting from aircraft loading. No consideration for extended closure time of the area being paved will be given. As a first order of work for the next paving shift, the Contractor shall remove all out of specification material and replace with approved material to the*

*satisfaction of the Engineer. When the above situations occur, there will be no consideration given for additional construction time or payment for extra costs.*

#### **403-5 MATERIAL ACCEPTANCE**

**403-5.1 ACCEPTANCE SAMPLING AND TESTING.** *All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Contractor. Testing organizations performing these tests shall meet the requirements of ASTM D 3666. All equipment in Contractor furnished laboratories shall be calibrated by the testing organization prior to the start of operations. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction. All equipment in Contractor furnished laboratories shall be calibrated by an independent testing organization prior to the start of operations.*

#### **403-5.2**

**a. Field Placed Material.** *Material placed in the field shall be tested for mat and joint density on a lot basis. A lot will consist of:*

- *one day or shift's production not to exceed 2,000 tons, or*
- *a half day or shift's production where a day's production is expected to consist of between 2,000 and 4,000 tons, or*
- *similar subdivisions for tonnages over 4,000 tons.*

*Where more than one plant is simultaneously producing material for the job, the lot sizes shall apply separately for each plant.*

**(1) Mat Density.** *The lot shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each subplot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than one foot from a transverse or longitudinal joint.*

**(2) Joint Density.** *A lot will consist of:*

- (a)** *one day or shift's production not to exceed 2,000 tons, or*

- (b) a half day or shift's production where a day's production is expected to consist of between 2,000 and 4,000 tons, or*
- (c) similar subdivisions for tonnages over 4,000 ton.*

*The lot shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each subplot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Edge of cores will be taken within 6 inches of the joint of the same lot material but not directly on the joint.*

- (3) Sampling.** *Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be five inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Cored pavement shall be cleaned and core holes shall be filled in a manner acceptable to the Engineer and within one day after sampling.*

- (4) Testing.** *The bulk specific gravity of each cored sample will be measured by the Contractor in accordance with ASTM D 2726 or ASTM D 1188, whichever is applicable. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the average bulk specific gravity of all laboratory prepared specimens for the lot, as determined as follows:*

- (a) Sufficient material for preparation of test specimens for all testing will be sampled by the Contractor on a random basis, in accordance with the procedures contained in ASTM D 3665. One set of laboratory compacted specimens will be prepared for each subplot in accordance with ASTM D 6926, at the number of blows required by paragraph 403-3.2, Table 1. Each set of laboratory compacted specimens will consist of three test portions prepared from the same sample increment. The sample of bituminous mixture may be put in a covered metal tin and placed in an oven for not less than 30 minutes or more than 60 minutes to stabilize to compaction temperature. The compaction temperature of the specimens shall be as specified in the job mix formula.*



(b) *The bulk specific gravity of each test specimen shall be measured by the Contractor in accordance with ASTM D 2726 using the procedure for laboratory-prepared thoroughly dry specimens, or ASTM D 1188, whichever is applicable, for use in computing pavement density.*

(c) *The bulk specific gravity used to determine the joint density at joints formed between different lots shall be the lowest of the bulk specific gravity values from the two different lots.*

(5) **Acceptance.** *Acceptance of field placed material for mat and joint density will be determined by the Engineer in accordance with the requirements of paragraph 403-5.2b.*

b. **Partial Lots - Field Placed Material.** *When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or other minor tonnage placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.*

*The last batch produced where production is halted will be sampled, and its properties shall be considered as representative of the particular subplot from which it was taken. In addition, an agreed to minor placement will be sampled, and its properties shall be considered as representative of the particular subplot from which it was taken. Where three sublots are produced, they shall constitute a lot. Where one or two sublots are produced, they shall be incorporated into the next lot, and the total number of sublots shall be used in the acceptance plan calculation, i.e.,  $n = 5$  or  $n = 6$ , for example. Partial lots at the end of asphalt production on the project shall be included with the previous lot.*

#### **403-5.3 ACCEPTANCE CRITERIA.**

a. **General.** *Acceptance will be based on the following characteristics of the bituminous mixture and completed pavement and test results:*

(1) *Mat density*

(2) *Joint density*

(3) *Thickness*

(4) *Smoothness*

(5) *Grade*

*Mat density will be evaluated for acceptance in accordance with paragraph 403-5.2b(1). Joint density will be evaluated for acceptance in accordance with paragraph 403-5.2b(2).*

*Thickness will be evaluated by the Contractor for compliance in accordance with paragraph 403-5.2b(3). Acceptance for smoothness will be based on the criteria contained in paragraph 403-5.2b(4). Acceptance for grade will be based on the criteria contained in paragraph 403-5.2b(5).*

*The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of bituminous mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.*

**b. Acceptance Criteria.**

**(1) Mat Density.** *Acceptance of each lot of plant produced material for mat density shall be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 96 percent, the lot shall be acceptable. If the average mat density of the lot is below 96 percent, the lot shall be removed and replaced at the Contractor's expense.*

**(2) Joint Density.** *Acceptance of each lot of plant produced material for joint density shall be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 94 percent, the lot shall be acceptable. If the average joint density of the lot is less than 94 percent, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.*

**(3) Thickness.** *Thickness of each course shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by the Contractor using the cores extracted for each subplot for density measurement. The*

*maximum allowable deficiency at any point shall not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where thickness deficiency exceeds the specified tolerances, the lot or subplot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the Engineer to circumscribe the deficient area.*

**(4) Smoothness.** *The final surface shall be free from roller marks. The finished surfaces of each course of the pavement, except the finished surface of the final surface course, shall not vary more than 3/8 inch when evaluated with a 16 foot straightedge. The finished surface of the final surface course shall not vary more than 1/4 inch when evaluated with a 16 foot straightedge. The lot size shall be 2,000 square yards. Smoothness measurements shall be made at 50 foot intervals and as determined by the Engineer. In the longitudinal direction, a smoothness reading shall be made at the center of each paving lane. In the transverse direction, smoothness readings shall be made continuously across the full width of the pavement. However, transverse smoothness readings shall not be made across designed grade changes. At warped transition areas, straightedge position shall be adjusted to measure surface smoothness and not design grade transitions. When more than 15 percent of all measurements within a lot exceed the specified tolerance, the Contractor shall remove the deficient area to the depth of the course of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the course in accordance with the limitations noted above.*

**(5) Grade.** *The finished surface of the pavement shall not vary from the gradeline elevations and cross sections shown on the plans by more than 1/2 inch. The finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and all breaks in grade transversely (not to exceed 50 feet) to determine the elevation of the completed pavement. The level runs shall be performed by the City surveyor. The lot size shall be 2,000 square yards. When more than 15 percent of all the measurements within a lot are outside the specified tolerance, or if any one shot within the lot deviates 3/4 inch or more from planned*

*grade, the Contractor shall remove the deficient area to the depth of the final course of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. High point grinding will be limited to 15 square yards. The surface of the ground pavement shall have a texture consisting of grooves between 0.090 and 0.130 inches wide. The peaks and ridges shall be approximately 1/32 inch higher than the bottom of the grooves. The pavement shall be left in a clean condition. The removal of all of the slurry resulting from the grinding operation shall be continuous. The grinding operation should be controlled so the residue from the operation does not flow across other lanes of pavement. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above.*

- c. Density Outliers.** *If the tests within a lot include a very large or a very small value that appears to be outside the normal limits of variation, check for an outlier in accordance with ASTM E 178, at a significance level of 5 percent, to determine if this value should be discarded.*

#### **403-5.4 RESAMPLING PAVEMENT FOR MAT DENSITY**

- a. General.** *Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the Engineer. A retest will consist of all the sampling and testing procedures contained in paragraphs 403-5.1b(1). Only one resampling per lot will be permitted.*
- (1)** *A redefined mat density shall be calculated for the resampled lot. The number of tests used to calculate the redefined mat density shall include the initial tests made for that lot plus the retests.*
- (2)** *The cost for resampling and retesting shall be borne by the Contractor.*
- b. Payment for Resampled Lots.** *The redefined mat density for a resampled lot shall be used to evaluate the acceptance of that lot in accordance with Paragraph 403-5.2.*

#### **403-6 CONTRACTOR QUALITY CONTROL**

**403-6.1 GENERAL.** *The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall*

*perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by paragraph 403-6.3, including but not limited to:*

- a. Mix Design*
- b. Aggregate Grading*
- c. Quality of Materials*
- d. Stockpile Management*
- e. Proportioning*
- f. Mixing and Transportation*
- g. Placing and Finishing*
- h. Joints*
- i. Compaction*
- j. Surface smoothness*
- k. Personnel*
- l. Laydown Plan*

**403-6.2 TESTING LABORATORY.** *The Contractor shall provide a fully equipped asphalt laboratory meeting the requirements of paragraph 403-3.5 and 403-4.2a(2) located at the plant or job site. The Contractor shall provide the Engineer with certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.*

*The effective working area of the laboratory shall be a minimum of 300 square feet with a ceiling height of not less than 7.5 feet. Lighting shall be adequate to illuminate all working areas. It shall be equipped with heating and air conditioning units to maintain a temperature of 70 degrees F plus 5 degrees.*

*Laboratory facilities shall be kept clean and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control and acceptance activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.*

**403-6.3 QUALITY CONTROL TESTING.** *The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to the specifications and as set forth in the approved Quality Control Program as required by these Specifications. The testing program shall include, but shall not be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction and surface smoothness.*

*All testing may be witnessed by the Engineer and/or by the City of San Diego Standards Division.*

- a. Asphalt Content.** *A minimum of two tests shall be performed per lot in accordance with ASTM D 2172 for determination of asphalt content. The weight of ash portion of the test, as described in ASTM D 2172, shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter, for the duration of plant production. The last weight of ash value obtained shall be used in the calculation of the asphalt content for the mixture. The asphalt content for the lot will be determined by averaging the test results.*

*The use of the nuclear method for determining asphalt content in accordance with ASTM D 4125 is permitted, provided that it is calibrated for the specific mix being used.*

- b. Gradation.** *Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D 5444 and ASTM C 136 (Dry Sieve). When asphalt content is determined by the nuclear method, aggregate gradation shall be determined from hot bin samples on batch plants, or from the cold feed on drum mix or continuous mix plants, and tested in accordance with ASTM C 136 (dry sieve) using actual batch weights to determine the combined aggregate gradation of the mixture.*
- c. Moisture Content of Aggregate.** *The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.*
- d. Moisture Content of Mixture.** *The moisture content of the mixture shall be determined once per lot in accordance with ASTM D 1461 or AASHTO T110.*
- e. Temperatures.** *Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the bitumen in the storage tank, the mixture at the plant, and the mixture at the job site.*

- f. **In-Place Density Monitoring.** The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D 2950.*
- g. **Additional Testing.** Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.*
- h. **Monitoring.** The Engineer reserves the right to monitor any or all of the above testing.*

**403-6.4 SAMPLING.** When directed by the Engineer, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

**403-6.5 CONTROL CHARTS.** The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation and asphalt content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

- a. **Individual Measurements.** Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:*

<b>CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS</b>		
<b>Sieve</b>	<b>Action Limit</b>	<b>Suspension Limit</b>
3/4 inch	0%	0%
1/2 inch	±6%	±9%
3/8 inch	±6%	±9%
No. 4	±6%	±9%
No. 16	±5%	±7.5%
No. 50	±3%	±4.5%
No. 200	±2%	±3%
Asphalt Content	±0.45%	±0.70%

- b. Range.** Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of  $n = 2$ . Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for  $n = 3$  and by 1.27 for  $n = 4$ .

<b>CONTROL CHART LIMITS BASED ON RANGE(Based on <math>n = 2</math>)</b>	
<b>Sieve</b>	<b>Suspension Limit</b>
1/2 inch	11 %
3/8 inch	11 %
No. 4	11 %
No. 16	9 %
No. 50	6 %
No. 200	3.5 %
Asphalt Content	0.8 %

- c. Control Chart Modification.** Charts are based on 3/4-inch max aggregate. If 1" or 1.5" max aggregate used:

(1) Amend Individual Measurement chart as follows:



<i>Sieve</i>	<i>Action Limit</i>	<i>Suspension Limit</i>
<i>1 inch or 1-1/2 inch</i>	<i>0%</i>	<i>0%</i>
<i>3/4 inch</i>	<i>6%</i>	<i>11%</i>

**(2)** Delete 1-inch and 3/4 inch Action and Suspension Limits

**(3)** Revise 1/2 -inch limits to:

<i>Sieve</i>	<i>Action Limit</i>	<i>Suspension Limit</i>
<i>1/2-inch</i>	<i>0%</i>	<i>0%</i>

**(4)** delete 1/2-inch sieve from Range Chart

**d. Corrective Action.** The Contractor Quality Control Program shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

**(1)** One point falls outside the Suspension Limit line for individual measurements or range; or

**(2)** Two points in a row fall outside the Action Limit line for individual measurements.

**403-6.6 QUALITY CONTROL REPORTS.** The Contractor shall maintain records and shall submit reports of quality control activities daily per Contractor Quality Control Plan.

**403-7 MEASUREMENT.** Plant mix bituminous concrete pavement shall be measured by the number of tons of bituminous mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.



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<i>ASTM D 1188</i>	<i>Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens</i>
<i>ASTM D 1461</i>	<i>Moisture or Volatile Distillates in Bituminous Paving Mixtures</i>
<i>ASTM D 2041</i>	<i>Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures</i>
<i>ASTM D 2172</i>	<i>Quantitative Extraction of Bitumen from Bituminous Paving Mixtures</i>
<i>ASTM D 2419</i>	<i>Sand Equivalent Value of Soils and Fine Aggregate</i>
<i>ASTM D 2489</i>	<i>Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures</i>
<i>ASTM D 2726</i>	<i>Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures</i>
<i>ASTM D 2950</i>	<i>Density of Bituminous Concrete in Place by Nuclear Methods</i>
<i>ASTM D 3203</i>	<i>Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures</i>
<i>ASTM D 3665</i>	<i>Random Sampling of Construction Materials</i>
<i>ASTM D 3666</i>	<i>Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials</i>
<i>ASTM D 4125</i>	<i>Asphalt Content of Bituminous Mixtures by the Nuclear Method</i>
<i>ASTM D 4318</i>	<i>Liquid Limit, Plastic Limit, and Plasticity Index of Soils</i>
<i>ASTM D 4791</i>	<i>Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate</i>
<i>ASTM D 4867</i>	<i>Effect of Moisture on Asphalt Concrete Paving Mixtures</i>
<i>ASTM D 5444</i>	<i>Mechanical Size Analysis of Extracted Aggregate</i>
<i>ASTM D 5581</i>	<i>Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6" Diameter Specimen)</i>
<i>ASTM D 6926</i>	<i>Preparation of Bituminous Specimens Using Marshall Apparatus</i>
<i>ASTM D 6927</i>	<i>Marshall Stability and Flow of Bituminous Mixtures</i>

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<i>ASTM E 11</i>	<i>Wire-Cloth Sieves for Testing Purposes</i>
<i>ASTM E 178</i>	<i>Dealing with Outlying Observations</i>
<i>AASHTO T 30</i>	<i>Mechanical Analysis of Extracted Aggregate</i>
<i>AASHTO T 110</i>	<i>Moisture or Volatile Distillates in Bituminous Paving Mixtures</i>
<i>The Asphalt Institute's Manual No. 2 (MS-2)</i>	<i>Mix Design Methods for Asphalt Concrete</i>

**403-10 MATERIAL REQUIREMENTS**

<i>ASTM D 242</i>	<i>Mineral Filler for Bituminous Paving Mixtures</i>
<i>ASTM D 946</i>	<i>Penetration Graded Asphalt Cement for Use in Pavement Construction</i>
<i>ASTM D 3381</i>	<i>Viscosity-Graded Asphalt Cement for Use in Pavement Construction</i>
<i>ASTM D 4552</i>	<i>Classifying Hot-Mix Recycling Agents</i>
<i>AASHTO MP1</i>	<i>Performance Graded Binder Designation</i>

**END OF SECTION P-403**

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**SECTION P-600**

**CONCRETE REMOVAL, REPAIR AND REPLACEMENT**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. This specification covers the repair of Portland cement concrete pavement (PCCP) panels and joints, as shown on the Plans or as directed by the Engineer. The plans identify areas which are damaged and require various specified repairs. These repairs fall into the following classifications: Remove and reseal joints; Crack repairs and Spall repairs. Each of these classifications of distress is discussed in detail below including procedures to be followed during repair.

**PART 2 - MATERIALS**

**2.1 CONCRETE.**

- A. Concrete and other materials utilized in the replacement of full or partial slab panels shall comply with Section P-610, Structural Portland Cement Concrete . Of special note is the strength required for the mix which is included in Section 610-3.2, paragraph 2 which specifies a minimum compressive strength of 6,000 psi for this application.

**2.2 ELASTOMERIC CONCRETE.**

- A. Spall repair material shall be an elastomeric concrete consisting of a fluid base or binder with suitable reinforcing agents to provide a product which mixes in five minutes or less, flows readily, strongly adheres to concrete, requires no external application of heat for curing, and cures within one hour of application. Surface to be patched shall be primed if recommended by supplier.
- B. Material shall be "DelPatch<sup>TM</sup>" as manufactured by the D.S. Brown Company. Spall repair materials shall be weighed and mixed in accordance with the manufacturer's recommendations. The material shall be placed into the area to be repaired in layers up to finished grade within four minutes of the initial mixing. The material shall be allowed to cure two hours before opening to construction traffic.

**2.3 JOINT FILLING SEALER / BACKER ROD.**

- A. Joint fill material and backer rod shall conform to the requirements of Section P-605, Joint Sealing Filler.

**2.4 TESTING AND QUALITY CONTROL.**

- A. Unless otherwise specified herein, quality control testing and evaluation required for repair of concrete pavement shall conform to the testing requirements set forth in Section P-610 of these Specifications, Structural Portland Cement Concrete.

**PART 3 - CONSTRUCTION METHODS.** Construction methods shall conform to the following for each classification of repair.

**3.1 REMOVE AND RESEAL JOINTS.**

- A. The joints in the PCCP on both ends of the runway shall have the existing sealant removed, the joint cleaned and sealed per Section P-605, Joint Sealing Filler.

**3.2 SPALL REPAIRS.**

**A. General.**

1. The repairs to the spalls identified in the plans shall first begin by laying out the limits of removal for the Engineer's approval. Upon approval, the concrete shall be sawcut a minimum of 3" deep. The corners shall be relieved by using a 2" diameter core thereby alleviating the need to oversaw the corners. The concrete shall then be removed with light chipping hammers suitable for the size of repair to be made. Extreme caution shall be exercised to prevent damage to pavement that is to be retained. Should damage occur, the Contractor shall resaw that pavement at no additional cost to the owner. The material removal shall be at a minimum consistent to the 3" sawed depth or until a sound surface is found. The Contractor shall drill and epoxy dowels into the repair area as detailed to promote bonding. The repair area shall then be cleaned, primed if required and filled with elastomeric concrete. No traffic shall be placed on the repair for a minimum of 2 hours. The Contractor shall have a sweeper on site at all times during the removal operation to clean and remove demolition debris.
2. Spalls shall be measured for payment as the number of spalls sawcut, removed and filled as specified, based on their size as specified herein. Spall repair areas shall be marked by the Engineer and the quantities agreed by the Engineer and Contractor before the work begins, and the spall repair method shall be approved by the Engineer in advance.

**B. Definitions.**

1. Small spall repairs on existing pavement shall be defined as those areas of spall repair of size up to 2.5 square feet x 4 inches deep.
2. Large spall repairs on existing pavement shall be defined as those areas of spall repair from 2.5 up to 7 square feet x 4 inches deep.

**PART 4 - SUBMITTALS**

**4.1** Submittals required for this item include, but are not limited to:

1. Elastomeric Concrete
2. Joint Filler per Section P-605
3. Backer Road per Section P-610

- 4. Portland Cement Concrete Mix Design per Section P-610
- 5. Routing equipment

**PART 5 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

**5.1** For “Concrete Joint Resealing”, payment shall be made at the contract unit price per linear foot and shall include routing, sawing, cleaning and sealing of the existing PCCP joints as shown on the plans and as required in specifications. This price shall be full compensation for furnishing all labor, supervision, equipment, tools, and incidentals necessary to complete the item.

The cost for sealing concrete joints in new concrete slabs shall be considered incidental to the construction of the PCC pavement and no separate payment will be made under this item.

No payment will be made for joint resealing caused by Contractor’s negligence during removal, and no separate payment will be made for performing this item under construction sequencing restrictions, including limited access or nighttime work areas.

**5.2** For “Concrete Spall Repair, Small”, payment shall be made at the contract unit price per each including cutting, removals, coring, preparation, forming, patch material, and joint sealant necessary for spall repairs pursuant to the plans and specification. This price shall be full compensation for furnishing all labor, supervision, materials, equipment, tools, and incidentals necessary to complete the item as specified herein and pursuant to the contract documents.

No payment will be made for spall repairs in new pavement slabs or those that are caused by Contractor’s negligence during removals.

**5.3** For “Concrete Spall Repair, Large”, payment shall be made at the contract unit price per each including cutting, removals, coring, preparation, forming, patch material, and joint sealant necessary for spall repairs pursuant to the plans and specification. This price shall be full compensation for furnishing all labor, supervision, materials, equipment, tools, and incidentals necessary to complete the item as specified herein and pursuant to the contract documents

No payment will be made for spall repairs in new pavement slabs or those that are caused by Contractor’s negligence during removals.

Payment will be made under:

Item P-600-1	Concrete Joint Resealing.....	Per Linear Foot
Item P-600-2	Concrete Spall Repair, Small .....	Per Each
Item P-600-3	Concrete Spall Repair, Large .....	Per Each

**END OF SECTION P-600**

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**SECTION P-602**

**BITUMINOUS PRIME COAT**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall provide bituminous prime coat on unbound base layers prior to paving with asphalt surface course. Application of bituminous prime coat shall be in accordance with the FAA Specification Item P-602, as included and modified hereafter. Prime coat shall be required on compacted aggregate base course prior to paving bituminous concrete.

***ITEM P-602 BITUMINOUS PRIME COAT***

**602-1 DESCRIPTION.** *This item shall consist of an application of bituminous material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.*

**602-2 MATERIALS**

**602-2.1 BITUMINOUS MATERIAL.** *The types, grades, controlling specifications, and application temperatures for the bituminous materials are given in Table 1. The Engineer shall approve the specific material to be used.*

<b>TABLE 1. BITUMINOUS MATERIAL FOR PRIME COAT</b>			
<i>Application Temperatures</i>			
<b>Type and Grade</b>	<b>Specification</b>	<b>Deg. F</b>	<b>Deg. C</b>
<i>Emulsified Asphalt</i>			
<i>SS-1, SS-1h</i>	<i>ASTM D 977</i>	<i>70-160</i>	<i>20-70</i>

**602-3 CONSTRUCTION METHODS**

**602-3.1 WEATHER LIMITATIONS.** *The prime coat shall be applied only when the existing surface is dry or contains sufficient moisture to get uniform distribution of the bituminous material, when the atmospheric temperature is above 60°F (15°C), and when the weather is not foggy or*

*rainy. The temperature requirements may be waived, but only when so directed by the Engineer.*

**602-3.2 EQUIPMENT.** *The equipment used by the Contractor shall include a self-powered pressure bituminous material distributor and equipment for heating bituminous material.*

*The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.*

*If the distributor is not equipped with an operable quick shut off valve, the prime operations shall be started and stopped on building power.*

*A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.*

**602-3.3 APPLICATION OF BITUMINOUS MATERIAL**

*Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.*

*The bituminous material including solvent shall be uniformly applied with a bituminous distributor at the rate of 0.25 to 0.50 gallons per square yard depending on the base course surface texture. The type of bituminous material, application temperature, and application rate shall be approved by the Engineer prior to application.*

*Following the application, the primed surface shall be allowed to dry not less than 48 hours without being disturbed or for such additional time as may be necessary to permit the drying out of the prime coat until it will not be picked up by traffic or equipment. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the surfacing has been placed. Suitable precautions shall be taken by the Contractor to protect the primed surface against damage during this interval, including supplying and spreading any sand necessary to blot up excess bituminous material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the owner.*

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**602-3.4 BITUMINOUS MATERIAL CONTRACTOR'S  
RESPONSIBILITY**

*Samples of the bituminous materials that the Contractor proposes to use, together with a statement as to their source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous materials to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials, so demonstrated by service tests, shall be acceptable.*

*The Contractor shall furnish vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The test reports shall contain all the data required by the applicable specification. If the Contractor applies the prime material prior to receipt of the tests reports, payment for the material shall be withheld until they are received. If the material does not pass the specifications it shall be replaced at the Contractor's expense. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as basis for final acceptance. All such test reports shall be subject to verification by testing samples of materials received for use on the project.*

**602-4 METHOD OF MEASUREMENT**

**602-4.1** *The bituminous material for prime coat shall not be measured for payment.*

**602-5 BASIS OF PAYMENT**

**602-5.1** *Bituminous prime coat shall be considered incidental to the other pay items and no separate payment will be made.*

**602-6 MATERIAL REQUIREMENTS**

ASTM D 977                      *Emulsified Asphalt*

**602-7 TESTING REQUIREMENTS**

ASTM D 1250                      *Petroleum Measurement Tables*  
  
*Asphalt Institute*                      *Asphalt Pocketbook of Useful Information*  
*Manual MS-6*                      *(Temperature-Volume Corrections for*  
*Emulsified Asphalts) Table IV-3*

***END OF ITEM P-602***

**PART 2 - SUBMITTALS**

- 2.1 Submittals required for this item include, but are not limited to:
- A. Bituminous Prime Coat
  - B. Spraying Equipment

**END OF SECTION P-602**

**SECTION P-603**

**BITUMINOUS TACK COAT**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall perform all work required by the plans for application of bituminous tack coat in accordance FAA Specification Item P-603, as included and modified hereafter, and as shown on the Plans or as directed by the Engineer.
- B. Tack coat shall be required prior to paving bituminous concrete on portland cement concrete or asphalt concrete pavement, and on underlying lifts of multiple-lift asphalt paving. Both horizontal and vertical faces shall be tacked.

***ITEM P-603 BITUMINOUS TACK COAT***

**603-1 DESCRIPTION.** *This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.*

**603-2 MATERIALS**

**603-2.1 BITUMINOUS MATERIALS.** *The bituminous material shall be either emulsified asphalt, or Performance Grade (PG-grade) binder and shall conform to the requirements of Table 1. The type, grade, controlling specification, and application temperature of bituminous material to be used shall be approved by the Engineer.*

<b>TABLE 1. BITUMINOUS MATERIAL</b>			
<b>Application Temperature</b>			
<b>Type and Grade</b>	<b>Specification</b>	<b>Deg. F</b>	<b>Deg. C</b>
<i>Performance Grade Binder</i>	<i>AASHTO M320</i>		
<i>Same grade as pavement being tacked</i>		<i>285-347</i>	<i>140-175</i>
<i>Emulsified Asphalt</i>			
<i>SS-1, SS-1h</i>	<i>ASTM D 977</i>	<i>75-130</i>	<i>25-55</i>

### **603-3 CONSTRUCTION METHODS**

**603-3.1 WEATHER LIMITATIONS.** *The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is above 60°F (15°C). The temperature requirements may be waived, but only when so directed by the Engineer.*

**603-3.2 EQUIPMENT.** *The Contractor shall provide equipment for heating and applying the bituminous material.*

*The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.*

*If the distributor is not equipped with an operable quick shut off valve, the tack operations shall be started and stopped on building paper. A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.*

### **603-3.3 APPLICATION OF BITUMINOUS MATERIAL**

*Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or air blast to remove all loose dirt and other objectionable material.*

*Emulsified asphalt shall be diluted by the addition of water when necessary to produce a satisfactory tack coat and shall be applied a sufficient time in advance of the paver to ensure that all water has evaporated before any of the overlying mixture is placed on the tacked surface.*

*The bituminous material including vehicle or solvent shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.15 gallons per square yard for emulsions, and 0.01 to 0.03 gallons per square yard for performance grade binders, depending on the condition of the existing surface. The type of bituminous material, application temperature, and application rate shall be approved by the Engineer prior to application.*

*Following the application, the surface shall be allowed to cure without being disturbed for such period of time as may be necessary to permit drying out and setting of the tack coat. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the next course has*

been placed. Suitable precautions shall be taken by the Contractor to protect the surface against damage during this interval.

**603-3.4 BITUMINOUS MATERIAL CONTRACTOR'S RESPONSIBILITY**

Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The tests reports shall contain all the data required by the applicable specification. If the Contractor applies the material prior to receipt of the tests reports, payment for the material shall be withheld until they are received. If the material does not pass the specifications it shall be replaced at the Contractor's expense. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as a basis for final acceptance. All such test reports shall be subject to verification by testing samples of material received for use on the project.

**603-4 METHOD OF MEASUREMENT.** The bituminous tack coat shall not be measured for payment.

**603-5 BASIS OF PAYMENT.** Bituminous tack shall be considered incidental to the other pay items and no separate payment will be made.

**603-6 603-6 MATERIAL REQUIREMENTS**

ASTM D 633	Volume Correction Table for Road Tar
ASTM D 977	Emulsified Asphalt
ASTM D 1250	Petroleum Measurement Tables
AASHTO M320	Standard Spec. for Performance-Graded Asphalt Binder
Asphalt Institute Manual MS-6	Asphalt Pocketbook of Useful Information (Temperature-Volume Corrections for Emulsified Asphalts) Table IV-3

**END ITEM P-603**

**PART 2 - SUBMITTALS**

- 2.1 Submittals required for this item include, but are not limited to:
- A. Bituminous Tack Coat
  - B. Spraying Equipment

**END OF SECTION P-603**



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**SECTION P-605**

**JOINT SEALING FILLER**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A.** The Contractor shall perform all work required by the plans and specifications for construction of joints in Portland cement concrete pavement and between asphalt concrete Pavement and Portland Cement Concrete Pavement. Work shall be in accordance with and as shown on the Plans and FAA Specification Item P-605, as included and modified hereafter.

***ITEM P-605 JOINT SEALING FILLER***

**605-1 DESCRIPTION.** *This item shall consist of providing and installing a resilient and adhesive joint sealing filler capable of effectively sealing joints and cracks in pavements.*

**605-2 MATERIALS**

**605-2.1 JOINT SEALERS.** *Joint sealing material shall be one of the following types. Each lot or batch of sealing compound shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, and shall be accompanied by the manufacturer's certification stating that the compound meets the requirements of this specification.*

- a. Sealants for Concrete to Concrete Joints.** *Sealants for concrete to concrete joints shall be one of the following:*

*SIKAFLEX 15 LMSL  
Dow Corning 888 Silicone Joint Sealant  
Crafco Roadsaver Silicone*

- b. Sealants for Asphalt to Concrete Joints.** *Sealants for all asphalt to concrete joint shall be SIKASIL 728 SL Silicone Joint Sealant or approved equal.*

**605-2.2** *Contractor shall store sealing materials from inclement weather and maintain material temperatures as recommended by manufacturer. Store sealers as required by applicable materials specifications.*

**605-2.3 BACKER ROD.** *Preformed backer rod shall be installed in all pavement construction, expansion, and contraction joints as shown in the Plans. Backer rods shall be an approved non-moisture absorbing, non-gassing, extruded closed-cell polyethylene foam or reticulated closed cell extruded polyolefin foam. Material will be non-reactive to the sealant and non-adhesive to Portland cement concrete and asphalt concrete. Backer rods diameter shall be of the size recommended by the supplier for the particular joint width anticipated. Backer rod materials shall be compatible with the sealant, shall not adhere to the sealant, shall be compressible without extruding the sealant, and shall recover to maintain contact with the joint faces when the joint is open. Jute, paper, or other moisture absorbing material shall not be used for the backing material.*

**605-2.4 Primer.** *Primer shall be as recommended by the manufacturer of the sealant.*

### **605-3 CONSTRUCTION METHODS**

**605-3.1 TIME OF APPLICATION.** *Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment.*

#### **605-3.2 PREPARATION OF JOINTS**

- a. Weather Limitations.** *Do not apply joint sealing compound in wet joints, when atmospheric and pavement temperatures are below 50 degrees F, or when weather is rainy or foggy.*
- b. Sawing.** *All joints shall be widened in accordance with specifications and plan details to create a sealant well suitable for installing the joint sealant. Immediately after widening the joint, the resulting slurry shall be completely removed from the joint and adjacent area by flushing with water, vacuum sweeping, and other tools as necessary. All widening slurry and debris shall be disposed of in a legal manner. Slurry will not be allowed to enter the storm drain system.*

*Under no circumstances shall liquid membrane curing compound be applied in joints.*

- c. Cleaning.** *Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, and other foreign material to a distance not less than 1 inch from each side of joint edge on the pavement surface. Cleaning shall be accomplished by sandblasting. Sandblasting shall be accomplished in a minimum of two passes. Sand shall be of the proper size and quality necessary for the work. Air pressure for sandblasting shall be not less than 90 psi,*

using a minimum of 300 cubic feet of air per minute. Joints shall be cleaned with one pass per joint face with the nozzle held at an angle directly toward the joint face, and not more than 3 inches from it. Nozzles shall be of the proper size and of the long-wearing type. Nozzles enlarged by wear shall be replaced as necessary.

Upon completion of cleaning, the joints shall be blown out with compressed air free of oil and water. -Air compressors shall be portable and capable of furnishing not less than 90 pounds per square inch pressure. Employ suitable traps to maintain compressed air free of oil and free of moisture. Presence of oil or free moisture in compressed air will necessitate cessation of operations until suitable adjustments are made.

Joint faces shall be surface dry when sealant is applied.

### **605-3.3      INSTALLATION OF SEALANTS.**

- a. General.** Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the Engineer before sealing is allowed. Sealants shall be installed in accordance with the following requirements.
- b. Backer Rod Installation.** Place backer rod of the proper size to the depth indicated on the plans or as recommended by the sealant manufacturer. The backer rod shall be placed with a tool that ensures the proper depth of placement.
- c. Sealant Application.** Cold applied joint sealing compound shall be applied by means of pressure equipment that will force the sealing material to the bottom of the joint and completely fill the joint without spilling the material on the surface of the pavement. Sealant that does not bond to the concrete surface of the joint walls, contains voids, or fails to set to a tack-free condition will be rejected and replaced by the Contractor at no additional cost. Adhere to all limitations and cautions for the sealant in the manufacturer's printed literature.
- d. Manufacturer's Representative.** A representative of the manufacturer's technical staff will be on site for the performance of the test section and the first 2 days of production sealing to train the crew and ensure that the manufacturer's guidelines are being complied with. Upon the completion of these operations, the representative will provide a written report to the Contractor for submission to the Engineer attesting to this fact.

- e. Test Section.** Before sealing the joints, the Contractor shall construct a small test section to demonstrate that the materials, equipment and procedures for preparing, mixing, and placing the sealant will produce a satisfactory joint seal. The test section shall be applied to a portion of the project identified for joint sealing. Size of the test section will be at the discretion of the Engineer. If the test section does not meet the specification requirements, the joints shall be cleaned and refilled.

Fill joint with a continuous body of sealing compound free of voids, blisters, and foreign particles. The top of the compound shall be recessed a minimum of 1/4 inch from top surface of pavement, unless otherwise detailed on the plans or recommended by the joint sealant manufacturer. Excess sealer on surface of pavement shall be removed and surface left in clean condition.

- f. Cleanup.** Any sealant spilled on the surface of the pavement, structures and/or lighting fixtures, shall be removed immediately. If spillage becomes a problem, the Engineer may require that joints be masked prior to filling. Masking will be at the expense of the Contractor.

**605-4 METHOD OF MEASUREMENT.** Joint sealing will be measured by the linear foot of joint sealant placed and accepted.

**605-5 BASIS OF PAYMENT.** Payment for joint sealing shall be made at the contract unit price on material placed and accepted. This price shall be full compensation for furnishing all materials, preparation, sealant removal saw cutting, cleaning, backer rod, sealant, delivering and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

**605-6 TESTING REQUIREMENTS**

ASTM D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension

ASTM D 1644 Test Methods for Nonvolatile Content of Varnishes

**605-7 MATERIAL REQUIREMENTS**

ASTM D 1854 Jet-Fuel-Resistant Concrete Joint Sealer, Hot-Applied Elastic Type

ASTM D 3406 Joint Sealants, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements

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- ASTM D 3569 Joint Sealant, Hot-Applied, Elastometric, Jet-Fuel-Resistant Type, for Portland Cement Concrete Pavements*
- ASTM D 3581 Joint Sealant, Hot-Applied, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements*
- ASTM D 5893 Standard Specifications for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements*
- ASTM D 6690 Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements*
- FED SPEC SS-S-200E(2) Sealants, Joint, Two-Component, Jet-Blast Resistant, Cold Applied*

**END ITEM P-605**

**PART 2 - SUBMITTALS**

- 2.1** Submittals required for this item include, but are not limited to:
- A.** Joint Sealant
  - B.** Backer Rod
  - C.** Equipment

**END OF SECTION P-605**

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**SECTION P-620**

**PAINTING AND MARKING**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. Contractor shall perform all work required by the plans for the application of permanent and temporary pavement marking paint to taxiways, runways, roads, infield areas and other pavement as shown on the plans and in accordance with FAA Specification Item P-620, as included and modified hereafter. The section also covers reflective media (glass beads).
- B. For marking removals see Section P-150, Removals.

**1.2 TEMPORARY PAVEMENT MARKINGS AND REMOVALS.**

- A. Temporary pavement markings required to accommodate aircraft and vehicle traffic will be measured for payment as "Runway and Taxiway Painting - Temporary." In order to accommodate the various phasing requirements of the Plans, or for other airfield operations reasons, the Contractor will be required to remove pavement markings at various locations as the construction proceeds, and place new marking, either permanent or temporary. For the purposes of measurement "-Temporary" shall include all applications at the reduced rate of application as shown in Table 3. Removal of temporary markings shall be measured for payment under Section P-150, Removals.

***ITEM P-620 RUNWAY AND TAXIWAY PAINTING***

***620-1 DESCRIPTION***

*This item shall consist of the painting of numbers, markings, surface painted signs, and stripes on the surface of runways, taxiways, infield areas and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer.*

***620-2 MATERIALS***

***620-2.1 MATERIALS ACCEPTANCE.*** *The Contractor shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site.*

*All emptied containers shall be returned to the paint storage area and shall not be removed from the airport or destroyed until authorized by the Engineer. The Contractor shall periodically provide the Engineer with a report showing the correlation between the total number of square feet painted and the empty containers.*

**620-2.2 PAINT.** *Paint shall be Waterborne paint manufactured by Morton, or approved equal. Colors shall be as listed below*

- (1) White - 37925*
  - (2) Red - Morton #2600A9*
  - (3) Yellow - Morton #2601A9*
  - (4) Black - 3-103e*
  - (5) Green - Morton #2594A9*
- a. Waterborne.** *Paint shall meet the requirements of Federal Specification TT-P-1952E, Type I.*
  - b. Epoxy.** *Section not used.*
  - c. Methacrylate.** *Section not used.*
  - d. Solvent Base.** *Section not used.*
  - e. Preformed Thermoplastic Airport Pavement Markings.** *Section not used.*
  - f. Glass Beads.** *Glass beads shall meet the requirements for Federal Specification. TT B 1325D, Type I (low index of refraction), gradation A. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.*

### **620-3 CONSTRUCTION METHODS**

**620-3.1 WEATHER LIMITATIONS.** *The painting shall be performed only when the surface is dry and when the surface temperature is at least 45°F (7°C) and rising and the pavement surface temperature is at least 5°F (2.7°C) above the dew point. Painting operations shall be discontinued when the surface temperature exceeds the maximum temperature stipulated by the supplier.*

**620-3.2 EQUIPMENT.** *Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dis-*



*painting machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.*

*The mechanical marker shall be an atomizing spray-type or airless-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray.*

**620-3.3 PREPARATION OF SURFACE.** *Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are clean of curing material. Sandblasting or high-pressure water shall be used to remove curing materials.*

**620-3.4 LAYOUT OF MARKINGS.** *The proposed markings shall be laid out in advance of the paint application.*

*The locations of markings to receive glass beads shall be shown on the plans, listed herein, or designated by the Engineer. The following locations, at a minimum, shall receive glass beads:*

- a. All runway and taxiway holding position markings*
- b. Runway threshold marking*
- c. Runway threshold bar*
- d. Runway aiming point marking*
- e. Runway designation marking*
- f. Runway touchdown zone markings*
- g. Runway centerline marking*
- h. All taxiway centerline markings*
- i. Geographical position marking*
- j. Surface painted signs*
- k. Runway side stripes*

- l. Taxiway edge markings*
- m. Non-movement area boundary markings*
- n. Displaced threshold markings*

**620-3.5 APPLICATION – PAINT AND GLASS BEADS.** *Paint shall be applied in two coats at the locations and to the dimensions and spacing shown on the plans. The initial coat shall be dry prior to application of the second coat. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer. The edges of the markings shall not vary from a straight line more than 1/2 inch in 50 feet and marking dimensions and spacings shall be within the following tolerances:*

<b>TABLE 2. MARKING DIMENSION AND SPACING</b>	
<i>Dimension and Spacing</i>	<i>Tolerance</i>
<i>36 inches or less</i>	<i>±1/2 inch</i>
<i>greater than 36 inches to 6 feet</i>	<i>± 1 inch</i>
<i>greater than 6 feet to 60 feet</i>	<i>± 2 inches</i>
<i>greater than 60 feet</i>	<i>± 3 inches</i>

*The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 3. The addition of thinner will not be permitted.*

*Curing times stated in Table 3 may be shortened only by written waiver from the Engineer. Engineer shall approve curing time prior to application of temporary marking.*

<b>TABLE 3. APPLICATION RATES AND SURFACE CURING TIME FOR APPLICATION OF PAINT AND GLASS BEADS</b>				
<i>Paint Type – Marking Type</i>	<i>Paint Square feet per Gallon (ft<sup>2</sup>/gal)</i>	<i>Glass Beads, Type I, Gradation A Pounds per gallon of paint (lb./gal)</i>	<i>Curing Time for AC Pavement prior to receiving Permanent Markings</i>	<i>Curing Time for PCC Pavement Prior to receiving Permanent Marking</i>
<i>Waterborne – Permanent Markings</i>	<i>115 ft<sup>2</sup>/gal. maximum</i>	<i>7 lb./gal. minimum</i>	<i>30 days</i>	<i>24 days</i>
<i>Waterborne – Temporary Markings</i>	<i>300 ft<sup>2</sup>/gal. maximum</i>	<i>none</i>	<i>*</i>	<i>*</i>

*Glass beads shall be distributed upon all white and yellow pavement markings immediately after application of the paint, unless otherwise directed. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate(s) shown in Table 1. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.*

*Infield painted areas (green) shall not receive glass beads. Glass beads shall not be applied to black paint. Markings placed on concrete pavement shall be outlined with a 6" black stripe to enhance the visibility (no beads).*

*All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.*

**620-3.6 APPLICATION PREFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS.**

*Section not used.*

**620-3.7 PROTECTION AND CLEANUP.** *After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.*

*Throughout the duration of the project the Contractor shall be responsible for reapplication of paint and reflective media to all surfaces where markings have been compromised by haul and work activities. Contractor shall bear the entire expense for reapplication.*

**620-4 METHOD OF MEASUREMENT.** *See Part 3*

**620-5 BASIS OF PAYMENT.** *See Part 4*

**620-6 TESTING REQUIREMENTS**

- ASTM C 136 Sieve Analysis of Fine and Coarse Aggregates*
- ASTM C 146 Chemical Analysis of Glass Sand*
- ASTM C 371 Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders*
- ASTM D 92 Test Method for Flash and Fire Points by Cleveland Open Cup*
- ASTM D 711 No-Pick-Up Time of Traffic Paint*
- ASTM D 968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive*
- ASTM D 1213-54(1975) Test Method for Crushing Resistance of Glass Spheres*
- ASTM D 2074 Test Method for Total Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method*
- ASTM D 2240 Test Method for Rubber Products-Durometer Hardness*
- ASTM G 15453 Operating Light and Water-Exposure Apparatus (Fluorescent Light Apparatus UV-Condensation Type) for Exposure of Nonmetallic Materials.*
- Federal Test Method Paint, Varnish, Lacquer and Related Materials; Methods of Inspection,*
- Standard No. 141D/GEN Sampling and Testing*

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**620-7 MATERIAL REQUIREMENTS**

<i>ASTM D 476</i>	<i>Specifications for Dry Pigmentary Titanium Dioxide Pigments Products</i>
<i>Code of Federal Regulations</i>	<i>40 CFR Part 60, Appendix A Definition of Traverse Point Number and Location</i>
<i>Code of Federal Regulations</i>	<i>29 CFR Part 1910.1200 Hazard Communications</i>
<i>FED SPEC TT-B-1325D</i>	<i>Beads (Glass Spheres) Retroreflective</i>
<i>AASHTO M 247</i>	<i>Glass Beads Used in Traffic Paints</i>
<i>FED SPEC TT-P-1952E</i>	<i>Commercial Item Description (CID) A-A-2886B Paint, Traffic and Airfield Marking, Waterborne Paint, Traffic, Solvent Based</i>
<i>FED STD 595</i>	<i>Colors used in Government Procurement</i>

**END OF ITEM P-620**

**PART 2 - SUBMITTALS.**

- 2.1 Submittals required for this item include, but are not limited to:
- A. Paint
  - B. Glass Beads

**PART 3 - METHOD OF MEASUREMENT**

- 3.1 "Runway and Taxiway Painting" shall be measured and paid for per square foot in place performed in accordance with the specifications and accepted by the Engineer
- 3.2 "Runway and Taxiway Painting - Temporary" shall be measured and paid for per square foot in place performed in accordance with the specifications and accepted by the Engineer

**PART 4 - BASIS OF PAYMENT**

- 4.1 For "Runway and Taxiway Painting" payment shall be made at the contract unit price per square foot measured in application of pavement markings, including pavement preparation, double-coat of paint and reflective beads necessary for construction of runway, taxiway, and aircraft ramp pavement markings as shown on the plans and as specified herein. The prices shall be full compensation for furnishing all labor, supervision, materials, layout, equipment,

tools, and incidentals necessary to complete the item as specified herein and pursuant to the contract documents.

- A. One square foot of measurement includes two coats of paint over a one square foot area.
- B. No additional payment will be made for difficulties encountered when placing paint and markings under restricted time or night periods, or in other areas subject to construction phasing restrictions.

4.2 For "Runway and Taxiway Painting – Temporary", payment shall be made at the contract unit price per square foot measured in application of pavement markings, including pavement preparation and paint necessary for closures or interim operation of runways or taxiways or other temporary pavement markings shown on the plans and in accordance with these specifications. The prices shall be full compensation for furnishing all labor, supervision, materials, layout, equipment, tools, and incidentals necessary to complete the item as specified herein and pursuant to the contract documents.

- A. No additional payment will be made for difficulties encountered when placing paint and markings under restricted time or night periods, or in other areas subject to construction phasing restrictions.

Payment will be made under:

Item P 620-1	Runway and Taxiway Painting.....	per Square Foot
Item P-620-2	Runway and Taxiway Painting – Temporary.....	per Square Foot

**END OF SECTION P-620**

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**SECTION P-626**

**EMULSIFIED ASPHALT SLURRY SEAL SURFACE TREATMENT**

**PART 1 - GENERAL**

- 1.1** Any work performed under this section which fails to meet the requirements stated herein will be considered defective and, unless another remedy is stated, shall be removed and replaced at the Contractor's expense.

***ITEM P-626 EMULSIFIED ASPHALT SLURRY SEAL SURFACE TREATMENT***

**620-1 DESCRIPTION.**

**620-1.1** *This item shall consist of a mixture of emulsified asphalt, mineral aggregate, and water, properly proportioned, mixed, and spread on an asphalt prepared underlying course or existing wearing course in accordance with these specifications. Work shall conform to the dimensions shown on the plans or as directed by the Engineer.*

**620-2 MATERIALS**

**620-2.1 AGGREGATE.**

- a. General.** *The aggregate shall consist of sound and durable manufactured sand, slag, crusher fines, crushed stone, or a combination thereof. The aggregate shall be clean and free from vegetable matter, dirt, and other deleterious substances. The aggregate shall have a sand equivalent of not less than 45 percent when tested in accordance with ASTM D 2419. The aggregate shall show a loss of not more than 35 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 12 percent, or the magnesium soundness loss shall not exceed 20 percent after 5 cycles when tested in accordance with ASTM C 88. Aggregate shall be 100 percent crushed.*
- b. Gradation.** *The combined aggregate shall conform to the Gradation Type II shown in Table 1 when tested in accordance with ASTM C 136 and ASTM C 117.*

**TABLE 1. GRADATION OF AGGREGATES**

<b>Sieve Size</b>	<b>Percent by Weight Passing Sieve</b>			
	<b>Type I</b>	<b>Type II</b>	<b>Type III</b>	<b>Type IA</b>
3/8 in.	100	100	100	100
No. 4	100	90 - 100	70 - 90	98 - 100
No. 8	90 - 100	65 - 90	45 - 70	85 - 95
No. 16	65 - 90	45 - 70	28 - 50	50 - 75
No. 30	40 - 65	30 - 50	19 - 34	30 - 50
No. 50	25 - 42	18 - 30	12 - 25	18 - 35
No. 100	15 - 30	10 - 21	7 - 18	10 - 21
No. 200	10 - 20	5 - 15	5 - 15	5 - 10
Residual asphalt content percent dry weight of aggregate	10% - 16%	7.5% - 13.5%	6.5% - 12%	9% - 13.5%

- c. The job mix formula (mix design) shall be run using aggregate within the gradation band for the desired type shown in Table 1. Once the mix design has been submitted and approved, the aggregate used on the project shall not vary by more than the tolerances shown in Table 2. At no time shall the aggregate used go out of the gradation bands in Table 1.
- d. The aggregate will be accepted at the job location or stockpile. The stockpile will be accepted based on five gradation tests samples in accordance with ASTM D 75. If the average of the five tests is within the gradation tolerances, then the materials will be accepted. If the tests show the material to be out of tolerance, the Contractor will be given the choice either to remove the material or to blend other aggregates with the stockpile material to bring it into specification. Materials used in blending shall meet the quality tests before blending



*and shall be blended in a manner to produce a consistent gradation. This blending may require a new mix design.*

- e. Screening shall be required at the project stockpile site if there are any problems created by having oversize materials in the mix.*
- f. Precautions shall be taken to prevent segregation of the aggregate in storing and handling. The stockpile shall be kept in areas that drain readily.*
- g. **Aggregate Tolerance.** Once the mix design has been accepted, the aggregate gradation used on the project may vary from the aggregate gradation used in the mix design on each sieve by the percentages shown in Table 2. If the project aggregate fails to remain within this tolerance, a new mix design will be required by the Engineer at the expense of the Contractor.*

<b>TABLE 2. AGGREGATE TOLERANCE</b>	
<b>Sieve Size</b>	<b>Tolerance, percent by weight passing sieve</b>
<i>3/8 in</i>	<i>+ or - 0%</i>
<i>No. 4</i>	<i>+ or - 2%</i>
<i>No. 8</i>	<i>+ or - 5%</i>
<i>No. 16</i>	<i>+ or - 5%</i>
<i>No. 30</i>	<i>+ or - 5%</i>
<i>No. 50</i>	<i>+ or - 4%</i>
<i>No. 100</i>	<i>+ or - 3%</i>
<i>No. 200</i>	<i>+ or - 2%</i>
<i>Residual Asphalt, percent dry weight of aggregate</i>	<i>+ or - 1%</i>

**620-2.2 MINERAL FILLER.** *If mineral filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D 242 and shall be used in the amounts required by the mix design. The mineral filler shall be considered as part of the aggregate.*

**620-2.3 EMULSIFIED ASPHALT.** *The emulsified asphalt shall conform to the requirements of ASTM D 977 and shall be SS or QS type emulsions.*

**620-2.4 WATER.** *All water used in making the slurry shall be potable and free from harmful soluble salts and chemicals.*

**620-3 COMPOSITION AND APPLICATION**

**620-3.1 COMPOSITION.** *The slurry seal shall consist of a mixture of emulsified asphalt, mineral aggregate, and water.*

**620-3.2 JOB MIX FORMULA.** *No slurry seal for payment shall be placed until a mix design has been approved by the Engineer. The mix design shall be developed by a laboratory with experience in designing slurry seal mixes and a signed copy shall be submitted in writing by the Contractor to the Engineer at least 10 days prior to the start of operations.*

*The laboratory report (mix design) shall indicate the proportions of aggregates, mineral filler (min. and max.), water (min. and max.) and asphalt emulsion based on the dry aggregate weight. It shall also report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effects). The mix design shall be in effect until modified in writing by the Engineer. Should a change in sources of materials be made, a new mix design shall be established before the new material is used.*

*The Contractor shall submit to the Engineer for approval a complete mix design on the materials proposed for use, prepared and certified by an approved laboratory. Compatibility of the aggregate, emulsion, mineral filler, and other additives shall be verified by the mix design. The mix design shall be made with the same aggregate and grade of emulsified asphalt that the Contractor will provide on the project. At a minimum the required tests and values needed are as follows:*

<b>TABLE 3. MIX DESIGN TEST REQUIREMENTS</b>		
<b>SPECIFICATION</b>	<b>DESCRIPTION</b>	<b>VALUE</b>
ISSA TB-100	Wet Track Abrasion Loss One Hour Soak	50 g/ft <sup>2</sup> Max
ISSA TB-115	Determination of Slurry Seal Compatibility	Pass

**620-3.3 APPLICATION RATE.** Unless otherwise specified, the slurry seal shall be applied to at the application rates shown in Table 4 for the gradation of material used.

<b>TABLE 4. APPLICATION RATES</b>				
	Type I	Type II	Type III	Type IA
Pounds of mixture per square yard	8 - 12	12 - 20	18 - 30	10- 16

The rate of application shall not vary more than  $\pm 2$  pounds per square yard.

**620-3.4 TEST SECTIONS.** Test sections shall be placed prior to the start of the slurry seal work in the presence of the Engineer. The test area will be designated by the Engineer and will be located on the existing pavement. Test strips shall be made by each machine after calibration. Samples of the slurry seal may be taken and the mix consistency verified by using ISSA TB-106 Slurry Seal Consistency test. In addition, the proportions of the individual materials may be verified by the Engineer by using the calibration information provided after machine calibration. If any test does not meet specification requirements, additional tests shall be made, at the expense of the Contractor, until an acceptable test strip is placed.

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**620-4 CONSTRUCTION METHODS**

**620-4.1 WEATHER LIMITATIONS.** *The slurry seal shall not be applied if either the pavement or air temperature is below 50 °F (10 °C) and falling but may be applied when both pavement and air temperature are above 45 °F (7 °C) and rising. No slurry seal shall be applied when there is danger that the finished product will freeze before 24 hours. The mixture shall not be applied when weather conditions prolong opening to traffic beyond a reasonable time.*

**620-4.2 EQUIPMENT AND TOOLS.** *The Contractor shall furnish all equipment, tools, and machinery necessary for the performance of this work.*

- a. Slurry Mixing Equipment.** *The machine shall be specifically designed and manufactured to lay slurry seal. The material shall be mixed by a self-propelled slurry seal mixing machine of either truck mounted or continuous run design. Either type machine shall be able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral filler, and water to a revolving mixer and discharge the mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for materials to maintain an adequate supply to the proportioning controls.*

*If continuous run equipment is used, the machine shall be equipped to allow the operator to have full control of the forward and reverse speed of the machine during application of the slurry seal, with a self-loading device, with opposite side driver stations, all part of original equipment manufacturer design.*

*The aggregate shall be prewetted immediately prior to mixing with the emulsion. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients. No excessive mixing shall be permitted. The mixing machine shall be equipped with a fines feeder that provides an accurate metering device or method to introduce a predetermined proportion of mineral filler into the mixer at the same time and location that the aggregate is fed into the mixer.*

*The mixing machine shall be equipped with a water pressure system and fog-type spray bar adequate for complete fogging of the surface with an application of 0.05 to 0.10 gallon per square yard preceding the spreading equipment.*

*Sufficient machine storage capacity to mix properly and apply a minimum of 5 tons of the slurry shall be provided. Proportioning devices shall be calibrated prior to placing the slurry seal.*

- b. Slurry Spreading Equipment.** *The mixture shall be spread uniformly by means of a conventional surfacing spreader box attached to the mixer and equipped to agitate and spread the material evenly throughout the box. A front seal shall be provided to insure no loss of the mixture at the surface contact point. The rear seal shall act as the final strike-off and shall be adjustable. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike-off. The spreader box shall have suitable means provided to side shift the box to compensate for variations in the pavement geometry. A burlap drag or other approved screed may be attached to the rear of the spreader box to provide a uniform mat.*
- c. Auxiliary Equipment.** *Other tools or equipment such as brushes, hand squeegees, hose equipment, tank trucks, water distributors and flushers, power blowers, barricades, etc., shall be provided as required.*
- d. Roller.** *The roller, if required, shall be a self-propelled pneumatic-tired roller capable of exerting a contact pressure during rolling of 50 pounds per square inch. It shall be equipped with a water spray system, to be used if the slurry is picking up on the tires during rolling.*
- e. Tack Coat and Distributor.** *Normally a tack coat is not required unless the surface to be covered is extremely dry and raveled or is concrete or brick. If required, the tack coat should consist of one part emulsified asphalt and three parts water. The emulsified asphalt may be the same as that used in the mix. Pressure distributors used for application of the diluted asphalt emulsion tack coat shall be self-propelled, equipped with pneumatic tires, and capable of uniformly applying 0.05 to 0.15 gallon per square yard of the diluted emulsion over the required width of application. Distributors shall be equipped with tachometers, pressure gages, and volume-measuring devices. The tack coat shall be applied at least 2 hours before the slurry seal but within the same day.*

**620-4.3 EQUIPMENT CALIBRATION.** *Each slurry mixing unit to be used on the project shall be calibrated in the presence of the Engineer prior to construction. Previous calibration documentation covering the exact materials to be used may be accepted by the Engineer provided they were made during the calendar year. The documentation shall include an individual calibration of each material at various settings, which can be related to the machine's metering devices. No machine will be allowed to work on the project until the calibration has been completed and/or accepted.*

**620-4.4 PREPARATION OF EXISTING SURFACE.** *Prior to placing the tack coat and slurry seal coat, unsatisfactory areas shall be repaired and the surface shall be cleaned of dust, dirt, or other loose foreign matter, grease, oil, excessive rubber accumulation, or any type of objectionable surface film. Any standard cleaning method will be acceptable except that water flushing will not be permitted in areas where considerable cracks are present in the pavement surface.*

*Any painted stripes or markings on the surface of the runways or taxiways to be treated, shall be removed. Removal of markings, if required by the plans, will be measured and paid under Section **Error! Reference source not found.** of these specifications, Removals.*

*Cracks wider than 1/4 inch shall be cleaned with compressed air, and sealed with a compatible crack sealer prior to applying the slurry seal. Cracks wider than 3/4 inch should be pre-filled and sealed with the slurry mixture prior to surfacing. Cracks that show evidence of vegetation shall be cleaned and treated with an approved herbicide.*

**620-4.5 APPLICATION OF SLURRY SEAL COAT.** *The surface shall be prewet by fogging ahead of the slurry spreader box. Water used in prewetting the surface shall be applied at such a rate that the entire surface is damp with no apparent flowing water in front of the slurry spreader box. The slurry mixture shall be of the desired consistency when deposited on the surface, and no additional elements shall be added. Total time of mixing shall not exceed 2 minutes. A sufficient amount of slurry shall be carried in all parts of the spreader box at all times so that complete coverage of all surface voids and cracks is obtained. Care shall be taken not to overload the spreader box that shall be towed at a slow and uniform rate not to exceed 5 miles per hour. No lumping, balling, or unmixed aggregate shall be permitted. No segregation of the emulsion and fines from the coarse aggregate will be permitted. If the coarse aggregate settles to the bottom of the mix, the slurry shall be removed from the pavement surface. A sufficient amount of slurry shall be fed into the box to keep a full supply against the full width of the spreader box. The mixture shall not be permitted to overflow the sides of the spreader box. No breaking of the emulsion will be allowed in the spreader box. The finished surface shall have no more than four (4) tear or drag marks greater than 1/2 inch wide and 4 inches long in any 12 foot by 22 foot section. It shall have no tear or drag marks greater than 1 inch wide and 3 inches long.*

*The finished surface shall have no transverse ripples of 1/4 inch or more in depth, as measured with a 10-foot straight edge laid upon the surface.*

*Adjacent lanes shall be lapped at the edges a minimum of 2 inches with a maximum of 4 inches to provide complete sealing at the overlap. Construction*

*longitudinal and transverse joints shall be neat and uniform without buildup, uncovered areas, or unsightly appearance. All joints shall have no more than 1/4 inch difference in elevation when measured across with a 10 foot straight edge.*

*The fresh slurry seal application shall be protected by barricades and markers and permitted to cure for 4 to 24 hours, depending on weather conditions. Any damage to uncured slurry shall be repaired at the expense of the Contractor.*

*In areas where the spreader box cannot be used, the slurry shall be applied by means of a hand squeegee. Upon completion of the work, the seal coat shall have no holes, bare spots, or cracks through which liquids or foreign matter could penetrate to the underlying pavement. The finished surface shall present a uniform and skid resistant texture satisfactory to the Engineer. All wasted and unused material and all debris shall be removed from the site prior to final acceptance.*

*Upon completion of the project, the Contractor shall sweep the finished surface with a conventional power rotary broom, to remove any potential loose material from the surface. The material removed by sweeping shall be disposed of in a manner satisfactory to the Engineer.*

**620-4.6 EMULSION MATERIAL.**

*Samples of the emulsion that the Contractor proposes to use, together with a statement as to its source, shall be submitted, and approval shall be obtained, before using such material. The Contractor shall submit to the Engineer a manufacturer's certified report for each consignment of the emulsion. The manufacturer's certified report shall not be interpreted as a basis for final acceptance. All such reports shall be subject to verification by testing samples of the emulsion as received for use on the project.*

**620-5 METHOD OF MEASUREMENT.** See Part 3

**620-6 BASIS OF PAYMENT.** See Part 4.

**620-7 TESTING REQUIREMENTS**

ASTM C 88                      *Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate*

ASTM C 117                     *Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing*

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<i>ASTM C 128</i>	<i>Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate</i>
<i>ASTM C 131</i>	<i>Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine</i>
<i>ASTM C 136</i>	<i>Sieve or Screen Analysis of Fine and Coarse Aggregates</i>
<i>ASTM D 75</i>	<i>Sampling Aggregates</i>
<i>ASTM D 2419</i>	<i>Sand Equivalent Value of Soils and Fine Aggregate</i>
<i>ISSA A 105</i>	<i>Recommended Performance Guidelines</i>
<i>ISSA TB-100</i>	<i>Wet Track Abrasion Loss</i>
<i>ISSA TB-106</i>	<i>Slurry Seal Consistency</i>
<i>ISSA TB 111</i>	<i>Outline Guide Design Procedure for Slurry Seal</i>
<i>ISSA TB-115</i>	<i>Determination of Slurry Seal Compatibility</i>

**620-8 MATERIAL REQUIREMENTS**

<i>ASTM D 242</i>	<i>Mineral Filler for Bituminous Paving Mixtures</i>
<i>ASTM D 977</i>	<i>Emulsified Asphalt</i>
<i>ASTM D 2397</i>	<i>Cationic Emulsified Asphalt</i>

**END OF ITEM P-626**

**PART 2 - SUBMITTALS** - Submittals required for this item include, but are not limited to:

- 2.1 Job Mix Formula**
  - A. Aggregate
  - B. Emulsified Asphalt
  - C. Mineral Filler
- 2.2 Tack Coat (if required)**
- 2.3 Equipment**

**PART 3 - METHOD OF MEASUREMENT**



- 3.1 The emulsified asphalt shall be measured by square foot for completed and accepted slurry seal. Aggregate and emulsified asphalt will not be measured separately but will be considered incidental to the slurry seal.

**PART 4 - BASIS OF PAYMENT**

- 4.1 Payment shall be made at the contract unit price per square foot for the emulsified slurry seal, completed and accepted by the Engineer, including pavement cleaning, and tack coat. This price shall be full compensation for furnishing all materials, for preparing, mixing, and applying these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

No separate payment will be made for constructing the item under construction sequencing restrictions, including limited access or nighttime work areas.

Payment will be made under:

Item P 620            Emulsified Asphalt Slurry Seal ..... Per Square Foot

**END OF SECTION** Error! Reference source not found.

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## SECTION F-162

### TEMPORARY JET BLAST DEFLECTOR

#### PART 1 - GENERAL

##### 1.1 GENERAL.

- A. The Contractor shall furnish all materials, equipment, and labor required by the plans and specifications for the installation of temporary Jet Blast Deflector (JBD) at the locations indicated on the plans or as directed by the Engineer.
- B. Placement of temporary jet blast deflectors shall be in accordance with Section G-101, Construction Barricades, Fencing, Markers and Signs.
- C. Installation of temporary obstruction lights, flood lights, and associated runway circuit bypass shall be in accordance with Section L-125, Airfield Electrical Work
- D. Installation of all jet blast deflector components shall be as described on the plans and as described in this specification.

##### 1.2 SUMMARY.

- A. The Contractor shall furnish all labor, materials, and equipment to fabricate and erect temporary JBD, as shown on the plans, including foundation construction, as well as all related electrical work including any required grounding, lightning protection or lighting. The Contractor shall obtain the deferred building permit for temporary JBD, and electrical permit required for related electrical work.

#### PART 2 - MATERIALS

##### 2.1 APPROVED JBD MANUFACTURER

- A. Blast Deflectors, Inc.  
8620 Technology Way  
Reno, NV 8952  
(775) 856-1928  
[dbergin@bdi.aero](mailto:dbergin@bdi.aero)

##### 2.2 ALTERNATE MANUFACTURERS:

- A. See Quality Assurance paragraph of this Section for proposal of alternate manufacturer's.

##### 2.3 TEMPORARY JET BLAST DEFLECTOR

- A. The 10' high jet blast deflector shall be a curved, corrugated non-perforated type, mounted on existing asphalt as shown on the drawings.
- B. Corrugated surfaces shall run in the horizontal direction. Deflecting surfaces shall be rigidly supported by bolted structural steel frames spaced at 6'-0" maximum centers. The JBD shall be a LYNNCO Type G10M-6 or an approved equal.

##### 2.4 FASTENERS

- A. All field connections for temporary JBD shall be bolted with locking fasteners. Fasteners shall have adequate locking properties to prevent them from working loose during continued normal operation of the facility. All fasteners shall be new, and as follows:

1. Bolts: ASTM A449 or SAE J429
2. Flat Washers: Grade 18-8 stainless
3. Nuts: IFI-100/107 (all metal self-locking Stover type)
4. All nuts, bolts and washers are zinc plated per ASTM F1941 or A153/F2329
5. Half oval washers are A36 steel hot-dip galvanized per ASTM A123 to 2oz/ft<sup>2</sup> after fabrication. Minimum bearing area on corrugated sheets shall be 0.92 in<sup>2</sup>

## **2.5 ANCHOR BOLTS**

- A. Anchor bolts for temporary JBD shall be zinc-plated expansion type, LYNNCO Spec AB-34A "Epoxy Locked" anchors.

## **2.6 OBSTRUCTION LIGHTING**

- A. Temporary JBD flood lighting shall be constructed of the materials shown on the drawings and in accordance with Section L-125 – Airfield Electrical Work of these Specifications. Flood lights shall be angled such that they illuminate the back of the fence and do not impede the vision of pilots operating on the airfield.
- B. Temporary JBD obstruction lighting shall be constructed of the materials shown on the drawings and in accordance with Section L-125 – Airfield Electrical Work of these Specifications.

## **PART 3 - CONSTRUCTION METHODS**

### **3.1 SITE CONDITION**

- A. The JBD manufacturer shall inspect the site prior to beginning work and notify the Owner of any defects, which must be corrected before installation of the temporary JBD can be completed. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.2 MATERIAL STORAGE AND HANDLING**

- A. Store materials in approved areas. Protect all components from damage. Keep corrugated sheets and steel members off ground by using pallets, platforms or other supports. Store all fasteners in a protected area. Do not store materials in a manner that might cause distortion, deterioration or damage. Repair or replace damaged materials.

### **3.3 ERECTION**

- A. An authorized representative of the JBD manufacturer shall observe and supervise all temporary JBD erection, including setting of the anchor bolts for the performance warranty to be valid.
- B. Set steel frames accurately in locations indicated on approved shop drawings in accordance with AISC specifications.
- C. Provide temporary guys and braces as required to temporarily support structures during erection.
- D. Do not use thermal cutting or welding during erection.
- E. Tighten all fasteners to torques specified by the JBD manufacturer.

- F. Touch up any damaged galvanized surfaces with galvanizing repair paint. Follow paint manufacturer's instructions for application.
- G. Once erected, contractor shall paint temporary JBD as specified on the drawings. Paint shall be formulated for exterior use on galvanized steel. Colors shall be equivalent to FAA standard Aviation White and Aviation Orange.

### **3.4 DISASSEMBLY AND DELIVERY**

- A. All temporary anchorages resulting from use of temporary jet blast deflectors shall be removed and patched after completion of work within each construction phase shown on the plans.
- B. At the end of a work phase when no longer required for construction, the temporary jet blast deflector components, including all bolts, connectors and hardware, shall be carefully dismantled, sorted, labeled, bundled and secured onto pallets, and delivered to the airport.

### **PART 4 - SUBMITTALS.**

**4.1** Submittals required for this item include, but are not limited to:

- A. Qualification data for the JBD manufacturer(s) specified in the "Quality Assurance" article to demonstrate their capabilities and experience.
- B. For alternate manufacture's, in addition to those items listed in this Section, include test results, analysis, drawings, and a list of five similar completed projects with project name, address, and names of owners, reference contact and other pertinent information. (Note: Alternate manufacturers must be approved prior to submitting a bid.)
- C. Temporary Jet Blast Deflector installation drawings detailing erection of the existing jet blast deflector components, including plans, elevations and sections. Show anchorage and accessory items.
- D. Provide manufacturer's data for each epoxy and expansion type anchor, including installation instructions.
- E. Provide product data for all materials used to construct the JBD grounding systems shown on the drawings.
- F. Provide product data for obstruction lighting in accordance with Section L-125, Airfield Electrical Work.
- G. **Warranty at Project Closeout:** Provide a written copy of the manufacturer's warranty certifying the workmanship, materials, installation and performance of the JBD systems for a period of (2) two years.

### **PART 5 - INSPECTION**

**5.1** The JBD manufacturer or designated representative and a representative from the Owner shall visually inspect the completed facility to assure that all work has been completed in an acceptable manner. Special care should be given to inspecting for loose components or missing fasteners throughout the structure.

- 5.2 **ACCEPTANCE LETTER.** At successful completion of the inspection, an acceptance letter shall be signed by the Owner, or designated representative. This inspection must be performed to validate the warranty of the JBD structure.

## **PART 6 - QUALITY ASSURANCE**

### **6.1 MANUFACTURER'S QUALIFICATIONS.**

- A. JBD Manufacturer Qualifications: The JBD manufacturer shall have completed a minimum of five (5) JBDs of similar design, which shall have demonstrated that they allowed successful taxi-breakaway power operation with jet aircraft without harmful exhaust wake velocities behind the structure. At least one of the JBDs shall have been in satisfactory operation for at least five (5) years of actual field service.

### **6.2 ALTERNATE MANUFACTURER APPROVAL.**

- A. To be approved as an alternate JBD manufacturer, the following information for the proposed JBD manufacturer shall be submitted to and approved by the Owner, prior to submitting a bid.
1. Results of full-scale field proof tests in which the proposed alternate manufacturer's standard JBD was subjected to the specified aircraft and power loadings.
  2. Results of smoke-pot tests behind the deflector, demonstrating that smoke and gases are deflected in an upward direction, with no evidence of smoke dispersal behind the deflector
  3. Evidence of satisfactory operation for at least five (5) years in actual field service for continued use with similar aircraft and jet engines.
  4. Detailed design analysis, showing loads and stresses in structural members, deflecting surfaces and any bolted joints, using the worst-case aircraft velocity profiles as the calculated pressure for load calculations.
  5. Design drawings of the proposed alternate fence with sections showing all deflecting surfaces and structural members. The proposed alternate design may not use concrete or perforated metal or expanded metal deflecting surfaces. Field welds at joints subjected to tension or vibration shall not be used. The proposed alternate must meet all design and material specifications listed in Parts 1&2.
  6. Certification that the alternate JBD manufacturer is ISO 9001:2008 registered.

## **PART 7 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

- 7.1 Temporary Jet Blast Deflector shall be measured and paid for as described in Section G-101, Construction Barricades, Fencing, Marker and Signs.

**END OF SECTION F-162**

**SECTION T-920**

**GEOTEXTILES**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. The Contractor shall furnish all materials, equipment, and labor required by the plans and specifications for the installation of geotextile fabrics, of the types indicated, at the locations indicated on the plans or as directed by the Engineer.

**1.2 CONTINGENCY GEOTEXTILE REQUIREMENTS.**

- A. The use of geotextiles to stabilize isolated areas of unstable subgrade under pavement construction may become necessary on the project. The specific locations, types and quantities will, by necessity, be field-determined. The removal of isolated pockets of unstable soils and their replacement with sound material is measured and paid as "unclassified Excavation", Earthwork. Subgrade stabilization geotextiles used for such work shall conform to the type specified herein. In anticipation of these contingency needs for geotextiles, the Contractor will be required to maintain a minimum of 1,000 SY of geogrid for such purposes.

**1.3 PLANNED GEOTEXTILE REQUIREMENTS.**

- A. Area wide uses of geotextiles for specific project applications are indicated on the plans. Materials shall conform to the requirements herein, and will be measured for payment as described herein.

**PART 2 - MATERIALS**

**2.1 FILTER FABRIC**

- A. The filter fabric shall conform to the requirements of AASHTO M 288-99, Class 2.

<b>TABLE 1. Filter Fabric</b>		
<b>Fabric Property</b>	<b>Test Method</b>	<b>Test Requirement</b>
Grab Tensile Strength, lbs	ASTM D 4632	125 min
Grab Tensile Elongation %	ASTM D 4632	50 min
Burst Strength, psi	ASTM D 3785	125 min
Trapezoid Tear Strength, lbs	ASTM D 4533	55 min
Puncture Strength, lbs	ASTM D 4833	40 min
Abrasion, lbs	ASTM D 4886	15 max loss
Equivalent Opening Size	ASTM D 4751	70-100

<b>TABLE 1. Filter Fabric</b>		
<b>Fabric Property</b>	<b>Test Method</b>	<b>Test Requirement</b>
Permittivity sec <sup>-1</sup>	ASTM D 4491	0.80
Accelerated Weathering (UV Stability)	ASTM D 4355 *(500 hrs exposure)	70
(Strength Retained - %)		

- B. The 85 percent size of the underlying material, divided by the nearest opening size of Apparent Opening Size (AOS) sieve (nearest U.S. Standard Sieve) of the fabric, shall be equal to or greater than one.
- C. Open area shall not exceed 36 percent.
- D. To reduce the chance of clogging, no cloth should be used with an open area less than 4 percent or an AOS with openings smaller than the openings of a U.S. Standard Sieve Size No. 100. (150 microns).
- E. When appropriate for the soil gradation, filter fabric shall be Mirafi 140NC, or approved equal.

**2.2 SUBGRADE STABILIZATION GEOTEXTILES.** Subgrade stabilization under pavements shall be performed as described below:

- A. Geogrid. Geogrid shall be Tensar TriAx TX160 Geogrid, or approved equal. Reinforcement shall be a triaxially oriented geogrid with high tensile modulus in relation to the material being reinforced; with large apertures; thick ribs and continuity of tensile strength through all ribs of the structure. The geogrid shall maintain its reinforcement and interlock under normal construction practices, and shall be resistant to both ultraviolet degradation and all forms of biological degradation normally encountered in the material being reinforced.
- B. The geogrid shall be a single-layer grid that meets the dimensions and properties outlined below. Multi-layered grids fastened together will not be acceptable. The biaxial geogrids shall also conform, in all respects, to the property requirements listed in Table 2:

<b>TABLE 2. GEOGRID</b>					
	<b>Units</b>	<b>Longitudinal</b>	<b>Diagonal</b>	<b>Transverse</b>	<b>General</b>
<b>Index Properties</b>					
Rib Pitch <sup>2</sup>	mm (in)	40 (1.60)	40 (1.60)		
Mid-rib Depth <sup>2</sup>	mm (in)		1.8 (0.07)	1.5 (0.06)	
Mid-rib Width <sup>2</sup>	mm (in)		1.1 (1.04)	1.6 (0.05)	



<b>TABLE 2. GEOGRID</b>					
	<b>Units</b>	<b>Longitudinal</b>	<b>Diagonal</b>	<b>Transverse</b>	<b>General</b>
Nodal Thickness <sup>2</sup>	mm (in)				3.1 (0.12)
Rib Shape					rectangular
Aperture Shape					triangular
<b>Structural Integrity</b>					
Junction Efficiency <sup>3</sup>	%				93
Aperture Stability <sup>4</sup>	kg-cm/deg @ 5.0 kg-cm <sup>2</sup>				3.6
Radial stiffness at low strain <sup>5</sup>	kN/m @ 0.5% strain (lb/ft @ 0.5% strain)				300 (20,580)
<b>Durability</b>					
Resistance to Chemical Degradation <sup>6</sup>					100%
Resistance to UV light and weathering <sup>7</sup>					100%

Notes:

1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. Nominal dimensions.
3. Load transfer capability determined in accordance with GRI-GG2-87 and GRI-GG1-87 and expressed as a percentage of ultimate tensile strength.
4. In-plane torsional rigidity measured by applying a moment to the central junction of a 225 mm x 225 mm specimen restrained at its perimeter in accordance with the U.S. Army Corps of Engineers methodology for measurement of Torsional Rigidity, (Kinney, T.C. Aperture stability Modulus ref 3.3.1.2000).
5. Radial stiffness is determined from tensile stiffness measured in any in-plane axis from testing in accordance with ASTM D6637-01.
6. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
7. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.

**PART 3 - CONSTRUCTION METHODS**

**3.1 SUBGRADE GEOTEXTILES**

- A. The geotextiles shall be laid at the proper elevation and alignment as shown on the construction drawings, and installed as specified below. In all cases, the manufacturer's recommendations shall be expressly adhered to.

- B. Immediately before placing geotextiles, surfaces to receive them must be free of loose or extraneous material and sharp objects that may damage the geotextiles during installation. Align material and place in a wrinkle-free manner. Overlap adjacent rolls 3 feet. Spread each overlapping roll in the same direction.
- C. The material shall be temporarily secured in place with ties, staples, pins, sand bags, or other materials or methods recommended by the manufacturer or approved by the Engineer.
- D. The Engineer shall approve the geotextile placement prior to backfill. Approved fill material shall be placed in lifts and compacted as directed under Section **Error! Reference source not found.** of these specifications, Earthwork. Backfill material shall be placed, spread, and compacted in a manner that minimizes the development of wrinkles in, or movement of, the material. A minimum loose fill thickness of 6 inches is required prior to operation of tracked vehicles over the geotextile. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the material. Rubber-tired equipment shall not be allowed to pass directly on geotextiles.
- E. The Engineer may randomly inspect geotextiles before, during, or after (using test pits) installation. Any damaged or defective geogrid (i.e. frayed coating, separated junctions, separated layers, tears, etc.) will be repaired/replaced at the expense of the Contractor. Any roll damaged before, during and after installation shall be replaced by the Contractor at his own expense. Proper replacement shall consist of replacing the affected area to either side of the affected area complying with the overlap requirements.

#### **PART 4 - SUBMITTALS.**

4.1 Submittals required for this item include, but are not limited to:

- A. Filter Fabric
- B. Geogrid

#### **PART 5 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

##### **5.1 MEASUREMENT**

- A. Filter Fabric shall not be measured for payment but shall be considered incidental to the application for which it is used.
- B. "Subgrade Stabilization Geotextile (Geogrid)" shall be measured for furnishing and placement of all materials, equipment, labor and supervision necessary to install subgrade stabilization geotextile (geogrid) as indicated on the plans or as directed by the Engineer, as specified herein, and as required by the contract documents

**5.2 PAYMENT**

- A. "Subgrade Stabilization Geotextile (Geogrid)". Payment shall be made at the contract unit price per square yard measured in place and for installation of Geogrid. The price shall be full compensation for furnishing all labor, supervision, materials, equipment, tools, and incidentals necessary to complete the item as specified in herein and pursuant to the contract documents. The amount of overlap of geotextile and will not be measured for payment and no additional compensation will be made for overlap areas.

No additional payment will be made for difficulties encountered when installing geotextile in areas of night construction, or in other areas subject to construction phasing restrictions.

Payment will be made under:

Item T-920-1      Subgrade Stabilization Geotextile (Geogrid) .....Per Square Yard

**END OF SECTION T-920**

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**SECTION L-125**

**AIRFIELD ELECTRICAL WORK**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. The Contractor shall perform all work required by the plans and specifications for installation of airfield lighting and signage systems on runways, taxiways and aprons as shown on the Plans, and in accordance with Item L-125 as included and modified hereafter.

**1.2 SUMMARY OF WORK**

- A. The work to be performed shall include furnishing all labor, supplies, materials, equipment, plant, transportation, and services required to augment, move, install, and complete electrical work as specified herein and as shown on the contract drawings.
- B. This work includes but is not limited to the following:
1. Maintain in operation, electrical facilities and circuits while this improvement work is in progress, including; furnish and maintain temporary circuits, and place temporary airport lighting into operation.
  2. Furnish, install, and remove temporary lighting, including but not limited to temporary threshold lights, runway edge lights, and runway end lights.
  3. Furnish, install, and remove temporary blast fence obstruction lights and rear lights.
  4. Furnish, install, and remove temporary PLASI.
  5. Furnish, install, and remove temporary bypass for runway edge lighting circuit.
  6. Provide temporary power connections, transformers, power adapters and cable as required during construction.
  7. Furnish electrical permit from Development Services Department for electrical work to be performed.
  8. Other items required to complete the work shown on the plans. The omission of express reference to any parts necessary for or incidental to the complete installation shall not be construed as releasing the Contractor from furnishing such parts.
- C. All items of general work required, such as excavation, cutting, patching, etc., shall be included in this Contract. Experienced and skilled persons to obtain only the best workmanship shall perform installation. All equipment shall be set square and true with

construction. The work shall be under constant supervision by the Contractor and by an authorized and competent superintendent.

### ***AIRFIELD ELECTRICAL WORK (FAA ITEM L-125)***

***125-1.1 GENERAL.*** *This Item includes furnishing and installing all material, equipment and apparatus, and all labor, tools, services and equipment required for removal, modification and installation of temporary and permanent airfield lighting systems.*

*Installation shall be in accordance with Specifications FAA-C-1217 and FAA-C-1391, except as specified herein. The CONTRACTOR shall perform all work not included in the FAA Specifications in accordance with the National Electrical Code and applicable local standards and regulations. The CONTRACTOR shall obtain and pay for all electrical inspections and permits required.*

***125-1.2 FAA-APPROVED EQUIPMENT.*** *Before any electrical equipment is ordered, the Contractor shall furnish the Engineer a list of the equipment and materials he/she plans to incorporate into the work. Only airport lighting equipment that is listed on the latest edition of the FAA approved list (AC 150/5345-53C Addendum) shall be acceptable for use on this contract. All other equipment and materials covered by other referenced specifications shall be UL approved and subject to acceptance through manufacturer's certification of compliance with the applicable specification. The Contractor shall furnish written proof of FAA approval on all equipment covered by FAA specifications.*

*The equipment list shall include the name of each item, the Federal Aviation Administration Specification Number, the manufacturer's name, the manufacturer's catalog number, and the size, type, and/or rating of each item.*

*After the list has been approved, the Contractor shall assemble the equipment and materials at a single location and request inspection by the Engineer. None of the equipment or materials may be used on the job until such an inspection has been completed.*

*All work shall be performed in strict accordance with these contract specifications, and project drawings and any instructions as may be furnished by the Engineer during execution of the work to aid in interpretation of said drawings, and specifications. Installation details and material and equipment specifications shall be in conformance with all applicable FAA Advisory Circulars.*

**125-1.3 SPECIFICATIONS AND STANDARDS.** As a supplement to the installation requirements of this Item, the following standard specifications and regulations of the issues in effect on the date of the bid opening are incorporated herein by reference and are made a part hereof for electrical work.

**\* IMPORTANT NOTE: Current version for all references, including any changes \***

FAA-STD-019E	Lightning Protection, Grounding, Bonding and Shielding Requirements for Facilities
FAA-C-1391B	Installation and Splicing of Underground Cables
FAA-C-1217F	Electrical Work, Interior
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-1	Approved Airport Equipment
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connections
AC 150/5345-42	Specification for Light Base and Transformer Housings, Junction Boxes and Accessories
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specifications for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-53	Airport Lighting Equipment Certification Program

**125-1.4 SHOP DRAWINGS AND MATERIAL LISTS.** Prior to the installation of any material and equipment and within 30 days of contract award, the CONTRACTOR shall submit to the ENGINEER for approval 6 copies of manufacturers' brochures containing complete dimensional and performance characteristics, wiring diagrams, installation and operation instructions, etc., for the equipment listed in the L-Series Specification Items. CONTRACTOR will provide systems training to the ENGINEER's appointed operation and maintenance staff member(s). A materials list shall be included with the submittal listing each Specifications paragraph number.

The submittal shall be complete and made in one submission in booklet form with hard-bound cover. Partial submissions will not be reviewed or considered.

Shall be in accordance for the following equipment:

- 1) Temporary runway edge light fixtures and base plates.
- 2) Temporary threshold light fixtures and base plates.
- 3) Temporary runway end light fixtures and base plates.
- 4) Installation tools and details.
- 5) L-867/868 base cans.
- 6) L-867/868 extension, shims, and spacers.

- 7) *Permanent and temporary isolation transformers.*
- 8) *Base can cover plates.*
- 9) *Standing red barricade lights.*
- 10) *Permanent and temporary obstruction lights.*
- 11) *Temporary blast fence rear lights.*
- 12) *PLASI.*
- 13) *Power adapter.*
- 14) *Permanent and temporary cables.*

**125-1.5 RELATED DOCUMENTS.** *The General Provisions of the Contract, including General and Special Conditions, apply to work specified in this Item.*

**125-1.6 APPLICABLE DOCUMENTS.** *The publications listed above are incorporated herein by reference and form a part of this Item to the extent indicated by the references thereto. Except where a specific date is given, the issue in effect (including amendments, addenda, revisions, supplements, and errata) on the date of this bid shall be applicable. In the text of this Item, such publications are referred to by basic designation only. Additional details and specifications pertaining to a specific system are contained in these documents and are to be considered as part of this Item. Perform all work in accordance with these documents except as specified herein. In the event of a conflict between the Plans and Specifications and the referenced documents, the more stringent rule shall be applied.*

**125-1.7 INSTALLATION SCHEDULING AND COORDINATION**

- 1) *There are significant task and task time constraints between paving-related work and electrical work:*
  - a. *Before any paving-related work (removal, milling, or paving) in a given area can proceed, all existing light locations must be surveyed, existing light units must be removed and the temporary covers installed.*
  - b. *Sufficient time must be scheduled after paving and prior to contract time completion to allow for the surveying back, coring, extension, shim, flange ring installation work, sealing, and light fixture reinstallation work.*
- 2) *The drawings and these specifications often indicate a construction sequence. In some cases, for various reasons, the sequence cannot be altered; but in other cases, altering the sequence may be possible and beneficial. Submittal of proposed alternates is encouraged; these*



*shall be submitted to the Engineer for review and possible approval prior to making these sequence changes.*

## **MATERIALS**

**125-2.1 GENERAL.** *Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be approved under the Airport Lighting Equipment Certification Program described in Advisory Circular (AC) 150/5345-53, current version, and Approved Airport Equipment described in AC 150/5345-1, current version.*

**125-2.2 TEMPORARY LIGHTING.** *The Temporary Lighting shall be installed at locations shown on the plans and in conformance with the details. The Temporary Lighting shall include all new equipment, light fixtures, spare lamps, power adapters, conduit, cable, base cans, cable splices, connections, isolation transformers, concrete weights, required cores and other appurtenances necessary to construct the Temporary Lighting. The Contractor shall assemble and install lighting elements as shown on the plans.*

*Installation and testing performed under this item shall be as specified in the applicable Advisory Circulars. Once the permanent lighting improvements are installed and accepted by the Engineer. The Contractor shall remove and salvage the temporary lighting and signage. If in the opinion of the Engineer, individual components (i.e. conduit, isolation transforms, fixtures) of the lighting temporary lighting system are in good working condition and are fit to be reused after removal, the Contractor will then be allow to install them in other work areas. After removal, any additional labor necessary to assemble the lighting system to meet the details shown on the plans will be at the contractor's expense.*

*Temporary lighting components shall include but not limited to the following:*

- 1) **PLASI.** *The PLASIs shall conform to the requirements of AC 150/5345-52A for a Generic Visual Glideslope Indicator, Type L-883 (single projector), Style A (voltage driven) system. The PLASI shall be as manufactured by DeVore Aviation, or approved equal. Automatic photoelectric control shall select the pre-set day intensity setting as the photocell rises to 50-60 footcandles and the night intensity as the illumination drops to 25-35 footcandles. A time delay of 45 to 75 seconds must be incorporated to prevent switching caused by transient light and shadows. In the event of photoelectric control failure, the system must revert to the low intensity setting. The light unit must be provided with integral adjustments to permit vertical positioning of the "on-glideslope"*

signal axis at any elevation between 1 and 12 degrees  $\pm$  0.08 degrees (5 minutes of arc). A separate aiming device shall be furnished with the equipment to set the signal axis vertical angle. Each PLASI provided shall be supplied with 8 spare lamps.

Location and installation of the PLASIs shall be as shown on the plans. Following installation of the PLASI by the Contractor and prior to turning the system on, the FAA will perform a flight check to certify the PLASI installation in each phase. Maintenance of the PLASI will be the sole responsibility of the Contractor. No additional payment will be made for maintaining and moving the PLASI to accommodate the phasing.

Following completion of work, the PLASI units will become the property of the airport. Clean and deliver the PLASI units to airport operations. Units and any spare lamps shall be delivered in good condition.

The Contractor shall purchase one (1) PLASI unit for use during the project and turn-over to the airport at the end of the Contract as described above.

- 2) **Threshold Lights.** The temporary threshold lights shall conform to the requirements of AC 150/5345-46, current version for an L-861E (green/blank) fixture suitable for a 6.6amp secondary circuit.

Location and installation of the lights shall be as shown on the plans. The Contractor shall supply isolation transformer(s) of manufacturer recommended size to accommodate serving the lights from the existing runway edge light circuit. Maintenance of the threshold lights will be the sole responsibility of the Contractor. No additional payment will be made for maintaining and moving the lights to accommodate the phasing, other than the lump sum pay items identified for each construction phase. Each light provided shall be supplied with 2 spare lamps.

Following completion of work, the lights will become the property of the airport. Clean and deliver the units to airport Maintenance. Units and any spare lamps shall be delivered in good condition.

- 3) **Runway End Lights.** The temporary end lights shall conform to the requirements of AC 150/5345-46, current version for an L-861 fixture suitable for a 6.6amp secondary circuit.

Location and installation of the lights shall be as shown on the plans. The Contractor shall supply isolation transformer(s) of manufacturer

*recommended size to accommodate serving the lights from the existing runway edge light circuit. Maintenance of the end lights will be the sole responsibility of the Contractor. No additional payment will be made for maintaining and moving the lights to accommodate the phasing, other than the lump sum pay items identified for each construction phase. Each light provided shall be supplied with 2 spare lamps.*

*Following completion of work, the lights will become the property of the airport. Clean and deliver the units to airport Maintenance. Units and any spare lamps shall be delivered in good condition.*

- 4) **Runway Edge Lights.** *The temporary runway edge lights shall conform to the requirements of AC 150/5345-46, current version for an L-861 fixture suitable for a 6.6 amp secondary circuit. Specific color combinations for the fixtures shall be supplied per the plans.*

*Location and installation of the lights shall be as shown on the plans. The Contractor shall supply isolation transformer(s) of manufacturer recommended size to accommodate serving the lights from the existing runway edge light circuit. Maintenance of the threshold lights will be the sole responsibility of the Contractor. No additional payment will be made for maintaining and moving the lights to accommodate the phasing, other than the lump sum pay items identified for each construction phase. Each light provided shall be supplied with 2 spare lamps.*

*Following completion of work, the lights will become the property of the airport. Clean and deliver the units to airport Maintenance. Units and any spare lamps shall be delivered in good condition.*

- 5) **Obstruction Lights.** *Temporary obstruction lights shall meet the requirements of permanent obstruction lights as listed in this Section.*

*Following completion of work, the lights will become the property of the airport. Clean and deliver the fixtures in good condition to airport operations.*

- 6) **Blast Fence Rear Lights.** *Temporary blast fence rear lights shall be installed in accordance with the locations and details shown on the plans or as directed by the Engineer. Lights shall be mounted to the back of the temporary blast fence and aimed downward to illuminate the entire blast fence structure itself. Fixtures shall operate at 120V, output 100W, and be suitable for outdoor weather. Each light provided shall be supplied with 2 spare lamps.*

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*Following completion of work, the lights will become the property of the airport. Clean and deliver the fixtures in good condition to airport operations.*

- 7) **Power Adapter.** *The Power adapter (PA-4) shall provide regulated 120VAC, 60Hz at 670 VA when connected to a 6.6A to 20A series circuit. The power adapter shall be resin-filled and self-protected against an output short circuit. The adapter shall be watertight.*
- 8) **Isolation Transformers.** *Isolation transformers shall conform to the requirements of permanent isolation transformers as listed in this Section and be sized by the manufacturer to supply power for the temporary lights.*
- 9) **Light Base Plates, Couplings, and Accessories.** *All base plates, couplings, mounting bolts, columns, and other accessories required to complete the temporary lighting system as shown on the plans shall be provided by the Contractor.*
- 10) **Light Bases and Junction Cans.** *Light bases and junction cans shall conform to the requirements of permanent light bases and junction cans as listed in this Section.*
- 11) **Conduit.** *Conduit shall conform to the requirements of permanent conduit as listed in this Section.*
- 12) **Cable.** *Power cable shall conform to the requirements of permanent cable as listed in this Section.*

**125-2.3 LIGHT BASES AND JUNCTION CANS.** *Light bases and junction cans shall conform to the requirements of 150/5345-42 and be listed in appendix 3 to AC 150/5345-53. Light bases and junction cans shall be provided as indicated by the plans or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.*

**125-2.4 BLANK COVERS, EXTENSIONS, SPACER RINGS, SHIMS AND BASE PLATES.** *Blank cover, extensions, spacer rings, shims, and base plates shall meet the requirements of FAA AC 150/5345-42, current version. All items shall be sized to the base can being installed, adjusted, or modified. Base plates for temporary lights shall be sized to fit the can type and sized specified on the plans and be compatible with the fixture provided. Blank base can covers for new junction cans shall be steel, minimum 3/4 inches thick, with traffic rating of 100,000 lbs. Temporary base can covers for installation during milling and*

*paving shall be compatible with L-867 and L-868 base cans as indicated on the drawings.*

**125-2.5 IN-PAVEMENT RUNWAY AND TAXIWAY LIGHTS.** *Section not used.*

**125-2.6 ELEVATED RUNWAY AND TAXIWAY LIGHTS.** *Section not used.*

**125-2.7 OBSTRUCTION LIGHTS.** *Obstruction lights shall be L-810 fixtures meeting the requirements of AC 150/5345-43F and listed under FAA AC 150/5345-46, current version. Single and dual incandescent fixture shall be supplied as shown in the drawings. The center of the vertical beam spread must be between +4 and +20 degrees. With a minimum vertical beam spread of 10 degrees and at all radials throughout 360 degrees, there must be a minimum intensity of 32.5 candela. Mechanical interface for installation must be 3/4 National Pipe Thread (NPT) side and/or bottom. Obstruction lights shall operate on a 120V circuit.*

**125-2.8 AIRFIELD SIGNS.** *Section not used.*

**125-2.9 ISOLATION TRANSFORMERS.** *Isolation transformers shall conform to FAA Specification L-830, "Isolation Transformers for Airport Lighting Systems," and shall be of the size (wattage and amperage) as required on the drawings.*

**125-2.10 CONCRETE.** *Section not used.*

**125-2.11 BASE CAN SEALANT.** *Section not used.*

**125-2.12 CONDUIT.** *Conduit shall conform to the requirements listed in Section 115, Underground Conduit for Airports (FAA L-110).*

**125-2.13 CABLE.** *Cable shall conform to the requirements listed in Section 113, Underground Cable for Airports (FAA L-108).*

**125-2.14 HARDWARE.** *All bolts, nuts, washers and lock washers shall be stainless steel and meet FAA requirements. All bolts 1/4 in and larger shall be hex head type. All bolts smaller than 1/4 in trade sized shall be recessed Allen type. All bolted connection shall utilize an anti-rotational locking type device. The base can cover and fixture mounting bolts shall extend through the base can mounting flange into the base can a minimum of 1/2 inch. The bolts shall have enough thread length so they do not shoulder out before the fixture is securely tightened. All hardware shall be stainless steel 316.*

*The CONTRACTOR shall use anti-seize compound manufactured by Ideal: "Noalox", or approved equal. Use Dow Corning Compound 111 valve lubricant, no curing sealant, or approved equal to seal between section of base cans, spacer rings, adapter rings, or fixtures.*

**125-2.15 ELECTRICAL TAPE.** *Section not used.*

**125-2.16 CABLE TAGS.** *Section not used.*

### **CONSTRUCTION METHODS AND TESTING REQUIREMENTS**

**125-3.1 GENERAL.** *The CONTRACTOR shall at all times keep the construction areas free from accumulations of waste material and rubbish, and prior to completion of work, remove any rubbish from and about the Work site, and all tools, reels, equipment, and materials, not a part of the Work. Upon completion of the construction, the CONTRACTOR shall leave the work and premises in a clean, neat and workmanlike condition satisfactory to the ENGINEER. The CONTRACTOR shall be responsible for the proper performance in all respects, in whole and in part, of the electrical equipment until acceptance of the entire Work by the ENGINEER.*

*The electrical construction and installation shall be complete, and the Contractor shall furnish all equipment necessary for the satisfactory installation and operation of electrical apparatus and for the operation of the electrical system as indicated, whether specifically mentioned or not. Materials shall bear the Underwriter Laboratories' seal of approval.*

**125-3.2 DRAWINGS.** *The construction drawings, which constitute an integral part of this Contract, are diagrammatic in nature. They indicate the extent and general layout of the lighting system, arrangement of circuits, cables through ducts, connections to existing circuit cables and other work near the construction area. Field verification of scale dimensions is required to determine actual locations, distances, and levels. No extra compensation will be allowed because of differences between work shown on the drawings and as in the field. The Contractor shall check the plans and specifications and, if any portion of the work is found to be omitted, unclear, or in error, the Contractor shall immediately notify the Engineer. The directions of the Engineer shall be followed and the work completed accordingly.*

*The construction drawings may be utilized in the preparation of the as-built drawings showing the permanent construction as actually made.*

*The plans and specifications are complementary and what is called for in either one shall be as binding as if called for in both.*

*Where a disagreement exists between the plans and specifications, the item or arrangements of better quality, greater quantity, or higher cost shall be included in the base bid.*

*Any discrepancies between the drawing, Advisory Circulars, and field condition must be resolved with the Engineer before proceeding. All agreements shall be verified in writing.*

*The responsibility for the correct and satisfactory installation and operation of all materials and equipment required herein shall rest with the Contractor. Before any equipment is ordered or commencement of installation of the lighting installations and electrical systems, a complete schedule of materials and detailed shop drawings covering all items of equipment and brochures of the lighting fixtures and signs proposed for installation shall be submitted for approval by the Engineer. The schedule of materials and shop drawings shall initially include five sets of catalog cuts, diagrams, drawings, brochures, or other such descriptive data as may be required by the Engineer. No equipment shall be ordered or put into manufacture until these shop drawings or brochures have been approved by the Engineer. Samples of conduit, duct, fittings, cables, tapes, fixtures, etc., may be required for approval. After they have been approved, samples will be returned in tested condition to the Contractor. In the event any items of material or equipment contained in the schedule fail to comply with specification requirements, such items will be rejected.*

### **125-3.3 SAFETY PROCEDURES FOR WORKING ON AIRPORT LIGHTING SYSTEM**

*The Contractor shall follow the safety procedures working on airfield lighting as specified below:*

- 1) *Procedures for Taking Circuits Out of Service:*
  - a. *Contractor will notify the Engineer which circuits are to be taken out of service and the specified portions to be worked on.*
  - b. *Inspector will notify the Engineer, who will notify the Tower, to verify that the circuits can be removed from Tower control.*
    1. *If the Tower relinquishes control, the Engineer will notify the Airport Manager.*
    2. *If the Tower does not relinquish control, no work can be done on the circuits at this time. (With the Tower in control, the circuits can be energized at any time.)*

- c. *If the Tower relinquishes control, the Airport manager and the contract electrician will proceed to the vault where the regulator will be taken out of service by Airport maintenance and tagged by the contract electrician.*
  - d. *Airport maintenance will log - time, circuits and Contractor - into the vault log.*
  - e. *After shutdown, the Contractor shall field test the circuits to verify that they are not energized before starting work on the circuits in the field.*
- 2) *Procedures for Placing Circuits Back in Service:*
- a. *The Contractor will notify the Engineer when circuits are ready to be tested.*
  - b. *The Engineer will contact all other inspectors who are working with the Contractor's electricians and notify them that the lighting circuits are about to be energized. When it has been verified that all personnel are clear, the Engineer will call Operations requesting a "burn".*
  - c. *Operations will notify Airport maintenance. Airport maintenance and the contract electrician will meet at the vault, where the contract electrician will remove its tag. Airport maintenance will then energize the circuits.*
  - d. *Airport maintenance will notify Operations who will verify that the lights are burning.*
    - 1. *If all lights are operating, control of the lights will be given back to the Tower.*
    - 2. *If all lights are not operating, Airport maintenance will work with the contract electrician to rectify the problem.*

**125-3.4 EXISTING UTILITIES.** *Prior to any excavation or trenching, locate any existing cables and utilities that will be crossed by the trench. Ensure these utilities are permanently disconnected if they are going to be demolished. The existing service lines shall be exposed by hand digging in those areas that will be crossed and shall be protected from any possible damage. If any damage occurs, it shall be the CONTRACTOR's responsibility to immediately repair such damage with materials and methods approved by the ENGINEER and in compliance with applicable codes and standards, at no additional cost to the ENGINEER.*

*The CONTRACTOR shall protect existing airport lighting systems. Any portion of the existing airport lighting systems damaged or disconnected during installation of the new systems shall be repaired and reconnected and must be fully functional prior to dusk each day or during adverse weather conditions, to*



*the satisfaction of the ENGINEER. This work shall be completed at the CONTRACTOR's sole expense.*

*The CONTRACTOR shall be responsible for troubleshooting and investigative work necessary to install completely operating lighting circuits and temporary circuits. These shall be incidental to the other electrical work and no separate payment will be made.*

**125-3.5 REMOVALS, DEMOLITION, AND SALVAGE.** *Section not used.*

**125-3.6 TEMPORARY LIGHTING AND CIRCUITS.** *Temporary airfield electrical equipment shall be installed as shown in the plans and specified herein.*

**125-3.7 PHASING.** *All existing runway and taxiway lights not included in the construction phasing must be kept in operation, except as permitted otherwise by the Engineer.*

*The Contractor shall be responsible for troubleshooting and investigative work necessary to install completely operative temporary circuits. These shall be incidental to the other electrical work and no separate payment will be made unless otherwise specified.*

*The Contractor shall be responsible for installing, maintaining, and removing all required temporary jumper cables, conduits and splices.*

*The Contractor shall test and verify that the circuits and lights involved in construction that are necessary for operation of aircraft are in working order at the end of each working day.*

**125-3.8 INTERRUPTIONS.** *Interruptions of lighting circuits may be necessary during construction. The Contractor shall not interrupt any circuit or perform any work that might endanger any circuit until approval of the Engineer has been received.*

*The Contractor shall remove all circuit cables from their respective power sources in the vault before working on the cables in the field. This work is incidental to the electrical work and no separate payment will be made.*

**125-3.9 ORIENTATION OF LIGHT BEAM FOR TAXIWAY CENTERLINE LIGHTS.** *Section not used.*

**125-3.10 ELEVATED EDGE LIGHT BASE CAN AND JUNCTION CAN INSTALLATION** *Section not used.*

**125-3.11 INSTALLATION OF ELEVATED LIGHT FIXTURES.** *Section not used.*

**125-3.12 FLUSH (IN-PAVEMENT) LIGHT BASE CAN INSTALLATION IN ASPHALT CONCRETE PAVEMENT** *Section not used.*

**125-3.13 INSTALLATION OF FLUSH LIGHT FIXTURES.** *Section not used.*

**125-3.14 EXISTING LIGHT BASE ADJUSTMENT TO FINISH GRADE.** *Section not used.*

**125-3.15 LIGHT BASE GROUNDING.** *See the drawings for ground rod and conductor installation details and requirements.*

**125-3.16 LIGHT FIXTURE AND BASE PLATE GROUNDING.** *Each light fixture or base plate shall be bonded to the light base internal ground lug using a #6 AWG, stranded copper wire rated from 600 volts with green THWN insulation. The ground wire shall be 36-inches long and connected to the base can ground lug by exothermic weld and to the fixture by the supplied mechanical connector.*

**125-3.17 AIRFIELD SIGN INSTALLATION.** *Section not used.*

**125-3.18 ISOLATION TRANSFORMER.** *Transformers shall be installed in L-867/868 bases at location and position as indicated on the Plans. The primary cable connections shall be made by use of the L-823 plug and receptacle cable connectors per Section 113, Underground Cable for Airports (FAA Item L-108).*

**125-3.19 CABLE CONNECTIONS.** *All airfield lighting connections to cable, transformers, and fixtures shall be made with L-823 5 kV connectors in accordance with Section 113, Underground Cable for Airports (FAA Item L-108).*

**125-3.20 AS-BUILT DRAWINGS.** *The Contractor shall mark up one set of redline prints to show the as-built conditions which differ from the original, including any existing utilities discovered during the course of the work. The Engineer will furnish a newly printed set of drawings for this purpose. As-builts shall be kept up daily and initialed off by Contractor and Engineer's inspector weekly. There shall be sufficient detail, including station numbers, markers, panel circuit numbers, etc., to allow for easy location and correcting tracings. This work shall be completed and accepted by the Engineer before approval of final payment.*

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***END OF ITEM L-125***

**PART 2 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

**2.1 MEASUREMENT**

- A. The airfield electrical work under this item shall consist of the number of components specified herein, including airfield lighting, signage, and temporary circuiting as shown on the drawings and accepted as a complete unit.

**2.2 PAYMENT**

- A. No separate direct payment shall be made for airfield electrical work. All costs associated with furnishing materials, preparation, delivering and installation of these materials, and all labor, equipment, tools, and incidentals necessary to provide items constructed of airfield electrical shall be considered subsidiary to, and shall be included in, the contract bid price paid for the Mobilization and Demobilization.

**END OF SECTION L-125**

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**SUPPLEMENTARY SPECIAL PROVISIONS**

**APPENDICES**

**APPENDIX A**

**FINAL MITIGATED NEGATIVE DECLARATION (FMND)/  
BURROWING OWL REPORT/CATEGORICAL EXCLUSION APPROVAL**



Advance Planning &  
Engineering Division  
(619) 446-5460

## FINAL MITIGATED NEGATIVE DECLARATION

Project No. 358563  
SCH No. 2014071015

**SUBJECT: BROWN FIELD MUNICIPAL AIRPORT RUNWAY 8L-26R REHABILITATION PROJECT.** **MAYORAL APPROVAL** for the rehabilitation of Runway 8L-26R (Project). Runway 8L-26R measures 7,972 feet in length and 150 feet in width, and is comprised of both Portland Cement Concrete (PCC) and Asphalt (AC) pavements. Review of historic aerial photographs suggests that the existing paving was put in place in 1953. In the early 1990's approximately 5,500 feet of the runway's middle section was milled and overlaid, but the end portions of the Runway have had no major rehabilitation work since its construction over half a century ago. The current conditions of the concrete ends of the runway require immediate evaluation and rehabilitation to ensure safety and compliance with current design and construction standards as set forth by applicable regulatory agencies, including the Federal Aviation Administration (FAA).

The touchdown pavement areas, in particular, the eastern end of the main runway (Runway 26R), is in very poor condition due to the usual westbound direction of air traffic. The expected life of this section is less than one year. Due to the poor condition of the runway, the project will require the following: 1) removal of 50 feet of existing PCC closest to the runway shoulders and excavation of fill material up to 26 inches below grade; 2) building up of AC section to proposed grade; 3) rubbilization of existing PCC in middle 50 feet of Runway 26R; 4) building up variable depth AC base layer; and 5) constructing AC surface layer with a crown on centerline and matching grades at the AC previously placed on the outer 50 feet of Runway 26R. Repairs to the westerly end of Runway 8L-26R, which will involve minor surface and joint repairs, will also be included as part of this rehabilitation project. Other project elements include the replacement of an existing service road and milling and overlaying of existing runway shoulder on the north side of Runway 26R. The site is not included on any Government Code listing of hazardous waste sites.

### **UPDATE (OCTOBER 24, 2014):**

Subsequent to distribution of the Draft Mitigated Negative Declaration (MND), a comment letter received from the Center for Biological Diversity (CBD) raised several project-related issues requiring further review and consideration. The issues related to potential direct and indirect impacts to biological resources, air quality, public health and safety, climate change, cumulative impacts and presumed violations of CEQA. All of these issues have been studied and addressed in the Initial Study discussion but require further clarification and documentation in this final MND to support the environmental determination. As such, the Initial Study checklist has been modified to provide the additional information in response to comments submitted by CBD. All revisions to the environmental document (e.g. Biological Resources Mitigation Program, Project Description, Environmental Setting and the Biological Resources section of the Initial Study Checklist) made in response to comments received during public review in the area denoted by ~~strikeout~~ and underline, and do not change the conclusions of the environmental document.

In accordance with California Environmental Quality Act (CEQA) Section 15073.5 (c)(4), the addition of new information that clarifies, amplifies, or makes insignificant modification does not require recirculation as there are no new impacts and no new mitigation identified. An environmental document need only be recirculated when there is identification of new significant environmental impact or the addition of a new mitigation measure required to avoid a significant environmental impact.

- I. PROJECT DESCRIPTION: See attached Initial Study.
- II. ENVIRONMENTAL SETTING: See attached Initial Study.
- III. DETERMINATION:

The City of San Diego conducted an Initial Study which determined that the proposed project could have a significant environmental effect in the following areas(s): **Biological Resources and Historical Resources**. Subsequent revisions in the project proposal create the specific mitigation identified in Section V of this Mitigated Negative Declaration. The project as revised now avoids or mitigates the potentially significant environmental effects previously identified, and the preparation of an Environmental Impact Report will not be required.

IV. DOCUMENTATION:

The attached Initial Study documents the reasons to support the above Determination.

V. MITIGATION, MONITORING AND REPORTING PROGRAM:

**A. GENERAL REQUIREMENTS – PART I**

**Plan Check Phase (prior to permit issuance)**

1. Prior to issuance of any construction permits, such as Demolition, Grading or Building, or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD), (plans, specification, details, etc.) to ensure the MMRP requirements are incorporated into the design.
2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of the project(s) are included VERBATIM, under the heading, "ENVIRONMENTAL/MITIGATION REQUIREMENTS."
3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

<http://www.sandiego.gov/development-services/industry/standtemp.shtml>

4. The **TITLE INDEX SHEET** must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.



**B. GENERAL REQUIREMENTS – PART II**

**Post Plan Check (After permit issuance/Prior to start of construction)**

- 1. PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent and the following consultants:

*Archaeological Consultants and Native American Monitor*

*Paleontological Consultants/Monitor*

*Biological Consultants/Monitor*

**Note:** Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.

**CONTACT INFORMATION:**

- a) The PRIMARY POINT OF CONTACT is the RE at the Field Engineering Division (858) 627-3200
- b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call RE and MMC at (858)627-3360

- 2. MMRP COMPLIANCE:** This Project No. 358563 shall conform to the mitigation requirements contained in the associated Construction Plans and implemented to the satisfaction of the DSD's Environmental Designee (MMC) and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc)

**Note:** Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.

- 3. OTHER AGENCY REQUIREMENTS:** Evidence of compliance with all other agency requirements or permits shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.

*None required for this project*

- 4. MONITORING EXHIBITS.** All consultants are required to submit, to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas

including the **LIMIT OF WORK**, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

- 5. OTHER SUBMITTALS AND INSPECTIONS:** The Permit Holder/Owner's representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

**Document Submittal/Inspection Checklist**

<i>Issue Area</i>	<i>Document submittal</i>	<i>Assoc Inspection/Approvals/Notes</i>
<i>General</i>	<i>Consultant Qualification Letters</i>	<i>Prior to Pre-construction Meeting</i>
<i>General</i>	<i>Consultant Const. Monitoring Exhibits</i>	<i>Prior to or at Pre-Construction Mtg</i>
<i>Archaeology</i>	<i>Archaeology Reports</i>	<i>Archaeology Site observation</i>
<i>Biology</i>	<i>Biology Reports</i>	<i>Biology Site observation</i>
<i>Final MMRP</i>	<i>Final monitoring reports</i>	<i>Final MMRP inspection</i>

**C. SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS**

**BIOLOGICAL RESOURCES**

**BIO-1:** Between 14 and 30 days prior to any construction activity, the impact area shall be surveyed by a qualified biologist in accordance with current accepted protocols for burrowing owls and occupied burrows. The impact area includes any area involving construction activity that may negatively affect burrowing owls, such as grading activities and staging of equipment and materials, and the area within 150 meters of the construction activity.

In addition, no more than three (3) days prior to the start of construction activity, a pre-construction survey shall be conducted by a qualified biologist. If no burrowing owls are found, then no further avoidance measures are required. If burrowing owls are found, the following measures shall be implemented:

- No active burrowing owl burrows shall be directly impacted by the project.
- Construction activities shall occur during the non-breeding season for burrowing owls, generally considered to be September 1 to January 31, to the greatest extent feasible.
- Should active burrows be found within 150 meters of the construction activity be necessary during the breeding season, the following measures shall be required:
  - A qualified biologist shall conduct surveillance of the active burrow(s) within 24 hours of the start of construction.
  - A no-work buffer shall be established around active burrow(s), as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife. The width of the buffer will be based on such factors as location of the burrow, local ambient conditions, type of project activity, intensity and duration of project activity, timing within the nesting cycle, and the species tolerance for disturbance. An effective buffer is wide enough to preclude detrimental affects to

- nesting behavior that could lead to nest abandonment and mortality of fledglings from noises or vibrations generated from construction activities.
- Buffers areas shall be delineated in some fashion with suitable material for demarcating the area, as determined by the biologist in consultation with the California Department of Fish and Wildlife and the City of San Diego Airports Division in accordance with FAA rules and regulations.
  - A qualified biologist shall monitor construction activities occurring within the buffer area at least twice per month during construction; to determine if any circumstances have changed that would warrant additional measures to be taken to avoid impacts to the nest(s). Should the biologist determine that additional measures are necessary; the biologist shall consult with the California Department of Fish and Wildlife prior to the implementation of such measures.
  - Existing roadways and paved access ways on airport property shall be used during construction, to the greatest extent feasible.
  - A worker education program shall be implemented by the construction contractor for all personnel working at the project site. Prior to any construction personnel starting work on the project site, they shall be educated about the importance of avoiding the burrow location(s) within the buffer area, and the need to minimize activities in the vicinity of the burrow(s) that would disturb the species.

## **HISTORICAL RESOURCES**

**HIST-1:** The project applicant shall comply with the City of San Diego Archeological Monitoring Program, as outlined:

### **I. Prior to Permit Issuance or Bid Opening/Bid Award**

#### **A. Entitlements Plan Check**

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

#### **B. Letters of Qualification have been submitted to ADD**

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.
3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

## II. Prior to Start of Construction

### A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

### B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
  - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)  
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.
3. Identify Areas to be Monitored
  - a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.
  - b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).
  - c. MMC shall notify the PI that the AME has been approved.
4. When Monitoring Will Occur
  - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
  - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be

replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

5. Approval of AME and Construction Schedule

After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

### III. During Construction

#### A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**
2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.
3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.
4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

#### B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
  - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
  - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
    - (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
  - c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
    - (1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
    - (2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance can not be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting
  - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
  - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.

- c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
- d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

#### IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

##### A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

##### B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

##### C. If Human Remains **ARE** determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.



5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
  - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
  - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
  - c. To protect these sites, the landowner shall do one or more of the following:
    - (1) Record the site with the NAHC;
    - (2) Record an open space or conservation easement; or
    - (3) Record a document with the County.
  - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
  1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
  2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
  3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

#### V. Night and/or Weekend Work

- A. If night and/or weekend work is included in the contract
  1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
  2. The following procedures shall be followed.
    - a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVr and submit to MMC via fax by 8AM of the next business day.
    - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV - Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
    - c. Potentially Significant Discoveries



If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.

- d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
  2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

## **VI. Post Construction**

### **A. Submittal of Draft Monitoring Report**

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**
  - a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
  - b. Recording Sites with State of California Department of Parks and Recreation  
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.
2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

### **B. Handling of Artifacts**

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal

material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

Federal Government

- Federal Aviation Administration (1)
- Naval Facilities Engineering Command Southwest Real Estate (8)
- Naval Facilities Engineering Command Southwest Environmental Business Line (12)
- US Army Corps of Engineering (16)
- US Environmental Protection Agency (19)
- US Border Patrol (22)
- US Fish and Wildlife Service (23)

State Government

- State Clearinghouse (46)
- Caltrans District 11 (31)
- CA Department of Fish and Wildlife (32)
- CalRecycle (35)
- California Environmental Protection Agency (37A)

- California Department of Toxic Substance Control (39)
- CA Natural Resources Agency (43)
- CA Regional Water Quality Control Board (44)
- Caltrans Division of Aeronautics (51A)
- Native American Heritage Commission (56)
- County Government
  - Department of Environmental Health (75)
  - Department of Environmental Health Land and Water Quality Division (76)
- City of San Diego
  - Mayor's Office
  - Councilmember David Alvarez
  - City Attorney
    - Shannon Thomas
  - Development Services Department
    - Rebecca Malone
    - Myra Herrmann
    - Helene Deisher
    - Gary Geiler
  - Planning Department
    - Theresa Millette
    - Jeanne Krosch
  - Historical Resources Board (87)
  - Public Works Department
    - Jihad Sleiman
    - Darren Genova
  - Fire and Life Safety Services (79)
    - Fire Chief Javier Mainar
    - Michelle Abella-Shon
    - Brian Fennessy
  - Otay Mesa – Nestor Branch Library (81W)
  - Library Department – Government Documents (81)
  - Real Estate Assets Dept. (85)
- Others
  - Otay Mesa Nestor Community Planning Group (228)
  - Otay Mesa Chamber of Commerce (231A)
  - Otay Mesa Planning Committee (235)
  - Janet Vadakkumcherry (236)
  - Sierra Club (165)
  - San Diego Audubon Society (167)
  - Mr, Jim Peugh (167A)
  - California Native Plant Society (170)
  - Endangered Habitats League (182A)
  - MMC, MS-1102B (77A)
  - Carmen Lucas (206)
  - South Coastal Information Center (210)
  - San Diego Archaeological Center (212)

Save Our Heritage Organisation (214)  
Ron Christman (215)  
Clint Linton (215B)  
Frank Brown – Inter-Tribal Cultural Resources Council (216)  
Campo Band of Mission Indians (217)  
San Diego County Archaeological Society, Inc. (218)  
Kumeyaay Cultural Heritage Preservation (223)  
Kumeyaay Cultural Repatriation Committee (225)  
Native American Distribution (225 A-S) (Public Notice & Location Map Only)

#### VII. RESULTS OF PUBLIC REVIEW:

- ( ) No comments were received during the public input period.
- ( ) Comments were received but did not address the draft Mitigated Negative Declaration finding or the accuracy/completeness of the Initial Study. No response is necessary. The letters are attached.
- (X) Comments addressing the findings of the draft Mitigated Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public input period. The letters and responses follow.

Copies of the draft Final Mitigated Negative Declaration, the Mitigation, Monitoring and Reporting Program and any Initial Study material are available in the office of the Development Services Department for review, or for purchase at the cost of reproduction.

  
Myra Herrmann, Senior Planner  
Development Services Department

July 3, 2014  
Date of Draft Report

October 24, 2014  
Date of Final Report

Analyst: **Rebecca Malone**

Attachments: Figure 1 – Regional Location Map  
Figure 2 – Project Site  
Figure 3 – Project Components  
Figure 4 - Vernal Pool Watershed with BMP Overview  
Figure 5 - Vernal Pool Watershed Boundary Detail  
Initial Study Checklist - Revised  
Responses to Comments  
Revised Submittal Memo: Estimated Construction Crews and Equipment used to Calculate Construction Emissions (FINTB, August 25, 2014)  
Brown Field Municipal Airport Runway Rehabilitation Project: Burrowing Owl Survey (July 2014)



Edmund G. Brown Jr.  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Les Allen  
Director

August 4, 2014

Rebecca Malone  
City of San Diego  
1222 First Avenue, MS-501  
San Diego, CA 92101

Subject: Brown Field Municipal Airport Runway 8L/26R Rehabilitation Project  
SCH#: 201-011013

Dear Rebecca Malone:

The State Clearinghouse submitted the above-named Mitigated Negative Declaration to selected state agencies for review. The review period closed on August 1, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

1400 TENTH STREET, P.O. BOX 3009, SACRAMENTO, CALIFORNIA 95832-0009  
TEL: (916) 227-2015 FAX: (916) 227-3003 www.dwr.ca.gov

STATE CLEARINGHOUSE (AUGUST 4, 2014)

A-1 Comment acknowledged.

A-1

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2014071015  
**Project Title** Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project  
**Lead Agency** San Diego, City of

**Type** MND - Mitigated Negative Declaration

**Description** Mayoral Approval for the rehabilitation of Runway 8L-26R (Project). Runway 8L-26R measures 7,872 feet in length and 150 feet in width, and it comprised of both Portland Cement Concrete (PCC) and Asphalt (AC) pavements. Review of historic aerial photographs suggests that the existing paving was put in place in 1953. In the early 1990's approximately 5,500 feet of the runway's middle section was milled and overlaid, but the end portions of the Runway have had no major rehabilitation work since its construction over half a century ago. The current conditions of the concrete ends of the runway require immediate evaluation and rehabilitation to ensure safety and compliance with current design and construction standards as set forth by applicable regulatory agencies, including the Federal Aviation Administration.

**Lead Agency Contact**

**Name** Rebecca Malone  
**Agency** City of San Diego  
**Phone** 619 446 5371  
**email**  
**Address** 1222 First Avenue, MS-501  
**City** San Diego **State** CA **Zip** 92101

**Project Location**

**County** San Diego  
**City** San Diego  
**Region**  
**Lat/Long** 32° 56' N / 116° W  
**Cross Streets** Olney Mesa Rd / Heritage Rd  
**Parcel No.** 846-05-002, 003, 004, 846-06-003, 004, 006  
**Township** 18S **Range** 1 **Section** 27/28 **Base** SBERRM

**Proximity to:**

**Highways** SR-905, 125  
**Airports** Brown Field, Tijuana Intl  
**Railways**  
**Waterways** Olney River  
**Schools** San Ysidro  
**Land Use** PLU: Airport  
Z: Project site is Un-zoned  
CPLUD: Institutional and Semi-Public Facility

**Project Issues** Archeologic-Historic; Biological Resources

**Reviewing Agencies** Resources Agency; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 11; Air Resources Board; Regional Water Quality Control Board, Region 9; Department of Toxic Substances Control; Native American Heritage Commission

**Date Received** 07/03/2014 **Start of Review** 07/03/2014 **End of Review** 08/01/2014

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SAN DIEGO COUNTY ARCHAEOLOGICAL SOCIETY (JULY 24, 2014)



San Diego County Archaeological Society, Inc.

Environmental Review Committee

24 July 2014

To: Ms. Rebecca Malone
Development Services Department
City of San Diego
1222 First Avenue, Mail Station 501
San Diego, California 92101

Subject: Draft Mitigated Negative Declaration
Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project

Dear Ms. Malone:

I have reviewed the subject DMND on behalf of this committee of the San Diego County Archaeological Society.

B-1

Based on the information contained in the initial study and DMND, we concur with the impact analysis and mitigation measures as proposed.

SDCAS appreciates being afforded this opportunity to participate in the City's environmental review process.

Sincerely,

James W. Royie, Jr., Chairperson
Environmental Review Committee

cc: SDCAS President
File

P.O. Box 81106 San Diego, CA 92128-1106 (619) 536-0935

B-1 Comment acknowledged.

LETTER

RESPONSE



PO Box 908  
Alpine, CA 91903  
#1 Viejas Grade Road  
Alpine, CA 91901  
Phone: 6194453810  
Fax: 6194455337  
viejas.com

VIEJAS TRIBAL GOVERNMENT (AUGUST 4, 2014)

August 4, 2014

Rebecca Malone  
Environmental Planner  
City of San Diego Development Services Center  
1222 First Ave., MS501  
San Diego, CA 92101

RE: Brown Field Municipal Airport Runway 8L-26 Rehabilitation Project

Dear Ms. Malone,

The Viejas Band of Kumeyaay Indians ("Viejas") has reviewed the proposed project and at this time we have determined that the project site has cultural significance or ties to Viejas. Viejas Band request that a Native American Cultural Monitor be on site for all initial ground disturbing activities to inform us of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. Please call Julie Hagen for scheduling at 619-659-2339 or email [jhagen@viejas-nsn.gov](mailto:jhagen@viejas-nsn.gov). Thank you.

Sincerely,

VIEJAS BAND OF KUMEYAAY INDIANS

C-1 Comment noted. A Native American (Kumeyaay) monitor will be on-site to monitor any ground disturbing activities associated with project implementation.

RINCON BAND OF LUISENO INDIANS (JULY 11, 2014)



**RINCON BAND OF LUISEÑO INDIANS**  
Culture Committee

1000 Grand Canyon Blvd., Suite 100, San Diego, CA 92108  
(619) 594-9111 or (619) 594-2635 & Fax (619) 594-3001



July 11, 2014

Rebecca Malone  
City of San Diego  
Development Services Center  
1222 First Avenue, MS 501  
San Diego, CA 92101

Re: **Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project**

Dear Ms. Malone:

This letter is written on behalf of the Rincon Band of Luiseño Indians. Thank you for inviting us to submit comments on Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project. Rincon is submitting these comments concerning your project's potential impact on Luiseño cultural resources.

The Rincon Band has concerns for impacts to historic and cultural resources and the finding of items of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. This is to inform you, your identified location is not within the Luiseño Aboriginal Territory. In fact, your project falls within Kumeyaay Aboriginal Territory. We recommend that you locate a tribe within the project area to receive direction on how to handle any inadvertent findings according to their customs and traditions.

If you would like information on tribes within your project area, please contact the Native American Heritage Commission and they will assist with a referral. If for some reason you are unable to locate an interested tribe please notify our office at (760) 297-2635 and we will be happy to assist you in the matter.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

*Rose Duro*  
Rose Duro  
Rincon Culture Committee Chairman

Bu Mazzetti  
Vital Chairman

Stephanie Spencer  
Vice Chairman

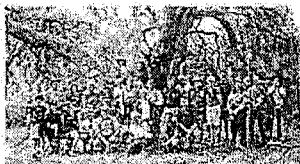
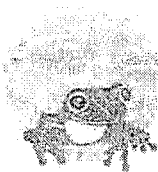
Steve Stallings  
Council Member

Laurie E. Gonzalez  
Council Member

Frank Mazzetti III  
Council Member

**D-1** Please see Response to Comment No. C-1. A Native American monitor will be on-site to monitor any ground disturbing activities associated with project implementation.

CENTER FOR BIOLOGICAL DIVERSITY (AUGUST 4, 2014)



Preserve Wild Santee

August 4, 2014

VIA Electronic Mail and USPS

Rebecca Malone  
 Environmental Planner  
 City of San Diego Development Services Center  
 1222 First Avenue, MS 501  
 San Diego, CA 92101  
 DSDEAS@sandiego.gov

RE: Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project Mitigated Negative Declaration

Dear Ms. Malone,

These comments are submitted on behalf of the Center for Biological Diversity and Preserve Wild Santee on the Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project ("Project") Draft Mitigated Negative Declaration. The Project will rehabilitate a runway at the Brown Field Municipal Airport ("Brown Field") in San Diego by removing concrete, excavating fill material, grading, and building up asphalt. CITY OF SAN DIEGO, BROWN FIELD MUNICIPAL AIRPORT RUNWAY 8L-26R REHABILITATION PROJECT INITIAL STUDY 1-2 (2013) ("IS"). Despite the purported limited area of construction and temporary nature of the Project, the Project will result in significant impacts to biological and other resources on Environmentally Sensitive Lands. See CITY OF SAN DIEGO, METROPOLITAN AIRPORT PROJECT FINAL ENVIRONMENTAL IMPACT REPORT 2-5 (2013) ("Airport EIR").

The Project will have both individually and cumulatively considerable significant impacts on biological resources, air quality, and climate change. The City has failed to disclose many of these impacts, as required by the California Environmental Quality Act ("CEQA"), and its proposed mitigation measures cannot adequately minimize these significant impacts. See Cal. Code Regs. tit. 14, § 15144 ("CEQA Guidelines"). Therefore, the City must prepare an

Atlanta • Chicago • Denver • Doha • Houston • Kansas • New Mexico • New York • Phoenix • Sacramento • Washington, DC  
 Jonathan Evans, Forest and Endangered Species Campaign Director & Staff Attorney  
 351 California St., Ste. 609 • San Francisco, CA 94104  
 tel: (415) 776-3392 x 218 fax: (415) 436-9853 email: jevans@biologicaldiversity.org  
 www.BiologicalDiversity.org

E-1

E-1 These first statements are introductory and do not require response. Responses to specific comments included in this letter are provided below.

Environmental Impact Report ("EIR") to fully evaluate the impacts of the Project on the environment.

E-1

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center for Biological Diversity has over 775,000 members and activists throughout California and the western United States, including residents of San Diego County where the Project is located. Preserve Wild Space is a non-profit environmental organization that engages in land use decisions to produce a more healthy community with cleaner air, greater recreational opportunities, more scenic views, less traffic congestion and more informed decisions from our public officials.

E-1 These first statements are introductory and do not require response. Responses to specific comments included in this letter are provided below.

**I. Legal Background**

The Legislature enacted CEQA to "[e]nsure that the long-term protection of the environment . . . shall be the guiding criterion in public decisions." Cal. Pub. Res. Code § 21001(d); see also *No Oil, Inc. v. City of Los Angeles*, 529 P.2d 66, 69 (Cal. 1974). CEQA must be interpreted to "afford the fullest possible protection to the environment." *Altoia v. City of Los Angeles*, 29 Cal. Rptr. 3d 788, 792 (Cal. Ct. App. 2005) (quoting *Mountain Lion Found. v. Fish & Game Comm'n*, 939 P.2d 1280, 1284 (Cal. 1997)). The purpose of an EIR is "to demonstrate to an apprehensive citizenry that the agency has in fact analyzed and considered the ecological implications of its action." *No Oil*, 529 P.2d at 78.

E-2

"[W]henver it can be fairly argued on the basis of substantial evidence that the project may have significant environmental impact," an agency must prepare an EIR. *No Oil*, 529 P.2d at 70; Cal. Pub. Res. Code, §§ 21082.2(a), 21100, 21151; Cal. Code Regs. tit. 14, § 15064(a)(1). This "fair argument standard establishes a low threshold" for the preparation of an EIR. *Consol. Irrigation Dist. v. City of Selma*, 138 Cal. Rptr. 3d 428, 444 (Cal. Ct. App. 2012). If "any aspect" of a project may cause a significant effect on the environment, "either individually or cumulatively . . . regardless of whether the overall effect of the project is adverse or beneficial," an agency must prepare an EIR. Cal. Code Regs. tit. 14, § 15063(b)(1).

E-2 The statements included in Section I provide legal background on CEQA and do not require response. Responses to specific comments detailed in Section II of this letter are provided below.

Negative declarations are reserved for projects that will not have a significant effect on the environment. Cal. Pub. Res. Code § 21080; Cal. Code Regs. tit. 14, § 15070. If a project will have significant impacts on the environment but revisions would either avoid the impact or mitigate the effects so that the project will no longer have a significant impact, then an agency can prepare a mitigated negative declaration ("MND"). Cal. Pub. Res. Code §§ 21064.5, 21080.

**II. The Project Will Have Significant Impacts on the Environment and Therefore, an EIR Is Required**

**A. The City Failed to Disclose the Project's Significant Impacts**

**1. The City Failed to Disclose the Significant Impacts to Biological Resources, Air Quality, and Climate Change**

ii. Impacts to Special-Status Species and Biological Resources Will Be Significant

Substantial evidence exists before the public agency that the Project will have a significant impact on special status species. Negative declarations are appropriate when there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment. Cal. Pub. Res. Code §§ 21064.5, 21080; Cal. Code Regs. tit. 14, §§ 15064(f)(2), 15070, 15369.5. The requirement to disclose and analyze impacts to special status species is founded in CEQA's principles to "[p]revent the elimination of fish and wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities." Cal. Pub. Res. Code § 21001. It is in this context that the Supreme Court found that a "potential substantial impact on endangered, rare or threatened species is per se significant." *Pineyrid Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 150 P.3d 709, 732 (2007) (quoting Cal. Code Regs. tit. 14, § 15065(a)(1)). The comments below present evidence that the Project will result in a significant impact, requiring an EIR.

In this instance, an EIR must be prepared to address the direct and cumulative impacts to threatened, endangered, and sensitive species from potential construction and operation resulting from the Project. The site contains habitat for several sensitive species including the San Diego fairy shrimp, San Diego button celery, burrowing owl, Coastal California gnatcatcher, peregrine falcon, and loggerhead shrike, among others. These species qualify as "Endangered, Rare, or Threatened Species" pursuant to CEQA Guidelines section 15380. The MND improperly dismisses impacts to these special-status species as insignificant. As discussed below, the direct impacts of the Project disclosed by the MND would be significant. The MND omits any discussion of indirect and cumulative impacts to these species, which would also be significant. The City cannot satisfy CEQA's requirement to fully disclose, analyze, avoid, and mitigate impacts on the basis of the MND's cursory or non-existent analysis of impacts to the San Diego fairy shrimp, San Diego button celery, burrowing owl, Coastal California gnatcatcher, peregrine falcon, loggerhead shrike, and other sensitive species.

The Project will substantially restrict the range of endangered, rare and threatened species. Contrary to CEQA Guidelines and relevant case law, the MND erroneously concludes that the impacts to sensitive species will be less than significant. The Project will have significant impacts on the habitat of endangered, rare, and threatened species. The Legislature and the Secretary of Resources have determined that certain kinds of impacts are necessarily significant. "Mandatory findings of significance" are required for the following circumstances: "the project has the potential to . . . substantially reduce the habitat of a fish or wildlife species . . . [or] substantially reduce the number or restrict the range of an endangered, rare or threatened species." Cal. Code Regs. tit. 14, § 15065 (emphasis added). Additionally, the State CEQA Guidelines Appendix G defines an impact significant if it would "[h]ave a substantial adverse effect, either directly or through habitat modification, on any species" recognized as special status by local, state, or federal laws. Cal. Code Regs. tit. 14, app. G § 1V(b). Courts have determined that impacts to habitat for rare flora and fauna are significant under section 15065

August 4, 2014  
Page 3 of 16

E-3 The commenter states that impacts to biological resources will be significant, however no evidence is provided to support the statement. The project involves the rehabilitation of existing paved areas of Runway 8L/26R. Construction methods for this rehabilitation project generally consist of removing the existing Portland cement concrete (PCC) runway surface from edge to edge and excavating within the existing footprint, building back up with the new asphalt concrete (AC) base layer and constructing the new AC surface layer to design specifications. The PCC materials will be rubbilized on-site. This work is within the existing runway footprint and does not extend beyond the Runway Safety Areas (RSA) surrounding the project APE. As noted in the MND, focused burrowing owl surveys were conducted for the Project which identified 14 active burrows within the airport property. While none of the observed owls or burrows are within the runway rehabilitation APE, two breeding pairs (BF-BUOW-06 & BF-BUOW-07) were observed in proximity to, but well outside of the staging area. This represented a potential indirect impact during construction-related activities and therefore mitigation was identified and presented to the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife for concurrence prior to release of the draft MND for public review.

The commenter also states that the MND fails to analyze the direct, indirect and cumulative effects of the project. Please see Sections I through XVIII of the MND for a discussion on direct and cumulative impacts.

The commenter also states that the project site contains habitat for a number of sensitive species, including fairy shrimp and button celery. As stated in the MND, there is no riparian habitat within or adjacent to the project site, and, therefore, no direct impacts to sensitive species such as the San Diego fairy shrimp and San Diego button-celery.

and require full evaluation and recirculation prior to approval. *Mira Monte Homeowners Ass'n v. City of Fremont*, 212 Cal. Rptr. 127, 131 (Cal. Ct. App. 1985).

#### ii. San Diego Fairy Shrimp and San Diego Button-Celery

Development like the Project in southern California has proven devastating to the San Diego fairy shrimp, and the relatively flat vernal pool habitat that it relies upon has been a prime target for development. As a result "97 percent of its vernal pool habitat has been destroyed" and remaining populations "face severe, imminent threats that could result in substantial habitat losses and extinctions in the future." 62 Fed. Reg. at 4925, 4929 (Feb. 3, 1997). "The loss of vernal pool habitat is now nearly total in Los Angeles and Orange counties." *Id.* at 4926. The San Diego fairy shrimp has fared no better in its namesake county where the cumulative loss of vernal pool habitat is estimated at 95 to 97 percent. U.S. FISH & WILDLIFE SERV., RECOVERY FOR VERNAL POOLS OF SOUTHERN CALIFORNIA 45 (1998); 62 Fed. Reg. at 4926. San Diego fairy shrimp on Otay Mesa have faced similar threats that "have continually disturbed this area and have destroyed 78 percent of the vernal pools once located on Otay Mesa." 62 Fed. Reg. at 4932. The pace of vernal pool habitat destruction on Otay Mesa increased in the late twentieth century: "where over 40 percent of vernal pools were destroyed between 1979 to 1990." 65 Fed. Reg. 12,181, 12,182 (Mar. 8, 2000). Significant portions of Otay Mesa have been designated for development and many of those projects would eliminate San Diego fairy shrimp habitat. 62 Fed. Reg. at 4932-33.

E-4 Considering the historical loss of habitat, Fish and Wildlife Service ("FWS") properly determined that all remaining vernal pool habitat, whether occupied or not, must be protected if the species is ever to recover. See, e.g., 72 Fed. Reg. 70,648, 70,665 (Dec. 12, 2007) (Recovery "calls for the preservation and enhancement of existing vernal pools that are within the extant range of the San Diego fairy shrimp."). In 1997 FWS found that "sizeable areas of vernal pool habitat occur[] on the northeastern corner of Otay Mesa" where the Project is located. 62 Fed. Reg. at 4932. FWS further noted that Otay Mesa contains "vernal pools known to be inhabited by the San Diego fairy shrimp" that were being adversely impacted by human threats. *Id.* at 4937.

One of the physical or biological features essential to the conservation of the San Diego fairy shrimp is the vernal pool watershed. 16 U.S.C. § 1532(S)(A)(i)(C); 72 Fed. Reg. at 70,665. FWS explains the need to protect the watershed as a vital "matrix" essential for the conservation of the San Diego fairy shrimp. 72 Fed. Reg. 70,665 ("The matrix of vernal pools/ephemeral wetlands, upland habitats . . . in combination create ecologically functional units."). Because of the delicate hydrology of vernal pools and the accompanying sensitivity of San Diego fairy shrimp to the impacts to water quality and temperature, it is necessary to maintain a healthy vernal pool watershed for their conservation. See, e.g., 72 Fed. Reg. 70,648 (vernal pool ecosystems are best described from a watershed perspective because of hydrological needs); *id.* at 70,664 (protection of the upland watershed habitat is important to protect hydrology and to "buffer the vernal pools from edge effects" such as those caused by nearby urbanization); *See, e.g., Far Biological Diversity v. Bactel*, 470 F. Supp. 2d 1118, 1127 (S.D. Cal. 2006).

August 4, 2014  
Page 4 of 16

There could be potential indirect impacts to the watershed associated with vernal pool number BFVP-5. While not initially described in the draft MND, construction activities could temporarily impact the northern tip of the watershed associated with (BFVP-5) which exists in the same location as the eastern portion of the existing Runway 8L/26R which will not be changed or expanded; the vernal pool basin is located approximately 1,700 feet to the southeast of the project area; BMP's will be in place to avoid any potential runoff; the temporary impact will occur in an area that is likely not contributing a significant amount of hydrology to the vernal pool basin; and the temporary impact represents less than a sixth (6<sup>th</sup>) of the mapped watershed for BFVP-5. This impact would be less than significant. This information has been incorporated into the Biological Resources Section of the Initial Study Checklist and two figures showing the proximity of the vernal pool basin and watershed to the project APE (Figures 4 & 5) have been added.

E-4 The commenter states that the project would result in direct and indirect impacts to San Diego Fairy Shrimp and San Diego Button Celery; however no evidence is provided to support the statement. As stated in Response to Comment No. E-3, the project could temporarily impact the watershed for BFVP-5. In the 2011 Biology Survey Report prepared by Sage Institute for the Metropolitan Airpark Project, vernal pool BFVP-5 was described as an 1,800 square-foot road rut pool where a low density of fairy shrimp cysts were found (less than five cysts for the entire pool) but no adults. No San Diego button-celery was found in BFVP-5.

Enhanced Best Management Practices (BMPs) have been incorporated into the project to further protect the watershed from runoff, prior to, during and post-construction. The total mapped watershed for this vernal pool basin is 24.3 acres, out of which 4.1 acres would be temporarily affected by repairs to the existing runway. This results in a temporary indirect impact to 17 percent of the mapped watershed (less than a sixth) and is considered a less than significant impact. The access route for the project will follow an existing taxiway which runs adjacent to BFVP-2. This is an existing condition and no impacts (direct or indirect) to the

Critical habitat for the San Diego fairy shrimp includes accompanying upland habitats and watersheds that are necessary for the conservation of the species. See e.g., 72 Fed. Reg. at 70,650 (expert comments emphasizing the need to include "upland habitat and functional watersheds" for the conservation of San Diego fairy shrimp), 70,664 (protection of adjacent upland habitat is "important to the vernal pool ecosystem"). "Vernal pool habitats derive most of their nutrients from detritus (decaying matter) washed into pools from adjacent uplands, and these nutrients provide the foundation for a vernal pool aquatic community's food chain." *Home Builders Ass'n of N. Cal. v. U.S. Fish & Wildlife Serv.*, No. Civ. S-05-0629-WBS-GCL, 2006 U.S. Dist. LEXIS 80255 at \*52-53 (E.D. Cal. Nov. 2, 2006).

FWS's designation of the vernal pool watershed for critical habitat was emphasized by scientific peer review experts on the San Diego fairy shrimp: "One peer reviewer stressed the importance of viewing vernal pools as ecosystems with several important components, such as intact upland habitat and functional watersheds that contribute to the health and productivity of the vernal pool ecosystem and to the conservation of the San Diego fairy shrimp." 72 Fed. Reg. at 70,650. In some cases vernal pools in a complex can have "substantial watersheds" that cover a broad area to fill vernal pools. *Id.* at 70,649.

The Project will result in direct and indirect impacts to vernal pool watersheds of known vernal pools including BFVP-5 and potentially BFVP-2 that contain San Diego fairy shrimp. Airpark EIR at 5.6-17, fig. 5.6-3. Watersheds are a critical component of the essential biological and physical needs of San Diego fairy shrimp. 72 Fed. Reg. at 70,665. The Project's construction in the vernal pool watershed and disturbance in adjacent areas, which could wash into the watershed, results in direct and indirect impacts to vernal pool species that are completely omitted from discussion in the MND. Furthermore, critical habitat for the San Diego Fairy Shrimp is located at the Brown Field Municipal Airport. 72 Fed. Reg. at 70,674. CENTER FOR BIOLOGICAL DIVERSITY, SAN DIEGO FAIRY SHRIMP CRITICAL HABITAT (2014) ("Fairy Shrimp, CH"). The San Diego button celery is also an endangered species known to exist on vernal pools in the Project area. Airpark EIR at 5.6-17, fig. 5.6-3. Nowhere does the MND discuss these potential impacts or even disclose the existence of listed vernal pool species. The failure to analyze a potential impact to ESA listed species violates CEQA. *Vineyard Area Citizens for Responsible Growth*, 138 P.3d at 782.

ii. Other Special-Status Species

The MND's failure to discuss a whole range of special status species known to occur in the Project area runs contrary to CEQA. The Environmental Impact Report for the Brown Field Metropolitan Airport Project at the same location as the current Project documented fourteen species with a "High Potential" to occur in or near the Project Area and three species with a "Medium Potential" to occur in or near the Project Area. Airpark EIR at 5.6-20-21. The MND's "inadequate consideration and documentation . . . of existing environmental conditions, such as sensitive wildlife species, renders it impossible . . . to accurately assess the impacts the project would have on wildlife and wildlife habitat or to determine appropriate mitigation." *San Joaquin Riparian/Wildlife Resource Cir. T. City of Stanislaus*, 27 Cal. App. 4th 713, 722 (Cal. Ct. App. 1994).

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vernal pool basin or fairy shrimp would result from the access use. This information has been added to the Initial Study Checklist (Item 9 – Surrounding land uses and setting and Biological Resources Section)

**E-5** Table 5.6-3 from the Metropolitan Air Park Project FEIR was reviewed in order to provide responses to this comment. Based on review of the table, staff concurs that many of the Special-Status species were observed or mapped within the Metropolitan Air Park project study area in 2011; however, the only species that has been observed in proximity to the project APE; specifically proximate to the staging area, is the burrowing owl. Because it is possible that at any given time, migratory birds or small reptiles listed on the table will forage in the adjacent non-native grasslands, this information has been incorporated into the existing conditions discussion of baseline at the time project was deemed complete in accordance with CEQA.

**E-6** The commenter states that the project will result in significant impacts because of its conflicts with the MSCP; however no evidence is provided to support the statement. As stated in the Initial Study Checklist, the project will not have a direct impact on burrowing owls, burrows or associated habitat. Although not clearly stated in the project scope but is stated in mitigation measure BIO-1, construction activities are intended to occur during the non-breeding season for burrowing owls (generally considered to be September 1 to January 31). This detail has been added to the project description. Additionally, construction is limited to Runway 8L-26R where no burrowing owls or burrows have been observed. However, staging for the project is in proximity to mapped burrows and owl observation areas and therefore the mitigation measure noted in this comment is intended to reduce the potential for any impacts on this species in the event that construction is necessary during the breeding season. This measure includes a provision for a no-work buffer and additional consultation with the California Department of Fish and Wildlife to develop additional measures for the protection of this species. This mitigation measure was developed by a qualified biologist and presented to the U.S. Fish and Wildlife Service and the California

**h. The Project Will Conflict With Local Plans Protecting Biological Resources**

The Project will result in significant impacts because of its conflicts with the Multiple Species Conservation Plan ("MSCP") and local plans and ordinances implementing the MSCP. Under CEQA, conflicts with applicable planning documents, particularly those adopted for the purpose of avoiding or mitigating environmental impacts, constitute adverse impacts that a public agency must analyze and mitigate. *Pocket Pruneyors v. City of Sacramento*, 21 Cal. Rptr. 3d 791, 816-11 (Cal. Ct. App. 2004).

The City of San Diego, County of San Diego, U.S Fish and Wildlife Service, California Department of Fish and Game, and other local jurisdictions collaborated in the late 1990s to develop the MSCP, a comprehensive long-term plan that addresses the needs of multiple species by identifying key areas for preservation as open space that link core biological areas into regional wildlife preserve. The Project is within the City's MSCP Subarea Plan and must comply with the MSCP. IS at 8. The MSCP requires that impacts to burrowing owls "must be avoided to the maximum extent practicable." CITY OF SAN DIEGO, MULTIPLE SPECIES CONSERVATION PROGRAM app. A, at 161 (1998) ("MSCP Excerpt"). The MND claims that mitigation measures will assure compliance with the MSCP. "With implementation of Mitigation Measure BIO-1, the project would not be in conflict with the terms, conditions, and provisions of the MSCP as required; and therefore, impacts would be less than significant." IS at 8. Mitigation Measure BIO-1 calls for pre-construction surveys, minimizing construction during the breeding season "to the greatest extent feasible," and requirements for construction occurring during the breeding seasons such as a buffer to be "determined by a qualified biologist," consultation with the California Department of Fish and Wildlife, and worker education. CITY OF SAN DIEGO, BROWN FIELD MUNICIPAL AIRPORT RUNWAY 8L/26R REHABILITATION PROJECT DRAFT MITIGATED NEGATIVE DECLARATION 4 (2014) ("MND"). These minimal standards fail to assure that impacts to burrowing owls are avoided to the "maximum extent practicable."

First, the MND fails to discuss other mitigation requirements in the MSCP such as the following:

any impacted individuals must be relocated out of the impact area using passive or active methodologies approved by the wildlife agencies; mitigation for impacts to occupied habitat as the Subarea Plan specified ratio must be through the conservation of occupied burrowing owl habitat or conservation of lands appropriate for restoration management and enhancement of burrowing owl nesting and foraging requirements.

MSCP excerpt at 161. There is no discussion or provision for the relocating of impacted individuals in the MND. There is no mitigation for impacts to occupied habitat at any ratio for the conservation of occupied burrowing owl habitat or restoration lands. The MND acknowledges that the Project may impact lands occupied during both the breeding and non-

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Department of Fish and Wildlife for concurrence prior to release of the draft MND for public review. Also see Response to Comment No. E-3 and E-16.

E-7 See Response to Comment No. E-5.

E-8 The commenter noted that construction emissions for the Project were not quantitatively analyzed and disclosed in the Initial Study. Quantitative emissions are presented in Table 1 below for construction of the Project. Based on the linear nature of the runway rehabilitation, the Sacramento Metropolitan Air Quality Management District (SMAQMD) Roadway Construction Model (version 7.1.5.1), which incorporates the latest EMFAC2011 and OFFROAD2011 emission factors, was used for the following phases of construction: Demolition, Grading, Site Preparation, Paving and Striping.

**TABLE 1  
UNMITIGATED CONSTRUCTION EMISSIONS**

Phase	Estimated Emissions <sup>a</sup>				
	ROG	NO <sub>x</sub>	CO	Total PM10 <sup>b</sup>	Total PM2.5 <sup>b</sup>
Demolition	3.6	26.2	17.6	4.2	2.4
Grading	7.7	115.3	34.0	6.8	4.5
Site Preparation	2.8	24.6	13.8	3.7	1.9
Paving and Striping	6.1	59.6	31.4	3.6	3.2
Maximum Daily Emissions (lbs/day)	7.7	115.3	34.0	6.8	4.5
Daily Significance Threshold	137	250	550	100	None
Significant Impact?	No	No	No	No	No
Total Tons of Emissions (tons/project)	0.2	2.7	1.2	0.2	0.1
Annual Significance Threshold	15	40	100	15	None
Significant Impact?	No	No	No	No	No

a. Ambient air quality thresholds for criteria pollutants based on SDAPCD Rule 1303, Table A-2 unless otherwise stated.

b. Total particulates (PM10 and PM2.5) include exhaust and fugitive dust

SOURCE: City of San Diego, 2011; HNTB, 2014



breeding season, yet provides for no mitigation of impacts to that habitat. See Draft MND at A; IS attach. A, at 2.

E-6 Second, the MND patently fails to mitigate to the maximum extent practicable by failing to provide for buffers or avoidance necessary between February 1 and August 31. The MND fails to require avoidance of inactive burrows or burrows where burrowing owls were not sighted using the burrows on the day of the survey. Burrowing owls could be absent and foraging away from an active burrow during the time of the survey, but the MND presumes that burrows will have owls in them at all times during the survey in order to be active. The MND fails to require adequate mitigation by only requiring avoidance if burrowing owls are sighted three days prior to construction, but failing to account for historical use or areas where the burrowing owls may have been absent on the day of the survey. Allowing construction and staging activities within a 150 meter buffer of known, documented breeding pairs also fails to maximize mitigation. The MND fails to require mitigation to assure that staging areas are not within an area of active use by the burrowing owls. With the amount of underutilized space on Brown Field or adjacent to Brown Field that is available for a construction staging area there are clearly places where a staging area could be located away from known burrowing owls. The MND's failure to require mitigation to avoid impacts to burrowing owls to the "maximum extent practicable" or provide an explanation as to why those measures are infeasible runs contrary to CEQA's requirements to disclose and analyze impacts to regional plans. Cal. Code Regs. tit. 14 app G, § 1V(e), (f).

E-7 The MND also fails to mention other species that are covered in the MSCSP that may be affected by the Project and any discussion of the impacts of the Project, steps taken to mitigate impacts to those species, or how the Project complies with the MSCSP's requirements for those species. There are eight species that are covered by the MSCSP that have a "High" or "Medium" potential to occur in or near the Project area and the MND fails to mention almost all of them. Airpark EIR at 3.6-20-21. The MND's attempt to avoid collecting information about the potential significant impacts outlined by wildlife responsible agencies is an abuse of discretion under CEQA. *Sierra Club v. State Bd. of Forestry*, 876 P.2d 505, 513-14 (Cal. 1994). This blanket failure to disclose and analyze the species present and how the Project will comply with the MSCSP's requirements for those species violates CEQA.

c. Impacts to Air Quality Will be Significant

E-8 The City fails to quantify impacts to air quality or describe how these impacts will be mitigated to insignificant levels. The City admits that the Project will result in "fugitive dust from grading activities, construction equipment exhaust, construction-related trips by workers, delivery trucks, and material-hauling trucks, and construction-related power consumption," but fails to quantify the likely amounts of dust that these activities will produce. IS at 5. To mitigate these impacts, the City states that "[c]onstruction operations would include standard measures as required by the [City] to reduce potential air quality impacts from dust emissions to a less than significant level." *Id.* The City also claims that "[s]tandard construction best management practices (BMPs), such as dust control measures, will ensure that construction-related visual degradation is minimized." *Id.* at 3. These vague statements are all the City offers to demonstrate that dust emissions will be less than significant.

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As shown in Table 1 above, the Project would result in emissions of each pollutant substantially below the applicable City daily and annual significance thresholds. In particular, total particulate matter emissions (PM10 and PM2.5) in Table 1, which include exhaust and fugitive dust, would be minimal. Inclusion of standard construction best management practices would further reduce emissions, particularly fugitive dust. Construction of the Project would thus result in less-than-significant emissions.

E-9 The commenter claims that the IS/MND fails to disclose and analyze the impacts related to the Project's release of toxic chemicals through the use of asphalt and the potential disturbance of existing hazardous materials sites. Asphalt is a petroleum product which can vary in its composition but generally consists primarily of crude petroleum oils. The exact chemical composition of asphalt depends on the chemical complexity of the original crude petroleum and the manufacturing processes. The proportions of the chemicals that constitute asphalt can vary because of significant differences in crude petroleum from various oil fields and even from various locations within the same oil field. Off-gassing is highest when asphalt is first applied and then after it has cooled and cured, it quickly diminishes. The National Institute for Occupational Safety and Health (NIOSH) critically evaluated the scientific data on potentially hazardous occupational exposures or work conditions in a study titled, *Hazard Review: Health Effects of Occupational Exposures to Asphalt* (NIOSH, 200 - <http://www.cdc.gov/niosh/docs/2001-110/pdfs/2001-110.pdf>). Observations of acute irritation in workers from airborne and dermal exposures to asphalt fumes and aerosols have been shown to include temporary health effects such as headaches, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, and coughing. The available data from studies in humans have not provided consistent evidence of carcinogenic effects in workers exposed to asphalt fumes during paving operations (NIOSH, 2000). Regardless, workers are required to adhere to OSHA safety requirements that include the use of appropriate personal protective equipment to minimize contact and exposure to asphalt fumes. Material Safety Data Sheets (MSDS) for the product are required by law to be available to workers which will include the ingredients and possible health and safety hazards as well as



This failure to disclose these impacts violates CEQA, which requires an agency to "use its best efforts to find out and disclose all that it reasonably can." Cal. Code Regs. tit. 14 § 15144. Instead of using its best efforts to disclose what it knew about likely dust emissions and mitigation measures, the City simply claims that standard measures will ensure that emissions are not significant. "Mere conclusions" are not appropriate—initial studies "must disclose the data or evidence up which the person(s) conducting the study relied." *Century v. City of Murietta*, 43 Cal. Rptr. 2d 170, 184 (Cal. Ct. App. 1995) (quoting *Citizens Ass'n for Sensible Dev. of Bishop Area v. City of Inyo*, 217 Cal. Rptr. 892, 906 (Cal. Ct. App. 1985)). Simply claiming that these measures will reduce air quality impacts to a less than significant level does not demonstrate that the measures will "clearly" mitigate adverse impacts so that there are no significant effects. See Cal. Pub. Res. Code § 21664.5. There is no evidence in the initial study that the dust emissions will be insignificant or will be properly mitigated by dust control measures. Without any supporting evidence, the City defies the Legislature's intent in enacting CEQA to ensure that agencies give consideration to the environment. The public cannot know whether the City's figures are accurate and therefore, whether the Project's dust emissions will be significant and mitigated, without this information.

This fugitive dust is especially significant because it will contribute to an existing air quality violation. The City is already in nonattainment for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>. IS at 4-5. Fugitive dust from the Project is particulate matter and will contribute to these violations. See AIR RESOURCES BOARD, FUGITIVE DUST CONTROL 1 (2007), available at [http://www.arb.ca.gov/pd/fugitive\\_dust\\_large.pdf](http://www.arb.ca.gov/pd/fugitive_dust_large.pdf). The City fails to disclose that dust contributes to particulate matter in the initial study, although it has made the connection in a related EIR. See Airport EIR at 5.4-5. And the fact that the Project will not result in long-term emissions does not excuse the City from evaluating the Project's significant impacts to air quality. See IS at 5. "Nothing in [CEQA] suggests that short-term effects cannot be of such significance as to require an EIR." *No Oil*, 529 P.2d at 77.

d. **The Project's Release or Disturbance of Toxic Materials Will Have a Potentially Significant Impact on Public Health and the Environment**

The Project fails to disclose and analyze the impacts from the Project's release and potential disturbance of toxic chemicals. The Project would rely on the use of asphalt for paving and could result in the potential disturbance of hazardous materials sites. IS at 13, 15. Unfortunately, the MND fails to disclose the potentially significant emissions hazards resulting from asphalt paving and PM, and the potentially significant impacts that could result to airport workers. The MND is similarly deficient in failing to provide information on the location and types of hazardous materials sites that are located at the Brown Field Airport.

The Project will require the use of asphalt for much of the runway repaving. IS Checklist at 1-2, IS at 13. Asphalt fumes are known carcinogens that can irritate the eyes, nose, throat, and lungs and cause headaches, dizziness, nausea, and vomiting. NEW JERSEY DEP'T OF HEALTH &

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recommended protective equipment. Therefore, considering the lack of evidence for chronic or carcinogenic effects in workers, the temporary nature of the asphalt work and exposure, and the existing safety regulatory requirements from Cal OSHA for workers, there would be a less than significant impact from the proposed asphaltting work.

E-10 In regards to health risks associated with construction of the Project, the primary concern, as noted by the commenter, would be PM<sub>2.5</sub> emissions associated with diesel exhaust from off-road equipment and trucks. Sensitive receptors in the immediate vicinity of the Project site include Otay Mesa residential uses to the west. The closest residences in this development area, on Vista Santo Tomas, are located approximately one-half mile (2,600 feet) from the western end of Brown Field's Runway 8L-26R. Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period would result in a higher exposure level, assuming the concentration of the substance would be constant. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities (4 months) would only constitute a small percentage of the total 70 year exposure period. In addition, as mentioned above, Project construction would occur at 2,600 or more feet from the nearest residential receptors. These receptors would be a substantial distance from Project construction (more than double the Bay Area Air Quality Management District (BAAQMD)-recommended 1,000 foot zone of influence). As described in the BAAQMD's 2009 *Justification Report* (BAAQMD, 2009), the 1,000 foot distance was selected based on several factors:

"A summary of research findings in CARB's *Land Use Compatibility Handbook* (CARB, 2005) indicates that traffic-related pollutants were higher than regional levels within approximately 1,000 feet downwind and that differences in health-

SENIOR SERV., ASPHALT, HAZARDOUS SUBSTANCE FACT SHEET 1-2 (2007) ("Asphalt 2007"). Asphalt can also cause severe burns, dermatitis, and long term changes to skin pigments. *Id.*

E-10 The MND also admits that the Project will result in the release of dust and particulate matter. IS at 5. "The effects of PM-2.5 on humans are profound. For example, long-term exposure has been associated "with an array of health effects, notably premature mortality, increased respiratory symptoms and illnesses (e.g. bronchitis and cough in children), and reduced lung function." 62 Fed. Reg. 38,653, 38,668 (July 18, 1997). Moreover, PM-2.5 adversely affects our natural surroundings. For example, PM-2.5 adversely impacts wildlife. EPA has explained "a number of animal toxicologic . . . studies had reported health effects associations with high concentrations of numerous fine particle components." 71 Fed. Reg. 2620, 2643-44 (Jan. 17, 2006). PM-2.5 also causes direct foliar injury to vegetation. *Id.* at 2682. Moreover, PM-2.5 adversely affects the aesthetics of our natural surroundings. For example, Regional haze is caused in part by particulates in the air scattering sunlight. ENVTL. PROT. AGENCY, HAZE: HOW AIR POLLUTION AFFECTS THE VIEW, available at [http://www.epa.gov/ttn/airrg1/air\\_notices/haze.pdf](http://www.epa.gov/ttn/airrg1/air_notices/haze.pdf). Nowhere in the MND are these impacts discussed.

The MND must discuss the potentially significant impacts from the multiple types of air pollutants. "The discussion [of significant effects] should include . . . health and safety problems caused by the physical changes . . . of the project." Cal. Code Regs. tit. 14, § 15126.2. Furthermore, CEQA requires "some analysis of the correlation between the Project's emissions and human health impacts." *Sierra Club v. City of Fresno*, 172 Cal. Rptr. 3d 271, 305-06 (Cal. Ct. App. 2014) (stating that an EIR is inadequate when it does not "analyze the adverse human health impacts that are likely to result from the air quality impacts identified in the EIR") (*cit. Beckersfeld Citizens for Local Control v. City of Bakersfield*, 22 Cal. Rptr. 3d 203, 231 (Cal. Ct. App. 2004)). The MND's failure to disclose and analyze the Project's potential health impacts and discuss the health impact violates CEQA.

E-11 The MND also fails to disclose and analyze the potentially significant impacts from the disturbance of existing hazardous materials sites. The MND admits that the entire Brown Field Airport is a hazardous waste site as documented by the Spills, Leaks, Investigation, and Cleanup ("SLIC") Program database and that the Brown Field Airport hazardous sites have not been properly evaluated. IS at 15. The SLIC Program database, a Regional Water Quality Control Board program, includes sites where a hazardous materials spill or leak has occurred. The MND incorrectly claims that the Brown Field Airport is "not located in the immediate vicinity of areas where pavement removal and rehabilitation are to occur." IS at 16. Considering that the MND admits the entire Brown Field Airport is described as a hazardous waste site that has not been properly evaluated and that construction will be occurring on the Brown Field Airport, this statement clearly misleads the public and decision makers and is the type of "clearly erroneous" statement that runs contrary to CEQA's requirements. Cal. Code Regs. tit. 14, § 15384(a). The MND must fully disclose, analyze, and mitigate the location, hazardous materials, and impacts

<sup>1</sup> The Brown Field NAAS (Naval Auxiliary Air Station) is listed as a Hazardous Materials Release Site that "Needs Evaluation."

related effects (such as asthma, bronchitis, reduced lung function, and increased medical visits) could be attributed in part to the proximity to heavy vehicle and truck traffic within 300 to 1,000 feet of receptors. Although CARB has recommended avoiding siting sensitive land uses within 500 feet of a freeway or high-volume urban roads, this option uses 1,000 feet based on research that has indicated attributable increased health effects in some cases out to as far as 1,000 feet. In the same study, CARB recommended avoiding siting sensitive land uses within 1,000 feet of a distribution center and major rail yard, which supports the use of a 1,000 feet evaluation distance in case such sources may be relevant to a particular project setting. A second consideration is that studies have shown that the concentrations of particulate matter tends to be reduced substantially or can even be indistinguishable from upwind background concentrations a distance 1,000 feet downwind from sources such as freeways or large distribution centers."

Based on the short-term duration of construction, the low level of PM2.5 emissions, and the substantial distance from the nearest residential receptors, the Project would not expose these receptors to substantial PM2.5 concentrations. Notably, workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.

E-11 As noted in the IS/MND on Page 15, a review of environmental databases for sites with previous releases of hazardous materials was conducted for the project site and surrounding vicinity. Table 2 provides a summary of the sites that were found in this search and their current status. The only case that was found on the project site itself, which is very large, concerned an investigation of petroleum constituents in the soil and groundwater for a former tank farm. The former tank farm is located at the western end of the Airport property which is at the opposite end of the proposed paving activities for the project and over 4,000 feet from the Runway 26R paving activities and approximately 3,000 feet from the service road proposed for repaving. While minor surface and joint repair would occur on the western end of the runway, these activities are not expected to disturb underlying soils or groundwater. As noted in the IS/MND, the former tank farm as well as

that could result from the Project's disturbance of the documented SLIC sites on the Brown Field Airport

**a. The Project's Climate Change Impacts are Potentially Significant**

The City also fails to disclose information about the significant impacts to climate change in the initial study. The City provides a figure of estimated greenhouse gas emissions, but fails to disclose the data that it used to determine this figure. IS at 13. The City only reveals that it included information about "the project's duration and construction method, the type and amount of heavy duty construction equipment, haul trucks, and worker commute trips." *Id.* The City provides no numbers from these individual contributors, instead stating that the Project would "produce a total of 238.6 MTCO<sub>2</sub>e." *Id.* Once again, the City should have "disclose[d] the data or evidence" on which it relied when calculating such a figure. *Geary*, 43 Cal. Rptr. 2d at 134 (citation omitted).

The City again gives excuses for not evaluating the significant of greenhouse gas emissions. Because its unfounded estimate of greenhouse gas emissions is below an unofficial level of significance determined in 2008 by the California Air Pollution Control Officers Association, the City excuses itself from analyzing the Project's emissions. IS at 13. But even though emissions may be below the "screening threshold" determined by CAPCOA, "[a] threshold of significance is not conclusive . . . and does not relieve a public agency of the duty to consider the evidence under the fair argument standard." *Mefin v. City of Los Angeles*, 29 Cal. Rptr. 3d 788, 802 (Cal. Ct. App. 2005). Although some sources of greenhouse gas emissions may seem insignificant, climate change is a problem with cumulative impacts and effects. (*City for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) ("[T]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct"). And the City's attempt to avoid complying with greenhouse gas reduction plans, policies, and regulations because of the Project's short-term nature is incorrect, again, "nothing in [CEQA] suggests that short-term effects cannot be of such significance as to require an EIR." *No Oil*, 529 P.2d at 77 (Cal. Ct. App. 1974).

**2. The City Failed to Disclose the Project's Cumulative Impacts**

In addition to not disclosing information about the significant impacts of individual issues, the City fails to disclose the cumulative impacts of the Project and its relation to a larger development project. The Metropolitan Airpark Project—located within the boundaries of the Brown Field Municipal Airport—will develop 331 acres of land over twenty years. *City of San Diego, Metropolitan Airpark Notice of Determination* (Oct. 22, 2013). The initial study and mitigated negative declaration fail to mention this larger project. It is the City's duty to disclose that a larger development project is located on the same site and analyze the cumulative impacts of the two projects. To do otherwise is contrary to CEQA, which requires a mandatory finding of significance when a "project has possible environmental effects that are individually limited but cumulatively considerable." Cal. Code Regs. tit. 14 § 15065. "Cumulatively considerable"

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the other sites mentioned in Table 2 are located sufficiently far enough away such that there is no indication that contamination would be encountered during the asphalt removal for the proposed project. As such, there would be a less than significant impact related to potential exposure to hazards from the construction activities.

**E-12** The commenter noted that supportive information regarding the emissions of greenhouse gases (GHG) was not provided in the Initial Study for the Project. GHG emissions have been included in the Initial Study in support of the significance determination. Construction calculations were revisited and slightly revised using the Sacramento Metropolitan Air Quality Management District (SMAQMD) Roadway Construction Model (version 7.1.5.1), with model inputs and outputs provided in the *Estimated Construction Crews and Equipment used to Calculate Construction Emissions – Submittal Memo* (HNTB, 2014) for the commenter's reference. As shown in that *Submittal Memo*, construction of the Project would result in 272.7 metric tons of CO<sub>2</sub> based on one megagram equal to one metric ton.

In regards to the cumulative nature of GHG impacts, the California Air Pollution Control Officers Association (CAPCOA) considers GHG impacts to be exclusively cumulative impacts (CAPCOA, 2008). The screening threshold of 900 metric tons was developed by CAPCOA by analyzing the capture of 90 percent or more of future discretionary development and would "exclude the smallest of proposed development from potentially burdensome requirements to quantify and mitigate GHGs under CEQA. . . [and] . . . would require the vast majority of new development emission sources to quantify their GHG emissions, apportion the forecast emissions to relevant source categories, and develop GHG mitigation measures to reduce their emissions" (CAPCOA, 2008). As such, this threshold is based on substantial evidence, rather than just an unofficial value as suggested by the commenter. The Project would result in GHG emissions that would be substantially less than the 900 metric ton per year threshold applied by the City and would result in a less than significant cumulative contribution of GHGs.

means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." *Id.*

This segmentation of projects to avoid a mandatory finding of cumulative considerable impacts violates CEQA. CEQA guidelines require that an agency consider cumulative effects in the case of related projects, requiring that an EIR "address itself to the scope of the larger project" where one project is a necessary precedent for action on a larger project. Cal. Code Regs. tit. 14 § 15165. Or, if "one project is one of several similar projects... but is not deemed to be part of a larger undertaking or larger project, the agency... shall... comment upon the cumulative effect" *Id.* Whether the current Project is part of the Airpark project or not, the fact that they will both take place in the same location and work to rehabilitate and redevelop the same airport demands that their impacts be evaluated cumulatively.

In the Airpark EIR, the City admits that there are significant cumulative impacts to air quality, biological resources, land use, transportation, visual effects, and water quality. Airpark EIR at 5-3-6-10. The City fails to mention these cumulatively considerable impacts in the initial study or mitigated negative declaration or analyze how the Project's impacts will contribute to the Airpark's significant impacts. Instead, it repeatedly mentions the temporary nature of the Project as a reason why its impacts are less than significant. IS at 30. If the City had analyzed the Project's impacts in light of the bigger development project in the same location, it would have determined that the Project contributed to the significant effects of the Airpark project.

**B. The Project Will Have Significant Impacts to Burrowing Owls Despite Mitigation**

The population of burrowing owls at Brown Field is one of the largest populations remaining in San Diego County. Letter from Karen A. Goebel, Assistant Field Supervisor, Fish & Wildlife Serv. to Myra Hermann, Envir. Planner, City of San Diego 2 (Dec. 21, 2012). The burrowing owls frequently live on airport sites because they prefer the regularly-mowed short vegetation and being free from human and predator disturbances. John H. Barclay et al., *Long-Term Population Dynamics of a Managed Burrowing Owl Colony*, 75 J. WILDLIFE MGMT. 129, 1296 (2011). Airports also serve as habitat islands in areas surrounded by areas of unfavorable habitat. *Id.*

The burrowing owls at Brown Field are at risk. Burrowing owls are a Species of Special Concern and a Covered Species in the City's Multi-Species Conservation Program. Airpark EIR at 5.6-58. The MSCP "require[s] that impacts to [burrowing owls] outside of the MPPA be avoided to the maximum extent practicable." MSCP Excerpt at 161. However, the City has disregarded the protections for burrowing owls and has actively filled occupied burrows with gravel and fluids with high concentrations of herbicides. JESSICA MARQUEZ, BURROWING OWL POPULATION RESEARCH FIELD REPORT 02060-02 (2012) ("Owl Report"). Reports of the City's failure to adhere to legal requirements and mitigation requirements to protect burrowing owls is substantial evidence that the Project may result in significant impacts to burrowing owls in the future, requiring an EIR. See *Oro Fino Gold Mining Corp. v. City of El Dorado*, 274 Cal. Rptr.

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**AIR QUALITY / GHG REFERENCES:**

Bay Area Air Quality Management District (BAAQMD), 2009. *Revised Draft Options and Justification Report California Environmental Quality Act Thresholds of Significance*, October 2009.

California Air Pollution Control Officers Association (CAPCOA), 2008. *CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, January 2008.

California Air Resources Board (CARB), 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*, <http://www.arb.ca.gov/ch/handbook.pdf>, April 2005.

City of San Diego, 2011. *California Environmental Quality Act Significance Determination Thresholds*, January 2011.

City of San Diego, 2010. Memorandum from Cecilia Gallardo to Environmental Analysis Section. *UPDATED – Addressing Greenhouse Gas Emissions from Projects Subject to CEQA*. August 18, 2010.

HNTB, 2014. Memorandum from Sean Naismith, P.E. to Rebecca Malone. *Estimated Construction Crews and Equipment Used to Calculate Construction Emissions – Submittal Memo*. April 30, 2014. Revised August 25, 2014.

**E-13** The commenter states that the project will have a cumulative effect on the environment when viewed in connection with the Metropolitan Air Park Project. While it is known that the runway rehabilitation project which is the subject of this MND is within Brown Field, airport operations and maintenance are separate and unrelated to the Metropolitan Air Park Project; runway rehabilitation would occur with or without the Metropolitan Airpark Project and is a necessary component for continued operation of the airport under Federal Aviation Administration (FAA) grant assurances. The project does not have any direct impacts which would contribute to a cumulative impact as stated in the IS/MND Page 30. As such, the project's contribution to cumulative impacts is less than cumulatively considerable.

720, 726 (Cal. Ct. App. 1990) (stating that residents' personal knowledge of increased traffic was substantial evidence meeting the fair argument standard). An EIR analyzing the Project's impacts to owls and avoiding impacts to the maximum extent practicable is especially necessary given this recent illegal activity that has already reduced the airport's burrowing owl population. See Owl Report at 02064.

**1. The Project's Impacts to Burrowing Owls Are Significant.**

The City has already recognized the significant impacts of development on burrowing owls in the Airpark EIR. Airpark EIR at 5.6-38. This Project is occurring in the same area and poses the same risks to burrowing owls, which have recently been found within 150 meters of the construction staging area. See IS attach. A, at fig. 2. Only this time, the City has not recognized the significance of the impacts to burrowing owls or demanded strong mitigation measures to reduce the adverse impacts to this sensitive population. It claims that any impacts will be temporary, but activities that fill in burrows used by owls—as the City has already authorized or allowed—result in permanent impacts that are not mitigated. See IS at 7.

A finding of significance is mandatory when a project "ha[s] the potential to . . . substantially reduce the habitat of a fish or wildlife species, [or] cause a fish or wildlife population to drop below self-sustaining levels." Cal. Code Regs. tit. 14, § 15065; IS at 29. Considering that the Brown Field burrowing owl population is the largest population left in San Diego County, the potential for the project to substantially reduce burrowing owl numbers or cause the county's population to drop below self-sustaining levels is high. See Letter from Karen A. Goebel, Assistant Field Supervisor, Fish & Wildlife Serv. to Myra Hermann, Envtl. Planner, City of San Diego 2 (Dec. 21, 2012). The City recognizes this mandatory finding of significance, but claims that its mitigation measures will reduce the impacts to less than significant.

**2. The Proposed Mitigation Measures Are Inadequate**

The proposed mitigation measures cannot, however, reduce the impacts on burrowing owls to less than significant. There are two glaring problems with the proposed measure BIO-1. First, the measure lessens the protections for burrowing owls from those proposed for the Airpark project. Draft MND at 4; Airpark EIR at 5.6-48. The Airpark EIR requires that setback buffers be at least 200 meters from March to October 15; at least fifty meters from October 16 to February, and up to 500 meters year round. Airpark EIR at 5.8-48. The MND, however, does not even quantify how large setback buffers must be, vaguely stating that "no-work buffer[s] shall be established around active burrow(s)." Draft MND at 4. The City should hold this Project at least to the standard of the Airpark project, which has undergone the full EIR process. Further, the City is proposing locating the construction staging area less than 150 meters from an active burrow. IS attach. A, at fig. 2. This does not comply with the minimum standards for this time of year. The City previously admitted that the buffer zones in the Airpark EIR for burrowing owls were the minimum necessary to reduce the potentially significant impacts of construction at the Brown Field Airport, but has failed to follow those standards here. The City's recognition that larger buffer zones are necessary in the Airpark EIR, but failure to follow them

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E-15

E-16

**E-14** See Response to Comment Nos. E-3, E-5 and E-6.

**E-15** This project will not have a direct impact on burrowing owls, burrows or associated habitat. The comment implies that the City has allowed or authorized burrows to be filled, however that is further from the case. This project will not fill burrows, nor will it substantially reduce burrowing owl numbers or cause the county's population of burrowing owls to drop below self-sustaining levels. See Response to Comment Nos. E-3, E-5 and E-6.

**E-16** As stated in Response to Comment E-6, mitigation measure BIO-1 was developed by a qualified biologist and presented to the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife for concurrence prior to release of the draft MND for public review.

As this project has independent utility (see Response to Comment E-13) from the Metropolitan Airpark Project, the wildlife agencies focused on the specifics of the project with full knowledge of active burrowing owl burrows in the vicinity of the project, based on a 2014 protocol-level burrowing owl survey. Based on this survey, the nearest active burrow was found to be no closer than 101 meters from the nearest proposed construction activity (staging area). It was determined that two pre-construction burrowing owl surveys should be performed within 150 meters of any proposed construction activity prior to the start of construction, the majority of which is scheduled to occur outside the breeding season (Feb 1 - Aug 31) with the slim possibility of work encroaching into February of the following year. Should construction extend into the breeding season and an active burrow is located within 150 meters of construction activity, all work will stop and not restart until a no-work buffer is established around the burrow at a distance to be determined through consultation with the wildlife agencies. The radius of this buffer will be based on burrowing owl behavior and other variables as identified in the *Staff Report on Burrowing Owl Mitigation*, CDFW, March 2012; such as: location of the burrow, local ambient conditions, type of project activity, intensity and duration of project activity, timing within the nesting cycle, and the species tolerance for disturbance. An effective buffer would be wide enough to preclude



in the MND demonstrates that the City failed to fully disclose, analyze, and mitigate impacts to burrowing owls.

Second, BIO-1 improperly defers mitigation until a later date. As opposed to the defined setback buffers in the Airport EIR, in the MND the City leaves setback buffer determinations to be "determined by a qualified biologist... based on" a number of factors. Draft MND at 4. The City also defers making a procedure for marking the buffers, stating that "[b]uffers shall be delineated in some fashion with suitable material for demarcating the area, as determined by the biologist." *Id.* The biologist is also to "determine [if] additional measures are necessary" at a later date. *Id.*

*E-16*

This deferral of mitigation is unacceptable. Agencies are required to identify mitigation measures "at the earliest possible time in the environmental review process." Cal. Pub. Res. Code § 21003.1(a); *Sundstrom v. City of Mendocino*, 248 Cal. Rptr. 352, 358 (Cal. Ct. App. 1988). Deferral is sometimes appropriate if an agency has "recognized the significance of the... effects, [has] committed itself to mitigating the [ ] impact, ... and [has] adequately discussed possible mitigation alternatives." *Genety*, 43 Cal. Rptr. At 195 (citation omitted). The City has not met those requirements. It has taken the potential impacts to burrowing owls lightly and has failed to adequately define mitigation measures. It has not described different alternatives or the possible measures the biologist may employ—it simply defers all protective measures until a later date.

Further, BIO-1 is vague and fails to disclose how such measures will work. One of the "measures" provided is simply this: "No active burrowing owl burrows shall be directly impacted by the project." MND at 4. This is too vague and provides no steps for workers to follow to prevent impacts to burrows.

Another problem with BIO-1 is that the proposed measures do not adequately protect owls. The measure requires surveys, but does not demand any action upon the discovery of owls or burrows. See MND at 4. The only purpose for such surveys would be to track the owls and burrows, not to protect them. And the measure only requires mitigation in the event that an owl is found within three days prior to construction, in the breeding season. *Id.* At all other times, no specific protective measures are mandated. This leaves owls that are for some reason not visible or within the boundaries of Brown Field within three days of construction vulnerable, and does the same to owls in the non-breeding season. The City is still required to protect these owls and must prepare an EIR to do so.

### *E-17* III. The Project Must Comply with the Endangered Species Act

The Project is subject to the Endangered Species Act ("ESA"), and must fully comply with the ESA's provisions. Section 9 of the ESA, and Federal regulations issued pursuant to section 4(d) of the ESA, prohibit take of endangered and threatened species without a special exemption. 16 U.S.C. 1531 *et seq.* Section 7 of the ESA requires Federal agencies to consult with the United States Fish and Wildlife Service ("USFWS") should it be determined that their actions may affect federally listed threatened or endangered species. Take is defined as harass,

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detrimental effects to nesting behavior that could lead to nest abandonment and mortality of fledglings from noises or vibrations generated from construction activities (BIO-1). There is CDFW guidance (setback standards) but no regulatory requirement for a specific buffer width under the circumstances, as these matters are determined on a case-by-case basis. In addition, on-going biological monitoring during the course of construction is required to determine if any conditions have changes after implementation of the measures that would warrant additional action, in consultation with CDFW. As such, there is nothing deferred, with action to be taken based on measurable variables.

Regarding the commenter's assertion that because the method of marking any buffers is not defined this is considered deferred mitigation. Because of the uniqueness of the location of the project (on an FAA grant-assurance airport), it is premature to identify how a buffer would be marked as it will depend on the location of any active burrow(s) in relation to the taxiways and runways, and taking into consideration FAA safety regulations. To further clarify, the following italicized text has been added to bullet point number three under BIO-1: "Buffer areas shall be delineated in some fashion with suitable material for demarcating the area, as determined by the biologist in consultation with the California Department of Fish and Wildlife and the City of San Diego Airports Division, *in accordance with FAA rules and regulations.*"

The commenter's also claims that BIO-1 does not go far enough to protect burrowing owls outside the breeding season. While the breeding season is of most concern because nest abandonment/failure as a result of nearby disturbance is one of the greatest know threats to burrowing owls, the mitigation measure has been revised to take a more conservative approach to the protection of burrowing owls. As such, bullet point number three under BIO-1 has been revised to read as follows:

- *Should construction be necessary during the breeding season. Should active burrows be found within 150 meters of the construction activity, the following measures shall be required:*

harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. 16 U.S.C. § 1532(19). Harm is further defined by USFWS to include significant habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. 50 C.F.R. § 17.3. Harass is defined by USFWS as an action that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. *Id.*

Approval of the Project will result in harm and harassment of the vernal pool species that are protected under the ESA, specifically San Diego fairy shrimp (*Branchinecta sandiegonensis*) and San Diego button-celery (*Eryngium aristulatum* var. *parishii*). The Project will result in direct and indirect impacts to vernal pool watersheds of known vernal pools including BFVP-5 and potentially BFVP-2 that contain San Diego fairy shrimp. Airpark EIR at 5.6-17, fig. 5.6-3. Furthermore, critical habitat for the San Diego Fairy Shrimp is located at the Brown Field Municipal Airport. 72 Fed. Reg. at 70,674; Fairy Shrimp CH. Nowhere does the MND discuss these potential impacts or even disclose the existence of listed species.

The Project is subject to the Endangered Species Act, and consultation with the USFWS, regarding impacts to threatened and endangered species, must occur. The Project requires funding from the Federal Aviation Administration ("FAA"). IS at 3. A Federal agency that carries out, permits, licenses, funds, or otherwise authorizes activities that may affect a listed species must consult with USFWS to ensure that its actions are not likely to jeopardize the continued existence of any listed species.

The Initial Study also does not require any consultation with the California Department of Fish and Wildlife for take of a state listed species pursuant to the California Endangered Species Act. Cal. Fish & Game Code § 2081. The City must assure that any take of the San Francisco popoem flower is fully mitigated and minimized pursuant to CESA. *Id.*

#### IV. The City Violated CEQA by Commencing Construction Prior to Environmental Review

City staff commenced construction of the Project before the MND has been approved and even before the comment period for the MND closes on August 4. It is a foundational principle of the California Environmental Quality Act that review must be completed prior to the initiation of a project. Cal. Code of Regs. tit. 14, § 15004; *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Cal.*, 764 P.2d 278, 284 (Cal. 1988) (condemning "post-approval environmental review" because it relegates CEQA documents to "nothing more than *post hoc* rationalizations to support action already taken"). A lead agency improperly approves a project if it has taken "an essential step leading to potential environmental impacts" before conducting CEQA review. *Muzzy Ranch Co. v. Solano City Airport Land Use Comm'n*, 60 Cal. Rptr. 3d 247, 255 (Cal. 2007). Staff at the City of San Diego notified the public in an email dated July 29, 2014 that construction activities at the airport are related to the Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project ("Project"). Email from Mike Tossey, Deputy Director --

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In summary, mitigation measure BIO-1 provides adequate protective measures tailored to the project that would ensure potential impacts to burrowing owls would be below a level of significance. See also Response to Comment E-3.

**E-17** The commenter states that the project will result in a take under the federal Endangered Species Act for federally threatened or endangered species that may occur in vernal pool habitat; in particular, the San Diego fairy shrimp and San Diego button-celery. This matter is being addressed by the federal lead agency, the FAA, in consultation with the USFWS. Also, see Response to Comment E-3 and E-4.

The commenter also states that the lead agency must consult with CDFW for the take of a State listed species pursuant to the California Endangered Species Act (CESA). As noted in the Initial Study/MND and Response to Comment E-5, the only sensitive State species that is located within or near the project site is the burrowing owl. This species is not listed as threatened or endangered under the CESA.

**E-18** This comment implies that the City commenced construction prior to environmental review; however, that was not the case. Construction activities referred to in this comment were actually pre-construction geotechnical investigations being carried out for the approved Metropolitan Air Park Project and are in no way related to the project which is the subject of this MND. The geotechnical investigations were specifically designed to avoid vernal pool watersheds and active burrowing owl burrows, and were closely monitored by a qualified biologist. In addition, a qualified archaeologist and Native American monitor were on-site during the geotechnical investigation activities. All work was conducted in accordance with the MMRP adopted for the Metropolitan Air Park project.

LETTER

RESPONSE

Airports, City of San Diego to Livio Borak, Attorney, Const Law Group LLP (July 29, 2014).  
The City's commencement of construction prior to environmental review violates CEQA.

V. Conclusion

E-19

The MND does not meet the standards of CEQA. It does not recognize the significant impacts of the Project to biological resources, air quality, and climate change and fails to account for cumulative impacts. The proposed mitigation measures to protect burrowing owls are vague and defer any specific actions until a later date. And the City has not complied with the Endangered Species Act. Given the potential for such significant effects despite mitigation, the City should prepare an EIR.

Thank you for your attention to these comments. We look forward to working with the City to assure that the Project conforms to the requirements of CEQA to assure that all significant impacts to the environment are fully analyzed, mitigated or avoided. Should you have any questions feel free to contact Jonathan Evans at the contact information listed above.

Please place us on the notice list for any future Project related environmental review or approvals. The contact information for the Center for Biological Diversity is listed above. The contact information for Preserve Wild Santee is 9222 Lake Canyon Road / Santee, CA 92071, (619) 258 - 7929, [SaveWild@ceqa.net](mailto:SaveWild@ceqa.net).

Sincerely,

Jonathan Evans  
Staff Attorney

By  
Amanda Pruslan  
Legal Intern

Center for Biological Diversity

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E-19 The project does not result in any impacts (direct or indirect) which cannot be mitigated to below a level of significance. There are no significant unmitigated impacts from the project which warrants preparation of an Environmental Impact Report.



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References identified at the end of the comment letter and contained on a separate CD provided by the commenter do not require responses, but are acknowledged here for the record.

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**Date**

8/25/14

**To**

Rebecca Malone  
Environmental Analysis Section  
City of San Diego, Development  
Services

**HNTB**

**From**

Sean Naismith, P.E.

**ESTIMATED CONSTRUCTION CREWS AND EQUIPMENT USED TO CALCULATE  
CONSTRUCTION EMISSIONS - SUBMITTAL MEMO**

**Brown Field Airport Runway 8L/26R Rehabilitation Project**

The project will not add any impervious surface area, and only rehabilitate existing pavement areas in distress. The existing Portland cement concrete (PCC) section of the runway is to be replaced with an asphalt concrete (AC) pavement section. The proposed section consists of a 50' center keel with 4" AC on 5" - 10" varying depth AC base on a rubilized existing PCC base. The outer 50' on either side of the keel will be new full depth AC pavement section with 4" AC on a 14" crushed aggregate base. This project will not result in an increase in aircraft traffic as measured in average daily trips (ADT), energy consumption, or water usage. Therefore, operational emissions resulting in direct, indirect, or cumulative Greenhouse Gas (GHG) impacts are not generated.

However, this project would result in construction-related emissions. We used a Roadway Construction Emissions Model, which is a spreadsheet based model created by the Sacramento Metropolitan Air Quality Management District, and approved by DSD for the purpose of analyzing construction related GHGs - Carbon Dioxide. The model is capable of using basic project information (e.g. total construction months, project type, total project area) to estimate a construction schedule and quantify GHG emissions from heavy-duty construction equipment, haul trucks, and worker commute trips associated with linear construction projects. The output of the model (see attached Model outputs) is CO<sub>2</sub> in units of 1 megagram/project = 1 metric ton/project.

The following are the results based on the project's GHG or carbon dioxide emissions estimated by the model:

This project's duration is four months. It is estimated from the model that it would produce a total of 272.7 metric tons of CO<sub>2</sub>. This project's GHG emissions will, therefore, fall well below the DSD established significance threshold of 900 metric tons per project per year.

The construction means and methods will ultimately be decided by the contractor, but the construction process anticipated is as follows: 1) remove existing 50' of PCC closest to the shoulders and excavate fill material up to 26" below grade, 2) build back up AC section to proposed grade, 3) rubbilize existing PCC in middle 50' of runway, 4) build up variable depth AC base layer, 5) construct AC surface layer with a crown on centerline and matching grades at the AC previously placed on the outer 50'. Rubbilization is a

technique that involves saving time and transportation costs by reducing existing concrete to rubble in its current location rather than hauling it to another location.

Construction Emission Estimator Assumptions:

1. Asphalt and base material provided by Hanson Aggregates (Hollister Street Asphalt, 389 Hollister St. San Diego ) 7.7 miles from Brown Field Airport
2. Construction Phases include:
  - a. Demolition – Demolition Crew, Quality Control Team
  - b. Site Preparation – Crusher Crew, Milling Crew, Quality Control Team
  - c. Grading – Grading Crew, Quality Control Team
  - d. Paving – ACP Paving Crew, Quality Control Team
  - e. Pavement Striping – Striping Crew, Quality Control Team
3. Construction duration 16 weeks. Construction beginning November 3, 2014 with each phase having the following durations:
  - a. Demolition – 3 weeks (starting 11/3/14 for 3 weeks, 5 days/week, 8hrs/day)
  - b. Site Preparation – 3 weeks (starting 11/24/14 for 3 weeks, 6 days/week, 10 hrs/day)
  - c. Grading – 4 weeks (starting 12/15/14 for 4 weeks, 6 days/week, 10 hrs/day)
  - d. Paving – 5 weeks (starting 1/12/15 for 5 weeks, 6 days/week, 10 hrs/day)
  - e. Pavement Striping – 1 week (starting 2/16/15, 5 days/week, 8 hrs/day)
4. All grading material will be imported (volume of P-403 + P-154)
5. Demolition material will be all material excavated.
6. Number of workers/day for each phase (each phase includes 6 personnel for Quality Control):
  - a. Demolition – 13
  - b. Site Preparation – 16
  - c. Grading – 12
  - d. Paving – 15
  - e. Pavement Striping – 9
7. Each Construction Period will have a Sweeper/Scrubber truck

Crew breakdown and Production Rates:

Administrative Support Team

Labor	Equipment
1 – Project Manager	1 – Crew Van
3 – Field Engineers	1 – SUV
2 – Administrative Assistance	8 – Pick-ups
1 – General Superintendent	1 – Fuel Truck
1 – PCCP Superintendent	2 – Maintenance Vehicles with Crane
1 – Electrical Supervisor	
1 – Safety Manager	
2 – Mechanics	
1 – Fuel Truck Operator	

This team will be in place for the duration of the contract. They will provide the managerial oversight for the project.

Crusher Crew

Labor	Equipment
1 – Foreman	1 – Pickup
1 – Operators	2 – Loaders
2 – Laborers	

This team will be in place from the time the crusher is set up until four weeks after the demolition is completed.

Quality Control Team

Labor	Equipment
1 – Quality Control Manager	6 – Pickups
5 – Quality Control Technicians	

This team will be in place for the duration of the contract. They will be responsible for monitoring the quality of the project.

Grading/Pulverizer Crew

Labor	Equipment
1 – Foreman	1 – Motor Grader
3 – Operators	1 – Pulverizer
2 – Laborers	1 – Scraper
	1 – Loader
	1 – Roller
	1 – Plate Compactor
	1 – Pickups

Production rate of Excavation is 150 Cubic Yards per hour

Production of fine grade and compact is 100 Square Yards per hour.

Production rate for PMB/P-154 placement is 200 Cubic Yards per hour.

ACP Paving Crew

Labor	Equipment
1 - Foreman	1 - Paver
4 - Operators	1 - Paving Equipment
4 - Laborers	2 - Rollers
	1 - Rubber Tired Loader
	1 - Pickups
	1 - Crew Truck

Production rate of Asphalt placement is 150 Tons per hour

Striping Crew

Labor	Equipment
1 - Foreman	1 - Pick-up
1 - Operators	1 - Crew Truck
1 - Laborer	3 - Parking Lot Paint Machines
	1 - Paint Truck

Demolition Crew

Labor	Equipment
1 - Foreman	1 - Pick-up
2 - Operators	2 - Loaders
4 - Laborer	1 - Compressors
	1 - Walk Behind Saw

Production rate of runway pavement demolition is 3500 Square Yards per day

Milling Crew

Labor	Equipment
1 - Foreman	1 - Milling Machine
2 - Operators	1 - Water Truck
2 - Laborer	2 - Pickups
1 - Teamster	

Production rate of asphalt pavement demolition (milling) is 480 Square Yards per hour.

Should you need any additional information that will assist in the evaluation of the greenhouse gases, please do not hesitate to contact us.

Sincerely,

**HNTB Corporation**



Sean Naismith, P.E.  
Project Design Lead

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Brown Field Airport Runway 8L/26R Rehabilitation				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.5	17.6	26.2	4.2	2.2	2.0	2.4	1.9	0.4	3,180.7
Grading/Excavation	7.7	34.0	115.3	6.8	4.8	2.0	4.5	4.1	0.4	14,081.0
Drainage/Utilities/Sub-Grade	2.8	13.8	24.6	3.7	1.7	2.0	1.9	1.5	0.4	2,740.3
Paving	6.1	31.4	59.6	3.6	3.6	-	3.2	3.2	-	5,859.7
Maximum (pounds/day)	7.7	34.0	115.3	6.8	4.8	2.0	4.5	4.1	0.4	14,081.0
Total (tons/construction project)	0.2	1.2	2.7	0.2	0.1	0.1	0.1	0.1	0.0	300.7
Notes: Project Start Year -> 2014										
Project Length (months) -> 4										
Total Project Area (acres) -> 9										
Maximum Area Disturbed/Day (acres) -> 0										
Total Soil Imported/Exported (yd <sup>3</sup> /day)-> 2800										
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										
Emission Estimates for -> Brown Field Airport Runway 8L/26R Rehabilitation				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.6	6.0	11.9	1.9	1.0	0.9	1.1	0.9	0.2	1,445.8
Grading/Excavation	3.5	15.4	52.4	3.1	2.2	0.9	2.1	1.9	0.2	6,400.4
Drainage/Utilities/Sub-Grade	1.3	6.3	11.2	1.7	0.8	0.9	0.9	0.7	0.2	1,245.6
Paving	2.8	14.3	27.1	1.6	1.6	-	1.5	1.5	-	2,663.5
Maximum (kilograms/day)	3.5	15.4	52.4	3.1	2.2	0.9	2.1	1.9	0.2	6,400.4
Total (megagrams/construction project)	0.2	1.0	2.4	0.2	0.1	0.1	0.1	0.1	0.0	272.7
Notes: Project Start Year -> 2014										
Project Length (months) -> 4										
Total Project Area (hectares) -> 4										
Maximum Area Disturbed/Day (hectares) -> 0										
Total Soil Imported/Exported (meters <sup>3</sup> /day)-> 2141										
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										

**Road Construction Emissions Model**

Version 7.1.5.1

**Data Entry Worksheet**

Enter information into input cells to calculate emissions.  
 Calculated data is shown in grey or other background. Only areas with a  
 grey or other background are for modification. Program defaults are in white background.  
 The user is required to enter information in cells C19 through C27.



**Input Type**

Project Name	Brown Field Airport Runway 8L/26R Rehabilitation	
Construction Start Year	2014	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	4.00	months
Predominant Soil/Ses Type: Enter 1, 2, or 3	1	1, Sand Gravel 2, Weathered Rock-Earth 3, Blasted Rock
Project Length	0.40	miles
Total Project Area	8.00	acres
Maximum Area Disturbed/Day	0.20	acres
Water Trucks Used?	1	1, Yes 2, No
Soil Imported	1500.00	yd <sup>3</sup> /day
Soil Exported	1200.00	yd <sup>3</sup> /day
Average Truck Capacity	20	yd <sup>3</sup> (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although these modifications are optional.

NOTE: The ranges are examples of construction period phase lengths and are provided in cells D14 through D27.

Construction Periods	User Override of	Program
	Construction Months	Calculated Months
Grubbing/Land Clearing	0.40	0.40
Grading/Excavation	1.00	1.60
Drainage/Utilities/Sub-Grade	0.70	1.40
Paving	1.30	0.60
Totals	4.00	4.00

NOTE: soil hauling emissions are included in the Grading/Excavation Construction Period Phase, therefore the Construction Period for Grading/Excavation cannot be zero if hauling is part of the project.  
 Hauling emissions values shown are provided in cells D18 through D26.

User Input	User Override of		Default Values			
	Soil Hauling Defaults					
Miles/round trip	16.00		30			
Round trips/day			140			
Vehicle miles traveled/day (calculated)						2240
<b>Hauling Emissions</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>	<b>CO2</b>
Emission rate (grams/mile)	0.28	10.43	1.28	0.25	0.16	1713.95
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	1.40	51.44	6.22	1.24	0.88	8453.54
Tons per construction period	0.02	0.57	0.07	0.01	0.01	82.98





Off-Road Equipment Emissions								
Grubbing/Land Clearing	Default: Number of Vehicles	Type	COG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SO2 pounds/year
Override of Default Number of Vehicles	Program estimate							
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Air Compressors	1.00	4.33	6.25	0.55	0.51	634.93
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Concrete/Industrial Saws	0.77	3.78	5.31	0.42	0.39	583.93
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boats	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Sweepers/Scrubbers	0.56	1.97	4.46	0.39	0.36	337.61
2.00		Tractors/Loaders/Backhoes	0.97	3.94	8.87	0.70	0.64	841.54
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.3	14.0	24.9	2.1	1.9	2398.0
	Grubbing/Land Clearing	tons per phase	0.0	0.1	0.2	0.0	0.0	24.1

Grading/Excavation	Default		ROG pounds/day	COG pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
	Override of Default Number of Vehicles	Number of Vehicles Program-estimate						
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
0.00	6	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Craning/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1	Graders	1.12	3.49	10.95	0.61	0.57	672.31
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Other Construction Equipment	0.93	4.50	10.01	0.52	0.46	817.97
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Plate Compactors	0.05	0.26	0.31	0.01	0.01	43.05
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
2.00	2	Rollers	0.97	3.77	8.50	0.63	0.58	698.91
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2	Scrapers	1.93	9.08	23.95	0.87	0.89	2012.03
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Sweepers/Scrubbers	0.58	1.97	4.46	0.39	0.36	337.61
1.00	2	Tractors/Loaders/Backhoes	0.48	1.97	4.44	0.35	0.32	426.77
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Grading/Excavation	8.0	25.0	62.6	3.5	3.2	5002.7
		Grading	0.1	0.3	0.7	0.0	0.0	55.0

Drainage/Utilities/Subgrade	Default Number of Vehicles Program-estimate		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day	
0.00	1	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00	
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
		Crushing/Prod. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00	
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	1	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	
2.00	1	Graders	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	
1.00		Other Construction Equipment	0.00	0.00	10.01	0.52	0.48	817.97	
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00	
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	1	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	1	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00	
2.00	1	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	2	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
1.00		Sweepers/Scrubbers	0.56	1.97	4.46	0.39	0.36	337.61	
2.00	2	Tractors/Loaders/Backhoes	0.97	3.54	8.87	0.70	0.64	841.54	
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	
		Welders	0.00	0.00	0.00	0.00	0.00	0.00	
		Drainage	pounds per day	2.5	10.4	23.3	1.8	1.8	1897.1
		Drainage	tons per phase	0.0	0.1	0.2	0.0	0.0	15.4

Paving	Default		ROG	CO	NOx	PM10	PM2.5	CO2
	Override of Default Number of Vehicles	Number of Vehicles Program estimate						
		Aerial Lanes	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	1.00	Other Construction Equipment	0.93	4.50	10.01	0.52	0.48	817.97
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1.00	Other Material Handling Equipment	0.64	3.17	6.74	0.36	0.33	608.60
		Pavers	0.60	3.55	6.60	0.33	0.30	601.75
		Paving Equipment	0.44	3.37	5.33	0.25	0.23	532.62
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	2.00	Rollers	0.97	3.77	8.50	0.53	0.58	698.91
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1.00	Rubber Tired Loaders	0.58	3.89	8.75	0.30	0.27	828.48
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steel Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1.00	Sweepers/Strubbers	0.56	1.97	4.46	0.39	0.36	337.61
		Tractors/Loaders/Backhoes	0.97	3.94	8.87	0.70	0.64	841.54
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Paving pounds per day	5.8	26.2	55.2	3.5	3.2	5267.5
		Paving tons per phase	0.1	0.5	1.0	0.1	0.1	88.9
		Total Emissions all Phases (tons per construction period)	0.2	0.9	2.1	0.1	0.1	178.4

Equipment and Default Values are provided for reference only. Hours/day can be expanded to cells C258 through C317 and E258 through E317.

Equipment	Default Values Horsepower	Default Values Hours/day
Aerial Lifts	63	8
Air Compressors	105	8
Bore/Drill Rigs	205	8
Cement and Mortar Mixers	10	8
Concrete/Industrial Saws	54	8
Cranes	225	8
Crawler Tractors	208	8
Crushing/Proc. Equipment	142	8
Excavators	163	8
Forklifts	89	8
Generator Sets	65	8
Graders	175	8
Off-Highway Tractors	125	8
Off-Highway Trucks	450	8
Other Construction Equipment	172	8
Other General Industrial Equipment	58	8
Other Material Handling Equipment	107	8
Pavers	125	8
Paving Equipment	131	8
Plate Compactors	5	8
Pressure Washers	25	8
Pumps	53	8
Rollers	81	8
Rough Terrain Forklifts	100	8
Rubber Tired Dozers	200	8
Rubber Tired Loaders	200	8
Scrapers	352	8
Signal Boards	20	8
Skid Steer Loaders	65	8
Surfacing Equipment	254	8
Sweepers/Scrubbers	54	8
Tractors/Loaders/Backhoes	88	8
Trenchers	81	8
Welders	45	8

110

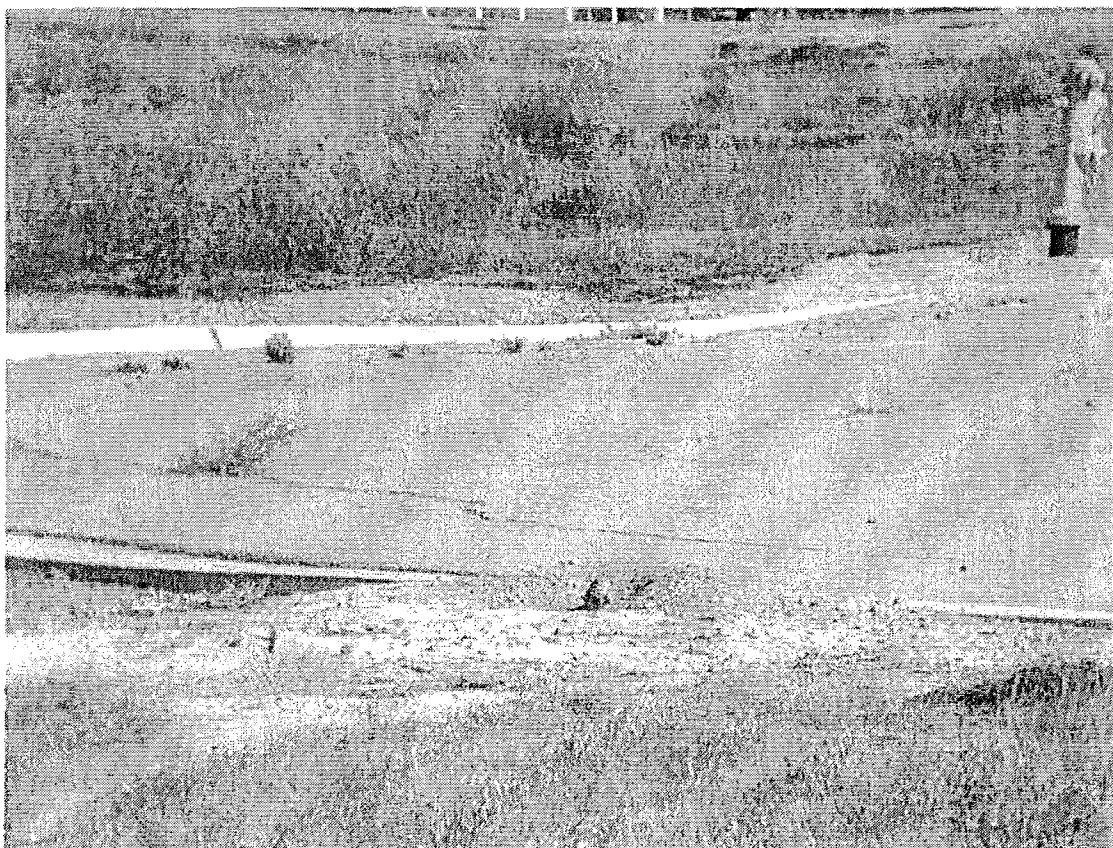
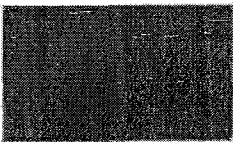
END OF DATA ENTRY SHEET

# BROWN FIELD MUNICIPAL AIRPORT RUNWAY REHABILITATION PROJECT

Burrowing Owl Survey Report  
San Diego County, California

Prepared for  
City of San Diego Airports Division

July 2014



# BROWN FIELD MUNICIPAL AIRPORT RUNWAY REHABILITATION PROJECT

Burrowing Owl Survey Report  
San Diego County, California

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July 2014

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# BROWN FIELD MUNICIPAL AIRPORT RUNWAY REHABILITATION PROJECT

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## Burrowing Owl Survey Report

### 1. Introduction

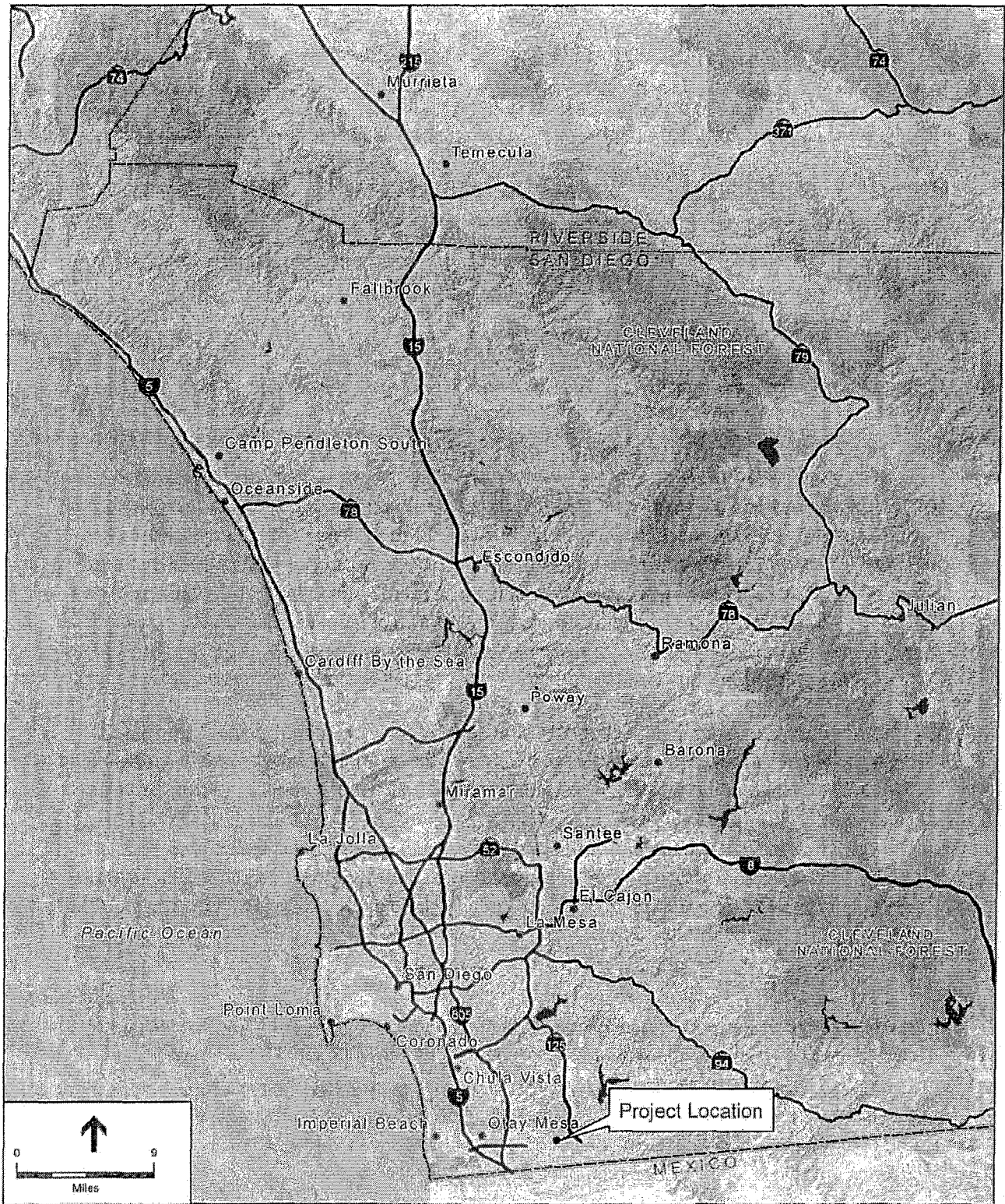
#### 1.1 Project Location and Description

The Brown Field Municipal Airport (Airport) is located in the City of San Diego (City) within the community of Otay Mesa, approximately 21 miles southeast of downtown, 2.5 miles east of Interstate 805, and 1.5 miles north of the U.S.-Mexico International Border and the General A.L. Rodríguez-Tijuana International Airport as depicted on the United States (U.S.) Geologic Survey (USGS) 7.5-Minute Series Otay Mesa Quadrangle Township 18 South, Range 1 East, Section 30 (Figure 1 and Figure 2). The Airport is owned by the City and managed by the City's Real Estate Assets Department, Airports Division.

The City is proposing to rehabilitate the ends of Runway 8L-26R (proposed project) located on the Airport. The Airport currently operates two runways, one parallel taxiway and five connecting taxiways. The City has identified the need for the rehabilitation of the larger of the two runways, Runway 8L-26R. Runway 8L-26R measures 7,972 feet in length and 150 feet in width. The current conditions of the concrete ends of the runway require immediate evaluation and rehabilitation to ensure safety and compliance with current design and construction standards as set forth by applicable regulatory agencies, including the Federal Aviation Administration.

#### 1.2 Purpose of Report

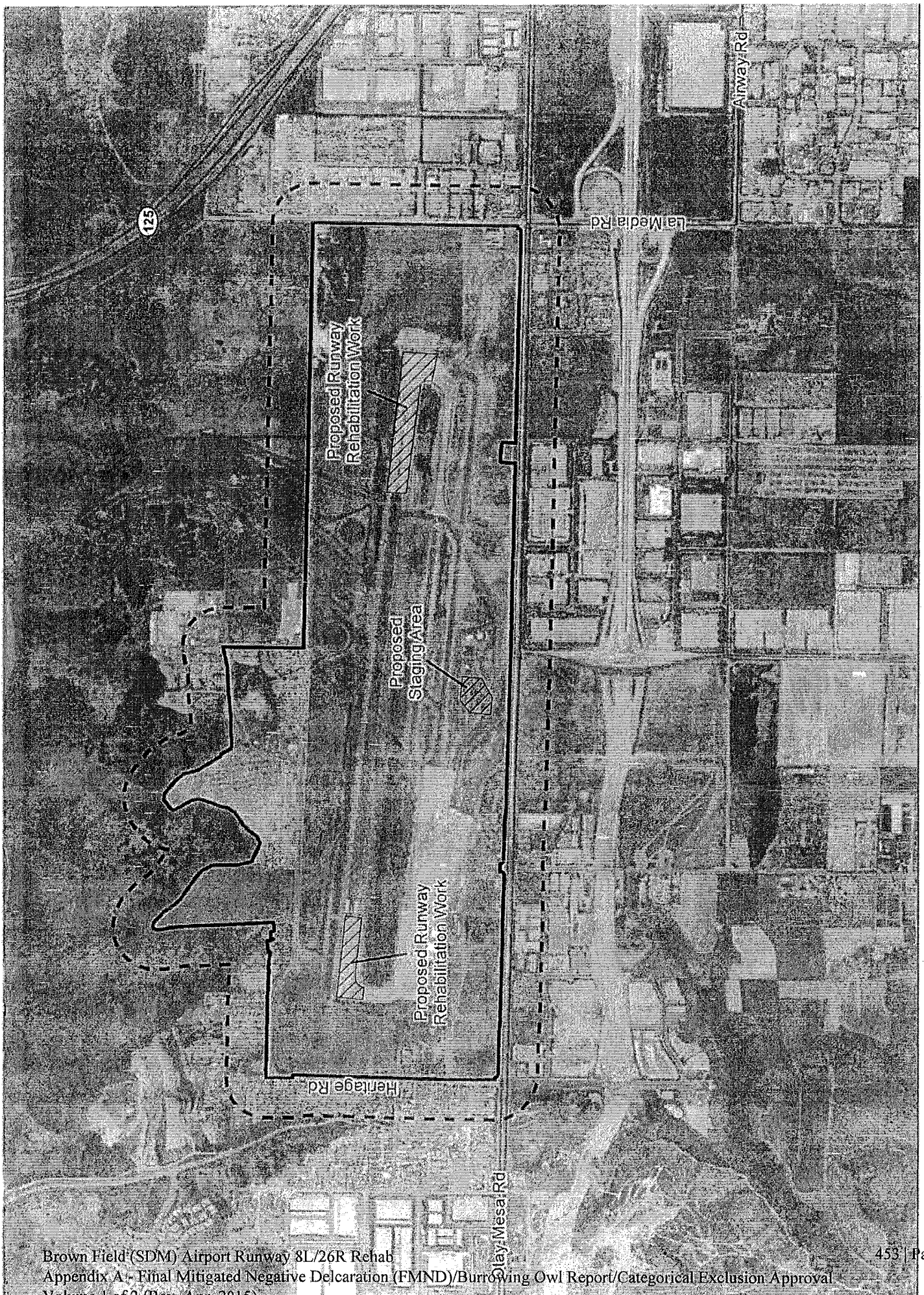
The purpose of this report is to document focused western burrowing owl (*Athene cunicularia hypugaea*) surveys conducted for the proposed project by Environmental Science Associates (ESA), and to recommend any feasible measures to avoid or reduce potential project impacts on burrowing owl nesting activity in the vicinity of the proposed project. The purpose of the surveys was to determine the breeding occupancy of burrowing owls on, and within the immediate vicinity of, the Airport. The information provided herein is consistent with accepted scientific and technical standards, and meets the reporting requirements outlined in the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012).



SOURCE: I-cubed; County of Riverside; San Diego County GIS, 2011.

Regional Location Map  
Figure 1





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## 2. Background Information

### 2.1 Species Distribution and Regulatory Context

There are two recognized subspecies of burrowing owls that are known to occur within North America. The western burrowing owl occurs throughout western North America, from the Mississippi River to the Pacific Ocean, and from the prairie provinces of Canada south to portions of Central and South America; while the Florida burrowing owl (*Athene cunicularia floridana*) is restricted to Florida, extreme southeastern Georgia, and the Bahamas.

The burrowing owl is a migratory species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to possess, buy, sell, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21).

Additionally, burrowing owls and their nests are protected by Section 2000, 3503, 3503.5, and 3800 of the California Fish and Game Code that prohibit the take, possession, or destruction of birds, their nests, or eggs. Avoiding violation of the take provisions of these laws generally requires that the project-related disturbance at active nesting territories be reduced or eliminated during the nesting period (generally considered February 1 to August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered “take” and is potentially punishable by fines.

Furthermore, the burrowing owl is a covered species under the City’s Multiple Species Conservation Plan (MSCP) Subarea Plan for the Otay Mesa Area. The City outlines specific management goals intended to preserve the Otay Mesa area in a condition that includes a full complement of native species which provides functional wildlife habitat and allows for wildlife movement (City, 1997). Additionally, the San Diego Municipal Code Land Development Code Biology Guidelines provide guidance for the protection of burrowing owl habitat, framework for avoidance of occupied burrows by development, and mitigation requirements for impacts to occupied habitat (City, 2002).

### 2.2 Habitat Requirements

Burrowing owls are known to occur in a variety of generally flat, dry, and open habitats with adequate densities of suitable burrows. Burrowing owls typically require relatively low vegetative cover and sufficient perching locations to aid in foraging and predator detection. Specifically, preferred natural breeding habitat for the species includes annual grasslands, shrub steppe, and desert habitats (CDFW, 2012). Burrowing owls typically require an existing burrow or cavity of appropriate size and depth for a nest burrow, although they have been documented to excavate their own burrows where existing burrows are absent (CDFW, 2012). Burrowing owls are also

well-adapted to a variety of urban environments, often utilizing man-made structures (e.g., drainage pipes, culverts, agricultural berms, irrigation ditches, etc.). Within California, the western burrowing owl is often associated with the burrows of the California ground squirrel (*Spermophilus beecheyi*); however, within desert habitats the burrows of other species (e.g., round-tailed ground squirrel [*Citellus tereticaudus*], American badger [*Taxidea taxus*], coyote [*Canis latrans*], etc.) are known to be utilized (CDFW, 2012).

## 2.3 Breeding Ecology

Within California, western burrowing owls typically breed between February 1 and August 31, with the peak of breeding season generally occurring between April 15 and July 15 (CDFW, 2012). Males select a nest burrow, and begin engaging in courtship behaviors. Burrowing owls typically lay one clutch of eggs per season, with females incubating and brooding the young, while males engage in territory defense and foraging behaviors. Incubation typically takes approximately 29 days, and nestlings can be observed at burrow entrances within approximately two weeks after hatching, and generally fledge within six weeks of hatching (Haug, 1993). Burrowing owls are known to exercise a moderate level of nest site fidelity, often utilizing the same nest burrows in subsequent years (CDFW, 2012).

## 2.4 Dietary Habits

Burrowing owls are considered opportunistic predators, feeding on a wide variety of prey species, including arthropods, birds, small mammals, amphibians, reptiles, and carrion (CDFW, 2012). Although burrowing owls are typically active during the day, they are known to forage during the night, potentially to avoid predation by diurnal predator species (e.g., falcon, hawks, etc.). Burrowing owls are known to hunt from elevated perches, often engaging in short glides, flights, or runs to capture prey (Thomsen, 1971).

## 2.5 Population Trends

Burrowing owl populations have shown a continuous decline throughout much of their North American range over the last century (Johnson et al., 2010). The historical breeding range of the species has been restricted significantly across the plains and coastal areas of North America, with the species believed extirpated in much of its northern range (EcoSystems, 2005). The species has declined in several southern California and Bay Area counties, particularly within coastal areas. Extensive population declines in the Imperial and Central Valley regions have been associated with agricultural conversion (Rosenberg et al., 2009). Within San Diego County, the species was historically widespread throughout the coastal areas and inland grassland habitats (Lincer and Bloom, 2007). However, over the second half of the 20<sup>th</sup> century, the species became increasingly uncommon, with populations becoming smaller and more isolated over time. Some historic strongholds within San Diego County remain occupied, including the Otay Mesa, although population numbers have been significantly reduced (Lincer and Bloom, 2007). Locally,



loss of suitable habitat to development and habitat type conversion are largely responsible for the decline of the species.

### 3. Methods

All aspects of the field surveys were conducted by ESA biologists experienced and knowledgeable in identifying burrowing owl habitat, ecology, and individuals, as well as sign of presence such as feathers, excrement, pellets and potential burrows suitable for breeding and shelter.

#### 3.1 Habitat Assessment

A baseline burrowing owl habitat assessment was conducted on the Airport property, as well as within a 150-meter buffer surrounding the Airport by ESA biologist Joseph Henry on March 25, 2014. Conditions during the habitat assessment are provided in Table 1. Prior to the habitat assessment, existing vegetation maps, survey reports, and aerial photographs were referenced to aid in the field assessment (Google Earth, 2014; Helix, 2011; Merkel, 2008; Sage Institute, 2011). Suitability of habitat was determined by walking and driving throughout the Airport property and surrounding buffer. In areas where direct access was not available, potential habitat was assessed with the aid binoculars from the nearest accessible vantage point. The initial habitat suitability assessment was continually refined throughout the course of the focused survey effort.

Plant communities were classified during the baseline habitat assessment in order to evaluate the potential for burrowing owl to utilize the Airport property and surrounding buffer. All plants observed during the habitat assessment were either identified in the field or a sample was collected and later identified with the aid of taxonomic keys. Plant taxonomy followed Hickman (1993), as updated in Baldwin, et al. (2012). Plant communities were classified according to Holland-Oberbauer (2008).

#### 3.2 Focused Surveys

Focused surveys were conducted on foot throughout the Airport property and surrounding buffer within all areas of suitable habitat where safe and legal access was obtained. In areas where direct access was not available (e.g., areas in close proximity to active runways, adjacent private property, etc.), suitable habitat was surveyed with the aid binoculars from the nearest accessible vantage point. Surveys were conducted by walking straight-line transects spaced no more than 20 meters apart, adjusting for vegetation height and density. At the start of each transect, and at least every 100 meters, biologists scanned the entire visible area for burrowing owls with the aid of binoculars. All potential burrows, as identified by the presence of burrowing owls or sign (i.e., pellets, prey remains, whitewash, or decoration) were recorded. Care was taken not to flush burrowing owls from their burrows or perches.

Pursuant to burrowing owl survey protocol, as defined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* (Appendix B; CDFW, 2012), the morning survey period was initiated

at morning civil twilight and concluded at 1000, and the evening survey period was initiated two hours prior to sunset and concluded at evening civil twilight. Surveys were not conducted during times of inclement weather, defined as winds exceeding 20 kilometers per hour (kph), precipitation, dense fog, temperatures exceeding 20 degrees Celsius ( $^{\circ}\text{C}$ ), or cloud cover exceeding 75 percent. Survey dates, times, personnel, and conditions are provided in Table 1, below.

**TABLE 1  
SURVEY DATES AND PERSONNEL**

Dates	Times	Personnel	Temperature ( $^{\circ}\text{C}$ )	Wind (kph)	Cloud Cover (%)
March 25, 2014 <sup>a</sup>	1100 to 1500	Joseph Henry	17 to 19	0 to 2	60 to 75
April 3, 2014	0610 to 1000; 1710 to 1915	Joseph Henry and Dallas Pugh	9 to 19	0 to 14	0 to 10
May 6, 2014 <sup>b</sup>	0540 to 0700	Joseph Henry and Dallas Pugh	13 to 14	3 to 6	50 to 60
May 9, 2014	0530 to 1000	Joseph Henry and Dallas Pugh	14 to 20	0 to 3	10 to 15
June 2, 2014	0515 to 1000; 1755 to 2020	Joseph Henry and Robert Sweet	18 to 23	0 to 8	15 to 30
June 24, 2104	0515 to 1000; 1805 to 2015	Joseph Henry and Dallas Pugh	16 to 22	2 to 7	55 to 70

<sup>a</sup> Baseline habitat assessment.

<sup>b</sup> Survey suspended due to precipitation.

## 4. Results

### 4.1 Habitat Assessment

The Airport property and surrounding buffer is characterized by active aviation, open fields not associated with active aviation, as well as commercial and industrial development. Habitat types within the Airport property and surrounding buffer included mainly non-native grassland, disturbed, and developed habitats, although Diegan coastal sage scrub and maritime succulent scrub were also mapped within the area (Sage Institute, 2011). The proposed staging area for the project occurs within disturbed habitat, while the two proposed runway rehabilitation sites on the ends of Runway 8L-26R occur within developed areas. Representative photographs of the habitat types within the Airport property and surrounding buffer are included in Appendix A. Due to the undeveloped nature of the area, the majority of the Airport property and surrounding buffer was considered potential burrowing owl habitat. Certain areas were identified as providing high quality burrowing owl habitat, as indicated by the presence of existing burrows, berms, or proximity to suitable foraging habitat. Contrarily, other areas were identified as providing little to know habitat value, as indicated by relatively recent development or steep terrain unsuitable to the species. Certain portions of developed habitat were considered suitable burrowing owl habitat, based on adjacency to suitable foraging habitat, presence of existing burrows, and relatively low human visitation.

The majority of the Airport property was classified as non-native grassland and identified as suitable burrowing owl habitat. Portions of the Airport property not considered suitable habitat, and therefore excluded from the focused surveys, included active runways, and areas of extensive and relatively recent development not supporting burrows (e.g., paved taxiways, terminal buildings, etc.). Much of the surrounding buffer was also considered unsuitable habitat, and therefore excluded from the focused surveys, based on the presence of dense and extensive development, lack of existing burrows, and inadequate connectivity to foraging habitat. Additional areas to the north of the Airport property, and within the surrounding buffer, were excluded from the focused surveys based on the presence of steep terrain. Previously suitable habitat south of the Airport property, within the surrounding buffer, was also excluded from focused surveys, as the property was recently graded in preparation for development. Suitable habitat within the surrounding buffer included an open field to the southeast of the Airport property, and the area northeast of the Airport property, much of which includes the recently restored Caltrans Lonestar Mitigation Property.

### 4.2 Focused Surveys

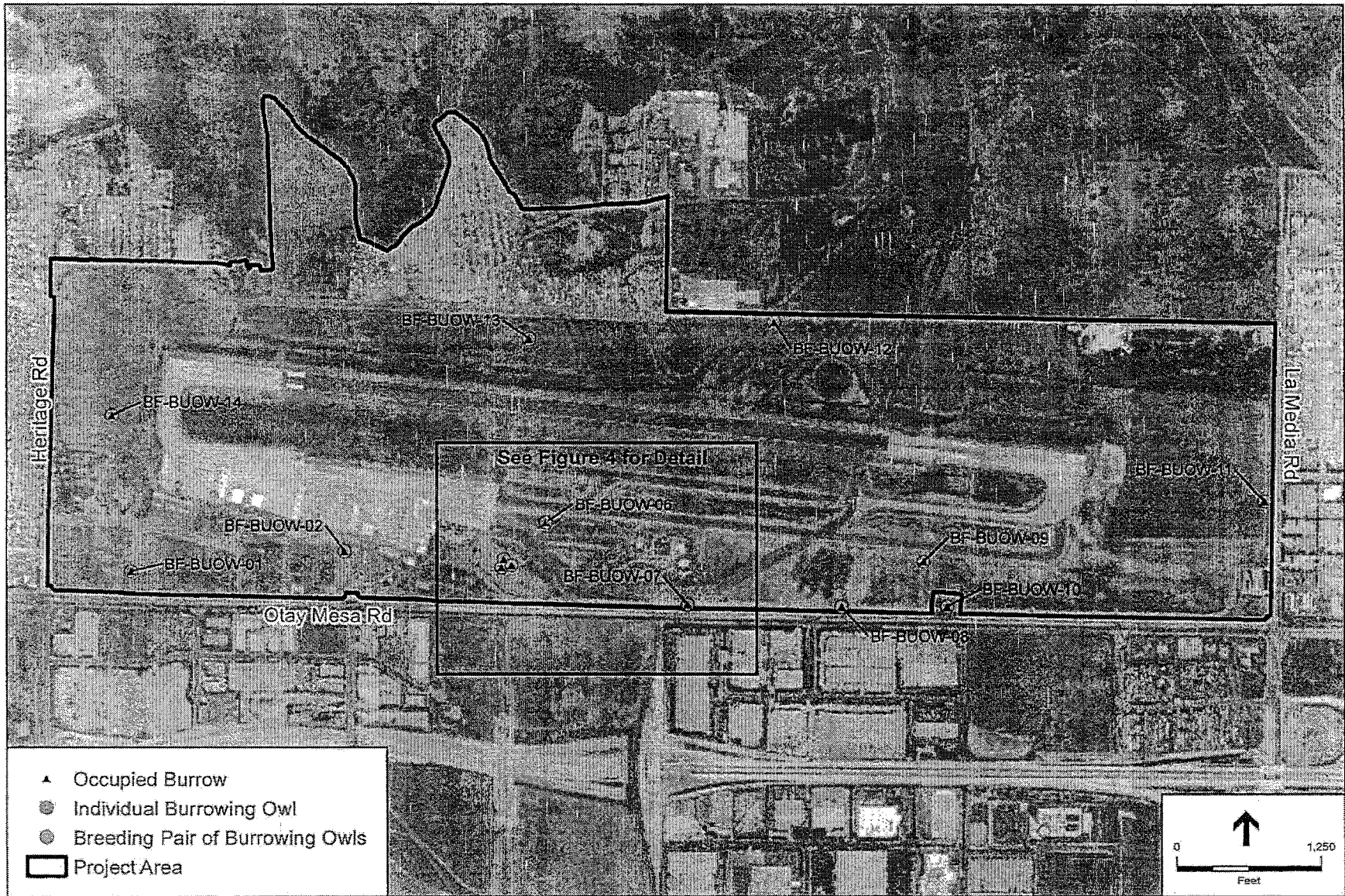
A total of 14 active burrows were identified during the focused surveys (Figure 3 and Figure 4). All 14 of the active burrows were identified within the Airport property. An active burrow consisted of at least one adult burrowing owl associated with a burrow, determined by direct observation. An active burrow may support a single burrowing owl, and pair of burrowing owls,

or a family group (i.e., a breeding pair and nestlings). Representative photographs of active burrows identified within the Airport property and included in Appendix A. Seven of the active burrows were identified within non-native grassland habitat, and seven were identified within disturbed or developed habitat. The highest density of active burrows was observed in the southern portion of the Airport property, where ten active burrows were identified.

Five of the burrows were only observed to be occupied by a single adult burrowing owl. The remaining nine active burrows were observed to support breeding pairs of burrowing owls, with nestlings observed at eight of these burrows. A total of 15 nestlings were observed during the focused surveys. Occupancy details for each of the identified active burrows are provided in Table 2, below.

**TABLE 2  
BURROW OCCUPANCY DETAILS**

Burrow Number	Habitat Type	Occupancy	Minimum Number of Nestlings
BF-BUOW-01	Disturbed	Single	N/A
BF-BUOW-02	Developed	Breeding Pair	2
BF-BUOW-03	Developed	Single	N/A
BF-BUOW-04	Developed	Breeding Pair	2
BF-BUOW-05	Developed	Breeding Pair	2
BF-BUOW-06	Disturbed	Breeding Pair	1
BF-BUOW-07	Developed	Breeding Pair	2
BF-BUOW-08	Non-native grassland	Breeding Pair	0
BF-BUOW-09	Non-native grassland	Single	N/A
BF-BUOW-10	Non-native grassland	Breeding Pair	2
BF-BUOW-11	Non-native grassland	Breeding Pair	3
BF-BUOW-12	Non-native grassland	Single	N/A
BF-BUOW-13	Non-native grassland	Single	N/A
BF-BUOW-14	Non-native grassland	Breeding Pair	1



SOURCE: ESRI Imagery

2014 Burrowing Owl Survey Results on Brown Field Municipal Airport  
Figure 3





SOURCE: ESRI Imagery

2014 Burrowing Owl Survey Results on Brown Field Municipal Airport  
 Figure 4

## 5. Discussion

Although the vast majority of the Airport property was considered suitable burrowing owl habitat, there was a noticeable difference in occupancy rates between the northern and southern portions of the Airport property. Despite the presence of suitable habitat within the northern portion of the Airport property, only two burrows were identified north of the active runway. Additionally, it was noted that there was a decreased density of California ground squirrel burrows within the northern portion of the Airport property. As burrowing owls within the region are closely associated with the presence of California ground squirrel burrows, the lower density of burrows in the northern portion of the site likely contributes to the reduced density of burrowing owls north of the active runway. Additional threats within the northern portion of the Airport property were noted during focused surveys, including regular low-elevation flyovers by helicopters associated with the adjacent U.S. Department of Homeland Security facility and regular occurrence of domestic dogs associated with the adjacent automotive facilities along Pogo Row. Additionally, the recent restoration of the Lonestar Mitigation Property, located to the northeast of the Airport property, may provide higher quality habitat potentially attracting burrowing owl away from the northern portion of the Airport property.

Comparatively, the southern portion of the Airport property was observed to support higher densities of active burrowing owl burrows. In addition to the higher density of California ground squirrel burrows, several existing man-made structures (e.g., drainage berm, seldom-used helicopter pads, historic building foundations, etc.) were noted that provide high quality burrowing owl habitat. Existing vegetation management (i.e., mowing) throughout the Airport increases the quality of burrowing owl habitat. The regular mowing activities on the Airport property do not appear to negatively impact the burrow locations, and provide the burrowing owls with increased visibility vital to foraging success and predator avoidance.

Prior to the initiation of construction activities, the following measures are recommended to avoid impacts to burrowing owl:

- Between 14 and 30 days prior to any construction activity, the impact area should be surveyed by a qualified biologist in accordance with the most recent accepted protocols (currently those within the California Department of Fish and Wildlife 2012 *Staff Report on Burrowing Owl Mitigation*) for burrowing owls and occupied burrows. The impact area includes any area involving construction activity that may negatively affect burrowing owls, such as grading activities and staging of equipment and materials, and the area within 150 meters of the construction activity.
- In addition, no more than three days prior to the start of construction activity, a pre-construction nesting bird survey should be conducted by a qualified biologist. If no burrowing owls are found, then no further avoidance measures are recommended. If burrowing owls are found, the following measures should be implemented:
  - No active burrowing owl burrows should be directly impacted by the project.

- Construction activities should occur during the non-breeding season for burrowing owls, generally considered to be September 1 to January 31.
- Should construction be necessary during the breeding season, the following measures are recommended:
  - A qualified biologist should conduct surveillance of the active burrow(s) within 24 hours of the start of construction.
  - A no-work buffer should be established around active nest(s), as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife. The width of the buffer should be based on such factors as location of nest, local ambient conditions, type of project activity, intensity and duration of project activity, timing within the nesting cycle, and the species tolerance for disturbance. An effective buffer is wide enough to preclude detrimental effects to nesting behavior that could lead to nest abandonment and mortality of fledglings from noises or vibrations generated from construction activities.
  - Buffers should be delineated in the field with suitable material, as determined by the biologist in consultation with the California Department of Fish and Wildlife and the City of San Diego Airports Division.
  - A qualified biologist should monitor construction activities occurring within the buffer area at least twice a month during construction, to determine if any circumstances have changed that would warrant additional measures to be taken to avoid impacts to the nest(s). If the biologist determines that additional measures are necessary, the biologist should consult with the California Department of Fish and Wildlife prior to the implementation of such measures.
- Existing roadways and paved accessways on Airport property should be used during construction, to the greatest extent feasible.
- A worker education program should be implemented by the construction contractor for all personnel working at the project site. Prior to any construction personnel starting work on the project site, they should be educated about the importance of avoiding the nesting site(s) within the buffer area, and the need to minimize activities in the vicinity of the nest(s) that would disturb the species.



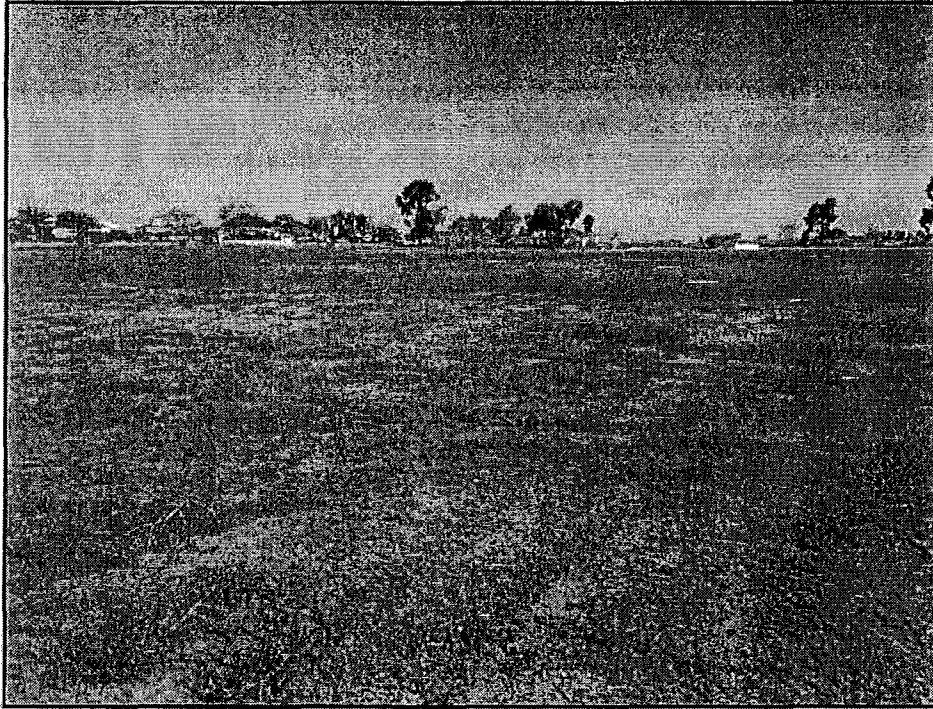
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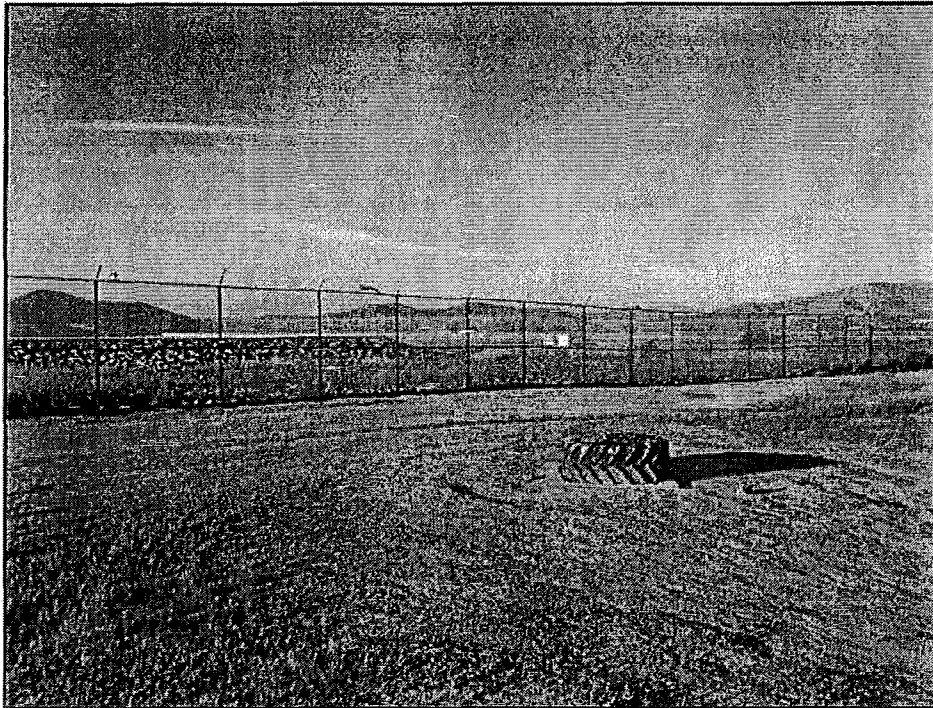
# APPENDIX A

## Representative Photographs

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Photograph 1: View of high-quality non-native grassland habitat. Facing generally northwest.



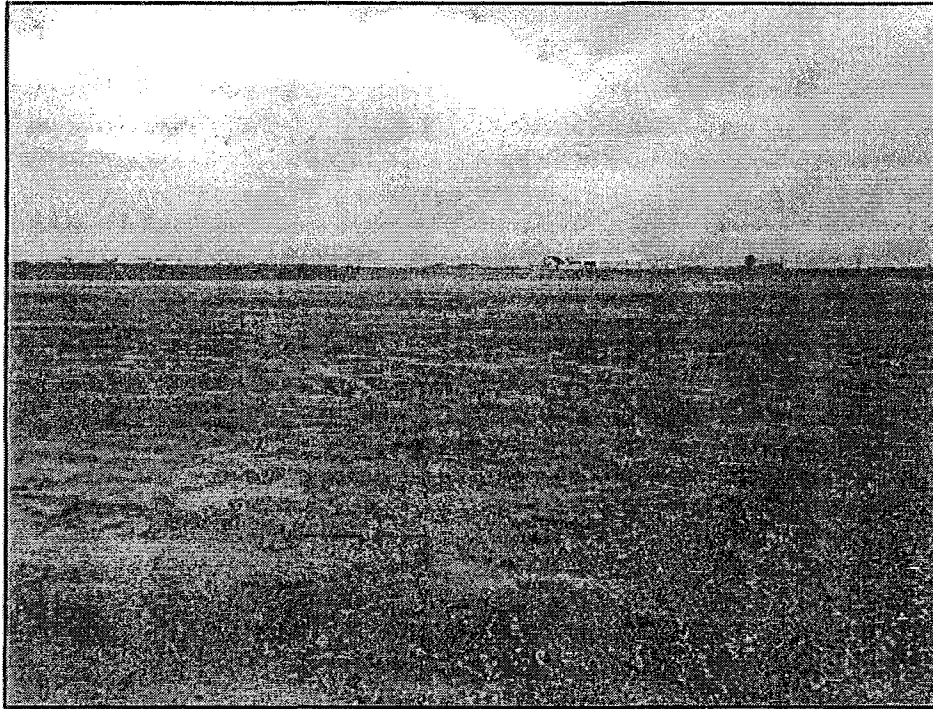
Photograph 2: View of active burrow BF-BUOW-12 within drain located underneath tire. Note whitewash covering the tire. Facing generally northeast.



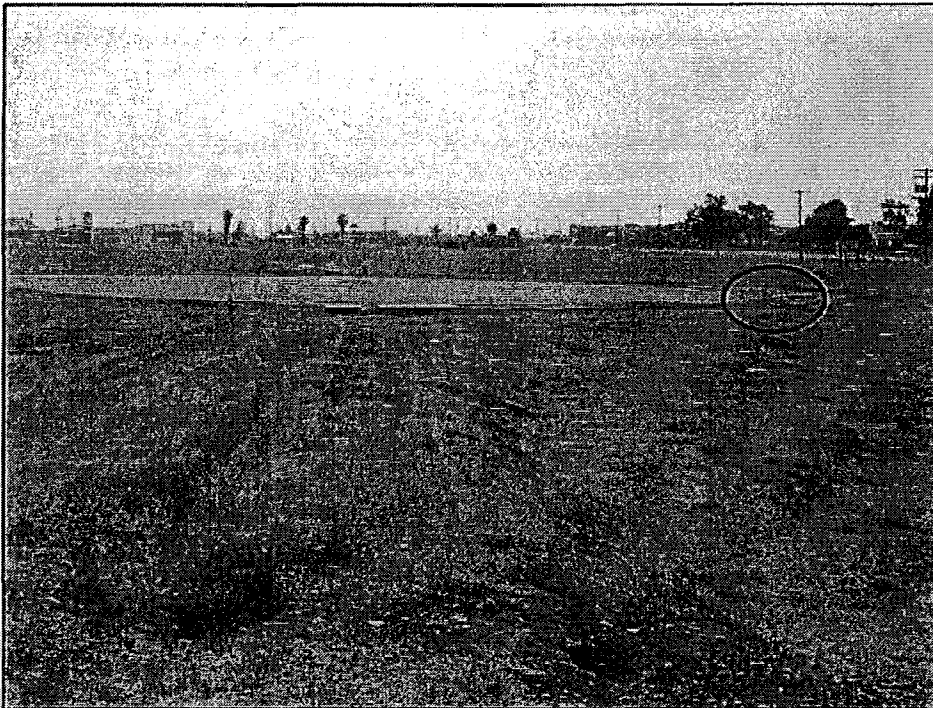
Photograph 3: View of high-quality disturbed and non-native grassland habitat. Facing generally west.



Photograph 4: View of active burrow located within developed habitat. Note owl perched at burrow BF-BUOW-07 entrance along rip rap. Facing generally west.



Photograph 5: View of high-quality non-native grassland and disturbed habitat.  
Facing generally north.



Photograph 6: High-quality non-native grassland and developed habitat.  
Note BF-BUOW-01 located along road edge at right. Facing generally east.



## **APPENDIX B**

### **Burrowing Owl Survey Protocol**

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# Appendix C. Habitat Assessment and Reporting Details

## Habitat Assessment Data Collection and Reporting

Current scientific literature indicates that it would be most effective to gather the data in the manner described below when conducting project scoping, conducting a habitat assessment site visit and preparing a habitat assessment report:

1. Conduct at least one visit covering the entire potential project/activity area including areas that will be directly or indirectly impacted by the project. Survey adjoining areas within 150 m (Thomsen 1971, Martin 1973), or more where direct or indirect effects could potentially extend offsite. If lawful access cannot be achieved to adjacent areas, surveys can be performed with a spotting scope or other methods.
2. Prior to the site visit, compile relevant biological information for the site and surrounding area to provide a local and regional context.
3. Check all available sources for burrowing owl occurrence information regionally prior to a field inspection. The CNDDDB and BIOS (see References cited) may be consulted for known occurrences of burrowing owls. Other sources of information include, but are not limited to, the Proceedings of the California Burrowing Owl Symposium (Barclay et al. 2007), county bird atlas projects, Breeding Bird Survey records, eBIRD (<http://ebird.org>), Gervais et al. (2008), local reports or experts, museum records, and other site-specific relevant information.
4. Identify vegetation and habitat types potentially supporting burrowing owls in the project area and vicinity.
5. Record and report on the following information:
  - a. A full description of the proposed project, including but not limited to, expected work periods, daily work schedules, equipment used, activities performed (such as drilling, construction, excavation, etc.) and whether the expected activities will vary in location or intensity over the project's timeline;
  - b. A regional setting map, showing the general project location relative to major roads and other recognizable features;
  - c. A detailed map (preferably a USGS topo 7.5' quad base map) of the site and proposed project, including the footprint of proposed land and/or vegetation-altering activities, base map source, identifying topography, landscape features, a north arrow, bar scale, and legend;
  - d. A written description of the biological setting, including location (Section, Township, Range, baseline and meridian), acreage, topography, soils, geographic and hydrologic characteristics, land use and management history on and adjoining the site (i.e., whether it is urban, semi-urban or rural; whether there is any evidence of past or current livestock grazing, mowing, disking, or other vegetation management activities);
  - e. An analysis of any relevant, historical information concerning burrowing owl use or occupancy (breeding, foraging, over-wintering) on site or in the assessment area;
  - f. Vegetation type and structure (using Sawyer et al. 2009), vegetation height, habitat types and features in the surrounding area plus a reasonably sized (as supported with logical justification) assessment area; (Note: use caution in discounting habitat based on grass height as it can be a temporary condition variable by season and conditions (such as current grazing regime) or may be distributed as a mosaic).

- g. The presence of burrowing owl individuals or pairs or sign (see Appendix B);
- h. The presence of suitable burrows and/or burrow surrogates (>11 cm in diameter (height and width) and >150 cm in depth) (Johnson et al. 2010), regardless of a lack of any burrowing owl sign and/or burrow surrogates; and burrowing owls and/or their sign that have recently or historically (within the last 3 years) been identified on or adjacent to the site.



## Appendix D. Breeding and Non-breeding Season Surveys and Reports

Current scientific literature indicates that it is most effective to conduct breeding and non-breeding season surveys and report in the manner that follows:

### Breeding Season Surveys

*Number of visits and timing.* Conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June. Note: many burrowing owl migrants are still present in southwestern California during mid-March, therefore, exercise caution in assuming breeding occupancy early in the breeding season.

*Survey method.* Rosenberg et al. (2007) confirmed walking line transects were most effective in smaller habitat patches. Conduct surveys in all portions of the project site that were identified in the Habitat Assessment and fit the description of habitat in Appendix A. Conduct surveys by walking straight-line transects spaced 7 m to 20 m apart, adjusting for vegetation height and density (Rosenberg et al. 2007). At the start of each transect and, at least, every 100 m, scan the entire visible project area for burrowing owls using binoculars. During walking surveys, record all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration. Some burrowing owls may be detected by their calls, so observers should also listen for burrowing owls while conducting the survey.

Care should be taken to minimize disturbance near occupied burrows during all seasons and not to "flush" burrowing owls especially if predators are present to reduce any potential for needless energy expenditure or burrowing owl mortality. Burrowing owls may flush if approached by pedestrians within 50 m (Conway et al. 2003). If raptors or other predators are present that may suppress burrowing owl activity, return at another time or later date for a follow-up survey.

Check all burrowing owls detected for bands and/or color bands and report band combinations to the Bird Banding Laboratory (BBL). Some site-specific variations to survey methods discussed below may be developed in coordination with species experts and Department staff.

*Weather conditions.* Poor weather may affect the surveyor's ability to detect burrowing owls, therefore, avoid conducting surveys when wind speed is >20 km/hr, and there is precipitation or dense fog. Surveys have greater detection probability if conducted when ambient temperatures are >20° C, <12 km/hr winds, and cloud cover is <75% (Conway et al. 2008).

*Time of day.* Daily timing of surveys varies according to the literature, latitude, and survey method. However, surveys between morning civil twilight and 10:00 AM and two hours before sunset until evening civil twilight provide the highest detection probabilities (Barclay pers. comm. 2012, Conway et al. 2008).

*Alternate methods.* If the project site is large enough to warrant an alternate method, consult current literature for generally accepted survey methods and consult with the Department on the proposed survey approach.

*Additional breeding season site visits.* Additional breeding season site visits may be necessary, especially if non-breeding season exclusion methods are contemplated. Detailed information, such as approximate home ranges of each individual or of family units, as well as foraging areas as related to the proposed project, will be important to document for evaluating impacts, planning avoidance measure implementation and for mitigation measure performance monitoring.

Adverse conditions may prevent investigators from determining presence or occupancy. Disease, predation, drought, high rainfall or site disturbance may preclude presence of burrowing owls in any given year. Any such conditions should be identified and discussed in the survey report. Visits to the site in more than one year may increase the likelihood of detection. Also, visits to adjacent known occupied habitat may help determine appropriate survey timing.

Given the high site fidelity shown by burrowing owls (see Appendix A, Importance of burrows), conducting surveys over several years may be necessary when project activities are ongoing, occur annually, or start and stop seasonally. (See Negative surveys).

### **Non-breeding Season Surveys**

If conducting non-breeding season surveys, follow the methods described above for breeding season surveys, but conduct at least four (4) visits, spread evenly, throughout the non-breeding season. Burrowing owl experts and local Department staff are available to assist with interpreting results.

### **Negative Surveys**

Adverse conditions may prevent investigators from documenting presence or occupancy. Disease, predation, drought, high rainfall or site disturbance may preclude presence of burrowing owl in any given year. Discuss such conditions in the Survey Report. Visits to the site in more than one year increase the likelihood of detection and failure to locate burrowing owls during one field season does not constitute evidence that the site is no longer occupied, particularly if adverse conditions influenced the survey results. Visits to other nearby known occupied sites can affirm whether the survey timing is appropriate.

### **Take Avoidance Surveys**

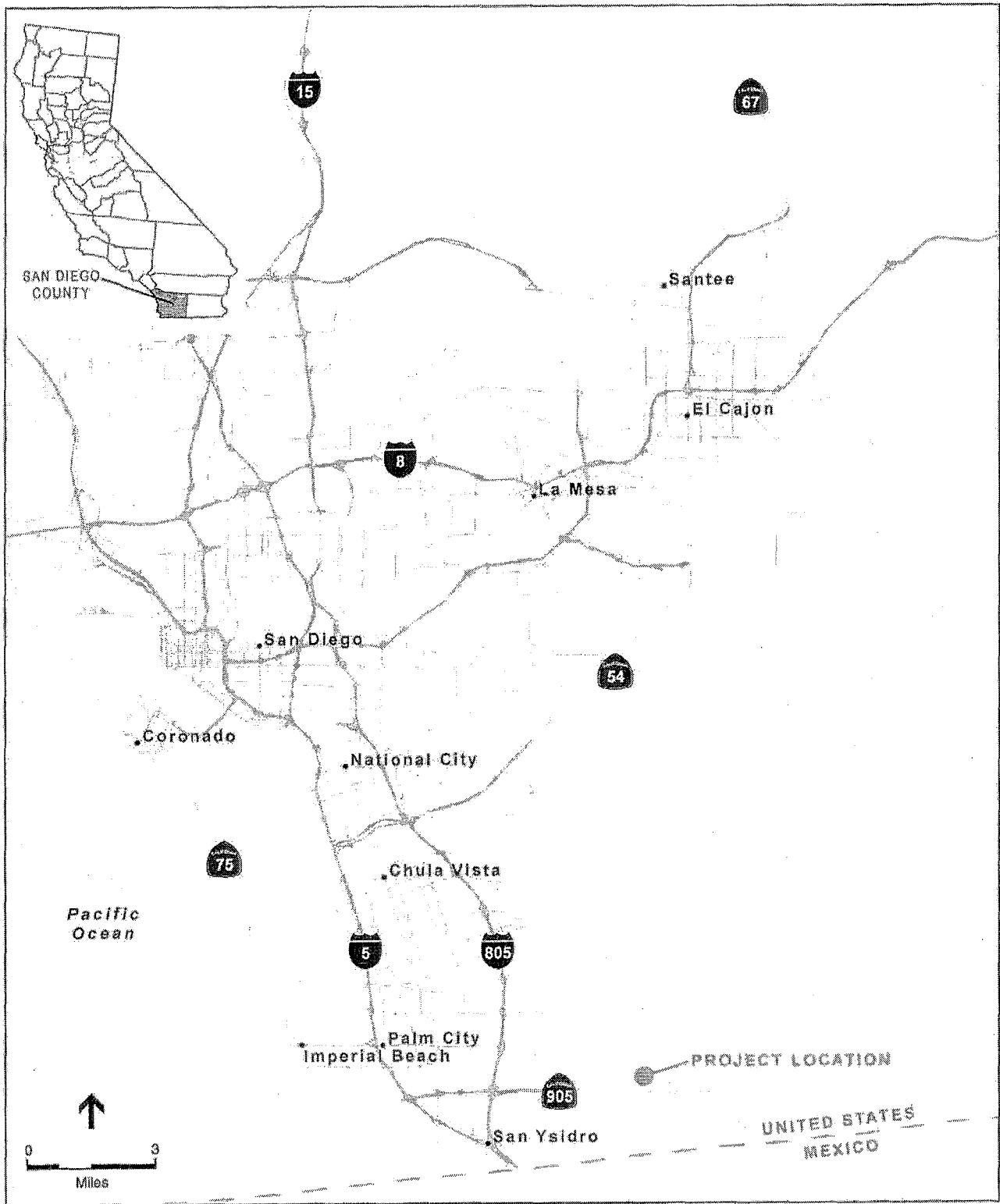
Field experience from 1995 to present supports the conclusion that it would be effective to complete an initial take avoidance survey no less than 14 days prior to initiating ground disturbance activities using the recommended methods described in the Detection Surveys section above. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls.

Burrowing owls may re-colonize a site after only a few days. Time lapses between project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance.

## Survey Reports

Report on the survey methods used and results including the information described in the Summary Report and include the reports within the CEQA documentation:

1. Date, start and end time of surveys including weather conditions (ambient temperature, wind speed, percent cloud cover, precipitation and visibility);
2. Name(s) of surveyor(s) and qualifications;
3. A discussion of how the timing of the survey affected the comprehensiveness and detection probability;
4. A description of survey methods used including transect spacing, point count dispersal and duration, and any calls used;
5. A description and justification of the area surveyed relative to the project area;
6. A description that includes: number of owls or nesting pairs at each location (by nestlings, juveniles, adults, and those of an unknown age), number of burrows being used by owls, and burrowing owl sign at burrows. Include a description of individual markers, such as bands (numbers and colors), transmitters, or unique natural identifying features. If any owls are banded, request documentation from the BBL and bander to report on the details regarding the known history of the banded burrowing owl(s) (age, sex, origins, whether it was previously relocated) and provide with the report if available;
7. A description of the behavior of burrowing owls during the surveys, including feeding, resting, courtship, alarm, territorial defense, and those indicative of parents or juveniles;
8. A list of possible burrowing owl predators present and documentation of any evidence of predation of owls;
9. A detailed map (1:24,000 or closer to show details) showing locations of all burrowing owls, potential burrows, occupied burrows, areas of concentrated burrows, and burrowing owl sign. Locations documented by use of global positioning system (GPS) coordinates must include the datum in which they were collected. The map should include a title, north arrow, bar scale and legend;
10. Signed field forms, photos, etc., as appendices to the field survey report;
11. Recent color photographs of the proposed project or activity site; and
12. Original CNDDDB Field Survey Forms should be sent directly to the Department's CNDDDB office, and copies should be included in the environmental document as an appendix. (<http://www.dfg.ca.gov/bdb/html/cnddb.html>).



SOURCE: DeLorme Street Atlas USA, 2000; ESA, 2014

Brown Field Runway Rehabilitation Project . 140361

**Figure 1**  
Regional Location

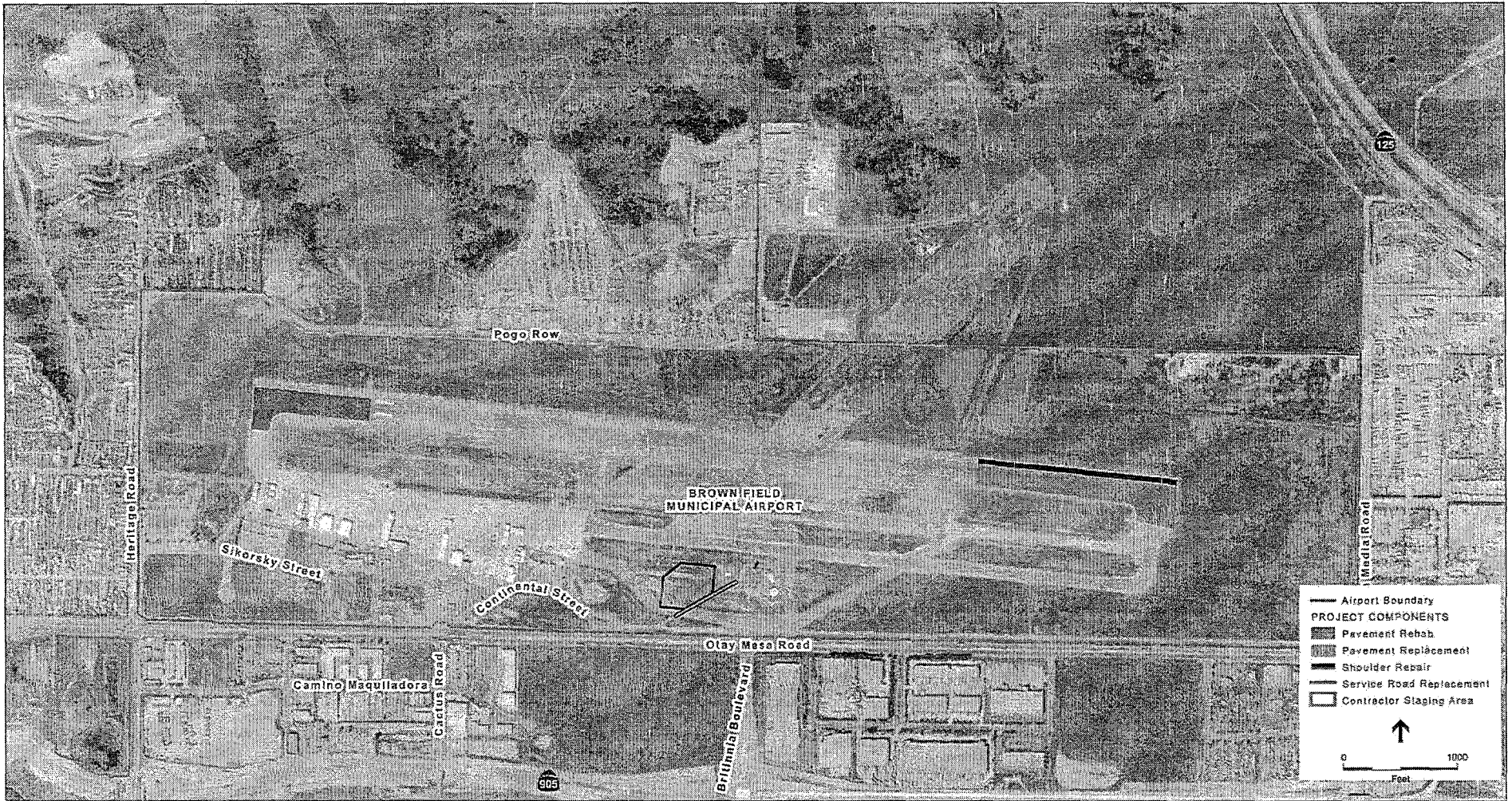


SOURCE: Aerials Express; Sage Institute, 2011; ESA, 2014

Brown Field Runway Rehabilitation Project, 140361

**Figure 2**  
Project Site

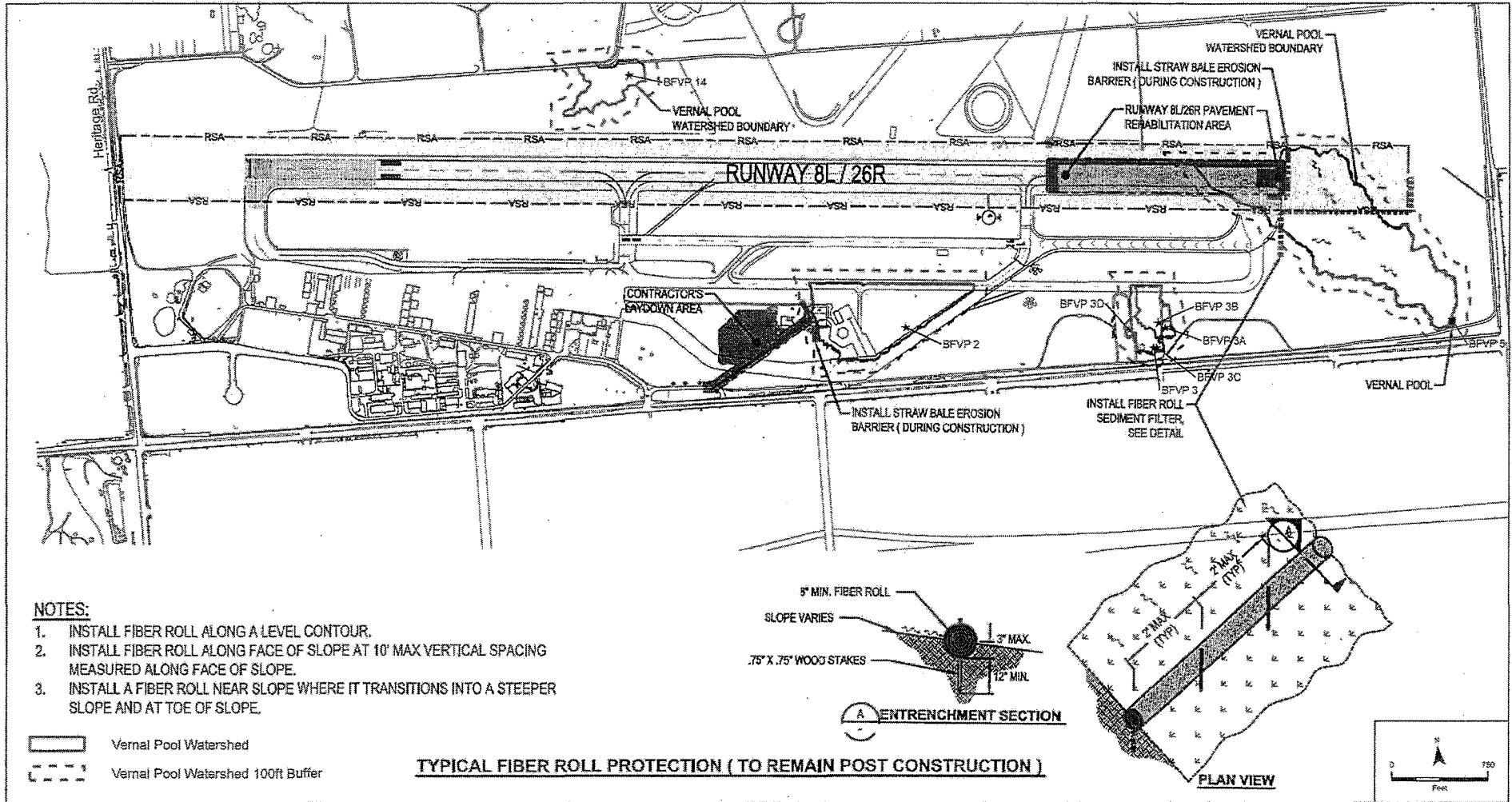




SOURCE: Aerials Express; Sage Institute, 2011; ESA, 2014

Brown Field Runway Rehabilitation Project . 140361

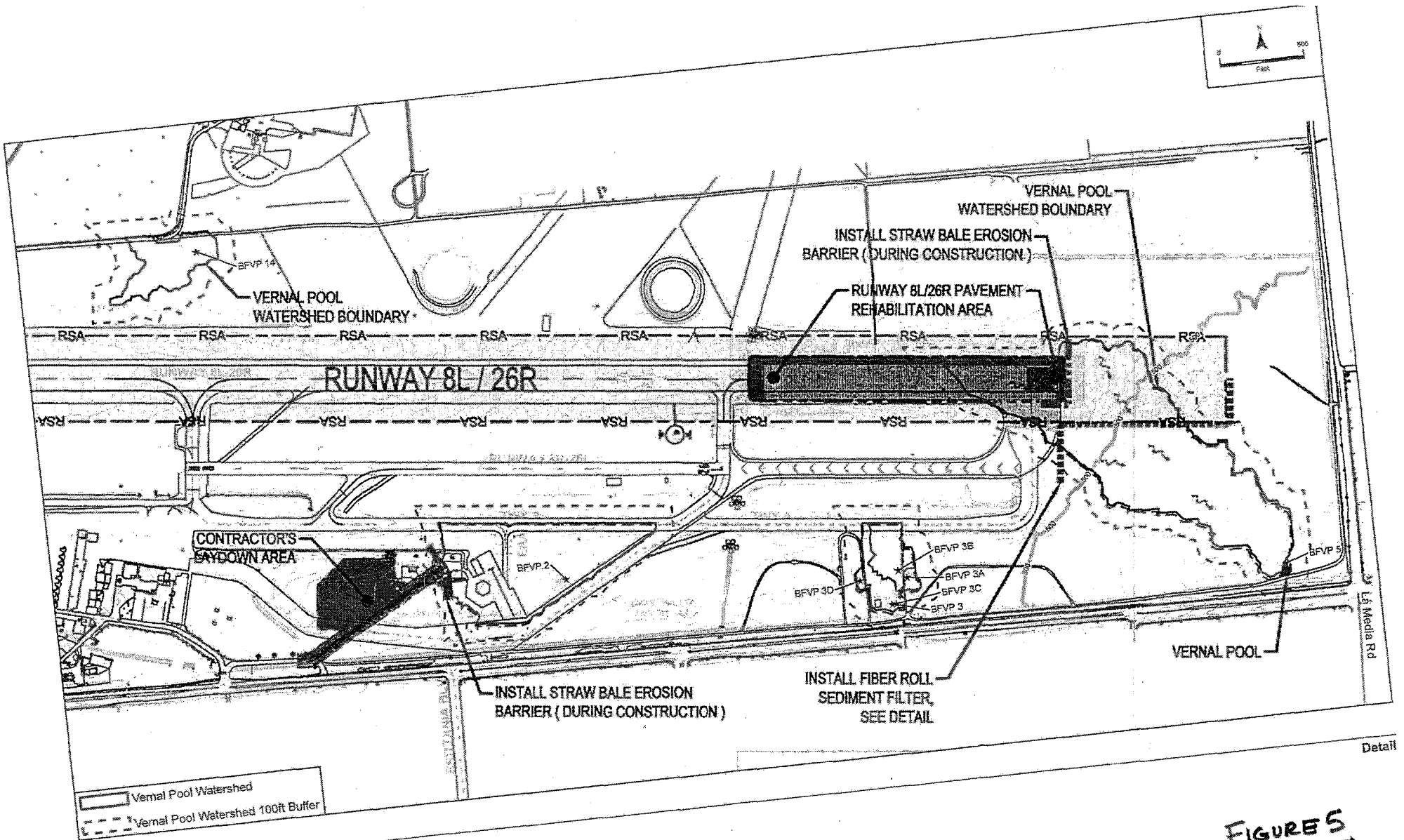
**Figure 3**  
Project Components



SOURCE HNTB, ESA 2014

Overview

**FIGURE 4**



**FIGURES**



## INITIAL STUDY CHECKLIST

1. **Project title/Project number:**  
Brown Field Municipal Airport Runway 8L-26R Rehabilitation Project / PTS No. 358563
2. **Lead agency name and address:**  
City of San Diego, Development Services Department, 1222 First Avenue, MS 501, San Diego, CA 92101
3. **Contact person and phone number:**  
Rebecca Malone, Associate Planner, 619-446-5371
4. **Project location:**  
The proposed project is located at Brown Field Municipal Airport, which is located in the City of San Diego; approximately one and one-half miles north of the border between the United States and Mexico (see Figure 1).
5. **Project Applicant/Sponsor's name and address:**  
Mike Tussey, City of San Diego Airports Division, 3750 John J. Montgomery Drive, San Diego, CA 92123
6. **General/Community Plan designation:**  
The 2008 General Plan land use designation for Brown Field Municipal Airport is Institutional & Public and Semi-Public Facilities. The recently adopted Otay Mesa Community Plan Update shows a land use designation as Institutional.
7. **Zoning:**  
The project is located in an area of Brown Field Municipal Airport that is un-zoned.
8. **Description of project:**  
The project is located on Brown Field Municipal Airport (Brown Field), a General Aviation airport. Brown Field is regionally located approximately 21 miles southeast of downtown San Diego and one and one-half miles north of the border between the United States and Mexico (Figure 1). The airport is owned and operated by the City of San Diego. The airport currently operates two runways, one parallel taxiway and five connecting taxiways. The City has identified the need for the rehabilitation of the larger of the two runways, Runway 8L-26R (the project). Runway 8L-26R measures 7,972 feet in length and 150 feet in width, and is comprised of both Portland Cement Concrete (PCC) and Asphalt (AC) pavements. Review of historic aerial photographs suggests that the existing paving was put in place in 1953. In the early 1990's approximately 5,500 feet of the runway's middle section was milled and overlaid, but the end portions of the Runway have had no major rehabilitation work since its construction over half a century ago. The current conditions of the concrete ends of the runway require immediate evaluation and rehabilitation to ensure safety and compliance with current design and construction standards as set forth by applicable regulatory agencies, including the Federal Aviation Administration (FAA).  
  
The touchdown pavement areas, in particular, the eastern end of the main runway (Runway 26R), is in very poor condition due to the usual westbound direction of air traffic. The expected life of this section is less than one year. Due to the poor condition of the runway, the project will require the following: 1) removal of 50 feet of existing PCC closest to the runway shoulders and excavation of fill material up to 26 inches below grade; 2) building up of AC section to proposed grade; 3) rubblization<sup>1</sup> of existing PCC in middle 50 feet of Runway 26R; 4) building up variable depth AC

<sup>1</sup> Rubblization is technique that reduces existing concrete to rubble and reusing it in its current location, rather than hauling it to another location.

base layer; and 5) constructing AC surface layer with a crown on centerline and matching grades at the AC previously placed on the outer 50 feet of Runway 26R. Repairs to the westerly end of Runway 26R, which will involve minor surface and joint repairs, will also be included as part of this rehabilitation project. Other project elements include the replacement of an existing service road and milling and overlaying of existing runway shoulder on the north side of Runway 26R. Construction activities are intended to occur during the non-breeding season for burrowing owls (generally considered to be September 1 to January 31). Additionally, construction is limited to Runway 8L-26R where no burrowing owls or burrows have been observed. However, staging for the project is in proximity to mapped burrows and owl observation areas and requires mitigation measure to reduce the potential for any impacts on this species in the event that construction is necessary during the breeding season. This measure also includes a provision for a no-work buffer and additional consultation with the California Department of Fish and Wildlife to develop additional measures for the protection of this species.

The proposed project would include implementation of source control and erosion control BMPs during construction of the proposed project to prevent sediment and/or hazardous materials and substances from leaving the project site. Erosion control BMPs, such as scheduling during the non-rainy season and preservation of existing vegetation, would prevent the exposure of soil to water and reduce the threat of erosion during construction. The proposed project would also implement sediment control BMPs, such as sandbags and fiber rolls, to trap any sediment that mobilizes on-site, thereby preventing siltation from occurring. Minimum construction BMP's for the proposed project are listed shown in Table 1.

**TABLE 1  
APPLICABLE SET OF BMPs FOR ALL CONSTRUCTION SITES**

Erosion Controls	Scheduling
	Preservation of Existing Vegetation
Sediment Controls	Sandbag Barrier
	Fiber Rolls / Straw Wattles
	Stabilized Construction Site Entrance/Exit
Non-Storm Water Management	Water Conservation Practices
Waste Management:	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management
	Asphalt/Pavement Waste Management
	Sanitary/Septic Waste Management

SOURCE: Order No. R9-2013-0001

The general contractor will establish a construction staging area that will be located east of the main aircraft parking apron. Construction and worker vehicles will access Brown Field via Continental Street, where they will pass through a security fence and travel along a service road that leads to the proposed construction staging area. Construction vehicles will access Runway 26R via service roads and Taxiway A. Construction vehicles transporting materials and/or debris to and from the project site will travel via Otay Mesa Road and Britannia Boulevard (see Figure 2). The locations of all project elements are provided in Figure 3. The construction contractor will coordinate with airport management to inform them of planned construction activities. These updates will occur on a weekly basis or as construction phasing warrants. Appropriate information regarding construction activities will be posted by airport management in locations accessible to pilots and also shared with air traffic control.

Construction of the proposed project is anticipated to occur over five phases and take approximately 16 weeks to complete, as detailed below:

Construction Phase	Duration
Demolition	3 weeks
Site Preparation	3 weeks
Grading	4 weeks
Paving	5 weeks
Pavement Striping	1 week
Source: HNTB, 2014.	

Use of the following equipment is anticipated for each phase of construction of the proposed project.

Construction Phase	Equipment
Demolition	Pickup, Loaders, Compressors, Walk Behind Saw
Site Preparation	Pickup, Milling Machine, Water Truck
Grading	Pickup, Loader, Motor Grader, Pulverizer, Scraper, Water Truck
Paving	Spreader, Steel Wheels, Rubber Tired, IT Carrier, Pickups, Crew Truck
Pavement Striping	Pickup, Crew Truck, Parking Lot Paint Machines, Paint Truck
General	Fuel Truck
Source: HNTB, 2014.	

9. **Surrounding land uses and setting:**

The proposed project is staged at various locations within the boundaries of Brown Field. Uses to the north of Brown Field consist of open space associated with Multi-Habitat Planning Area (MHPA) lands. Uses to the south of Brown Field consist of industrial uses and undeveloped land. Similarly, uses to the east and west of Brown Field also consist predominately of industrial uses. The airport is bound by public roads on three sides: La Media Road on the east, Otay Mesa Road on the south, and Heritage Road on the west. The northern tip of the watershed associated with vernal pool number BFVP-5 exists in the same location as the eastern portion of the existing Runway 8L/26R which will not be changed or expanded; the vernal pool basin is located approximately 1,700 feet to the southeast of the project area. The access route for the project will follow an existing taxiway which runs adjacent to BFVP-2. This is an existing condition and no impacts (direct or indirect) to the vernal pool basin or fairy shrimp would result from the access use. In addition to the burrowing owl (a CDFW Species of Special Concern), it is possible that at any given time, migratory birds or small reptiles may forage in the adjacent non-native grasslands within proximity to the project site and staging area.

10. **Other public agencies whose approval is required:**

The City, as owner and operator of Brown Field, is the lead agency pursuant to the California Environmental Quality Act (CEQA), and is responsible for obtaining appropriate permits (e.g., grading permits). The proposed project would be funded by the FAA via the Airport Capital Improvement Plan (ACIP). An extraordinary circumstances evaluation was prepared separately for the proposed project pursuant to the requirements of the National Environmental Policy Act (NEPA). No other permits or approvals from other agencies are required.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |                                                             |                                                        |                                                                     |
|-------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics                         | <input type="checkbox"/> Greenhouse Gas Emissions      | <input type="checkbox"/> Population/Housing                         |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Public Services                            |
| <input type="checkbox"/> Air Quality                        | <input type="checkbox"/> Hydrology/Water Quality       | <input type="checkbox"/> Recreation                                 |
| <input checked="" type="checkbox"/> Biological Resources    | <input type="checkbox"/> Land Use/Planning             | <input type="checkbox"/> Transportation/Traffic                     |
| <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Utilities/Service System                   |
| <input type="checkbox"/> Geology/Soils                      | <input type="checkbox"/> Noise                         | <input checked="" type="checkbox"/> Mandatory Findings Significance |

**DETERMINATION: (To be completed by Lead Agency)**

On the basis of this initial evaluation:

- The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required.
- Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or (MITIGATED) NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or (MITIGATED) NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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l) AESTHETICS – Would the project:

- a) Have a substantial adverse effect on a scenic vista?

**Less Than Significant Impact.** The project site is predominately flat, consisting of runways and taxiways. To the east of the project site, the Otay Mountain Wilderness provides scenic value, and is viewable to motorists traveling on the following roads bordering the airport: Heritage Road along the western boundary, Otay Mesa Road along the southern boundary, and La Media Road along the eastern boundary. The project would involve repaving an easterly end portion of Runway 26R and an adjoining shoulder via mill-and-overlay, as well as some minor surface and joint repairs along the westerly end of Runway 26R. The project would also include a contractor staging area south of both runways and immediately north of Otay Mesa Road, proximate to the corner of Otay Mesa Road and Britannia Boulevard. The proposed project would also include replacing a service road adjacent to the construction staging area. The current and proposed repaving and surface repairs would only affect ground level surfaces on the runways, thereby not altering any existing views. Construction activities on site would temporarily create dust and possibly alter the views at certain points near the runways, but would not create permanent obstructions. Due to the temporary nature of the proposed project, and that post-project scenic values would be the same as pre-project conditions, this impact would be less than significant.

- b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact.** As mentioned in the previous impact discussion, the project would only involve repaving and repairing Runway 26R and no other areas of the project site or vicinity. As per Caltrans, there are no designated or registered scenic highways within the Otay Mesa area (Caltrans, 2014). The current and proposed repaving and surface conditions would not alter or damage any existing scenic resources within a state- or locally designated scenic highway, and thus no impact would occur.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

**Less Than Significant Impact.** As mentioned previously in Section I(a), the repaving and minor surface and joint repairs for Runway 26R would generate some temporary visual obstructions from construction, mainly from the generation of dust. This dust would potentially alter the visual character and the quality of the site temporarily, but only until the construction and repair work has been completed. Standard construction best management practices (BMPs), such as dust control measures, will ensure that construction-related visual degradation is minimized, and given the fact that the proposed repairs would not permanently affect any visual characteristics nor degrade the quality of the site or surroundings, this impact would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.** While the project would involve removing several lights along the western and eastern ends of the Runway 26R for a temporary period of time, these lights would be replaced and no new lights would be added to the site. Additionally, the repaving and minor surface and joint repairs for Runway 26R would not create any new light or glare sources nor adversely affect day or nighttime views in the area. Therefore, this impact would be less than significant.

II. **AGRICULTURAL AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. – Would the project

a) Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** The project site is surrounded by industrial and commercial uses to the northeast, east, south, and west, and low and medium density and agricultural residential uses to the northwest (City of San Diego, 2008). The AR 1-1 agricultural-residential zone to the northwest of the site requires lots to be a minimum of 10 acres in size, and accommodates a wide range of agricultural uses and single dwelling unit homes on lots as well as allowing land to remain undeveloped (City of San Diego, 2014). The California Resources Agency has defined the project site as urban and built-up land, and they have designated the areas surrounding the project site as built-up land, grazing land, and farmland of local importance (California Department of Conservation, 2013a). The California Resources Agency has identified none of the areas surrounding the project site or the project site itself as prime farmland, unique farmland, or farmland of statewide importance (Ibid). The construction and repair of Runway 26R would not convert any farmland or agricultural zones; thus there would be no impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------------------------------------------------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** As mentioned previously in Section II(a), the zoning for the project site and the majority of areas surrounding the project site does not feature agricultural uses. For the area to the northwest of the project site, its current agricultural-residential status would not be affected by the proposed project. In addition, none of the Otay Mesa area features Williamson Act designated lands, as all areas surrounding and within the project site are either built-up land or non-enrolled

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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land (California Department of Conservation 2013b). The construction and repair of Runway 26R would not conflict with any farmland, agricultural zones, or Williamson Act Contracts; thus there would be no impact.

- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No impact.** The zoning for the project site and surrounding area does not feature forest land, timberland, or areas zoned for Timberland Production. The construction and repair of Runway 26R would not conflict with any forest land or timberland; thus there would be no impact.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No impact.** As mentioned previously in Section II(c), no forest land exists either on the project site or in the vicinity of the project site. The construction and repair of Runway 26R would not result in the loss of any forest land or convert any forest land to a non-forest use; thus there would be no impact.

- e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No impact.** As mentioned previously in Sections II(a) and II(d), no farmland or forest land exists on site, and the areas that are zoned agricultural-residential to the northwest of the project site would not be affected by the project. The construction and repair of Runway 26R would not result in the conversion of any farmland to a non-agricultural use, or the conversion of any forest land to a non-forest use; thus there would be no impact.

III. AIR QUALITY—Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations—Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The San Diego Air Pollution Control District (SDAPCD) and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the San Diego Air Basin (SDAB). Applicable air quality plans include the State Implementation Plan (SIP), Regional Air Quality Strategy (RAQS), and the associated Transportation Control Measures (TCMs). The SDAB is currently designated as non-attainment for federal and state ozone



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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standards, the state PM2.5 standard, and for the state PM10 standard. The SDAB is in attainment for the remaining criteria pollutant air quality standards.

The RAQS and SIP rely on information from the California Air Resources Board (CARB) and SANDAG, including projected growth in the SDAB, and mobile, area, and all other source emissions, to project future emissions and to determine the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the cities and by the County. As such, projects that propose development consistent with the growth anticipated by the general plan(s) would be consistent with the RAQS and applicable portions of the SIP because associated emissions of criteria pollutants in a designated non-attainment area would be accounted for in these air quality plans. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS and SIP. If a project proposes development that is greater than that anticipated in SANDAG's growth projections, the project would be in conflict with the RAQS and SIP, and may have a potentially significant impact on air quality. The project proposes runway end improvements, replacing an existing service road, and milling/overlaying an existing runway shoulder. The project is not growth inducing and would not result in long-term operational emissions. As such, the project is considered consistent with the growth assumptions of the RAQS and would not conflict with or obstruct implementation of the RAQS or SIP. No impact would occur.

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

**Less than Significant.** Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include fugitive dust from grading activities; construction equipment exhaust; construction-related trips by workers, delivery trucks, and material-hauling trucks; and construction-related power consumption.

Variables that factor into the total construction emissions potentially generated include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site.

Fugitive dust emissions are generally associated with land-clearing and grading operations. Construction operations would include standard measures as required by the City of San Diego to reduce potential air quality impacts from dust emissions to a less than significant level. Impacts associated with fugitive dust or other construction-related emissions would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Long-term air quality emission impacts are those associated with stationary sources and mobile sources related to any change caused by the project. The project consists of the resurfacing of eastern and western portions of Brown Field Runway 26R, the replacement of an existing service road, and the milling and overlaying of existing runway shoulder on the north side of Runway 26R. The purpose of the resurfacing is to ensure safety and compliance with current design and construction standards. The project would not increase traffic to the runway. Air emissions would remain at a similar level with or without the project. No impact would result.

- c) Result in a cumulatively considerable net increase of any



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

**Less than significant.** As described above, construction operations could temporarily increase the emissions of dust and other pollutants. However, construction emissions would be short-term in duration; implementation of Best Management Practices (BMPs) would reduce potential impacts related to construction activities to a less than significant level. The project consists of the resurfacing of eastern and western portions of Brown Field Runway 26R, the replacement of an existing service road, and the milling and overlaying of existing runway shoulder on the north side of Runway 26R. The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. Impacts would be less than significant.

- d) Create objectionable odors affecting a substantial number of people?

**No Impact.** The proposed project would consist of temporary construction activities only, which would not result in objectionable odors that would affect a substantial number of people.

IV. BIOLOGICAL RESOURCES – Would the project:

- a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

**Less than Significant Impact with Mitigation Incorporated.** The proposed project would consist of the removal and replacement of pavement at the end of Runway 26R and minor surface and joint repairs to the westerly end of the runway. The proposed project does not intend to add additional impervious surface beyond the baseline condition and the only potential disturbance to non-paved areas would occur from the use of the construction staging area which would be located on disturbed habitat.

The proposed project would result in impacts to 3.3 acres of disturbed habitat. This habitat type has the potential to support the burrowing owl (*Athene cunicularia*), which is a California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) and is covered under the City's Multiple Species Conservation Program (MCSP) Subarea Plan. On April 3, May 9, and June 2, 2014, ESA biologists conducted a focused burrowing owl survey of Brown Field that included the project site. All natural burrows and suitable man-made structures that could be used as burrows by burrowing owl were identified, as defined in the *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012). The survey resulted in the identification of 14 active burrows on airport property. Nine burrows were observed to be occupied by a pair of owls, while the remaining five

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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were observed to be occupied by an individual owl. Numerous additional suitable (but unoccupied) burrows were observed throughout the airport. One breeding pair was observed within a 150-meter radius from the project's staging area; approximately 101 meters from the perimeter (see Attachment A). The final survey occurred on June 23. These additional survey results will be incorporated into the Final MND. Based on the survey results, the project could have an indirect temporary impact to burrowing owls in the vicinity of the project. Implementation of Mitigation Measure BIO-1, as further detailed in Section V of the MND, would reduce potential impacts to burrowing owls to less than significant. In addition to the burrowing owl, it is possible that at any given time, migratory birds or small reptiles may forage in the adjacent non-native grasslands within proximity to the project site and staging area. Although mitigation measure BIO-1 is specifically designed to address potential impacts to burrowing owls, in the event that during preconstruction protocol surveys other CDFW SSC migratory birds or small reptiles covered by the MSCP Subarea Plan are present in the APE the project biologist would initiate consultation with CDFW and City Staff to determine appropriate avoidance and minimization efforts to reduce potential direct and/or indirect impacts to below a level of significance.

In addition, the project could result in potential indirect impacts to the watershed associated with vernal pool number BFVP-5. Specifically, construction activities could temporarily impact the northern tip of the watershed associated with (BFVP-5) which exists in the same location as the eastern portion of the existing Runway 8L/26R which will not be changed or expanded; the vernal pool basin is located approximately 1,700 feet to the southeast of the project area; BMP's will be in place to avoid any potential runoff; the temporary impact will occur in an area that is likely not contributing a significant amount of hydrology to the vernal pool basin; and the temporary impact represents less than a sixth (6<sup>th</sup>) of the mapped watershed for BFVP-5. Figures 4 & 5 show the proximity of the vernal pool basin and watershed to the project APE. This impact would be less than significant. The access route for the project will follow an existing taxiway which runs adjacent to BFVP-2. This is an existing condition and no impacts (direct or indirect) to the vernal pool basin or fairy shrimp would result from the access use.

- b) Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- 

**Less than Significant Impact.** The proposed project would be conducted on existing paved surfaces and within a proposed staging area. Work in vegetation communities includes utilizing disturbed habitat just south of Runway 26R, near the air traffic control tower, as a construction staging area to facilitate the removal and replacement of the pavement on the eastern end of the runway and the minor repair of the surface and joints on the western end of the runway. A total of 3.3 acres of disturbed habitat would be impacted during project implementation; however, disturbed habitat is not considered a sensitive vegetation community per the MSCP or the City's Biology Guidelines. There is no riparian habitat located within or adjacent to the project site. As such, impact to riparian habitat or other sensitive plant communities would be less than significant. Please also see IV.a. above.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

**Less than Significant Impact.** The project would not remove or fill federally protected wetlands or other waters of the U.S.; therefore there would be no direct impacts. Wetlands and other waters of the U.S. may be indirectly impacted by construction activities through offsite erosion and/or sedimentation due to ground disturbance if these features are within 250 feet of proposed construction activities. The nearest federal jurisdictional wetland feature is an un-vegetated drainage ditch that parallels Otay Mesa Road, over 300 feet from the proposed staging area. In addition, the project could result in potential indirect impacts to the watershed associated with vernal pool number BFVP-5. Specifically, construction activities could temporarily impact the northern tip of the watershed associated with (BFVP-5) which exists in the same location as the eastern portion of the existing Runway 8L/26R which will not be changed or expanded; the vernal pool basin is located approximately 1,700 feet to the southeast of the project area; BMP's will be in place to avoid any potential runoff; the temporary impact will occur in an area that is likely not contributing a significant amount of hydrology to the vernal pool basin; and the temporary impact represents less than a sixth (6<sup>th</sup>) of the mapped watershed for BFVP-5. Figures 4 & 5 show the proximity of the vernal pool basin and watershed to the project APE. This impact would be less than significant. The access route for the project will follow an existing taxiway which runs adjacent to BFVP-2. This is an existing condition and no impacts (direct or indirect) to the vernal pool basin or fairy shrimp would result from the access use. In addition, the project would implement standard construction BMPs for the term of the project. Therefore, impacts to federally protected wetlands would be less than significant.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

**No Impact.** The project is located on the interior of Brown Field which is surrounded by an eight-foot high perimeter security fence. As such, the project would not have an effect on the movement of fish or wildlife species or impeded the use of any wildlife corridors. Thus, there would be no impact.

- e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

**Less than Significant Impact with Mitigation Incorporated.** The Project is within the City's MSCP Subarea Plan and on Environmentally Sensitive Lands (ESL), as defined in the City's Land Development Code. The Project site is subject to the policies, guidelines, and regulations of the City's MSCP Subarea Plan, the ESL Regulations (Chapter 14, Division 1, San Diego Municipal Code), and the Biology Guidelines. The project has minimized any impact to sensitive biological resources, namely the burrowing owl, by locating and configuring the staging area to the extent feasible, to avoid and minimize any impact to the owl. With the implementation of Mitigation Measure BIO-1, the project would not conflict with local policies and ordinances protecting sensitive biological resources and impacts would be less than significant. Also see IV.b. above.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated.** The project site is located within the City's MSCP Subarea Plan and would be subject to meeting the terms and conditions of the MSCP and associated regulations. The MSCP is a regional plan that seeks to ensure the long-term survival of sensitive plant and animal species and protects the native vegetation found throughout the City. With implementation of Mitigation Measure BIO-1, the project would not be in conflict with the terms, conditions, and provisions of the MSCP as required; and therefore, impacts would be less than significant.

V. CULTURAL RESOURCES— Would the project:

a) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact with Mitigation Incorporated.** The purpose and intent of the *Historical Resources Regulations of the Land Development Code (Chapter 14, Division 3, and Article 2)* is to protect, preserve and, where damaged, restore the historical resources of San Diego. The regulations apply to all proposed development within the City of San Diego when historical resources are present on the premises. CEQA requires that before approving discretionary projects, the Lead Agency must identify and examine the significant adverse environmental effects, which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (Sections 15064.5(b) and 21084.1). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities, which would impair historical significance (Sections 15064.5(b)(1)). Any historical resource listed in, or eligible to be listed in the California Register of Historical Resources, including archaeological resources, is considered to be historically or culturally significant.

As part of the cultural resources assessment for the Metropolitan Airpark Project, a records search of the airport, along with a one-mile buffer, was conducted using the California Historical Resources Information System (CHRIS) at the South Coastal Information Center (SCIC) in accordance with the City's Historical Resources Guidelines. This records search identified 198 previously recorded cultural resources within one mile of the airport. Environmental Science Associates conducted an archaeological field survey in three phases: initial field survey in March, 2010, and extended field surveys in October, 2010 and February, 2011. The SCIC records search revealed that 16 historic architectural resources, consisting of a total of 32 structures, have been previously recorded on the airport. However, no architectural resources were identified within the Runway 26R rehabilitation project area.

Based on the results from the records search and surveys, the project would not have a substantial adverse impact on or a change in the significance of any historical resources. However, based on the potential to impact unknown buried resources along the western end of Runway 26R associated with a former historic-period farmstead, mitigation is required for historical resources. Implementation of the MMRP detailed in Section V of the MND would reduce potential impacts to

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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below a level of significance.

- |                                                                                                               |                          |                                     |                          |                          |
|---------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Less than Significant Impact with Mitigation Incorporated.** As a result of the above referenced records search and archaeological surveys, a total of 19 archaeological resources, including six previously recorded and 13 newly recorded resources, were identified on airport property. This analysis identified one resource that is very near the eastern portion of the Runway 26R rehabilitation project area, the site P-37-031954 (remnants of historic WWII-era runways and taxiways). This resource consists of two segments of the diagonal runways and a segment of a taxiway constructed in 1943 as part of the WWII-era Naval Auxiliary Air Station. The use of the runways was apparently discontinued in the 1950s. The site is recommended not eligible for listing in the CRHR, NRHP, or local register

Archaeological site P-37-031954 is not significant and is not recommended eligible for listing in the CRHR, NRHP, or local register and does not otherwise meet CEQA's definitions for historical resources and unique archaeological resources or the City of San Diego's criteria for significant archaeological sites. Damage to or destruction of this resource would not be a significant impact.

As mentioned above, site P-37-015982, a former historic-period farmstead, is very near the western portion of Runway 26R. No cultural material was recorded at the site; it was recorded because of its potential to yield buried cultural material related to historic farmsteads.

The potential remains for buried resources to be encountered during the reconstruction of the eastern and western portions of the runway. Mitigation Measure HIST-1 requires archaeological monitoring during ground-disturbing activities. Implementation of Mitigation Measure HIST-1 would reduce any impact to less than significant. Mitigation Measure HIST-1 is included in Section V. of the MND, Mitigation, Monitoring, and Reporting Program.

- |                                                                                                         |                          |                          |                                     |                          |
|---------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** The project area is situated on Otay Mesa in the southern portion of San Diego County. Otay Mesa is generally composed of several sedimentary and metavolcanic bedrock units. Otay Mesa is within the Coastal Plain Geomorphic Region of San Diego County. The Coastal Plain Geomorphic Region is characterized by interbedded marine and non-marine sedimentary rock units deposited over the last 140 million years. Brown Field is located on an alluvial deposit (middle to early Pleistocene) consisting of floodplain deposits of gravelly sandy silt and clay. Alluvium deposits are not typically considered sensitive for paleontological resources, nor would project activities extend below the 10-foot-deep threshold used by the City in high paleontological resource sensitivity formations. The potential impact to paleontological resources would be less than significant.

- |                                                                                      |                          |                                     |                          |                          |
|--------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| d) Disturb and human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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**Less than Significant Impact with Mitigation Incorporated.** The project would not disturb known human remains as none are known to exist within the project area. However, since the nature of the

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains.

In the event that human remains are discovered during project activities, all work in the vicinity of the find would be halted until the County Medical Examiner has evaluated the remains, and the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines, Health and Safety Code Section 7050.5, subdivision (c), and PRC 5097.98 (as amended by Assembly Bill 2641) have been followed.

VI. GEOLOGY AND SOILS – Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

**Less than Significant Impact.** The proposed project site lies within a region of California that contains many active and potentially active faults and is considered an area of moderate seismic activity. An "active" fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 11,000 years). A "potentially active" fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. "Sufficiently active" is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

The nearest active fault to the project site is the southern end of the Newport Inglewood/Rose Canyon fault zone, which is approximately 13 miles northwest. The closest potentially active fault, La Nacion fault zone, is located approximately five miles west of the project site. In addition, the Coronado fault zone is located approximately 20 miles west of the site (Krazan & Associates, 2008, 2010).

Implementation of the proposed project, which would rehabilitate the pavement on each end of Runway 26R and replace an existing service road, would not result in the creation of new structures or land uses that would attract a higher, permanent intensification of people at the project site. The construction process is anticipated to last approximately 16 weeks, and construction of the rehabilitated runway ends and replaced service road will meet all applicable design standards for construction in seismic hazard areas (e.g., the California Building Code and FAA Advisory Circular 150/5370-10: Standards for Specifying Construction of Airports). Given the short-term nature of the project and the fact that no new structures are proposed, potential impacts to people or new structures associated with the possible rupture of a known fault, such as the Newport Inglewood/Rose Canyon fault would be less than significant.



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than Significant Impact.** As described in the last impact statement, there are numerous active faults in Southern California that have experienced significant seismic activity within historic times. This area of California is one of the most seismically active areas in the United States. According to the US Geological Survey, there is a 97 percent chance that a magnitude 6.7 earthquake will occur in southern California by 2037 (Krazan & Associates, 2008, 2010).

The proposed project would not expose people or structures to substantial effects from strong seismic ground shaking due to the fact the project involves replacing existing paved areas and service roadway. Given the temporary nature of the project and the absence of any new structures that would result from the proposed project, impacts related to strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** According to the geotechnical reports prepared Krazan & Associates, the depth to groundwater and composition of subsurface materials indicate a low potential for liquefaction (Krazan & Associates, 2008, 2010). Given that the proposed project would result in temporary construction activities leading to the replacement/rehabilitation of certain existing paved areas at Brown Field, including both ends of Runway 26R and a service road, potential impacts from seismic-related ground failure, including liquefaction, are considered less than significant.

iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** The project site is characterized by very gently sloping topography. Implementation of the proposed project would replace/rehabilitate existing paved areas at various locations at Brown Field; as such, disturbance to non-paved areas would be temporary and limited to the location of the proposed construction staging area located east of the main aircraft parking apron. Potential landslides induced by erosion would be avoided through the application of project BMPs identified in Table 1, as further described on page 2 of the Initial Study Checklist. Given the existing topography and the fact that the proposed project is primarily disturbing existing, paved surfaces, impacts related to landslides induced by project activities would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** Implementation of the proposed project would involve the replacement and rehabilitation of existing paved areas at Brown Field. Minimal disturbance to non-paved areas would occur primarily as a result of the use of a construction staging area. The replacement and rehabilitation of pavement on both ends of Runway 26R and the existing service road would not result in erosion or the loss of topsoil. Application of project BMPs as described in Table 1, as further described on page 2 of the Initial Study Checklist, would ensure that erosion and loss of topsoil is minimized. Therefore, overall impacts resulting from soil erosion or the loss of topsoil would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

**Less than Significant Impact.** The project site has very gentle sloping topography that has a very low potential for landslides or slope failure. Furthermore, the depth to groundwater and composition of subsurface materials in the area indicate a low potential for liquefaction (Krazan & Associates, 2008, 2010). Given the nature of the proposed project, which primarily disturbs existing paved areas at Brown Field, and the fact that the project site does not contain the type of characteristics that would be associated with landslides, potential impacts result from on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

**Less than Significant Impact.** Subsurface soils in and around the project site consist of moderately dense, silty clay alluvium known as Terrace Deposits which are underlain by the bedrock Otay Formation. These soils are classified as having "high" to "very high" potential for expansion (Krazan & Associates, 2008, 2010). Typically, soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection. Here, the proposed project would expose a thin layer (no more than 26 inches in depth) of subsurface soils, as a result of rehabilitation of Runway 26R, as well as the replacement of an existing service road. These areas would be graded and repaved, returning these areas to pre-project conditions. Disturbance of non-paved areas would be restricted primarily to the proposed construction staging area, and would not affect subsurface soils. Therefore, despite the project site containing soils that generally have a high potential for expansion, risks to life or property as a result of implementation of the proposed project would be less than significant.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

**No Impact.** The proposed project does not involve the use or installation of septic tanks or alternative waste water disposal systems. There is no impact.

VII. GREENHOUSE GAS EMISSIONS – Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

**Less than Significant Impact.** The City of San Diego does not currently have adopted thresholds of significance for GHG emissions. The City utilizes the California Air Pollution Control Officers Association (CAPCOA) report *CEQA and Climate Change* dated January 2008 as an interim approach to determine whether a detailed greenhouse gas (GHG) analysis would be



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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required, with 900 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>E) as the established screening threshold. This emission level is based on the amount of vehicle trips, typical energy and water use, and other factors associated with projects. CAPCOA identifies project types that are estimated to emit approximately 900 MTCO<sub>2</sub>E of GHGs annually. Projects that meet the criterion are not required by the City to prepare a detailed Business as Usual (BAU) GHG technical analysis report.

Operational sources of GHG emissions would be substantially similar to existing operational sources. The project would not result in an increase in aircraft traffic as measured in average daily trips (ADT), energy consumption, or water usage. No GHG emissions impact from operation of the proposed project would be expected.

The proposed project would, however, result in construction-related emissions. The project's duration is expected to be four months. Construction means and methods would ultimately be decided by the contractor, but the anticipated construction process is as follows: 1) remove existing 50 ft of PCC closest to the shoulders and excavate fill material up to 26 inches below grade, 2) build back up AC section to proposed grade, 3) rubbilize existing PCC in middle 50 feet of runway, 4) build up variable depth AC base layer, and 5) construct AC surface layer with a crown on centerline and matching grades at the AC previously placed on the outer 50 feet. Assuming the project's duration and construction method, the type and amount of heavy duty construction equipment, haul trucks, and worker commute trips can be anticipated. Taking into account schedule, equipment, and construction method, the proposed project would produce a total of 228.6 ~~272.7~~ MTCO<sub>2</sub>E. Emissions would be less than the 900 MTCO<sub>2</sub>E screening threshold criteria, and therefore, impacts would be less than significant.

- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Less than Significant Impact.** Refer to VII(a), above, regarding discussion of project-related GHG emissions. The City of San Diego General Plan Conservation Element and the San Diego Sustainable Community Program aim to reduce state and local GHG emissions.

The City also recently released the *City of San Diego Climate Action Plan Working Draft* (City of San Diego, 2014) that establishes a Citywide GHG inventory baseline for the year 2010, as well as measures to meet reduction targets of 15 percent below the 2010 baseline by 2020 and 49 percent below the 2010 baseline by 2035. The City's strategies to achieve these reduction targets include (1) Energy and Water Efficient Buildings; (2) Clean and Renewable Energy; (3) Biking, Walking, and Transit; (4) Zero Waste; and (5) Climate Resiliency.

The project consists of runway end improvements, replacing an existing service road, and milling/overlaying an existing runway shoulder and is estimated to take six months to complete. The project would not result in long-term GHG emissions. Therefore, the project would not conflict with any adopted GHG reduction plans, policies, or regulations. In addition, as discussed above under Section VII(a), the project would result in less than 900 MTCO<sub>2</sub>E net increase in GHG emissions. This impact would be less than significant.

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

- a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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**Less than Significant Impact.** Implementation of the proposed project would result in the temporary use of a fuel truck, paint truck, and other construction vehicles (as identified in the project description at the beginning of this Initial Study). With the exception of trucks that may transport some debris away from the project site, construction vehicles are anticipated to remain on-site at the construction staging area for the duration of the project. Any movement of vehicles transporting or disposing of hazardous materials to and from the project site will be short term, and will cease upon completion of construction activities. Therefore, potential impacts associated with the routine transport, use, or disposal of hazardous materials as a result of the proposed project would be less than significant.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
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**Less than Significant Impact.** The project site is located within areas adjacent to the airside facilities of Brown Field that include various uses such as commercial, light industrial, and ancillary aviation uses such as fueling and repair services. Many of these existing and former land uses have handled hazardous materials and wastes in varying quantities (Brown and Caldwell, 2008). Implementation of the proposed project would result in the replacement and rehabilitation of paved areas at the ends of Runway 26R. Replacement of paved surfaces would involve the removal of existing asphalt, grading, and re-paving. Accidental discovery or release of subsurface hazardous materials in these locations is unlikely given the fact that these areas have been previously disturbed and paved.

Construction activities would require the use of certain hazardous materials (e.g., fuels, paints, solvents) that, if improperly used and inadvertently released, could result in temporary hazardous conditions to workers or the public. However, the hazardous materials typically used on a construction site are brought onto the site packaged in consumer quantities and used in accordance with manufacturer recommendations. The overall quantities of these materials on the site at one time do not result in large bulk amounts that, if spilled, could cause significant adverse effects to human health. Spills of hazardous materials on construction sites are typically localized and are cleaned up in a timely manner. The construction contractor is responsible for his/her hazardous materials and is required under their contract to properly store and dispose of these materials in compliance with state and federal laws.

Given the localized nature of construction activities and the low likelihood of encountering subsurface hazardous materials in areas that have previously been disturbed by past construction activities, potential impacts resulting from the upset or accidental release of hazardous materials resulting from the proposed project would be less than significant.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
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**No Impact.** The project is not located within one-quarter mile of an existing or proposed school. There is no impact.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than Significant Impact.** A review of available environmental databases maintained by the State Water Resources Control Board (SWRCB) and Department of Toxic Substances Control (DTSC) for sites that have been impacted by leaking underground storage tanks (LUST), non-fuel related cases known as Spills, Leaks, Investigative Cleanup (SLIC), and other cleanup sites was conducted for the project site and surrounding area. Table 2 summarizes active cleanup sites in the vicinity of the proposed project.

Site Name	Address	Cleanup Status	List
SDCTY-Gen Ser, Brown Field	1424 Continental Street, San Diego, CA 92154	Open – Site Assessment as of 1/20/2010	LUST
R Family Properties	935 Heritage Road, San Diego, CA 92154	Open – Site Assessment as of 4/10/2012	SLIC
San Diego Air Force Space Surveillance Station	989 Heritage Road, San Diego, CA 92154	Active – Remedial Investigation	SLIC
Brown Field NAAS	N/A	Inactive – Needs Evaluation	SLIC

Source: SWRCB GeoTracker, 2014; DTSC EnviroStor, 2014.

The sites listed in Table 2 are not located in the immediate vicinity of areas where proposed pavement removal and rehabilitation are to occur. Given the absence of known hazardous material sites in the locations where construction activities would occur, potential impacts associated with creating a significant hazard to the public or environment would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** San Diego County Regional Airport Authority (SDCRAA), which serves as the Airport Land Use Commission (ALUC) for San Diego County, has established an airport land use compatibility plan (ALUCP) for Brown Field. The basic function of an ALUCP is to promote compatibility between airports and the land uses that surround them "to the extent that these areas are not already devoted to incompatible uses" (Public Utilities Code §21674(a)).

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Various components of the proposed project would be located within Zone 1 (rehabilitation to each end of Runway 26R) and Zone 5 (construction staging area and replacement of existing service road), as defined by the ALUCP (SDCRAA, 2010). Implementation of the proposed project would result in temporary, construction-related activities within these zones, but would not create land uses that would lead to the permanent intensification (additional people per acre) of the project site. Given that the proposed project merely rehabilitates existing runway pavement and a service road and does not create new land uses at the project site, potential safety hazards for people residing or working in the area would be less than significant.

Construction of the proposed project would lead to the temporary closure of Runway 26R, resulting in the diversion of aircraft to Runway 8R-26L during this period. Construction activities have the potential to interfere with aircraft operating at Brown Field through the creation of dust or smoke, which may impair a pilot's vision or views of the airfield, or otherwise obstruct airspace. Standard dust control BMPs (e.g., water spray down) would be utilized to the greatest extent feasible to limit the generation of dust on the project site. Other obstructions to navigable airspace from construction activities are not anticipated given that the equipment that would be used have low profiles, and should not penetrate Brown Field's imaginary surfaces (as defined by Federal Aviation Regulation (FAR) Part 77: Safe, Efficient Use, and Preservation of the Navigable Airspace). Nevertheless, in order to further avoid safety issues associated with construction activities on an active airfield, and as part of the project, the construction contractor will coordinate with airport management to inform them of planned construction activities. These updates will occur on a weekly basis or as construction phasing warrants, and appropriate information regarding construction activities will be posted by airport management in locations accessible to pilots and also shared with air traffic control. As such, safety hazards to people in the project area would be less than significant.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** There are no private airstrips in the vicinity of the proposed project site. Therefore, there are no impacts.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** Construction activities associated with the proposed project take place entirely within the confines of Brown Field. While trucks and construction vehicles will deliver materials to and transport debris away from the project site, all other construction activities would remain localized to the confines of the Airport's property boundary. Given the fact that construction activities will be confined to Brown Field and that use of local roadways for movement of construction vehicles and equipment will be temporary, potential impacts associated with the impairment or interference of an adopted emergency response or evacuation plan would be less than significant.

- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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adjacent to urbanized areas or where residences are intermixed with wildlands?

**Less than Significant Impact.** According to the San Diego County Multi-Jurisdictional Hazard Mitigation Plan, the project site is in a very high risk category for wildland fire hazards (San Diego County, 2010). The project site is currently served by City of San Diego Fire Station No. 43, which is located just east of Brown Field. Given the fact that the proposed project would result in short-term construction activities and that it would not introduce new structures to the project site, potential impacts associated with exposing people to significant risk of loss, injury, or death involving wildland fires would be less than significant.

IX. HYDROLOGY AND WATER QUALITY – Would the project:

- a) Violate any water quality standards or waste discharge requirements?

**Less than Significant Impact.** The proposed project would comply with all storm water quality standards during and after construction, and would implement appropriate BMPs. All standard development projects in the City of San Diego are also subject to source control, construction, as specified in the City of San Diego's Stormwater Standards Manual. Implementation of the proposed project would replace existing paved areas associated with Runway 26R and a service road located south of the runways. Pavement rehabilitation and/or replacement activities would not create additional impervious surfaces at the project site beyond what is currently present in the existing condition; therefore, increased runoff would not occur as a result of the proposed project.

Unprotected construction sites have the potential to discharge sediment and other pollutants into local waterways. All construction projects are required to reduce pollution to the maximum extent practicable by implementing best management practices (BMPs). The proposed project pavement removal and replacement activities would be minimal (less than one acre) and very localized; however, the activities would necessitate temporary exposure of soil which, if left uncovered, could result in sedimentation in the event of rain. In addition fuels, oils, lubricants, and other hazardous substances would be used during construction and if these substances are unmanaged, or in the event of an accidental spill, these substances could be released and impact water quality. The proposed project would include implementation of source control and erosion control BMPs during construction of the proposed project to prevent sediment and/or hazardous materials and substances from leaving the project site. Erosion control BMPs, such as scheduling during the non-rainy season and preservation of existing vegetation, would prevent the exposure of soil to water and reduce the threat of erosion during construction. The proposed project would also implement sediment control BMPs, such as sandbags and fiber rolls, to trap any sediment that mobilizes on-site, thereby preventing siltation from occurring.

The City requires a Water Pollution Control Plan (WPCP), a Minor Water Pollution Control Plan (MWPCP) or a Storm Water Pollution Prevention Plan (SWPPP), for all construction projects that have potential for storm water pollution. A Water Pollution Control Plan (WPCP) is required when project sites are less than one acre and exempt from the Statewide Construction General Permit. The City of San Diego will evaluate the adequacy of the owner/contractor's construction site management for storm water pollution prevention, inclusive of BMP implementation.

Given the above considerations, the proposed project would not violate any water quality standards or waste discharge requirements, and impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.** The project site is underlain by the Tijuana Groundwater Basin. The proposed project does not involve the use of groundwater. While the proposed project involves some grading activities associated with the replacement of pavement at the end of Runway 26R and the replacement of an existing service road, grading activities are not anticipated to reach subsurface depths greater than 26 inches. In addition, no impervious surfaces would be added over and above what exists. Therefore, no impacts to existing groundwater supplies or quality will occur as a result of the proposed project.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** Implementation of the proposed project would involve rehabilitating or replacing existing paved areas at Brown Field associated with Runway 26R and a service road located south of the runways. These project elements would not add additional impervious surface to the project site, and as such, post-project drainage patterns will be returned to pre-project conditions upon completion of construction work. Potential alterations to the existing drainage pattern at the proposed construction staging area would be avoided through standard erosion control measures typically employed in construction projects (e.g., use of fiber rolls and silt fences to reduce runoff and sediment from leaving the site during storm events; or stabilizing construction entrances to reduce the tracking of mud and dirt onto public roads). Given that the proposed project would add no new impervious surfaces to the project site and that BMPs would be employed for non-paved construction staging areas to avoid altering the existing drainage pattern, potential impacts would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Less than Significant Impact.** As explained in Section IX(c), construction of the proposed project would not result in the creation of new impervious surfaces at the project site, nor would it

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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affect non-paved areas such that the existing drainage pattern would be substantially altered or the rate of surface runoff increased. Furthermore, the proposed project would not impact or alter the course of the closest river (Otay River), which is located a quarter-mile north of the project site. Therefore, potential impacts would be less than significant.

- |                                                                                                                                                                                        |                          |                          |                                     |                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** As described previously, rehabilitation and/or replacement of existing paved areas would not result in the creation of additional impervious surfaces at Brown Field. Therefore, post-project runoff rates would not exceed pre-project conditions. As such, potential impacts to Brown Field's and the City of San Diego's on- and off-site existing stormwater drainage systems would be less than significant.

- |                                                   |                          |                          |                                     |                          |
|---------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** See sections IX(a)(c)(d) and (e).

- |                                                                                                                                                                      |                          |                          |                          |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** Implementation of the proposed project does not involve the construction of housing, therefore there is no impact.

- |                                                                                                     |                          |                          |                          |                                     |
|-----------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| h) Place within a 100-year flood hazard area, structures that would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-----------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The nearest flood zone is located approximately one quarter mile north of the project site, along the Otay River. One hundred-year flood heights along the waterway, in the vicinity of the project site, range from approximately 150 to 180 feet above mean sea level (msl). However, the project site is located on Otay Mesa, approximately 400 feet above mean sea level (amsl), well above this flood zone. As such, the site is not located within a FEMA-defined 100-year flood zone and construction of the proposed project would not impede or redirect flood flows. There would be no impact.

X. LAND USE AND PLANNING – Would the project:

- |                                                |                          |                          |                          |                                     |
|------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The closest community to the project site is the Robinhood Ridge neighborhood, which is located approximately .35-mile northwest of the project site and is associated with the northwest district of the Otay Mesa Community Plan. Construction of the proposed project would occur entirely within the boundaries of Brown Field, and therefore would not result in the division



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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of an established community. There would be no impact.

- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**No Impact.** Relevant land use planning documents applicable to Brown Field and the project site include the 1980 Brown Field Airport Master Plan, the Brown Field ALUCP, the Airport Layout Plan (ALP) for Brown Field, the City of San Diego General Plan, and the Otay Mesa Community Plan.

Implementation of the proposed project would replace or rehabilitate existing paved areas at Brown Field, including both ends of Runway 26R and an existing service road located south of the air traffic control (ACT) tower. These project components would not add additional or new structures to the project site, but would rather improve existing features. Similarly, these rehabilitative actions would not alter existing operations at Brown Field, but would rather improve conditions for those aircraft currently using the airport. No other features or structures would be added to the project site, therefore, the proposed project would not be inconsistent or otherwise alter the function and purpose of Brown Field as envisioned in the Brown Field Airport Master Plan, the City's General Plan, or the recently adopted Otay Mesa Community Plan Update.

Furthermore, as more fully discussed in Section VIII(e), the proposed project would not be inconsistent with the ALUCP or the ALP for Brown Field, given the fact that the project would not add new structures or otherwise intensify the number of people utilizing the project site beyond the temporary construction period. Therefore, the proposed project is considered consistent with the compatibility guidelines of the Brown Field ALUCP and the general land use designations on the ALP.

The proposed project would be consistent with the City of San Diego Land Development Code (LDC) Environmentally Sensitive Lands, Historical Resources, and Storm Water Regulations. Although the project staging area is located in the vicinity of burrowing owls, the land surrounding the staging area consists of disturbed habitat, which is not environmentally sensitive land per the LDC. Still, Mitigation Measure BIO-1 addresses any potential impact to burrowing owls. Mitigation Measure HIST-1 ensures compliance with LDC Historical Resources Regulations by requiring monitoring in an area with potential to unearth historical or archaeological resources. Implementation of the proposed project would replace existing paved areas associated with Runway 26R and a service road located south of the runways. It would comply with City of San Diego Storm Water Regulations.

Given the proposed project's consistency with applicable land use plans and regulations of the LDC, as described above, there would be no impact.

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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**Less than Significant with Mitigation Incorporated.** The project site is located within the City's MSCP Subarea Plan and would be subject to meeting the terms and conditions of the MSCP and associated regulations. The MSCP is a regional plan that seeks to ensure the long-term survival of sensitive plant and animal species and protects the native vegetation found throughout the City. With implementation of Mitigation Measure BIO-1, the project would not be in conflict with the terms, conditions, and provisions of the MSCP as required; and therefore, impacts would be less than significant.

XI. MINERAL RESOURCES – Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

**Less Than Significant Impact.** As per the City of San Diego General Plan Program Environmental Impact Report, the City has designated Mineral Resource Zones that meet the California Mining and Geology Board's standards for mineral resources in the region (City of San Diego 2007a). The project site and the area surrounding the project site contain land that is classified as MRZ-3—areas containing mineral deposits, the significance of which cannot be evaluated from available data (Ibid). To the north, the Otay River and its surrounding basin is labeled MRZ-2—areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence (City of San Diego 2007b)—however, the Otay River is located approximately one mile directly north of the project site. The construction and repair of Runway 26R would not result in any loss of a known mineral resource of value to the region or residents of the state; this impact would be less than significant.

- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

**Less Than Significant Impact.** As mentioned in Section XI(a), there are mineral resources either on the project site or near the project site, but their classification as MRZ-3 indicates that the significance of their deposits cannot be evaluated from available data. While the Otay River has been identified as MRZ-2, the proposed project would not affect that area. The rehabilitation of Runway 8L-26R would not result in the loss of a known mineral resource of value to the region or residents of the state; this impact would be less than significant.

XII. NOISE – Would the project result in:

- a) Generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

**Less than Significant Impact.** The project would result in potential increased noise exposure of sensitive receptors in the vicinity during the short-term construction activities. Per Section 21.04 of the San Diego Municipal Code, it is unlawful for any person, between the hours of 7:00 pm of any day and 7:00 am of the following day, or on legal holidays, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Control Administrator. Except as provided above, it is unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dBA during the 12-hour period from 7:00 am to 7:00 pm.

Sensitive receptors in the immediate vicinity of the project site include residential uses to the west of the project, the closest of which are located approximately one-half mile from the western end of the Brown Field Runway. Excavation and finishing activities, at 89 dBA Leq at 50 feet (U.S. EPA, 1971), would likely be the loudest phases of project construction. At 0.5 mile away, assuming an attenuation of 7.5 dBA per doubling distance, the nearest residences would be exposed to 46 dBA Leq from project construction activities. Construction noise at these levels would comply with the City's CEQA significance threshold of 75 dBA Leq, and therefore would not be considered significant. Other sensitive receptors located further away from construction would be exposed to construction noise at incrementally lower levels.

In regards to operations, there would be no long-term sources of noise associated with the project. Therefore, the project would not conflict with the noise standards in the City General Plan or Noise Abatement and Control Ordinance. There would be no operational noise impact.

- |                                                                                  |                          |                          |                          |                                     |
|----------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Generation of, excessive ground borne vibration or ground borne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The project would not include construction activities that would result in substantial levels of ground borne vibration or noise, such as blasting or pile driving. As such, and based on the substantial distance to the nearest sensitive receptors, the project would not result in people being exposed to excessive ground borne vibration and ground borne noise. No impact would occur.

- |                                                                                                                                |                          |                          |                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** As discussed for criterion XII(a), there would be no long-term, permanent sources of noise associated with the project. No impact would occur.

- |                                                                                                                                     |                          |                          |                                     |                          |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
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**Less than Significant Impact.** As discussed in Section XII(a), the project would result in short-term, temporary noise during construction activities. However, this impact would be less than significant.

- |                                                                                                                                                                                                                                                             |                          |                          |                                     |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport would the project expose people residing or working in the area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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**Less than Significant Impact.** The project consists of runway end improvements, replacing an existing service road, and milling/overlaying an existing runway shoulder at the Brown Field Airport. Construction contractors would be required to comply with all applicable OSHA noise standards to protect workers' hearing. As such, the project would not expose people residing or working in the area to excessive noise levels. No impact would occur.

- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The project would not be in the vicinity of a private airstrip. No impact would occur.

**XIII. POPULATION AND HOUSING – Would the project:**

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less Than Significant Impact.** The zoning for areas surrounding the site is predominantly industrial and commercial, with some residential uses located further to the west and northwest of the project site. No new development—residential, commercial, or otherwise—would result from implementation of the proposed project. Although the proposed project would generate approximately sixteen to twenty temporary, construction-related jobs (HNTB, 2014), the labor would be locally sourced and would not cause any migrations for employment. The construction and repair of Runway 26R would not induce substantial population growth, thus the impact would be less than significant.

- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
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**No Impact.** The proposed project would not displace any developments, housing or otherwise, as the proposed project work would be contained within the boundaries of Brown Field. No displacement of housing would occur, thus there is no impact.

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** The proposed project would similarly not displace any people, as the project work would be contained on-site and would not affect any households or populations in the vicinity of Brown Field. No displacement of people would occur, thus there is no impact.

**XIV. PUBLIC SERVICES**

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				

- i) Fire Protection

**No impact.** Station 43 of the San Diego Fire Department is located on 1590 La Media Road, directly neighboring the southeastern corner of Brown Field (San Diego Fire-Rescue Department, 2014). All construction activities associated with the proposed project would occur on-site, therefore the proposed project would not result in any direct, adverse physical impacts to the fire station or its capabilities. Furthermore, implementation of the proposed project would not increase the use of Brown Field or otherwise increase the population surrounding the project site served by Station 43. Therefore, no new fire protection facilities would be required as a result of the proposed project. Lastly, given that all construction activity will occur within the boundaries of Brown Field (with the exception of trucks occasionally delivering materials and hauling debris away from the project site) and will not affect surrounding roadways, fire protection service and response times will not be affected. Thus, there is no impact.

- ii) Police Protection

**No impact.** The Otay Mesa neighborhood is serviced by the Southern Division of the San Diego Police Department (San Diego Police Department, 2013), located at 1120 27<sup>th</sup> Street and about seven miles to the west of the project site. The Southern Division serves 107,631 people and encompasses 31.5 miles (San Diego Police Department 2014). With all of the construction activities occurring on-site, the project would not result in any direct, adverse physical impacts to the Southern District or its capabilities. Furthermore, the proposed project would not generate population growth or create new development in the project area that would require expanded police protection services. Lastly, given that all construction activity will occur within the boundaries of Brown Field (with the exception of trucks occasionally delivering materials and hauling debris away from the project site) and will not affect surrounding roadways, police protection service and response times will not be affected. Therefore, there is no impact.

- iii) Schools

**No impact.** The Otay Mesa neighborhood is serviced by San Ysidro School District for elementary and middle schools (San Ysidro School District, 2013) and Sweetwater Union High School District for high schools (Sweetwater Union, 2014, N.D.A., N.D.B.). All schools that are near the project site are located to the north and west of Brown Field, with the two closest schools, San Ysidro High School and Ocean View Hills School, both located approximately 1.5 miles west of the project site. With all of the construction activities occurring on site, the project would not result in any direct, adverse physical impacts to the local schools or their capabilities. Nor would the proposed project result in population growth that would require the expansion of existing schools or the construction of new ones. Thus, there is no impact.

- v) Parks

**No impact.** There is one major park, Pacific Gateway Park, located southwest of the project site, along with the Otay River greenbelt to the north. With all of the construction activities occurring on-site, the proposed project would not result in any direct, adverse physical impacts to the park and its capabilities or the Otay River. Similarly, the proposed project would not induce substantial population growth in the vicinity of the project site, therefore the expansion of existing parks or the construction of new ones would not be required. Thus, there is no impact.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
vi) Other public facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.** The project would not induce growth or impact existing public facilities except to resurface Runway 26R, as noted in the project description. As such, the project would not contribute to increased demand for public services. Therefore, the project would have no impact on the need for future public facilities. No impact would occur.

#### XV. RECREATION

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No impact.** The closest public park to the project site is Pacific Gateway Park. The proposed project involves the rehabilitation of existing runway pavement and service roadway within the boundaries of Brown Field; therefore, it would not increase the use of existing neighborhood or regional parks and recreational facilities. As such, the proposed project would not increase usage of Pacific Gateway Park or any other nearby recreational resources so as to cause any physical deterioration. Thus, there is no impact.

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No impact.** As previously mentioned in Section XV(a), the proposed project would not increase the use of the neighboring recreational resources. Furthermore, the proposed project would not require the expansion of existing facilities or the construction of new ones. There is no impact.

#### XVI. TRANSPORTATION/TRAFFIC -- Would the project:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** Primary roadways serving Brown Field include Continental Street, Olay Mesa Road, and Britannia Boulevard. Regional access to the project area is provided via State Route 905. Implementation of the proposed project would result in construction vehicles and equipment accessing Brown Field on a daily basis (weekends excluded) for approximately 16

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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weeks. During this timeframe, anywhere from nine to 16 construction workers will be traveling to and from the project site, depending on the phase of development. Equipment and vehicles needed for multiple days may also be kept on-site in the construction staging area, reducing additional trips on local roadways. Following completion of construction of the proposed project, vehicle trips on local roadways will return to pre-project conditions. Given the low number of workers anticipated for construction of the proposed project, as well as the temporary nature of proposed construction activities, impacts to applicable plans, ordinances, or policies establishing level of service standards for roadways in the vicinity of the project site would be less than significant.

- b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** See response to Section XVI(a).

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** Rehabilitation and replacement of pavement on either end of Runway 26R will result in the temporary closure of this runway. During this period, all aircraft operating (arriving or departing) at Brown Field will be diverted to Runway 8R-26L. Aircraft utilizing this runway will be required to operate according to the existing procedures that are published for Brown Field and this specific runway. Therefore, while the proposed project would result in the temporary closure of Runway 26R, overall changes to the standard air traffic pattern would not occur and potential safety risks would be less than significant.

- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

**No Impact.** Implementation of the proposed project would result in the rehabilitation and/or replacement of existing paved areas at the ends of Runway 26R and the replacement of an existing service road located west of the ATC. The replacement service road and runway ends will be reconstructed pursuant to applicable standards set forth by the City of San Diego as well as the FAA. Therefore, no impacts related to hazardous design features will occur as a result of the proposed project.

- e) Result in inadequate emergency access?
- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Less than Significant Impact.** The proposed project would be contained entirely within the boundaries of Brown Field. Replacement and rehabilitation of the existing paved areas as detailed in the project description would not interfere with emergency access to Brown Field or

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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critical areas (e.g., runways or parking aprons) on the airfield itself. Work on the existing service road would limit access points to the ATC, however, emergency vehicles could still access that facility from an alternative entry point to the east of the tower. Following completion of construction activities, full access capabilities would be restored to all areas on the airfield. Therefore, this impact would be less than significant.

- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**No Impact.** All project activities would occur on Airport property and would not involve public transit, bicycle or pedestrian facilities. There would be no impact.

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** Implementation of the proposed project, which involves the replacement or rehabilitation of paved areas at Brown Field, would not result in the increased generation of waste water at the project site. There would be no impact.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** The proposed project does not involve the construction or use of facilities that require water or waste water connections. Therefore, the expansion of existing water and waste water facilities or the construction of new ones is not required. There would be no impact.

- c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** Construction of the proposed project would involve the replacement or rehabilitation of the ends of Runway 26R and an existing service road located west of ATC. The rehabilitation or replacement of these paved areas would not result in the creation of additional impervious surfaces beyond what currently exists. Furthermore, areas that are re-paved as a result of the proposed project would continue to utilize existing storm water facilities. Therefore, there would be no project impact associated with the expansion of existing storm water facilities or the construction of new ones.



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.** The proposed project does not involve the construction of new facilities that would increase water usage at the project site. Rehabilitation or replacement of existing paved areas at Brown Field would not require new or expanded entitlements from the airport's water supplier; therefore, there would be no impact.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------

**No Impact.** Implementation of the proposed project would not result in the increased generation of waste water at the project site. Given that post-project waste water generation will be the same as pre-project conditions, implementation of the proposed project would not impact the current capacity of the waste water treatment facility serving the project site. There would be no impact.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
------------------------------------------------------------------------------------------------------------------------	--------------------------	--------------------------	-------------------------------------	--------------------------

**Less than Significant Impact.** Otay Landfill is the nearest solid waste facility to the project site, and is located in the unincorporated area of San Diego County, approximately two miles northwest of the Project. The Otay Landfill has a maximum permitted throughput of 5,830 tons per day and a maximum permitted capacity of 691,154,000 cubic yards. As of March 31, 2012, Otay Landfill had a remaining capacity of 24,514,904 cubic yards (Cal Recycle, 2014).

Implementation of the proposed project is anticipated to generate debris related to the replacement of pavement at the end of Runway 26R and from the replacement of an existing service road. While the proposed project is expected to generate some amount of waste that will be diverted to the local landfill, a portion of the existing PCC will be reused through rubblelization, a technique that reduces existing concrete to rubble for reuse in its current location. Given the above considerations, the proposed project is not expected to generate large amounts of debris that would affect the permitted capacity of the Otay Landfill. Therefore, this impact would be less than significant.

g) Comply with federal, state, and local statutes and regulation related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**No Impact.** Any solid waste generated during construction related activities would be recycled or disposed of in accordance with all applicable local, state, and federal regulations. (Also see Section XVII(f)). There would be no impact.



Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

**Less than Significant Impact with Mitigation Incorporated.** The purpose of the proposed project is to rehabilitate or replace existing paved areas of Runway 26R at Brown Field. In this light, the proposed project would have a minimal effect on the natural environment. Nevertheless, as discussed in Section IV(a), Biological Resources, the proposed project would have the potential to impact sensitive biological resources, namely, the burrowing owl. Implementation of Mitigation Measure BIO-1 would ensure that impacts to the burrowing owl would be reduced to less than significant.

Furthermore, proposed improvement of existing paved areas at the project site would not result in land form alterations different from what is existing in the pre-project condition. There are no known archaeological sites that would be impacted by the project. However, there is the potential for the discovery of subsurface archaeological resources during the course of removing the existing pavement on the eastern end of Runway 26R. Implementation of Mitigation Measure HIST-1 would reduce any potential impacts to archaeological resources to less than significant. As the depth of excavation would not exceed 26 inches, no impact to paleontological resources is anticipated.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable futures projects)?

**Less than Significant Impact.** Implementation of the proposed project primarily affects areas within the project site that are paved (runway, and service roads) or contain disturbed lands (staging area). Other impacts associated with the proposed project, including emissions, noise, and traffic generated by construction activities, would be temporary, largely localized to the project site itself, and less than significant. Given the temporary nature of the proposed project in both its implementation and impacts, any contribution it would have to a cumulatively considerable impact on the environment is considered less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than Significant Impact.** Implementation of the proposed project would have less-than-significant effects on resource areas such as air quality, noise, and traffic. Any impacts associated with these and other issues that may adversely affect humans would be minimal and temporary in duration. Furthermore, rehabilitation of Runway 26R would improve the safety of the air traveling public utilizing Brown Field. Therefore, potential adverse effects on human beings as a result of the proposed project would be less than significant.

**Initial Study Attachments**

Attachment A. Memorandum dated June 3, 2014 from Joe Henry. Brown Field Airport Burrowing Owl Protocol Survey.

## INITIAL STUDY CHECKLIST

### REFERENCES

#### I. Aesthetics / Neighborhood Character

- City of San Diego General Plan.
- Community Plans: Otay Mesa Community Plan
- Local Coastal Plan.
- Site Specific Report: Caltrans, 2014. "California Scenic Highway Mapping System: San Diego County," *Caltrans website*, accessible at [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/sdiego.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/sdiego.htm), Accessed 6/4/2014.

#### II. Agricultural Resources & Forest Resources

- City of San Diego General Plan
- U.S. Department of Agriculture, Soil Survey - San Diego Area, California, Part I and II, 1973
- California Agricultural Land Evaluation and Site Assessment Model (1997)
- Site Specific Report: City of San Diego, 2009. Official Zoning Map – Grid Tile: 7.  
City of San Diego, 2014. "Purpose of the AR (Agricultural—Residential) Zones," City of San Diego Municipal Code. §131.0303.  
California Department of Conservation. 2013a. "Sheet 1 of 2 [West]," San Diego County Important Farmland 2010.  
California Department of Conservation. 2013b. "Sheet 1 of 2 [West]," San Diego County Williamson Act 2013/2014.

#### III. Air Quality

- California Clean Air Act Guidelines (Indirect Source Control Programs) 1990
- Regional Air Quality Strategies (RAQS) - APCD
- Site Specific Report: HNTB, 2014. Estimated Construction Crews and Equipment Used to Calculate Construction Emissions – Submittal Memo. April 29, 2014.

#### IV. Biology

- City of San Diego, Multiple Species Conservation Program (MSCP), Subarea Plan, 1997
- City of San Diego, MSCP, "Vegetation Communities with Sensitive Species and Vernal Pools" Maps, 1996
- City of San Diego, MSCP, "Multi-Habitat Planning Area" maps, 1997
- Community Plan - Resource Element

- California Department of Fish and Game, California Natural Diversity Database, "State and Federally-listed Endangered, Threatened, and Rare Plants of California," January 2001
- California Department of Fish & Game, California Natural Diversity Database, "State and Federally-listed Endangered and Threatened Animals of California," January 2001
- City of San Diego Land Development Code Biology Guidelines
- Site Specific Report: Memorandum dated June 3, 2014 from Joe Henry, Brown Field Airport Burrowing Owl Protocol Survey; Sage Institute, 2011, Metropolitan Airpark Project 2011 Biology Survey Report, October 28, 2011. Revised by ESA, February 2013.

**V. Cultural Resources (includes Historical Resources)**

- City of San Diego Historical Resources Guidelines
- City of San Diego Archaeology Library
- Historical Resources Board List
- Community Historical Survey;
- Site Specific Report: Environmental Science Associates (ESA), 2012, Cultural Resources Survey and Assessment for the Metropolitan Airpark Project, Otay Mesa, San Diego, CA. July 2012.

**VI. Geology/Soils**

- City of San Diego Seismic Safety Study
- U.S. Department of Agriculture Soil Survey - San Diego Area, California, Part I and II, December 1973 and Part III, 1975
- Site Specific Report: Hart, E.W., Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act of 1972 with Index to Earthquake Fault Zones, California Geological Survey (formerly known as California Division of Mines and Geology), Special Publication 42, 1990, revised and updated 1997.
- Krazan & Associates, 2008. Geotechnical Engineering Investigation, Brown Field International Business Park Development, San Diego, CA. September 30, 2008.
- Krazan & Associates, 2010. Change of Geotechnical Engineer of Record and Addendum Geotechnical Report, Metropolitan Airpark, San Diego, CA. November 17, 2010.

**VII. Greenhouse Gas Emissions**

- Site Specific Report: City of San Diego, 2014. City of San Diego Climate Action Plan Working Draft, February 2014.
- Site Specific Report: Submittal Memo: Estimated Construction Crews and Equipment used to Calculate Construction Emissions (HNTB, April 30, 2014), revised August 25, 2014.

**VIII. Hazards and Hazardous Materials**

- San Diego County Hazardous Materials Environmental Assessment Listing
- San Diego County Hazardous Materials Management Division
- FAA Determination
- State Assessment and Mitigation, Unauthorized Release Listing, Public Use Authorized
- Airport Land Use Compatibility Plan
- Site Specific Report: Brown and Caldwell. 2008. Phase I Environmental Site Assessment prepared for Distinctive Projects Company, Carlsbad, CA, Brown Field Municipal Airport Area "A," Parcel No. 6460500300. July 28, 2008.

**IX. Hydrology/Water Quality**

- Flood Insurance Rate Map (FIRM)
- Federal Emergency Management Agency (FEMA), National Flood Insurance Program-Flood Boundary and Floodway Map
- Clean Water Act Section 303(b) list, [http://www.swrcb.ca.gov/tmdl/303d\\_lists.html](http://www.swrcb.ca.gov/tmdl/303d_lists.html)
- Site Specific Report:

**X. Land Use and Planning**

- City of San Diego General Plan
- Community Plan: Olay Mesa Community Plan
- Airport Land Use Compatibility Plan
- City of San Diego Zoning Maps
- FAA Determination
- Other Plans: Airport Layout Plan for Brown Field (March 6, 2012)

**XI. Mineral Resources**

- California Department of Conservation - Division of Mines and Geology, Mineral Land Classification
- Division of Mines and Geology, Special Report 153 - Significant Resources Maps
- Site Specific Report: City of San Diego, 2007a. "3.9: Mineral Resources," *City of San Diego General Plan Program Environmental Impact Report*.  
  
City of San Diego, 2007b. "Figure 3.9-1: Generalized Mineral Land Classification," *City of San Diego General Plan Program Environmental Impact Report*.

**XII. Noise**

- City of San Diego General Plan
- Community Plan
- San Diego International Airport - Lindbergh Field CNEL Maps
- Brown Field Airport Master Plan CNEL Maps
- Montgomery Field CNEL Maps
- San Diego Association of Governments - San Diego Regional Average Weekday Traffic Volumes
- San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG
- Site Specific Report: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971

**XIII. Paleontological Resources**

- City of San Diego Paleontological Guidelines
- Deméré, Thomas A., and Stephen L. Walsh, "Paleontological Resources City of San Diego," Department of Paleontology San Diego Natural History Museum, 1996
- Kennedy, Michael P., and Gary L. Peterson, "Geology of the San Diego Metropolitan Area, California. Del Mar, La Jolla, Point Loma, La Mesa, Poway, and SW 1/4 Escondido 7 1/2 Minute Quadrangles," California Division of Mines and Geology Bulletin 200, Sacramento, 1975
- Kennedy, Michael P., and Siang S. Tan, "Geology of National City, Imperial Beach and Otay Mesa Quadrangles, Southern San Diego Metropolitan Area, California," Map Sheet 29, 1977
- Site Specific Report:

**XIV. Population / Housing**

- City of San Diego General Plan
- Community Plan
- Series 11/Series 12 Population Forecasts, SANDAG
- Other: HNTB, 2014. Estimated Construction Crews and Equipment Used to Calculate Construction Emissions – Submittal Memo. April 29, 2014.

**XV. Public Services**

- City of San Diego General Plan
- Community Plan

X Other: San Diego Fire-Rescue Department, 2014. "Fire Stations," *City of San Diego website*, accessible at <http://www.sandiego.gov/fire/about/firestations/>. Accessed 6/5/2014.

San Diego Police Department, 2013. "City of San Diego Police Neighborhoods: 11/16/2013," *City of San Diego website*, accessible at <http://www.sandiego.gov/police/pdf/2013policecitywidemap.pdf>. Accessed 6/6/2014.

San Diego Police Department, 2014. *City of San Diego website*, accessible at <http://www.sandiego.gov/police/services/divisions/southern/index.shtml>. Accessed 6/5/2014.

San Ysidro School District, 2013. "Schools," *San Ysidro School District website*, accessible at <http://www.sysd.k12.ca.us/schools/>. Accessed 6/6/2014.

Sweetwater Union High School District, 2014. "Schools," *Sweetwater Union High School District website*, accessible at <http://www.sweetwaterschools.org/schools/#page>. Accessed 6/6/2014.

Sweetwater Union High School District. No Date A. *High School Attendance Boundaries*.

Sweetwater Union High School District. No Date B. *Middle School Attendance Boundaries*.

#### **XVI. Recreational Resources**

\_\_\_ City of San Diego General Plan

\_\_\_ Community Plan

\_\_\_ Department of Park and Recreation

\_\_\_ City of San Diego - San Diego Regional Bicycling Map

\_\_\_ Additional Resources:

#### **XVII. Transportation / Circulation**

\_\_\_ City of San Diego General Plan

\_\_\_ Community Plan

\_\_\_ San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG

\_\_\_ San Diego Region Weekday Traffic Volumes, SANDAG

\_\_\_ Site Specific Report:

#### **XVIII. Utilities**

X Site Specific Report : Cal Recycle, 2014. Solid Waste Information System. Accessed at <http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0010/Detail/> on June 9, 2014.

#### **XIX. Water Conservation**

\_\_\_ Sunset Magazine, New Western Garden Book, Rev. ed. Menlo Park, CA: Sunset Magazine

Created: REVISED - October 11, 2013

# ATTACHMENT A



# memorandum

Date June 3, 2014  
To FILE  
From Joseph Henry, ESA  
Subject Brown Field Municipal Airport Burrowing Owl Protocol Survey

The purpose of the memorandum is to present the findings of three out of four focused burrowing owl (*Athene cunicularia*) surveys conducted by Environmental Science Associates (ESA) for the Brown Field Airport Runway 8L-26R Rehabilitation Project, and to recommend any feasible measures to avoid or reduce potential project impacts on burrowing owl nesting activity in the vicinity of the project. The area surveyed included all suitable burrowing owl habitat located on Brown Field Airport.

## Methods

ESA biologists conducted a focused burrow survey of all natural burrows and suitable man-made structures that could be used as burrows on April 3, 2014, May 9, 2014, and June 2, 2014. Pursuant to burrowing owl survey protocol, as defined in the *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012), the morning survey period was initiated at morning civil twilight and concluded at 1000, and the evening survey period was initiated two hours prior to sunset and was concluded at evening civil twilight.

The survey was conducted by walking straight-line transects spaced no more than 20 meters apart throughout all portions of the site previously identified as suitable habitat. At the start of each transect, and at least every 100 meters, biologists scanned the entire visible area for burrowing owls. All potential burrows, as identified by the presence of burrowing owls or sign (i.e., pellets, prey remains, whitewash, or decoration) were recorded. Care was taken not to flush burrowing owls from their burrows or perches.

## Results

Temperatures during the survey were between 48 and 74 degrees Fahrenheit, with average wind speeds between one and nine miles per hour, and cloud cover between zero and 30 percent. The survey resulted in the identification of 14 active burrows on the site (Figure 1). Nine burrows were observed to be occupied by a pair of owls, while the remaining five were observed to be occupied by an individual owl. Numerous additional suitable burrows were observed throughout the site. Figure 2 shows the location of the project staging area and a 150-meter radius from the staging in relation to the active burrows.

Pursuant to burrowing owl survey protocol, a total of four survey visits are required. This effort satisfies three of the four required survey visits. The remaining survey visit is required to be conducted at least three weeks from the last survey (June 2) and after June 15.

A fourth and final focused survey is planned for June 23, 2014.

## Recommendations

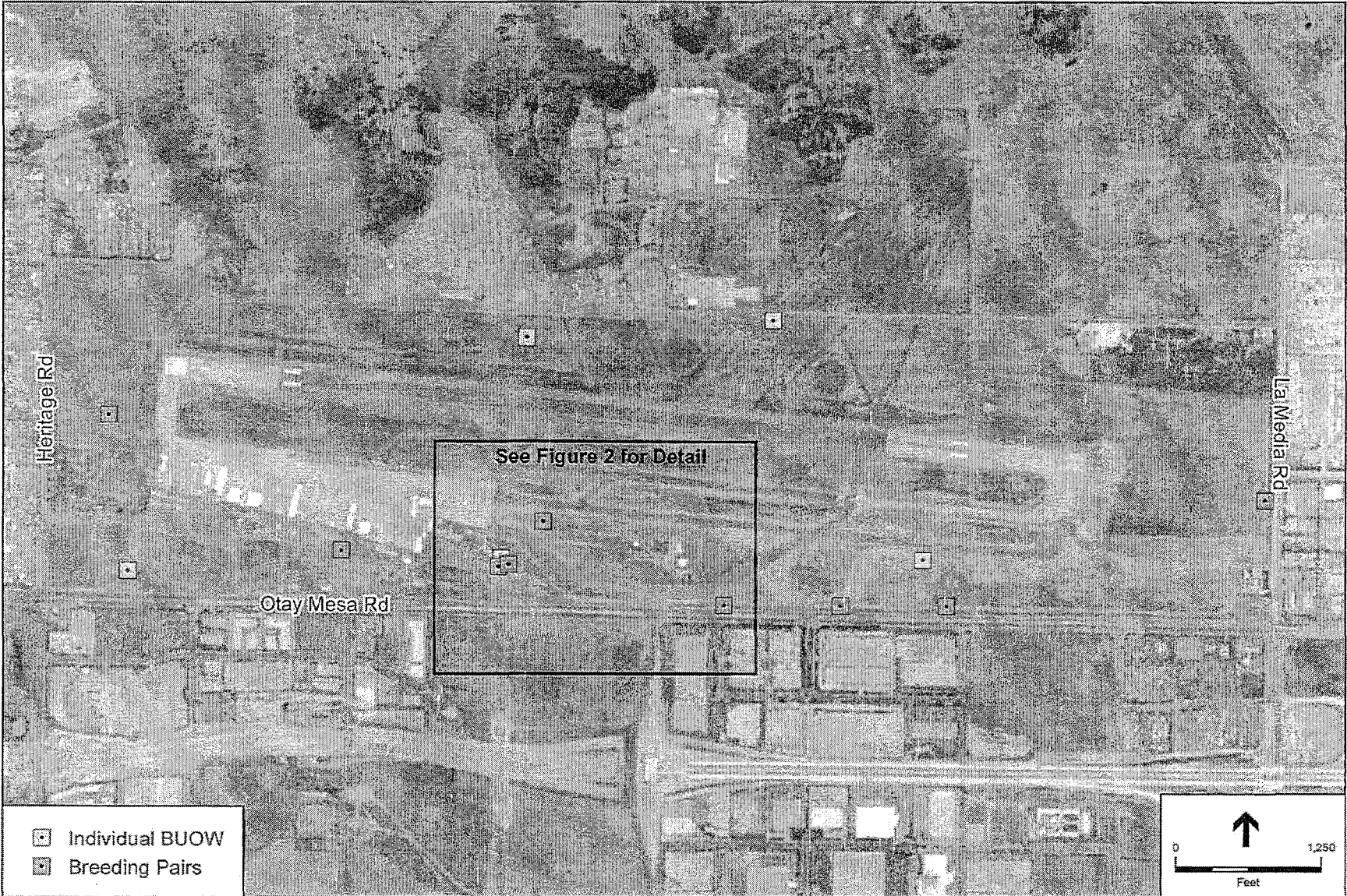
On May 22, 2014, a meeting was held to discuss the survey results and how best to avoid or minimize any potential impacts to active burrowing owl nests in the vicinity of the project. The meeting was attended by representative from the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the City of San Diego, and the consultants for the project. Considering the temporary nature of the potential impacts, the location of the construction activity and staging area, and the proximity of burrows relative to a 150-meter radius from the staging area, the following mitigation measure was acceptable to and recommended by those in attendance, to ensure that impacts to burrowing owls would be minimized to the extent feasible.

### MITIGATION MEASURE

Between 14 and 30 days prior to any construction activity, the impact area shall be surveyed by a qualified biologist in accordance with current accepted protocols for burrowing owls and occupied burrows. The impact area includes any area involving construction activity that may negatively affect burrowing owls, such as grading activities and staging of equipment and materials, and the area within 150 meters of the construction activity.

In addition, no more than three (3) days prior to the start of construction activity, a pre-construction survey shall be conducted by a qualified biologist. If no burrowing owls are found, then no further avoidance measures are required. If burrowing owls are found, the following measures shall be implemented:

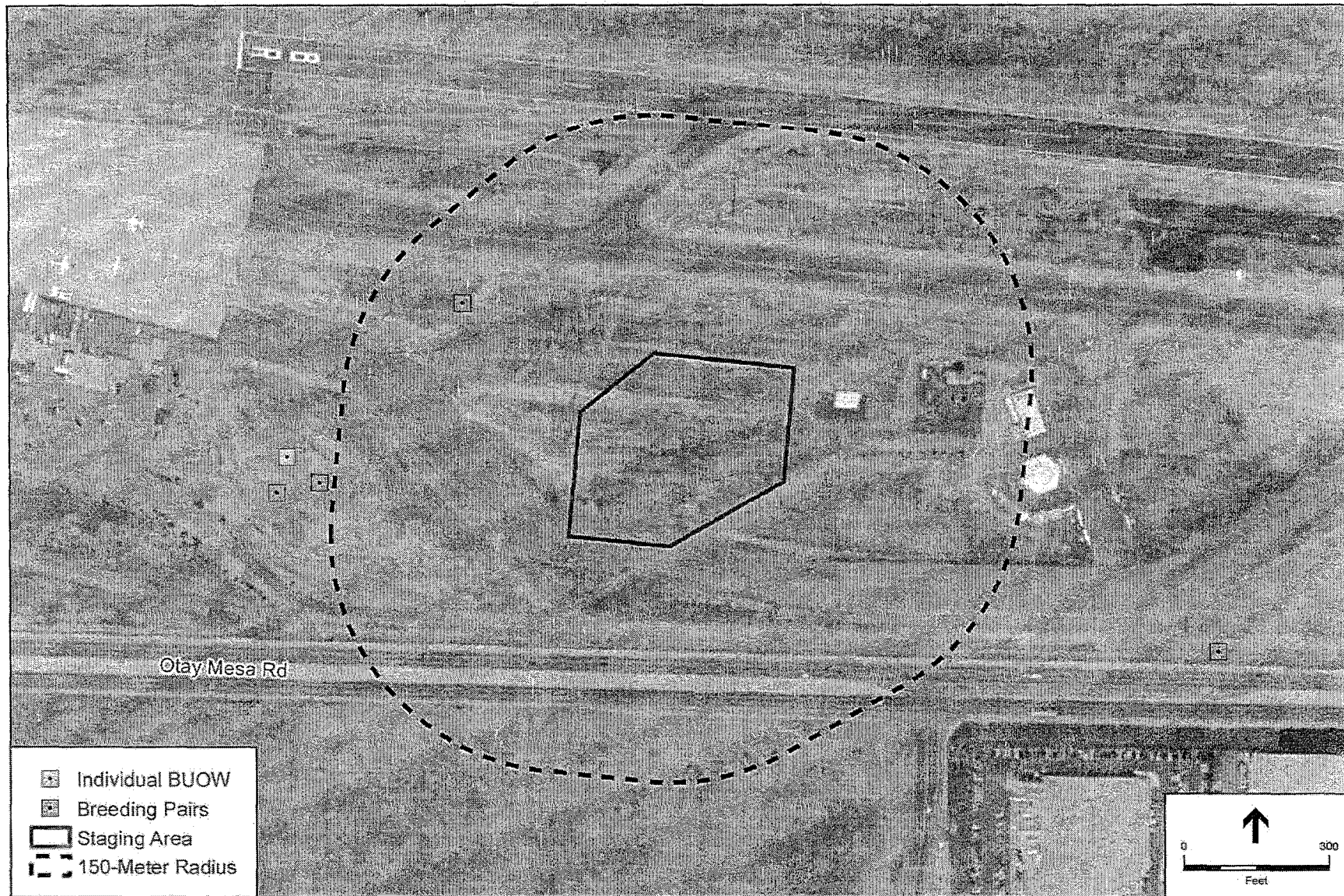
- No active burrowing owl burrows shall be directly impacted by the project.
- Construction activities shall occur during the non-breeding season for burrowing owls, generally considered to be September 1 to January 31, to the greatest extent feasible.
- Should construction be necessary during the breeding season, the following measures shall be required:
  - A qualified biologist shall conduct surveillance of the active burrow(s) within 24 hours of the start of construction.
  - A no-work buffer shall be established around active burrow(s), as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife. The width of the buffer will be based on such factors as location of the burrow, local ambient conditions, type of project activity, intensity and duration of project activity, timing within the nesting cycle, and the species tolerance for disturbance. An effective buffer is wide enough to preclude detrimental affects to nesting behavior that could lead to nest abandonment and mortality of fledglings from noises or vibrations generated from construction activities.
  - Buffers shall be delineated in some fashion with suitable material for demarcating the area, as determined by the biologist in consultation with the California Department of Fish and Wildlife and the City of San Diego Airports Division.
  - A qualified biologist shall monitor construction activities occurring within the buffer area at least twice per month during construction, to determine if any circumstances have changed that would warrant additional measures to be taken to avoid impacts to the nest(s). Should the biologist determine that additional measures are necessary, the biologist shall consult with the California Department of Fish and Wildlife prior to the implementation of such measures.
- Existing roadways and paved accessways on airport property shall be used during construction, to the greatest extent feasible.
- A worker education program shall be implemented by the construction contractor for all personnel working at the project site. Prior to any construction personnel starting work on the project site, they shall be educated about the importance of avoiding the burrow location(s) within the buffer area, and the need to minimize activities in the vicinity of the burrow(s) that would disturb the species.



SOURCE: ESRI Imagery

4/3/2014, 5/9/2014, and 6/2/2014 Burrowing Owl  
 Survey Results on Brown Field Airport  
**Figure 1**





SOURCE: ESRI Imagery

4/3/2014, 5/9/2014, and 6/2/2014 Burrowing Owl  
Survey Results on Brown Field Airport  
Figure 2



U.S. Department  
of Transportation  
Federal Aviation  
Administration

Western-Pacific Region  
Airports Division  
Los Angeles Airports District Office

15000 Aviation Boulevard  
Lawndale, CA 90261

March 11, 2015

Mr. Rod Propst, A.A.E.  
Deputy Director-Airports Division  
City of San Diego  
3750 John J. Montgomery Drive, MS-14  
San Diego, CA 92123

Dear Mr. Propst:

Brown Field Airport  
Runway 8L/26R Rehabilitation Project  
Categorical Exclusion Approval

The FAA has determined the proposed project is Categorically Excluded pursuant to FAA Order 1050.1E as it relates to the National Environmental Policy Act of 1969, as amended (NEPA). Therefore, no further federal environmental disclosure documentation for this project is necessary for NEPA purposes.

For this proposed project the City of San Diego has committed to implement significant conservation measures as part of the project to avoid and minimize potential impacts to the San Diego fairy shrimp. Enclosed is a copy of the March 9, 2015, U.S. Fish and Wildlife Service concurrence letter and enclosure indicating that with the implementation of the identified mitigation measures, project impacts to the San Diego fairy shrimp will be avoided or reduced to a level of insignificance. Additionally, in accordance to Section CM2 (e) of the enclosure, the City of San Diego must submit a final report to the agencies within 60-days of project completion.

This letter notifies you the proposed project has complied with NEPA only. This is not a notice of final project approval or funding availability.

Please feel free to give me a call if you have any questions regarding this matter, I can be reached at 310-725-3637.

Sincerely,

Victor Globa  
Environmental Protection Specialist



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services

Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011



In Reply Refer To:  
FWS-SDG-9B0378-15I0221

MAR 09 2015

Mr. Victor Globa  
Environmental Protection Specialist  
Federal Aviation Administration  
15000 Aviation Boulevard  
Lawndale, California 90261

Subject: Section 7 Consultation for Brown Field Airport Runway 8L-26R Rehabilitation Project, City and County of San Diego, California

Dear Mr. Globa:

This is in response to the Federal Aviation Administration's (FAA) January 28, 2015, letter requesting our concurrence pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), that the proposed Brown Field Airport Runway 8L-26R is not likely to adversely affect the burrowing owl (*Athene cucularia hypugaea*) and federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*). The burrowing owl is not a federally listed species and is therefore not addressed in this consultation.

On August 27, 2014, we met with FAA and the City of San Diego (City) on site where we discussed changes to the project and measures to avoid potential impacts to San Diego fairy shrimp and its vernal pool habitat. Your January 28, 2015, letter documents the project changes and avoidance measures discussed on our site visit.

The project is located on the City's Brown Field Airport on Otay Mesa (Figure 1). Due to excessive degradation, the City will rehabilitate the eastern and western ends of Runway 8L-26R. Construction on the eastern end will include removing the existing runway pavement and base using loaders and pulverizers and rebuilding the runway with new base and concrete and asphalt pavement using pavers, loaders, pulverizers and motor graders. Repairs to the western end of Runway 8L-26R will include minor surface and joint repairs. In addition, the project will replace an existing access road within the 3.3-acre contractor laydown/staging area south of runway 8L-26R, which currently supports disturbed habitat. The project is expected to take approximately 16 weeks to complete.

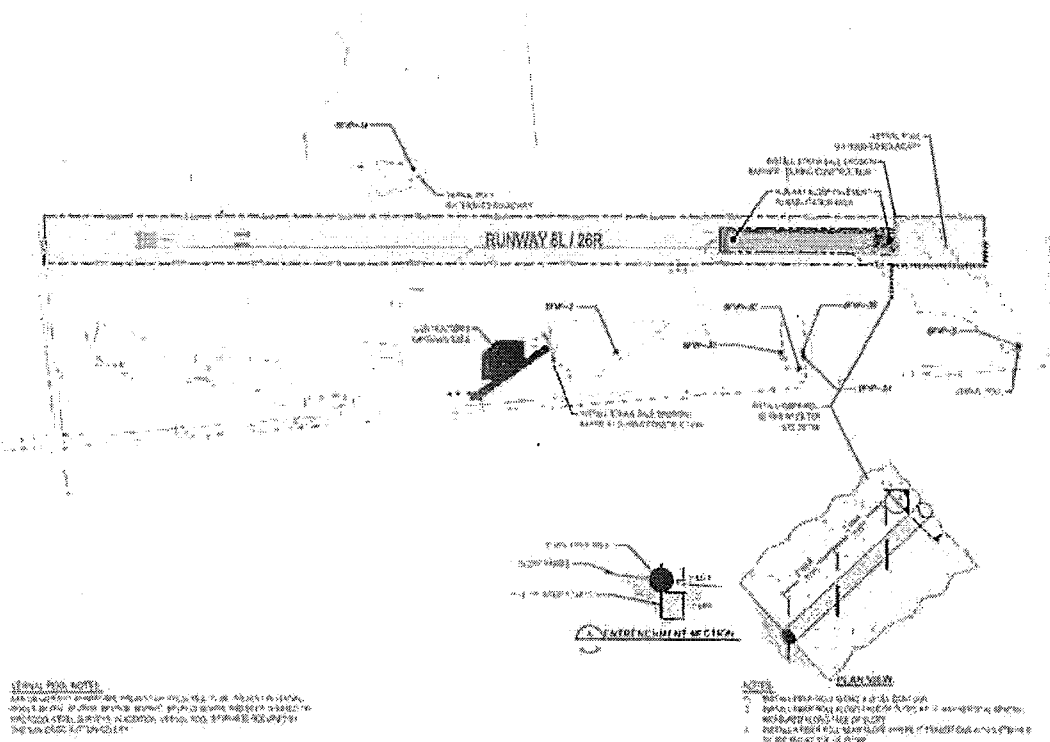


Figure 1: Brown Field Airport 8L-26R Rehabilitation Project

Seven San Diego fairy shrimp occupied vernal pools and their watersheds are located within the project area (Figure 1). All vernal pools and their watersheds, except the watershed of BFVP-5, are located outside of the project footprint. The watershed of BFVP-5 extends over the eastern portion of Runway 8L-26R, but the vernal pool basin is approximately 1,700 feet southwest of the runway. The BFVP-2 and its watershed is located adjacent to the proposed 3.3-acre contractor laydown/staging area.

The City will install fencing and best management practices (BMPs) (i.e., straw bales and fiber rolls) along the limits of project impacts at the east end of Runway 8L-26R and the 3.3-acre contractor laydown/staging area south of runway 8L-26R to prevent personnel, equipment, and silt from the construction zone from entering into BFVP-5 and BFVP-2 and their watersheds. Once construction is complete all BMP's will be removed.

The City will implement significant conservation measures (Enclosure) as part of the project to avoid and minimize potential impacts to the San Diego fairy shrimp. Based on the site and species information described above and the City's commitment to implement the conservation measures, we concur that all project impacts to San Diego fairy shrimp will be avoided or reduced to level of insignificance supporting FAA's determination that the proposed Brown Field Airport 8L-26R Rehabilitation Project is not likely to adversely affect San Diego fairy

Mr. Victor Globa (FWS-SDG-9B0378-1510221)

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shrimp. Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Should project plans change or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered and further section 7 consultation may be required.

If you have any questions or concerns with regard to this consultation, please contact Patrick Gower at 760-431-9440, extension 352.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen A. Goebel', with a stylized flourish at the end.

Karen A. Goebel  
Assistant Field Supervisor

Enclosure



## Enclosure

The Brown Field Airport Runway 8L-26R Rehabilitation Project includes the following conservation measures that the City of San Diego (City) has committed to implement to avoid and minimize potential adverse effects to San Diego fairy shrimp to an insignificant level. These measures support the U.S. Fish and Wildlife Service's (Service) concurrence with the Federal Aviation Administration's (FAA) "not likely to adversely affect" determination for San Diego fairy shrimp.

CM1. The City will install fencing and best management practices (BMPs) (i.e., straw bales and fiber rolls) along the limits of project impacts at the east end of Runway 8L-26R and the 3.3-acre contractor laydown/staging area south of runway 8L-26R to prevent personnel, equipment, and silt from the construction zone from entering into BFVP-5 and BFVP-2 and their watersheds. Fencing and BMPs will be installed in a manner that does not impact adjacent vernal pools and watersheds to be avoided. The City will submit to the FAA and Service (Agencies) for approval, at least 2 weeks prior to initiating project impacts, the final plans for project construction. These final plans will include photographs that show the fenced limits and BMPs. If work occurs beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the Agencies. Fencing and BMPs will be removed upon project completion.

CM2. A monitoring biologist approved by the Agencies will be onsite during project construction on the east end of Runway 8L-26R and the 3.3 acre contractor laydown/staging area south of runway 8L-26R ensure compliance with all conservation measures. The biologist must be knowledgeable of San Diego fairy shrimp biology and ecology. The City will submit the biologist's name, address, telephone number, and work schedule on the project to the Agencies at least 2 weeks prior to initiating project impacts. The biologist will perform the following duties:

- a. Oversee installation of and inspect the fencing and BMPs a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or BMPs are repaired immediately;
- b. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust;
- c. Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the of San Diego fairy shrimp and its habitat(s); 3) the conservation measures that should be implemented during project construction to conserve the San Diego fairy shrimp, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); 4) environmentally responsible construction practices as outlined in measures 3 and 4; 5) the protocol to resolve conflicts that may arise at any time during the construction process; 6) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties

associated with violating the Act;

- d. Halt work, if necessary, and confer with the Agencies to ensure the proper implementation of species and habitat protection measures. The biologist will report any violation to the Agencies within 24 hours of its occurrence;
- e. Submit a final report to the Agencies within 60 days of project completion that includes: as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures were achieved.

CM3. The City will ensure that the following conditions are implemented during project construction:

- a. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint;
- b. The project site will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site;
- c. Pets of project personnel will not be allowed on the project site;

CM4. Grading activities immediately adjacent to vernal pools BFVP-2 and BFVP-5 and their watersheds will be timed to avoid wet weather to minimize potential impacts (e.g., siltation) to the vernal pools unless the area to be graded is at an elevation below the pools. To achieve this goal, grading adjacent to avoided pools and their watersheds will comply with the following:

- a. Grading will occur only when the soil is dry to the touch both at the surface and one inch below. A visual check for color differences (i.e., darker soil indicating moisture) in the soil between the surface and one inch below indicates the soil is dry.
- b. After a rain of greater than 0.2 inch, grading will occur only after the soil surface has dried sufficiently as described above, and no sooner than two days (48 hours) after the rain event ends.
- c. If rain occurs during grading, work will stop and resume only after soils are dry, as described above.
- d. Grading will be done in a manner to prevent run-off from entering preserved vernal pools.

**APPENDIX B**  
**FIRE HYDRANT METER PROGRAM**

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 1 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

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.)

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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.

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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.

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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.

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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



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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

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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

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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.

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**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. These 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.

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- 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 (EXHIBIT A) Hydrant Meter

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449.

## Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

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:	<input type="checkbox"/>	<input type="checkbox"/> 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: <small>(PERSON IN ACCOUNTS PAYABLE)</small>			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: ( )

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter
Contract Acct #:	Deposit Amount: <b>\$ 936.00</b> Fees Amount: <b>\$ 62.00</b>
Meter Serial #	Meter Size: <b>05</b> Meter Make and Style: <b>6-7</b>
Backflow #	Backflow Size: Backflow Make and Style:
Name:	Signature: Date:
Brown Field (SDM) Airport Runway 8L/26R Rehab	

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:					
SAP No. (WBS/IO/CC)											
City Purchase Order No.						Contractor's Phone #:			Invoice No.		
Resident Engineer (RE):						Contractor's Fax #:			Invoice Date:		
RE Phone#:		RE Fax#:				Contact Name:			Billing Period:		
Item #	Item Description	Contract Authorization				Previous Estimate		This Estimate		Totals to Date	
		Unit	Qty	Price	Extension	%/QTY	Amount	%/ QTY	Amount	%/ QTY	Amount
1	2 Parallel 4" PVC C900	LF	1,380	\$34.00	\$46,920.00						
2	48" Primary Steel Casing	LF	500	\$1,000.00	\$500,000.00						
3	2 Parallel 12" Secondary Steel	LF	1,120	\$53.00	\$59,360.00						
4	Construction and Rehab of PS 49	LS	1	\$150,000.00	\$150,000.00						
5	Demo	LS	1	\$14,000.00	\$14,000.00						
6	Install 6' High Chain Link Fence	LS	1	\$5,600.00	\$5,600.00						
7	General Site Restoration	LS	1	\$3,700.00	\$3,700.00						
8	10" Gravity Sewer	LF	10	\$292.00	\$2,920.00						
9	4" Blow Off Valves	EA	2	\$9,800.00	\$19,600.00						
10	Bonds	LS	1	\$16,000.00	\$16,000.00						
11	Field Orders	AL	1	80,000	\$80,000.00						
11.1	Field Order 1	LS	5,500	\$1.00	\$5,500.00						
11.2	Field Order 2	LS	7,500	\$1.00	\$7,500.00						
11.3	Field Order 3	LS	10,000	\$1.00	\$10,000.00						
11.4	Field Order 4	LS	6,500	\$1.00	\$6,500.00						
12	Certified Payroll	LS	1	\$1,400.00	\$1,400.00						
<b>CHANGE ORDERS</b>											
Change Order 1			4,890								
Items 1-4					\$11,250.00						
Item 5-Deduct Bid Item 3		LF	120	-\$53.00	(\$6,360.00)						
Change Order 2			160,480								
Items 1-3					\$95,000.00						
Item 4 Deduct Bid Item 1		LF	380	-\$340.00	(\$12,920.00)						
Item 5-Increase bid Item 9		LF	8	\$9,800.00	\$78,400.00						
Change Order 3 (Close Out)			-121,500								
Item 1 Deduct Bid Item 3			53	-\$500.00	(\$26,500.00)						
Item 2 Deduct Bid Item 4		LS	-1	45,000.00	(\$45,000.00)						
Items 3-9			1	-\$50,500.00	(\$50,500.00)						
<b>SUMMARY</b>								Total This	\$ -	Total Billed	\$0.00
A. Original Contract Amount						<b>Retention and/or Escrow Payment Schedule</b>					
B. Approved Change Order 1 Thru 3						Total Retention Required as of this billing					
C. Total Authorized Amount (A+B)						Previous Retention Withheld in PO or in Escrow					
D. Total Billed to Date						Add'l Amt to Withhold in PO/Transfer in Escrow:					
E. Less Total Retention (5% of D)						Amt to Release to Contractor from PO/Escrow:					
F. Less Total Previous Payments											
G. Payment Due Less Retention						Contractor Signature and Date:					
H. Remaining Authorized Amount											

**APPENDIX E**  
**LOCATION MAP**

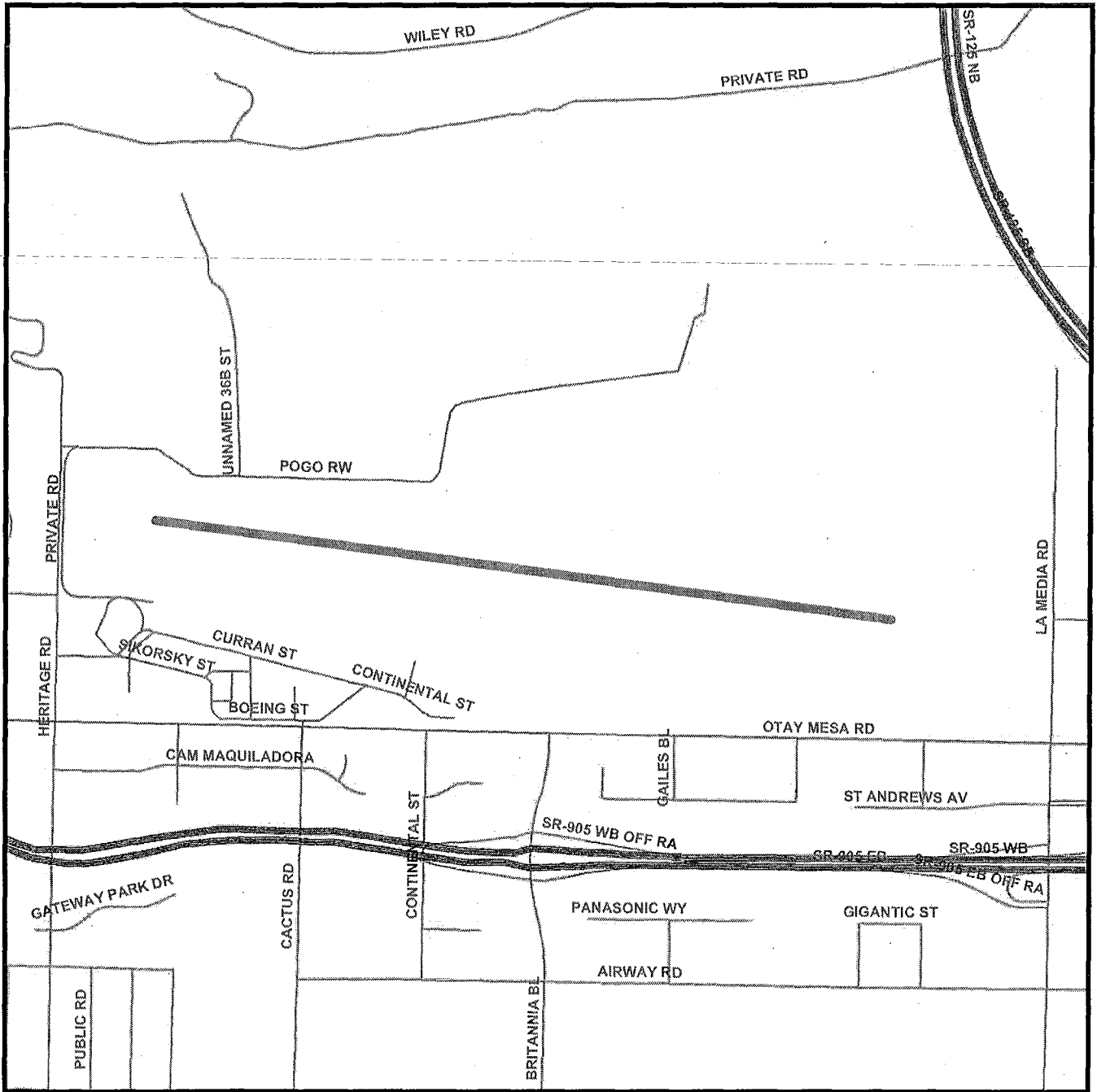
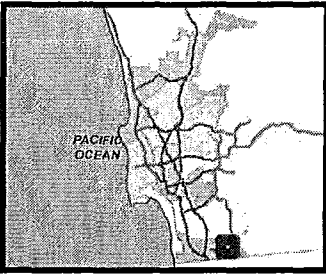
# BROWN FIELD AIRPORT REHABILITATION OF RUNWAY 8L/26R

SENIOR ENGINEER  
ELIF CETIN  
619-533-4640

PROJECT MANAGER  
JIHAD SLEIMAN  
619-533-7532

PROJECT ENGINEER  
YOUSIF BENYAMIN  
619-533-4658

CONSTRUCTION PROJECT  
INFORMATION LINE  
(619) 533-4207



## Legend

Brown Field Airport Rehabilitation



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**APPENDIX F**

**REPORT OF GEOTECHNICAL INVESTIGATION BROWN FIELD AIRPORT RUNWAY  
8L/26R PAVEMENT REHABILITATION**

**REPORT OF GEOTECHNICAL INVESTIGATION  
BROWN FIELD AIRPORT RUNWAY 8L/26R  
PAVEMENT REHABILITATION**

Submitted to:

HNTB CORPORATION  
6151 W. Century Boulevard, Suite 1200  
Los Angeles, CA 90045

Prepared By:

ALLIED GEOTECHNICAL ENGINEERS, INC.  
9500 Cuyamaca Street, Suite 102  
Santee, California 92071-2685

April 17, 2014





April 17, 2014

Mr. Tony Fermelia, P.E.  
HNTB Corporation  
6151 W. Century Boulevard, Suite 1200  
Los Angeles, CA 90045

**Subject: REPORT OF GEOTECHNICAL INVESTIGATION  
BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT  
REHABILITATION  
City of San Diego Contract No. H115346  
AGE Project No. 72<sub>N</sub>B5**

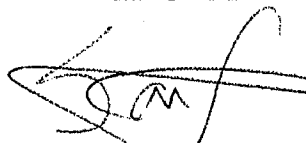
Dear Mr. Fermelia:

In accordance with your request, we are pleased to submit the accompanying report to present the results of a geotechnical field exploration and laboratory testing program which was conducted for final design of the subject project.

If you have any questions regarding the contents of this report or if we may be of further assistance, please feel free to give us a call. We greatly appreciate the opportunity to be of service on this important project for the City of San Diego.

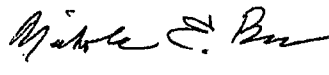
Respectfully submitted,

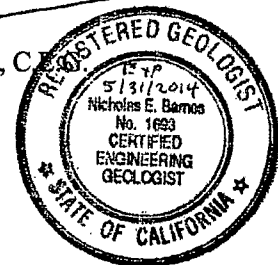
**ALLIED GEOTECHNICAL ENGINEERS, INC.**

  
Sani Sutanto, P.E.  
Senior Engineer



SS/NB/TJL:cml  
Distr. (1 electronic copy) Addressee

  
Nicholas E. Barnes, P.G., C.E.  
Senior Geologist



**REPORT OF GEOTECHNICAL INVESTIGATION  
BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION  
City of San Diego Contract No. H115346**

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## 1.0 INTRODUCTION

Allied Geotechnical Engineers, Inc. (AGE) was retained by HNTB Corporation (HNTB) to perform a geotechnical investigation in connection with the design phase of the rehabilitation of the City of San Diego (City) Runway 8L/26R at Brown Field Airport in San Diego. The purpose of the rehabilitation is to maintain the safe use of the runway by airport users and in compliance with the FAA Airports Capital Improvement Plan and the FAA Grant Assurances. Based on the results of the investigation, AGE has prepared this report to present their findings, opinions and recommendations with regard to the geotechnical aspects of the currently proposed project.

This report has been prepared for the exclusive use of HNTB, other members of the design team, and the City in their final design of the project as described herein. The information presented in this report is not sufficient for any other uses or the purposes of other parties

**2.0 SITE AND PROJECT DESCRIPTION**

The project study area is located at Brown Field Municipal Airport in the Otay Mesa area of San Diego, California (See Location Map, Figure 1). The project site is located at approximate Latitude 32.5697° N and 116.9852° W.

Brown Field was established by the U.S. Army Air Corps in 1918, and was originally named East Field. In 1943 the U.S. Navy took over the airfield, and later that year it was re-named Brown Field. The field was turned over to the city of San Diego in 1946, who utilized portions of the property for a chicken ranch and high school. The U.S. Navy re-commissioned Brown Field in 1951 during the Korean War, and in 1962 turned the property over to the City of San Diego with the stipulation that it remain an airport for the benefit and use of the public.

Runway 8L-26R measures 7,972 feet in length and 150 feet in width, and is comprised of both concrete and A.C. (Asphalt) paving. Review of historic aerial photographs suggests that the existing paving was in place in 1953. The runway elevation ranges from +508 feet above the Mean Sea Level (MSL) at its east end and +526 feet MSL at its west end.

A secondary Runway 8R-26L measures 3,180 feet in length and 75 feet in width. The runway is A.C. paved. Other appurtenant structures include concrete and A.C. taxiway and aircraft parking, a control tower, a terminal/administration building with attached restaurant, U.S. Customs, various aircraft hangars and outbuildings, fuel storage tanks, taxiway and runway lighting, parking lots, fencing, and undeveloped infield and peripheral areas that support annual grasses and weeds.

## SECTION TWO

## SITE DESCRIPTION

---

The airport was developed on the relatively level area of Otay Mesa. Based on visual observations and the findings of our subsurface investigation, it appears that only minimal grading was performed for the development of Runway 8L-26R.

Land uses near Brown Field support a growing number of commercial business parks and warehouses, industrial manufacturing facilities, used automobile wrecking and recycling yards, agriculture, and residential housing developments to the west of the airfield.

Based on a review of the 90% submittal plans prepared by HNTB, dated March 27, 2014, it is our understanding that the scope of the proposed project include replacement approximately 2,000 feet of the eastern segment of Runway 8L-26R, the construction test pavement section along the existing access road between the Air Traffic Control Tower and Curran Street, and remark of the existing runway signage. The replacement/test pavement sections consist of 4 inches of asphaltic concrete (A.C.) pavement over a minimum of 6 inches of asphalt stabilized base, which in turn is underlain by 10 inches of the existing Portland Cement Concrete (P.C.C.) pavement rubblelized in place, or 6 to 14 inches of processed miscellaneous base (P.M.B.). In areas where the replacement/test pavement sections is underlain by P.M.B., geogrid fabric will be placed between the P.M.B. and the subgrade. Subgrade preparation beneath the P.M.B. consists of the recompaction of the upper 6 inches of the subgrade material.

### 3.0 GEOTECHNICAL INVESTIGATION

The scope of the geotechnical investigation performed for the subject project included several tasks which are described in the following sections of this report.

#### 3.1 Information Review

This task involved a review of readily available information pertaining to the project site. The information that was reviewed included the preliminary design and background information that was provided to us, published geologic literature and maps, topographic maps, as-built utility maps, and geotechnical reports previously prepared by others. A listing of the references that were reviewed or cited in this report is presented in Section 6.0 of this report.

#### 3.2 Permitting and Utility Clearance

This task involved the performance of several subtasks in preparation of the geotechnical field exploration program, and included:

- Several site visits to review the existing site conditions and to select suitable locations for exploratory soil borings;
- Utility clearance of the proposed field exploration sites through Underground Service Alert (USA) and the Airport Maintenance Department, and coordination with Cable, Pipe & Leak Detection, Inc. to perform additional utility clearance/markout services; and



- Scheduling and coordination of the field exploration activities with representatives from HNTB and the City.

### 3.3 Geotechnical Field Exploration

A total of thirty (30) solid-stem and one (1) hollow-stem auger borings were performed during the period between June 3 and 7, 2013, at the approximate locations shown on the Site Plan (Figure 2). The borings were extended to the approximate depths ranging from 8 to 11.5 feet below the existing ground surface. A more detailed description of the drilling and sampling operations, and the boring logs are presented in Appendix A.

### 3.4 Laboratory Testing

Selected soil samples obtained from the borings were tested in the laboratory to verify visual field classifications and to evaluate certain engineering characteristics. The geotechnical laboratory tests were performed in general conformance with the American Society for Testing and Materials (ASTM) or other generally accepted testing procedures, and included: in-place moisture content and unit dry weight, mechanical and hydrometer analysis, compaction, Atterberg Limits, direct shear, consolidation, Expansion Index, and California Bearing Ratio. A description of the tests that were performed and the final test results are presented in Appendix B.

## SECTION THREE

## GEOTECHNICAL INVESTIGATION

---

In addition, representative samples of the soil materials were delivered to Clarkson Laboratory of Chula Vista for chemical (analytical) testing to determine soil pH, resistivity, and soluble sulfate and chloride concentrations. Copies of Clarkson's laboratory test data reports are also included in Appendix B.

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Project No. 72<sub>N</sub>B5

April 17, 2014

Page 6 of 33

*Allied Geotechnical Engineers, Inc.*

**4.0 SITE CONDITIONS**

The project study area encompasses the entirety of Runway 8L-26R, including a 200 foot by 200 foot square area abutting the east end of the runway for a future blast pad. With the exception of boring B-31 which was advanced within the footprint of the future blast pad, the remaining 30 soil borings were advanced within the existing runway paving. The east and west portions of the runway, measuring approximately 1,725 feet and 960 feet in length, respectively, are concrete paved; and the central portion of the runway, measuring approximately 5,287 feet in length, is A.C. paved. The east and west concrete paving is jointed into individual paving panels measuring approximately 15 feet in length and 12.5 feet in width.

The existing pavement section in the east concrete portion of the runway (borings B-1 thru B-7), was found to vary from 9 1/2 inches to 10 1/2 inches in thickness, placed on top of shallow fill (See boring logs for individual pavement sections, Figures A-3 through A-9).

The existing pavement section in the central portion of the runway (borings B-8 thru B-27), was found to consist of A.C. paving over concrete. The A.C. varied from 6 1/2 inches to 10 inches in thickness, and the underlying concrete varied from 9 1/2 inches to 10 1/2 inches in thickness, placed on top of shallow fill (total paving section varied from 16 1/2 inches to 20 inches in thickness). Individual pavement sections are shown on the boring logs (Figures A-10 through A-29).

The existing pavement section in the west concrete portion of the runway (borings B-28 thru B-30) was found to consist of two separate layers of concrete. The upper concrete layer was found to vary from 7 inches to 8 inches in thickness, and the lower concrete layer was found to vary from 9 ½ inches to 10 inches in thickness, placed on top of shallow fill (total pavement section varied from 16 ½ inches to 18 inches in thickness). We observed that the top of the lower concrete slab displayed a brush finish, and that a thin layer of what appears to be a concrete bonding agent is sandwiched between the lower and upper concrete slabs. Individual pavement sections are shown on the boring logs (Figures A-30 through A-32).

Visual inspection of the runway paving reveals localized cracking of the individual concrete paving panels, spalling and breakage of concrete at joint locations, and degradation of joint sealant materials. Localized patching of the spalled concrete has been performed in the past. We also observed that localized surface grinding has been performed in the east concrete portion of the runway, apparently to smooth the runway surface.

Inspection of the A.C. runway paving reveals some age related degradation and cracking of the asphalt. Some of the paving cracks follow a rectangular grid pattern whose spacing is similar in size to that of the concrete paving panels in the east and west portions of the runway, which suggests that the cracks reflected upward at joint locations in the underlying concrete.

Visual inspection and conversation with the Brown Field personnel confirms that the runway surface is uneven. The unevenness has created a series of “high spots” along portions of the runways’ length, which can cause landing aircraft to skip.

Based on the information gathered from our utility clearance efforts, it appears that buried utilities within the project study area are limited to electrical conduits servicing the runway and taxiway lighting, and aircraft landing systems.

The project study area is situated in the southerly portion of the San Diego Embayment, a thick sequence of nearly flat-lying to gently southwest dipping Cretaceous to Holocene aged marine and non-marine sediments. The embayment is underlain at depth by Cretaceous crystalline rocks of the Southern California Batholith and Jurassic metasedimentary and metavolcanic rocks of the Santiago Peak Volcanics.

The study area is located on Otay Mesa, a relatively level marine terrace bounded by Otay Valley to the north, the International Border to the south, the San Ysidro Mountains to the east, and the San Diego coastal plain to the west. The mesa is incised by numerous drainage canyons.

#### **4.1 Geologic Units**

Based on a review of the published geologic maps and compositional characteristics, the soil types encountered in the borings can be categorized into three distinct geologic units: Fill Materials, an unnamed and unmapped Mudstone Unit, and Terrace Deposits. A brief description of each unit is presented below.

**4.1.1**      **Fill Materials**

Fill materials were encountered at all boring locations, to depths on the order of 2 to 4.5 feet bgs (Borings B-1 thru B-30 measured from top of runway paving, boring B-31 measured from ground surface). The fill materials consist of a mixture of silty sand, clayey sand and sandy clay with some angular and rounded gravel to 3-inches in size. Fill materials below the runway paving were moist to wet, whereas the fill materials in boring B-31 were dry to damp.

**4.1.2**      **Mudstone Unit**

An unnamed and unmapped mudstone unit was encountered overlying the Terrace Deposits at all of the boring locations. Borings B-5, B-6, B-20, B-22 thru B-24, and B-26 thru B-30 were terminated within the mudstone. The mudstone unit encountered in the borings varies from about 3 to 8.5 feet or more in thickness, and consists predominantly of a highly plastic olive to greenish gray to olive brown fat clay with sand. The mudstone unit is generally massive, moist to wet, with a medium stiff to very stiff consistency.

The visual characteristics of the mudstone unit appear similar to those of another mudstone unit referred to as the "Normal Heights Mudstone" that was the subject of a study performed by L.D. Reed (1990). As its name implies, the "Normal Heights Mudstone" has been recognized and is mapped in the Normal Heights community in San Diego. It is described as a distinct stratigraphic unit which varies in thickness from less than 5 to more than 10 feet, and forms a cap on top of the San Diego Mesa on the south side of Mission Valley. The unit extends from the ground surface to a sharp disconformable contact with the underlying Lindavista Formation. Similarities between the mudstone encountered in the borings and the "Normal Heights Mudstone" include their color, grain size distribution, thickness, and apparent low-energy depositional environment.

Based on visual observations and the laboratory test results, the mudstone unit was found to have very high expansion potential and low California Bearing Ratio (CBR) values.

AGE performed an analysis of the in situ CBR based on the SPT blow counts which were performed within the upper 5 feet of borings B-1 through B-31. The analysis was performed in accordance with the methods presented in "The Relationship Between In Situ CBR Test and Various Penetration Test, Report Penetration Testing 1988, I. Ishai and M. Livneh, ISOPT-1, ISBN906191 801 4, 1988". The results are shown in Table 1 on the next page.

Table 1

## Summary of CBR Values Based on SPT Blow Counts

Boring ID	CBR (%)	Boring ID	CBR (%)
B-1	7	B-16	2
B-2	3	B-17	2
B-3	8	B-18	4
B-4	5	B-19	2
B-5	7	B-20	5
B-6	5	B-21	3
B-7	2	B-22	5
B-8	2	B-23	3
B-9	5	B-24	6
B-10	3	B-25	4
B-11	4	B-26	9
B-12	4	B-27	3
B-13	4	B-28	10
B-14	3	B-29	4
B-15	4	B-30	14
		B-31	5



**4.1.3**      Terrace Deposits

Terrace Deposits of Pleistocene age (Kuper and Gastil, 1977) were encountered beneath the mudstone unit at borings B-1 thru B-4, B-7 thru B-19, B-21, B-25, and B-31, at depths varying from 8 feet bgs to 11 feet bgs. In the project area, the Terrace Deposits are mapped as the Lindavista Formation of early Pleistocene or late Pliocene age (Kennedy and Tan, 1977), and as Alluvial Deposits of middle to early Pleistocene age (Tan and Kennedy, 2002).

The formational materials encountered in the borings consist primarily of a yellowish red to strong brown gravelly silty sandstone in a dense to very dense condition. The formation is locally clayey near the contact with the overlying mudstone unit. The distinctive reddish color of the unit is due to ferruginous cement. Given the color and compositional similarity of the Terrace Deposits with that of the Lindavista Formation exposed on the San Diego and Linda Vista Mesas, the unit has been named as belonging to the Lindavista Formation.

**4.2**      **Groundwater**

No groundwater or seepage was encountered in the exploratory borings at the time of our field investigation. In order to determine the regional groundwater depth, we reviewed available data on the Geotracker website ([www.Geotracker.waterboards.ca.gov](http://www.Geotracker.waterboards.ca.gov)). The website indicates that a recent Environmental Site Assessment of a former underground storage tank (UST) farm site at Brown Field was conducted by Ninyo & Moore (2013). The tank farm was located near the west end of the airport property, south of Runway 8L-26R. The report describes a deep groundwater zone at depths of 175.83 to 184.51 feet below casing (+336.38 feet MSL to + 344.70 feet MSL), and a perched groundwater zone at 65.14 feet bgs.

Given the significant depth to the regional groundwater table, the potential for groundwater-related problems affecting the proposed project is considered very low. It must be noted, however, that localized perched water conditions, primarily at the interface between the Mudstone Unit and the more permeable fill, may occur in some areas of the proposed project.

## SECTION FIVE

## DISCUSSIONS, OPINIONS, AND RECOMMENDATIONS

---

### 5.0 DISCUSSIONS, OPINIONS, AND RECOMMENDATIONS

It must be noted that the design for the proposed project has not been completed at the time of our preparation of this report. Therefore, the recommendations presented herein are preliminary in nature. It is recommended that our firm review the design documents prior to finalizing to evaluate whether the recommendations presented in this report will need to be modified or additional recommendations will be required.

#### 5.1 Potential Geologic Hazards

Geologic hazards are those hazards that could impact a site due to local and surrounding area geologic and seismic conditions. Seismic hazards include phenomena that occur during an earthquake such as ground shaking, surface fault rupture, liquefaction, differential seismic-induced settlement, lateral spread displacement, ground lurching, tsunami or seiches, and seismic-induced flooding. Geologic hazards include subsidence, landslides, and poor soil conditions (expansive or collapsible soil). The potential impact of these hazards to the site has been assessed and is summarized in the following sections.

##### 5.1.1 Faulting

The site is not located within a currently designated California Geological Survey (CGS) Earthquake Fault Special Study Zone. The nearest mapped active faults to the project site are the Rose Canyon fault zone and Coronado Bank.

## SECTION FIVE

## DISCUSSIONS, OPINIONS, AND RECOMMENDATIONS

---

The Rose Canyon fault zone (RCFZ) represents the most significant source of seismic hazard in the San Diego metropolitan area. Geologic studies performed on the RCFZ in the Rose Creek and downtown San Diego areas have discovered evidence of fault displacement in Holocene age alluvial and colluvial deposits (Patterson, 1986; Rockwell, 1991; Woodward-Clyde Consultants, 1994; Lindvall and Rockwell, 1995). Based on the results of these studies, the Rose Creek and downtown segments of the RCFZ have been classified as "active" and are designated as Alquist-Priolo Earthquake Fault Zones by the State of California. The project site is not located within the Alquist-Priolo Earthquake Fault Zones.

In the San Diego Bay area, the RCFZ is believed to splay into multiple, relatively closely spaced, subparallel strands; the most prominent of which are the Silver Strand, Coronado and Spanish Bight faults. Other, shorter and less distinctive unnamed faults are mapped within the western portion of San Diego Bay. Recent earthquakes, centered in San Diego Bay, indicates the potential for seismic activity along any of these smaller faults exists.

The project site is subject to moderate to severe ground shaking in response to a major earthquake occurring on the RCFZ or on one of the major regional active faults. The closest active regional faults to the site with recurring magnitude 4.0 and greater earthquakes are the Coronado Bank, the Vallecitos-San Miguel, and the Elsinore fault zones. Other more distant, active regional faults that are considered potential sources of seismic activity include the offshore located San Diego Trough and San Clemente fault zones and some of the faults in Imperial Valley which include the San Jacinto and San Andreas fault zones.

The computer program EQFAULT (Blake, 2010) was used to approximate the distance of known faults to the site. Seven known active faults are identified within a search radius of 50 miles from the site. A summary of seismic source characteristics for faults that present the most significant seismic hazard potential to the project area is presented in Table 2 on the next page.

**Table 2**  
**Summary of Seismic Source Characteristics**

<b>Fault</b>	<b>Maximum Magnitude (Mw)</b>	<b>Peak Site Acceleration (g)</b>	<b>Closest Distance to Site (miles)</b>
Rose Canyon	7.5	0.225	12.9
Coronado Banks	7.4	0.183	17.1
Elsinore - Julian	7.1	0.058	43.7
Elsinore - Coyote Mountain	6.8	0.045	45.5
Earthquake Valley	6.5	0.036	47.0
Newport-Inglewood (offshore)	6.9	0.046	48.1

**5.1.2 Historical Seismicity**

EQSEARCH is a program that performs automated searches of a catalog of historical Southern California earthquakes. As the program searches the catalog, it computes and prints the epicentral distance from a selected site to each of the earthquakes within a specified radius (100 kilometers). From the computed distance, the program also estimates (using an appropriate attenuation relation) the peak horizontal ground acceleration that may have occurred at the site due to each earthquake.

An average  $V_{s30}$  of 300 m/s was calculated for the project site. The shear wave velocity was calculated based on the corrected blow counts in AGE borings, and using the correlation method developed by Ohta and Gotto (1978) for cohesive soil and David Boore (2004) extrapolation equation.

$$V_s = 86.9 (N_{60})^{0.333} \quad (\text{Ohta \& Goto, 1978})$$

$$V_{s30} = [1.45 - (0.015 \times d)] \times V_{s(d)} \quad (\text{David Boore, 2004})$$

Based on the estimated shear wave velocities and our visual classification of the geologic units encountered in the soil borings, site Class D attenuation was used for all of our analysis. We used a combined earthquake catalog for magnitude 5.0 or larger events which occur within 100 kilometers from the site between 1800 and December 1999. The earthquake catalog for events prior to about 1933 is limited to the higher magnitude events.

The search results indicate that the nearest earthquake of magnitude 5.0 occurred on October 21, 1862 on a strand of the Newport Inglewood-Rose Canyon fault zone (Silver Strand section-Downtown Graben fault), which is located about 12.8 miles from the project site. This earthquake resulted in a calculated ground acceleration of 0.075 g. The largest magnitude earthquake reported was a magnitude 6.8 event February 9, 1956, located 83 miles from the project site on the San Jacinto fault which resulted in a calculated ground acceleration of 0.038 g. The largest calculated seismic ground acceleration from this search is 0.109 g generated from a magnitude 5.9 seismic event on May 27, 1862 on the RCFZ (Silver Strand section-Spanish Bight fault) located approximately 15.4 miles from the project site.

It is our opinion that the major seismic hazard affecting the project site would be seismic-induced ground shaking. The project site will likely be subject to moderate to severe ground shaking in response to a local or more distant large magnitude earthquake occurring during the life of the proposed facilities. For project design purposes, we recommend that the RCFZ be considered as the dominant seismic source.

### 5.1.3 Seismic Design Parameter

The seismic design parameters presented herein were calculated using the Minimum Design Loads for Buildings and Other Structures procedures of the California Building Codes 2013.

## SECTION FIVE

## DISCUSSIONS, OPINIONS, AND RECOMMENDATIONS

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For structural design, the United States Geological Survey Design Maps (USGS, 2013) were used to calculate ground motion parameters for the project site. The Risk-Targeted Maximum Considered Earthquake ( $MCE_R$ ) ground motion response acceleration is calculated based on the most severe earthquake effects considered which were determined for the orientation that resulted in the largest maximum response to the horizontal ground motions and with adjustment to the targeted risk. The Maximum Considered Earthquake Geometric Mean ( $MCE_G$ ) is determined for the geometric peak ground acceleration and without adjustment for the targeted risk. The  $MCE_G$  Peak Ground Acceleration ( $PGA$ ) adjusted for site effects ( $PGA_M$ ) should be used for design and evaluation of liquefaction, lateral spreading, seismic settlements, and other soil related issues.

We recommend that the seismic design parameters presented in Table 3 on the next page be used for seismic design of proposed facilities. These criteria are based on the soil profile type as determined by existing subsurface geologic conditions, on the proximity of the site to a nearby fault and on the maximum moment magnitude and slip rate of the nearby fault. The Design Response Spectrum and Risk-Targeted Maximum Considered Earthquake ( $MCE_R$ ) Response Spectrum are shown on Figures 3 and 4, respectively.



**Table 3**  
**Summary of Seismic Design Parameters**

<u>REFERENCE</u>	<u>PARAMETER</u>
Table 20.3-1 Site Classification	Site Class = D
Figure 22-1	$S_s = 0.836g$
Table 11.4-1 Site Coefficient $F_a$	$F_a = 1.166$
Figure 22-2	$S_1 = 0.319 g$
Table 11.4-2 Site Coefficient $F_v$	$F_v = 1.762$
Equation 11.4-1	$S_{MS} = 0.974 g$
Equation 11.4-2	$S_{M1} = 0.562 g$
Equation 11.4-3	$S_{DS} = 0.650 g$
Equation 11.4-5	$S_{D1} = 0.375 g$
Figure 22-12	$T_L = 8 \text{ seconds}$
Figure 22-7	$PGA = 0.330$
Equation 11.8-1	$PGA_M = 0.386 g$
Figure 22-17	$C_{RS} = 0.965$
Figure 22-18	$C_{R1} = 1.027$

## SECTION FIVE

## DISCUSSIONS, OPINIONS, AND RECOMMENDATIONS

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- Figure 22-1 Ss Risk-Targeted Maximum Considered Earthquake (MCER) Ground Motion Parameter for the Conterminous United States for 0.2 s Spectral Response Acceleration (5% of Critical Damping), Site Class B.
- Figure 22-2 S1 Risk-Targeted Maximum Considered Earthquake (MCER) Ground Motion Parameter for the Conterminous United States for 1.0 s Spectral Response Acceleration (5% of Critical Damping), Site Class B.
- Figure 22-12 Mapped Long-Period Transition Period,  $T_L$  (s), for the Conterminous United States.
- Figure 22-7 Maximum Considered Earthquake Geometric Mean (MCEG) PGA, %g, Site Class B for the Conterminous United States.
- Figure 22-17 Mapped Risk Coefficient at 0.2 s Spectral Response Period, CRS.
- Figure 22-18 Mapped Risk Coefficient at 1.0 s Spectral Response Period, CR1.

Based on the calculated  $S_{DS}$  of 0.650 g and  $S_{D1}$  of 0.375 g, a Seismic Design Category of "D" may be used for design of facilities with risk categories I, II and III.

### 5.1.4 Fault Ground Rupture

The project site is not located astride or near any known (mapped) active or potentially active faults (Kennedy and Peterson, 1975; City of San Diego, 1995). Therefore, the potential for fault ground rupture at the site is considered insignificant.

### 5.1.5 Soil Liquefaction

Seismically-induced soil liquefaction is a phenomenon in which loose to medium dense, saturated granular materials undergo matrix rearrangement, develop high pore water pressure, and lose shear strength due to cyclic ground vibrations induced by earthquakes or other means.

The project site is underlain by very dense to hard cobble conglomerate which is not considered susceptible to seismic-induced soil liquefaction or ground settlement. Furthermore, a review of the State of California Seismic Hazard Zones (2009) indicates that the site is not located within an area that is considered susceptible to soil liquefaction during a seismic event.

### 5.1.6 Lateral Spread Displacement

The project site has very low susceptibility to liquefaction, therefore, the risk of lateral spread displacement during a seismic event is considered remote.

**5.1.7      Differential Seismic-Induced Settlement**

Differential seismic settlement occurs when seismic shaking causes one type of soil to settle more than another type. It may also occur within a soil deposit with largely homogeneous properties if the seismic shaking is uneven due to variable geometry or thickness of soil deposit. Based on our investigation, the subsurface soils are found to be fairly uniform throughout the site; therefore, the potential of differential settlement is considered low.

**5.1.8      Ground Lurching**

Ground lurching is permanent displacement or shift of the ground in response to seismic shaking. Ground lurching occurs in areas with high topographic relief, and usually occurs near the source of an earthquake. These displacement can results in permanent cracks in the ground surface. Considering the distance from the project site to the nearest potential source of seismic event, it is our opinion that ground lurching does not present a potential hazard for the proposed project.

**5.1.9      Landslides**

A review of the pertinent geologic map indicates that the project site is not located on or below any known (mapped) ancient landslides (Kennedy and Peterson, 1975; City of San Diego, 1995). Furthermore, a review of the State of California Seismic Hazard Zones (2009) indicates that the site is not located in an area that is susceptible to landslide hazards.

### 5.1.10 Other Seismic-induced Hazards

The project site is located inland and is not located near any open bodies of water which are large enough to generate tsunamis or seiches during a seismic event. Therefore, the potential for damage resulting from seismic-induced tsunamis or seiches is considered non-existent.

### 5.2 Soil Corrosivity

Analytical testing was performed on the soil samples collected from the borings to determine their pH and resistivity, and soluble sulfates, chlorides and bicarbonates content. The tests were performed in accordance with the California Test Method Nos. 643, 417 and 422.

Soil is generally considered aggressive toward concrete foundations if it has a chloride concentration greater than 500 part per million (ppm) or sulfate concentration greater than 2,000 ppm, or if it has a pH of 5.5 or less. The laboratory test results which are summarized in Table 4 on the next page indicate that the on-site soils do not pose an aggressive environment for concrete structure elements.

AGE does not practice corrosion engineering. In the event that corrosion-sensitive buried facilities or utilities are planned, we recommend that a qualified corrosion engineer be retained to evaluate and provide recommendations for the necessary corrosion protection measures.

**Table 4**  
**Summary of Corrosivity Test Results**

Sample #	pH	Resistivity (ohm-cm)	Soluble Sulfate Conc. (ppm)	Soluble Chloride Conc. (ppm)	Bicarbonates (ppm)
B3-B1@2'-5'	8.4	380	130	190	110
B5-B1@2'-4'	8.9	730	50	50	100
B8-B1@2'-5'	8.5	480	50	20	100
B11-B1@2'-5'	8.4	780	110	20	80
B16-B1@5'-8'	6.5	300	450	120	N.A.
B19-B2@3'-6'	8.9	800	130	20	100
B21-B3@6'-9'	7.1	190	1,020	520	N.A.
B23-B1@2'-5'	8.4	560	70	130	N.A.
B27-B2@2'-5'	8.6	700	50	10	N.A.
B29-B1@2'-5'	8.6	890	60	10	N.A.
B14-B1@2'-5'	7.7	410	990	110	70

**5.3            Expansive Soil**

Based on visual observations and the laboratory test results, it is our opinion that the majority of the on-site materials are considered to have very high expansion potential.

**5.4            Earthwork**

**5.4.1            General Requirements**

The earthwork operations for the project should be performed in accordance with the approved plans and specifications for the project, the applicable provisions of the City of San Diego Grading Ordinance, and Section 300 of the latest edition of Standard Specifications for Public Works Construction (SSPWC, known as the "Green Book").

**5.4.2            Soil Excavation Characteristics**

Based on our experience with similar geologic units, we anticipate that excavations in the on-site soil materials can be easily accomplished using conventional heavy-duty excavation equipment.

### 5.4.3      Fill Materials

Fill materials should be free of biodegradable materials, hazardous substance contamination, or other deleterious debris. If the fill materials contain rocks or hard lumps, at least 70 percent (by weight) of its particles shall pass a U.S. Standard  $\frac{3}{4}$ -inch sieve. Fill materials should consist of predominantly granular soil (less than 50 percent passing the U.S. Standard #200 sieve) with Expansion Index of less than 60. Concrete debris generated from onsite excavation maybe reused as fill material provided they are crushed to 3 inches or smaller.

Soil materials generated from excavation in the Mudstone Unit are not considered suitable for use and placement as structural fill. Therefore, in the event that the Mudstone Unit is excavated during the subgrade preparation for the proposed pavement sections, we recommend that import materials which meet the criteria presented above be used to backfill the excavated area. Materials generated from excavation of the Mudstone Unit should be disposed off site or placed in landscaped/non-structural areas. It is noted that the existing fill materials may also contain highly expansive materials which may not be suitable for use as structural fill, and may necessitate the need to bring additional import materials.



### 5.4.4      Fill Placement and Compaction

The fill materials should be moisture-conditioned, placed and uniformly compacted in layers until final elevations are reached. Each layer should be no thicker than will allow for adequate bonding and compaction, but shall not exceed 8 inches in loose (uncompacted) thickness. Unless otherwise specified, all fills shall be compacted to at least 90 percent of maximum dry density as determined in the laboratory by the ASTM D1557 test method. All base materials shall be compacted to at least 95 percent of maximum dry density. Field density testing shall be performed in accordance with either the Sand Cone Method (ASTM D1556) or the Nuclear Gauge Method (ASTM D2922 and D3017).

### **5.5**      **Drainage Control**

Proper control and maintenance of site drainage is critical to the future performance of the project. Infiltration of irrigation and/or storm water into the subsurface soils could adversely affect the performance of the soils. No surface water should be allowed to collect or pond anywhere on or in the vicinity of the runway. Storm and surface run off should be collected in a system of subdrain pipes which carry the water directly into a suitable on-site drainage facility.

Landscape irrigation should be monitored and controlled to determine the appropriate amount of irrigation necessary to maintain the landscaping without overwatering.

**5.6 Environmental Considerations**

The authorized scope of our geotechnical investigation did not include the performance of a Phase I Environmental Site Assessment (Phase I ESA) to evaluate the possible presence of soil or groundwater contamination at the project site. Although we did not detect any visual or odoriferous indications of soil contamination during the field investigation, the potential presence of hazardous materials contamination cannot be totally precluded.

**6.0 LIMITATIONS**

This report has been prepared for the sole use of HNTB Corporation and the City of San Diego in their development of final design criteria for the project as described herein. This report is intended for design purposes only and may not provide sufficient data to prepare an accurate bid. The contractor should be required to perform an independent evaluation of the subsurface conditions at the project site prior to submitting his/her bid.

Our firm has observed and investigated the subsurface conditions at only specific locations within the project area. The findings presented in this report are based on the assumption that the subsurface conditions beneath the entire project area do not deviate substantially from those encountered in the exploratory borings.

The geotechnical field exploration and laboratory testing conducted by AGE for this project have been performed in accordance with generally accepted principles and practices of the local geotechnical profession at the time of report preparation. No other warranty, either expressed or implied, is made.

**7.0 REFERENCES**

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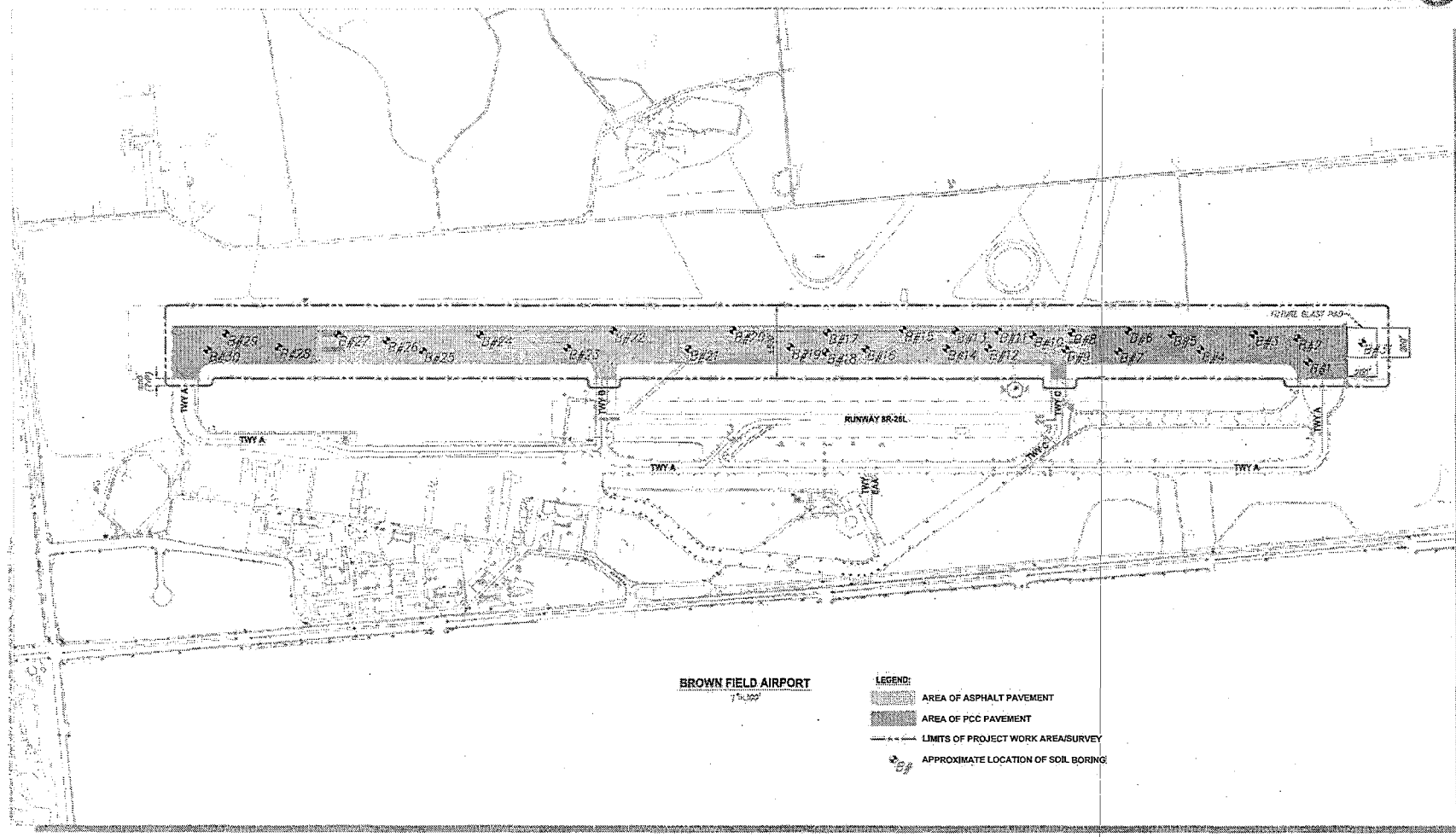
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## FIGURES





BROWN FIELD AIRPORT  
 7/1/02

- LEGEND:
- AREA OF ASPHALT PAVEMENT
  - AREA OF PCC PAVEMENT
  - LIMITS OF PROJECT WORK AREA/SURVEY
  - APPROXIMATE LOCATION OF SOIL BORING

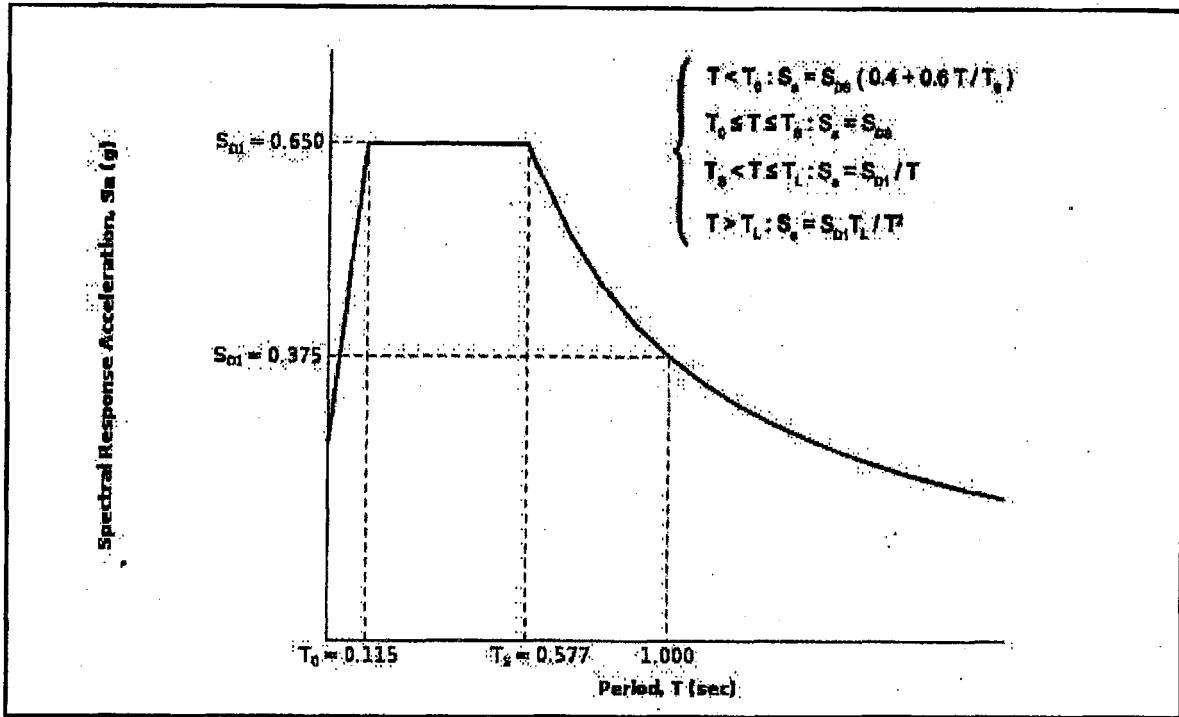
**HNTB**

Scale: 1" = 300'  
 Contours 15' Int. Elev.  
 5/10/13

**SITE PLAN**  
**BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION**

PROJECT NO. 72\_B5  
 ALLIED GEOTECHNICAL ENGINEERS, INC. FIGURE 2



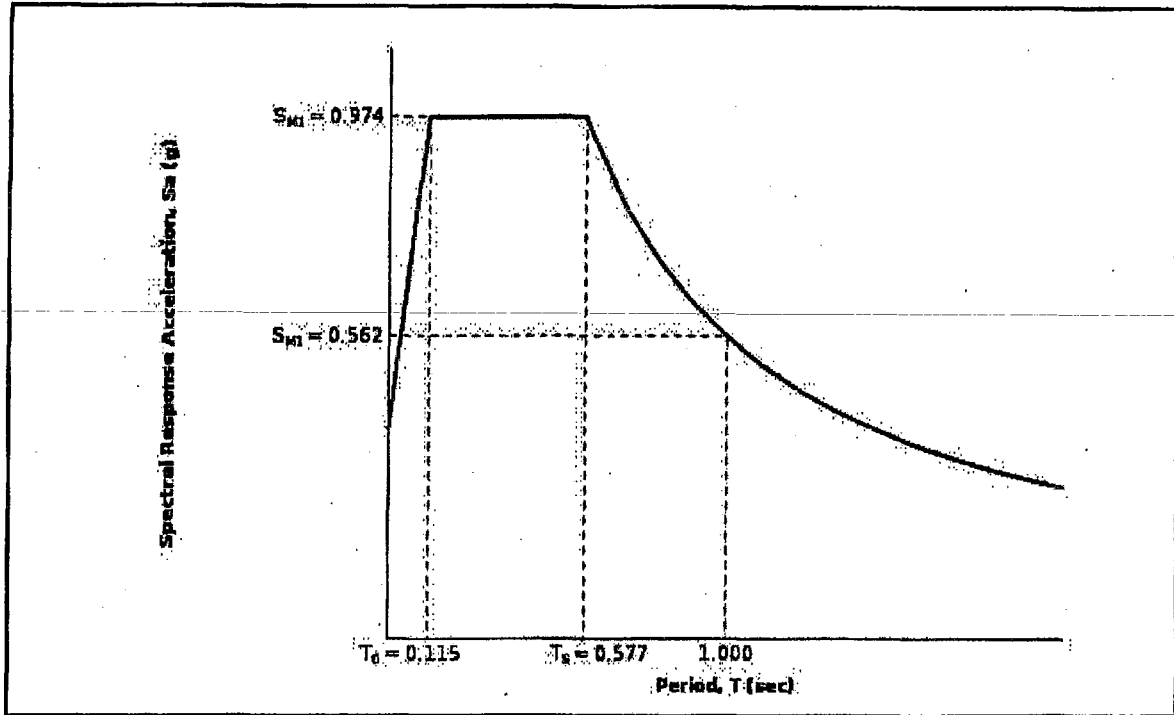


**DESIGN RESPONSE SPECTRUM  
BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION**

**PROJECT NO.**  
72\_N B5

**ALLIED GEOTECHNICAL ENGINEERS, INC.**

**FIGURE 3**



**RISK-TARGETED MAXIMUM CONSIDERED EARTHQUAKE ( $MCE_R$ )  
BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION**

PROJECT NO. 72 <sub>N</sub> B5	ALLIED GEOTECHNICAL ENGINEERS, INC.	FIGURE 4
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**APPENDIX A**

**FIELD EXPLORATION PROGRAM**

## APPENDIX A

### FIELD EXPLORATION PROGRAM

A total of thirty (30) solid-stem and one (1) hollow-stem auger borings were performed during the period between June 3 and 7, 2013, at the approximate locations shown on the Site Plan (Figure 2). The borings were extended to the approximate depths ranging from 8 to 11.5 feet below the existing ground surface. All the borings were performed at night time between the hours of 8 pm and 4 am. The drilling services were provided by Tri-County Drilling, Inc. using a truck-mounted CME-75 drill rig.

The soils encountered in the borings were visually classified and logged by an experienced field geologist from AGE. Representative samples of the various soil types encountered in the borings were collected for laboratory testing and analysis. A Key to Logs is presented on Figures A-1 and A-2, and the boring logs are presented in Figures A-3 through A-33.

During drilling, Standard Penetration Tests (SPT) were performed at selected depth intervals. The SPT tests involve the use of a specially manufactured "split spoon" sampler which is driven into the soils at the bottom of the borehole by dropping a 140-pound weight from a height of 30 inches. The number of blows required to drive the sampler 18 inches into the soil was recorded. As the first 6-inch increment of penetration is considered to be a "seating interval" in disturbed soils at the bottom of the borehole, the corresponding blow count is not taken into consideration. The total number of blows for the last 12 inches of penetration are shown on the boring logs, and have been used to evaluate the relative density and consistency of the materials.

Relatively undisturbed samples were obtained by driving a 3-inch (OD) diameter modified California split-spoon sampler with a special cutting tip and inside lining of thin brass rings into the soils at the bottom of the borehole. The sampler is driven a distance of 12 inches into the soils at the bottom of the borehole by dropping a 140-pound weight from a height of 30 inches. A 6-inch long section of the soil samples that were retained in the brass rings were extracted from the sampling tube and transported to our laboratory in close-fitting, waterproof containers. In addition, loose bulk samples were also collected and stored in plastic sacks for transport to AGE's laboratory. Soil cuttings obtained from the samplers were field screened for the presence of volatile organics using a Thermo Environmental Model 580 organic vapor meter (OVM). The OVM readings are also indicated on the boring logs.

Following completion of the drilling and sampling activities, all boreholes were backfilled with sand mixed with bentonite chips, and capped with 24-inch thick rapid-set concrete mix to match the adjacent runway pavement.

## KEY TO LOG OF BORING

DEPTH (FEET)	SAMPLES	BLOW COUNTS (BLOWS/6 INCHES)	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE (% DRY WT.)	DRY DENSITY (pcf)	REMARKS	
1									
2					Sample Identification number				
3									
4					Approximate interval of bulk sample				
5									
6									
7									
8		16 18 20			Approximate interval of Standard California Sampler (SCS).				
9									
10					Number of blows required to advance sampler 6 inches, or distance indicated.				
11		18 20 30			Approximate interval of Standard Penetration Test (SPT).				
12									
13									
14									
15									
16									
17									
18									
19									
(KEY TO LOG OF BORING CONTINUED ON FIGURE A-2)									
PROJECT NO. 72, B5					ALLIED GEOTECHNICAL ENGINEERS, INC.			FIGURE A-1	

## KEY TO LOG OF BORING (CONTINUED)

DEPTH (FEET)	SAMPLES	BLOW COUNTS (BLOWS/FOOT)	CYM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE (% DRY WT.)	DRY DENSITY (PCF)	REMARKS
1					-? — — ?- APPROXIMATE GEOLOGIC CONTACT			
2				[Horizontal lines]	FILL			
3				[Dotted pattern]	SAND			
4				[Vertical lines]	SILT			
5				[Diagonal hatching]	CLAY			
6				[Circular pattern]	GRAVELS			
7								
8								
9								
10								
11								
12					<b>GENERAL NOTES</b>			
13					1. Approximate location and elevation of the borings are based on Preliminary Topographical Map provided by HNTB, undated.			
14					2. Soil descriptions are based on visual classification made during the field exploration and, where deemed appropriate, have been modified based on the results of laboratory tests.			
15					3. Description on the boring logs apply only at the specific boring locations and at the time the borings were performed. They are not warranted to be representative of subsurface conditions at other locations or times.			
16								
17								
18								
19								
<b>PROJECT NO. 72<sub>N</sub> B5</b>					<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>			<b>FIGURE A-2</b>

BORING NO. B-1								
DATE OF DRILLING: JUNE 3, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 506 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10.5" P.C.C.			
2			?		FILL Reddish orange, moist to wet, gravelly silty sand (SM) and olive gray sandy clay (CL)		?	?
3								
4								
5	1	3	1		MUDSTONE UNIT Olive gray, wet, stiff plastic clay with sand (CH) with traces of rounded gravel up to 1.5 inches in maximum dimension	29.6	93.0	
6		5						
7	2	9						
8								
9								
10		26	?				?	?
11	3	50/1"	1		LINDAVISTA FORMATION Olive brown to yellowish red, moist to wet, very dense clayey sand & silty sand with angular gravel up to 1" in maximum dimension (GC-GM)	11.4		
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-3		

BORING NO. B-2								
DATE OF DRILLING: JUNE 3, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 608 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" P.C.C.			
2					FILL Mixture of yellow brown, moist to wet, gravelly silty sand (SM) and greenish gray sandy clay (CL) and clayey sand (SC)			
3	1							
4			?					
5					MUDSTONE UNIT Olive brown, moist to wet, medium stiff to stiff, highly plastic sandy clay (CH) with traces of gravel up to 0.5" in maximum dimension			
6	2	235	1			25.7		
7	3							
8			?					
9					LINDAVISTA FORMATION Strong brown to reddish yellow, moist, dense to very dense, gravelly silty sand (GM)			
10								
11	4	50	1			7.1	115.7	
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-4		



BORING NO. B-3								
DATE OF DRILLING: JUNE 3, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVN READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9.5" P.C.C.			
2					FILL			
3	1				Mixture of yellow brown, moist to wet, gravelly silty sand (SM) and greenish gray sandy clay (CL) and clayey sand (SC)			
4			?		?		?	?
5	2	4			MUDSTONE UNIT			
6		6	1		Light olive brown, wet, stiff, highly plastic clay (CH)	31.2	90.0	
7	3	10						
8								
9			?		?		?	?
10	4	24			LINDAVISTA FORMATION			
11		50	1		Yellowish brown to reddish yellow, moist, very dense, gravelly sand (GM) with gravels up to 2" in maximum dimension	8.3		
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72_N B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-5		

BORING NO. B-4								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNT'S BLOWS/FOOT	QVM READING (PPH)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					<b>EXISTING PAVEMENT SECTION</b> 10" P.C.C.			
2					<b>FILL</b> Gray brown, wet, sandy clay (CL) and clayey sand (SC) with traces of gravel up to 1" in maximum dimension			
3	1		?				?	?
4					<b>MUDSTONE UNIT</b>			
5	2	2	1		Light olive brown, wet, stiff, highly plastic clay with sand (CH)	30.9		
6		4						
7	3	6						
8								
9			?					
10		6			<b>LINDAVISTA FORMATION</b>			
11	4	50/5"	6		Yellowish brown to strong brown, moist, very dense, gravelly sand (GM) with trace of angular gravel up to 0.5" in maximum dimension	8.9	107.6	
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-6		

BORING NO. B-5								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 510 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9.5" P.C.C.			
2					FILL Mixture of medium gray, moist to wet, gravelly clayey sand (SC) and greenish gray sandy clay (CL)			
3	1							
4								
5			?		?		?	?
6	2	4	?		MUDSTONE UNIT	33.4	94.3	
7		6	1		Light olive brown, wet, stiff, highly plastic sandy clay (CH)			
8	3	9						
9								
10		3						
11	4	4						No sample recovery
12		7						
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72, B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-7		

BORING NO. B-6								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 510 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (P-PM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" P.C.C.			
2					FILL Yellowish brown, wet, gravelly silty sand (SM) and medium gray to dark gray sandy clay (CL)			
3	1	2	?					
4		4			MUDSTONE UNIT	30.6	91.4	
5		8	1		Olive gray to brownish gray, wet, stiff, highly plastic sandy clay (CH)			
6	2							
7								
8								
9								
10								
11	3	1	1			35.4		
12		3						
		4						
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-8		

BORING NO. B-7								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOW/FOOT	OWM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" P.C.C.			
2	1		?		FILL Medium brown, wet, gravelly silty sand (SM) and gray brown clayey sand (SC)		?	?
3		2						
4	2	2	1		MUDSTONE UNIT	33.9		
5		2			Olive brown, wet, medium stiff, highly plastic sandy clay (CH)			
6								
7	3							
8								
9								
10					Color becomes olive gray, and stiff consistency			
11	4	3	1			30.6	89.7	
		6						
		11	?			24.8	102.2	
12					LINDAVISTA FORMATION Yellowish red, wet, stiff, highly expansive sandy clay (CH)			
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-9		

BORING NO. B-8								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION			
2					9" A.C. over 9.5" P.C.C.			
3			?		FILL		?	?
4	1				Medium brown, wet, silty sand (SM) with gravel up to 1" in maximum dimension			
5					MUDSTONE UNIT			
6	2	2	1		Gray brown to olive brown, wet, medium stiff highly plastic sandy clay (CH)	27.5		
7		3						
8								
9								
10								
11	3	7	?		LINDAVISTA FORMATION	19.5	102.8	?
12		20	1		Yellowish red, wet, very stiff clay (CL-CH), grading into very dense gravelly sand (GM) with angular and rounded gravel up to 2" in maximum dimension			
		50/5"						

**NOTES:**

Bottom of borehole at 11.5 feet

No seepage or groundwater encountered at time of drilling

PROJECT NO.  
72<sub>N</sub>B5

ALLIED GEOTECHNICAL ENGINEERS, INC.

FIGURE A-10

BORING NO. B-9								
DATE OF DRILLING: JUNE 4, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOW/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9.5" A.C. over 10" P.C.C.			
2					FILL Medium brown, wet, silty sand (SM) with abundant sub-rounded to sub-angular gravel up to 3" in maximum dimension			
3								
4	1		?				?	?
5					MUDSTONE UNIT			
6	2	3	1		Light brownish gray to light olive brown, wet, stiff, highly plastic sandy clay (CL)	30.5	90.4	
7		5						
8	3	7						
9								
10			?					
11	4	3	1		LINDAVISTA FORMATION	20.4		
12		4			Yellowish red, wet, very stiff clay (CL-CH), grading into very dense gravelly sand (GM)			
		7						

**NOTES:**

- Bottom of borehole at 11.5 feet
- No seepage or groundwater encountered at time of drilling

PROJECT NO.  
72<sub>N</sub>B5

ALLIED GEOTECHNICAL ENGINEERS, INC.

FIGURE A-11

BORING NO. B-10								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 509 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OWM READING (PPH)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 10" P.C.C.			
2					FILL			
3	1		?		Medium brown, wet, silty sand (SM) and clayey sand (SC) with angular and rounded gravel up to 2" in maximum dimension		?	?
4								
5								
6	2	3	1		MUDSTONE UNIT	35.3	87.2	
7		3			Light olive brown to gray, wet, stiff highly plastic sandy clay (CH)			
8	3	5						
9			?				?	?
10								
11	4	20	2		LINDAVISTA FORMATION	6.1		
12		30			Yellowish brown to strong brown, moist, very dense gravelly sand (GM)			
		50/4"						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-12		



BORING NO. B-11								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 510 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OWN READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 9.5" P.C.C.			
2					FILL			
3			?		Yellow brown, wet, silty sand (SM) and gray brown sandy clay (CL)		?	?
4	1							
5								
6	2	2 3 6	1		MUDSTONE UNIT	23.4		
7					Olive brown, wet, stiff highly plastic sandy clay (CH)			
8								
9			?				?	?
10					LINDAVISTA FORMATION			
11	3	15 26 47	1		Strong brown to reddish yellow, moist, very dense gravelly sand with abundant angular and rounded gravel up to 2" in maximum dimension (GM)	5.8	131.7	
12								
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-13		

BORING NO. B-12								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 510 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1			?		EXISTING PAVEMENT SECTION 6.5" A.C. over 10" P.C.C.			
2			?		FILL Medium brown, moist to wet, silty sand (SM) with gravel up to 2" in maximum dimension		?	?
3	1	3	2					
4	2	5				?	25.6	98.1
5					MUDSTONE UNIT			
6					Olive gray, wet, stiff, highly plastic sandy clay (CH)			
7								
8								
9								
10			?					
11	3	27 50/5"	1		LINDAVISTA FORMATION	6.0		
12					Yellowish brown to strong brown, moist, very dense gravelly sand (GM)			
<b>NOTES:</b> Bottom of borehole at 11 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-14		

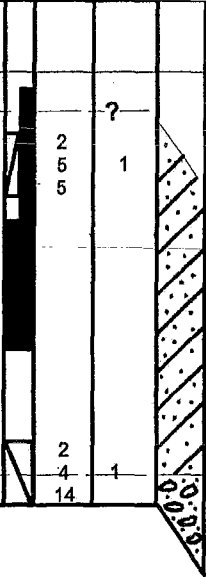
BORING NO. B-13								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 11 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 511 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 10" P.C.C.			
2					FILL Yellowish brown, moist to wet, silty sand (SM) with gravel up to 2" in maximum dimension	?	?	?
3	1		?					
4					MUDSTONE UNIT Light olive gray to olive brown, wet, stiff highly plastic sandy clay (CH)	33.4	91.6	
5								
6	2	1 4 6	1					
7					LINDAVISTA FORMATION Yellowish brown, moist, very dense silty sand (SM) with some gravels	5.9	?	?
8	3							
9								
10								
11	4	23 50/4"	2					
12								
<b>NOTES:</b> Bottom of borehole at 11 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72_NB5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-15		

BORING NO. B-14								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 8 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 511 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9" A.C. over 10" P.C.C.			
2					FILL			
3			?		Yellowish brown, moist to wet, gravelly silty sand (SM) and clayey sand (SC)		?	?
4	1							
5								
6	2 3	1 3 4	2		MUDSTONE UNIT	31.3		
7					Light olive gray to olive brown, wet, medium stiff to stiff highly plastic sandy clay (CH)			
8								
<p><b>NOTES:</b></p> <p>Bottom of borehole at 8 feet</p> <p>Refusal on large rock and/or cobbles (Lindavista Formation?)</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5			ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-16	

BORING NO. B-15								
DATE OF DRILLING: JUNE 5, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 513 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVN READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 7" A.C. over 10" P.C.C.			
2					FILL			
3					Yellow brown, moist to wet, gravelly silty sand (SM) and clayey sand (SC)			
4	1	4	? <sub>1</sub>				?	?
5		4						
6	2	5				34.3	85.3	
7					MUDSTONE UNIT			
8	3				Light olive gray, wet, stiff, highly plastic sandy clay (CH)			
9								
10								
11	4	9	? <sub>1</sub>				?	?
		43			LINDAVISTA FORMATION	9.5		
		50/4"	1		Strong brown to yellowish red, moist, lean sandy clay (CL) grading downward into gravelly sand (GM)			
12								
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-17		

BORING NO. B-16								
DATE OF DRILLING: JUNE 6, 2013			TOTAL BORING DEPTH: 11.5 FEET					
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 615 FEET MSL			DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.					
DRILLING METHOD: 6" SOLID-STEM AUGER			LOGGED BY: NICK BARNES					
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9" A.C. over 10" P.C.C.			
2					FILL			
3			?		Yellow brown, wet, clayey sand (SC) with gravel		?	?
4	1 2	2 3 3	1			32.6		
5					MUDSTONE UNIT			
6	3				Light olive gray, wet, medium stiff, highly plastic sandy clay (CH)			
7								
8								
9								
10								
11	4	6 9 50/3"	1			21.2	105.4	?
12					LINDAVISTA FORMATION Reddish yellow, moist, very dense, gravelly sand (GM)			
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5			ALLIED GEOTECHNICAL ENGINEERS, INC.			FIGURE A-18		

BORING NO. B-17								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 10.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 516 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 9.5" P.C.C.			
2					FILL			
3			?		Yellow brown, wet, silty sand (SM) and clayey sand (SC) with gravel up to 2" in maximum dimension	32.6	?	?
4	1							
5		2						
6	2	3	1		MUDSTONE UNIT			
7		3			Olive gray to olive brown, wet, medium stiff, highly plastic sandy clay (CH)			
8	3							
9								
10	4	50/5"	1			8.1		
11					LINDAVISTA FORMATION Strong brown to yellow brown, moist to wet, very dense silty sand (SM) and clayey sand (SC) with gravel			
<b>NOTES:</b> Bottom of borehole at 10.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-19		

BORING NO. B-18								
DATE OF DRILLING: JUNE 6, 2013			TOTAL BORING DEPTH: 11.5 FEET					
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 516 FEET MSL			DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.					
DRILLING METHOD: 6" SOLID-STEM AUGER			LOGGED BY: NICK BARNES					
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9" A.C. over 10.5" P.C.C.			
2					FILL Yellow brown, moist to wet, silty sand (SM) and clayey sand (SC) with gravel up to 3" in maximum dimension	30.9	89.6	?
3			?					
4	1	2	1					
5	2	5			MUDSTONE Olive gray, wet, stiff, highly plastic sandy clay (CH)			
6								
7								
8								
9								
10		2						
11	4	4	1		LINDAVISTA FORMATION Reddish yellow, moist, dense, gravelly sand (GM)	20.9		?
12		14						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72-NB5			ALLIED GEOTECHNICAL ENGINEERS, INC.			FIGURE A-20		



BORING NO. B-19								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 517 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVN READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 10" P.C.C.			
2					FILL			
3		1	?		Medium brown, wet, silty sand (SM) and clayey sand (SC) with gravel up to 2" in maximum dimension	31.8	89.5	?
4	1	2						
5		4			MUDSTONE UNIT			
6					Pale olive gray, wet, medium stiff, highly plastic sandy clay (CH) with some rounded gravel up to 1" in maximum dimension			
7	3							
8					Stiff in consistency			
9								
10								
11	4	4	1		LINDAVISTA FORMATION	11.1		
12		17			Brownish yellow to strong brown, moist, dense, gravelly sand (GM)			
		20						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5			ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-21	

BORING NO. B-20								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 518 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNT'S BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 10" P.C.C.			
2					FILL Medium brown, wet, silty sand (SM) and clayey sand (SC) with gravel up to 2" in maximum dimension			
3	1		?					
4								
5		3						
6	2	4	1			31.9	89.6	
8		8						
7	3				MUDSTONE UNIT Grayish brown, wet, stiff, highly plastic sandy clay (CH)			
8								
10		1						
11	4	3	12			40.1		
11		5						
12								
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-22		



<b>BORING NO. B-21</b>								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 519 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVW READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 10" P.C.C.			
2					FILL			
3		2	?		Yellow brown, wet, gravelly clayey sand (SC)			?
4	1	3	1					
5	2	4						
6					MUDSTONE UNIT	35.1		
7	3				Greenish gray, wet, medium stiff, highly plastic sandy clay (CH) with rounded gravel up to 2" in maximum dimension			
8								
9								
10		3			Becomes grayish brown, stiff, with gravel up to 0.5" in maximum dimension			
11	4	6	7			39.6	85.9	?
12		15			LINDAVISTA FORMATION Strong brown, moist, dense, gravelly sand (GM)			
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
<b>PROJECT NO. 72<sub>N</sub>B5</b>		<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>				<b>FIGURE A-23</b>		

BORING NO. B-22								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 521 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNT'S BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 8" A.C. over 10" P.C.C.			
2					FILL			
3	1		?		Medium brown, wet, gravelly clayey sand (SC)			?
4								
5					MUDSTONE UNIT			
6	2	2 4 7	2		Grayish brown, wet, stiff, highly plastic sandy clay (CH)	35.0	86.5	
7	3							
8								
9								
10	4	1 3 4	1		Becomes grayish brown in color and medium stiff in consistency	43.1		
11								
12								
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-24		

BORING NO. B-23								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 521 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVN READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 10" A.C. over 9.5" P.C.C.			
2								
3	1		?		FILL Medium brown, wet, gravelly clayey sand (SC) and silty sand (SM)			?
4								
5								
6	2	2	2		MUDSTONE UNIT	38.9		
7	3	5			Grayish brown, wet, medium stiff, highly plastic sandy clay (CH)			
8								
9								
10								
11	4	4	1		Becomes light olive brown, and stiff to very stiff	37.4	83.1	
12		8						
		14						
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72_B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-25		

BORING NO. B-24								
DATE OF DRILLING: JUNE 6, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 523 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9" A.C. over 10" P.C.C.			
2					FILL			
3	1		?		Medium brown, wet, gravelly clayey sand (SC) and silty sand (SM)			?
4								
5								
6	2	3 5 8	1		MUDSTONE UNIT	35.2	85.8	
7	3				Greenish gray, wet, stiff, highly plastic sandy clay (CH)			
8								
9								
10	4	2 3 7	1		Color becomes olive	39.8		
11								
12								
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-26		

BORING NO. B-25								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 522 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 8" A.C. over 10" P.C.C.			
2					FILL			
3		2	?					?
4	1	3	1		Medium brown, moist to wet, gravelly clayey sand (SC) and silty sand (SM)			
5	2	6						
6					MUDSTONE UNIT	33.5		
7	3				Dark gray to dark olive, wet, stiff, highly plastic sandy clay (CH)			
8								
9								
10		4			Color becomes olive			
11	4	8	1			39.5	81.1	
12		11			LINDAVISTA FORMATION Strong brown to reddish yellow, moist, dense, gravelly sand (GM)			
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72, B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-27		

BORING NO. B-26								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 523 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 9" A.C. over 10" P.C.C.			
2					FILL			
3	1				Yellow brown to medium brown, moist to wet, gravelly clayey sand (SC) and silty sand (SM)			
4								
5			?					
6	2	4	1		MUDSTONE UNIT	34.6	88.7	
7	3	7			Dark gray to dark olive, wet, stiff to very stiff, highly plastic sandy clay (CH)			
8								
9								
10								
11	4	2	1		Becomes olive colored with trace of gravel up to 1" in maximum dimension	37.7		
12		5						
		6						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-28		



BORING NO. B-27								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 523 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 8" A.C. over 10" P.C.C.			
2					FILL			
3			?					?
4	1	1			Medium brown, moist to wet, gravelly clayey sand (SC) and silty sand (SM)			
5	2	3	1					
6		4			MUDSTONE UNIT	34.8		
7	3				Dark greenish gray, wet, medium stiff, highly plastic sandy clay (CH)			
8								
9								
10		2						
11	4	6	2		Color becomes light olive brown, stiff consistency	40.4	83.3	
12		9						
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-29		

BORING NO. B-28								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 523 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 7" P.C.C. over 10" P.C.C.			
2					FILL			
3	1				Yellow brown, moist, gravelly clayey sand (SC) and silty sand (SM)			
4			?					
5					MUDSTONE UNIT			
6	2	5 7 12	1		Dark greenish gray, moist to wet, very stiff, highly plastic sandy clay (CH)	30.4	90.1	
7	3							
8								
9								
10								
11	4	2 4 5	1		Color becomes olive to olive gray, stiff consistency	36.1		
12	<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>							
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-30		

BORING NO. B-29								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 524 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	OVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 7" P.C.C. over 9.5" P.C.C.			
2					FILL			
3	1		?		Medium brown, moist to wet, gravelly clayey sand (SC) and silty sand (SM)			?
4								
5	2	2						
6		4			MUDSTONE UNIT	28.6		
7	3	5	1		Dark greenish gray, moist to wet, stiff, highly plastic sandy clay (CH)			
8								
9								
10		3						
11	4	8	1		Becomes light olive brown in color, wet and very stiff.	39.2	85.0	
12		12						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5			ALLIED GEOTECHNICAL ENGINEERS, INC.			FIGURE A-31		

BORING NO. B-30								
DATE OF DRILLING: JUNE 7, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 524 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 6" SOLID-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOW/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					EXISTING PAVEMENT SECTION 8" P.C.C. over 10" P.C.C.			
2					FILL			
3					Yellow brown, moist to wet, gravelly clayey sand (SC) and silty sand (SM)			?
4	1		?					
5		5						
6	2	7	2		MUDSTONE UNIT	31.4	85.0	
7		19			Dark greenish gray, moist to wet, very stiff, highly plastic sandy clay (CH) with traces of rounded gravel up to 1" in maximum dimension			
8	3							
9								
10		2						
11	4	5	2		Color becomes light olive brown, stiff consistency	37.9		
12		6						
<p><b>NOTES:</b></p> <p>Bottom of borehole at 11.5 feet</p> <p>No seepage or groundwater encountered at time of drilling</p>								
PROJECT NO. 72 <sub>N</sub> B5		ALLIED GEOTECHNICAL ENGINEERS, INC.				FIGURE A-32		

BORING NO. B-31								
DATE OF DRILLING: JUNE 3, 2013				TOTAL BORING DEPTH: 11.5 FEET				
GENERAL LOCATION: REFER TO SITE PLAN								
APPROXIMATE SURFACE ELEV.: + 505 FEET MSL				DRILLING CONTRACTOR: TRI-COUNTY DRILLING, INC.				
DRILLING METHOD: 8" HOLLOW-STEM AUGER				LOGGED BY: NICK BARNES				
DEPTH (FEET)	SAMPLES	BLOW COUNTS BLOWS/FOOT	QVM READING (PPM)	GRAPHIC LOG	SOIL DESCRIPTION	FIELD MOISTURE % DRY WT.	DRY DENSITY LBS./CU. FT.	REMARKS
1					<b>FILL</b> Olive brown, dry to damp, silty sand (SM) and clayey sand (SC) with angular gravel up to 3" in maximum dimension			
2			?					
3					<b>MUDSTONE UNIT</b>			
4					Olive brown, moist to wet, stiff, highly plastic sandy clay (CH)			
5	1	4	1			26.6		
6		7						
7	2							
8			?					
9								
10		11			<b>LINDAVISTA FORMATION</b> Strong brown to reddish yellow, moist, very dense silty sand (SM) with occasional gravel up to 0.5" in maximum dimension			Gravelly zone between 8 - 8.5'
11	3	21	1			8.4	118.0	
12		50						
<b>NOTES:</b> Bottom of borehole at 11.5 feet No seepage or groundwater encountered at time of drilling								
<b>PROJECT NO. 72<sub>N</sub>B5</b>		<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>				<b>FIGURE A-33</b>		

## **APPENDIX B**

### **LABORATORY TESTING**

## APPENDIX B

### LABORATORY TESTING

Selected soil samples were tested in the laboratory to verify visual field classifications and to evaluate certain engineering characteristics. The testing was performed in accordance with the American Society for Testing and Materials (ASTM) or other generally accepted test methods, and included the following:

- Determination of in-place dry density and moisture content (ASTM D2937) based on relatively undisturbed drive samples. The final test results are presented on the boring logs;
- Compaction test (ASTM D1557-07) on representative bulk samples. The test results are presented on Figures B-1 through B-5;
- Mechanical and hydrometer analyses (ASTM D422), and the final test results are plotted as gradation curves on Figure B-6 and B-7;
- Atterberg Limits (ASTM D4318), and the final test results are presented in Table B-1;
- Direct shear tests (ASTM D3080). The final test results are presented on Figures B-8 through B-13; and
- Expansion Index (ASTM D4829). The final test results are presented in Table B-2.

In addition, representative samples of the soil materials encountered in the soil borings were delivered to Clarkson Laboratories, Inc. for chemical (analytical) testing to determine soil pH, resistivity, soluble sulfate and chloride concentrations, and Total Petroleum Hydrocarbon (TPH). Copies of Clarkson's laboratory test data reports are included in this appendix.

A total of fourteen (14) bulk samples were selected and delivered to Southern California Soil & Testing for California Bearing Ratio (CBR) testing. The laboratory testing is performed in accordance with the ASTM D1883 testing procedures. Copies of Southern California's laboratory test data reports are included in this appendix. It is noted that only ten (10) of the samples have been tested at the time of the preparation of this report. The test results from the remaining four (4) samples will be included in the final report.

**TABLE B-1  
 ATTERBERG LIMITS (ASTM D4318) TEST RESULTS**

Sample ID	Depth (feet)	Liquid Limit (%)	Plasticity Index (%)	Classification
B1-B2	2-8	72	49	CH
B5-B1	2-4	60	39	CH
B8-B1	2-5	59	39	CH
B14-B1	2-5	70	51	CH
B17-B1	3-5	67	45	CH
B23-B1	2-5	71	49	CH

**TABLE B-2  
 EXPANSION INDEX TEST (ASTM D4829) RESULTS**

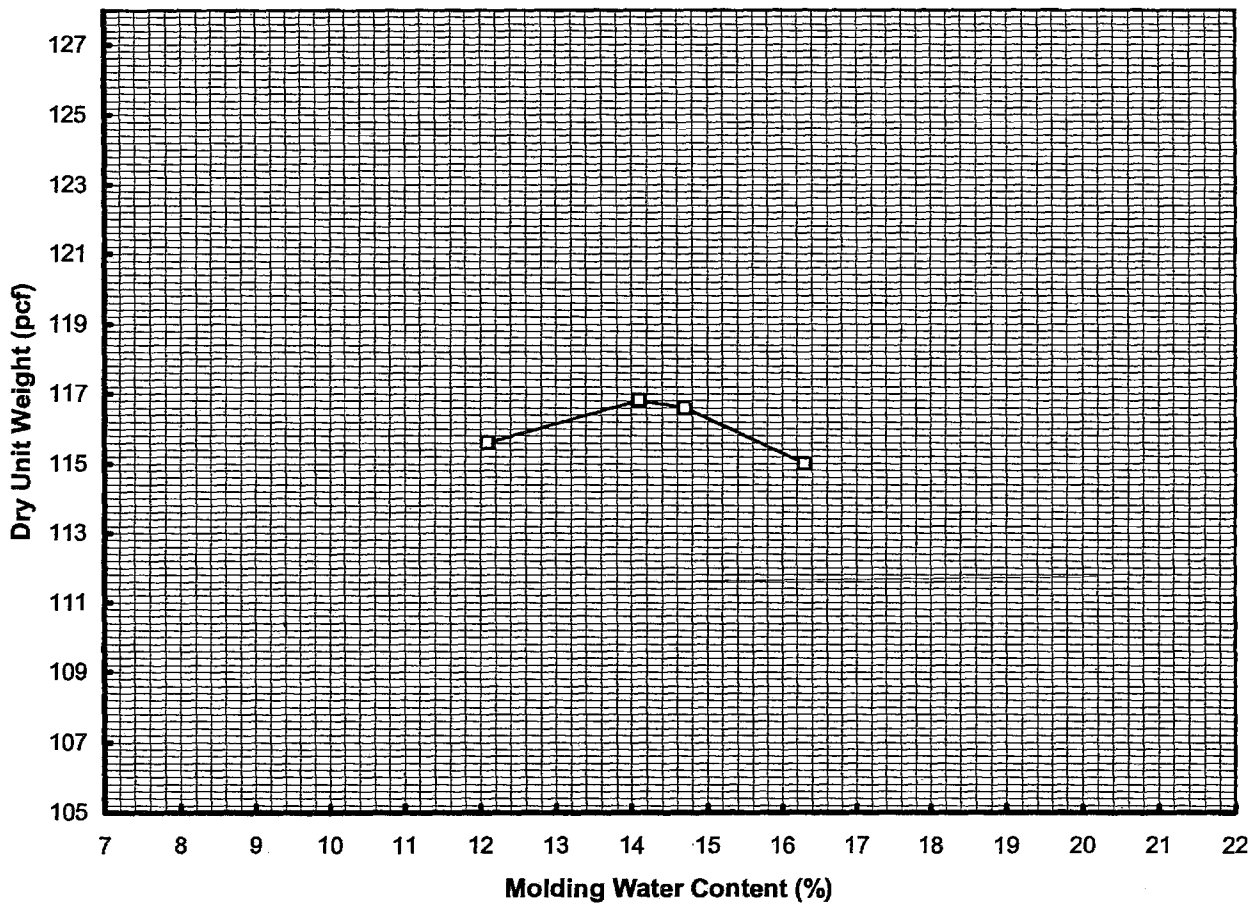
SAMPLE ID	EXPANSION INDEX
B1-B2@2'-8'	112
B5-B1@2'-4'	125
B8-B1@2'-5'	116
B14-B1@2'-5'	91
B17-1@3'-5'	91
B21-B3@6'-9'	123
B23-B1@2'-5'	85
B29-B3@6'-9'	97



### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry



Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
1-2	Bulk	2 - 8	14.1	116.8			Gray brown, sandy clay

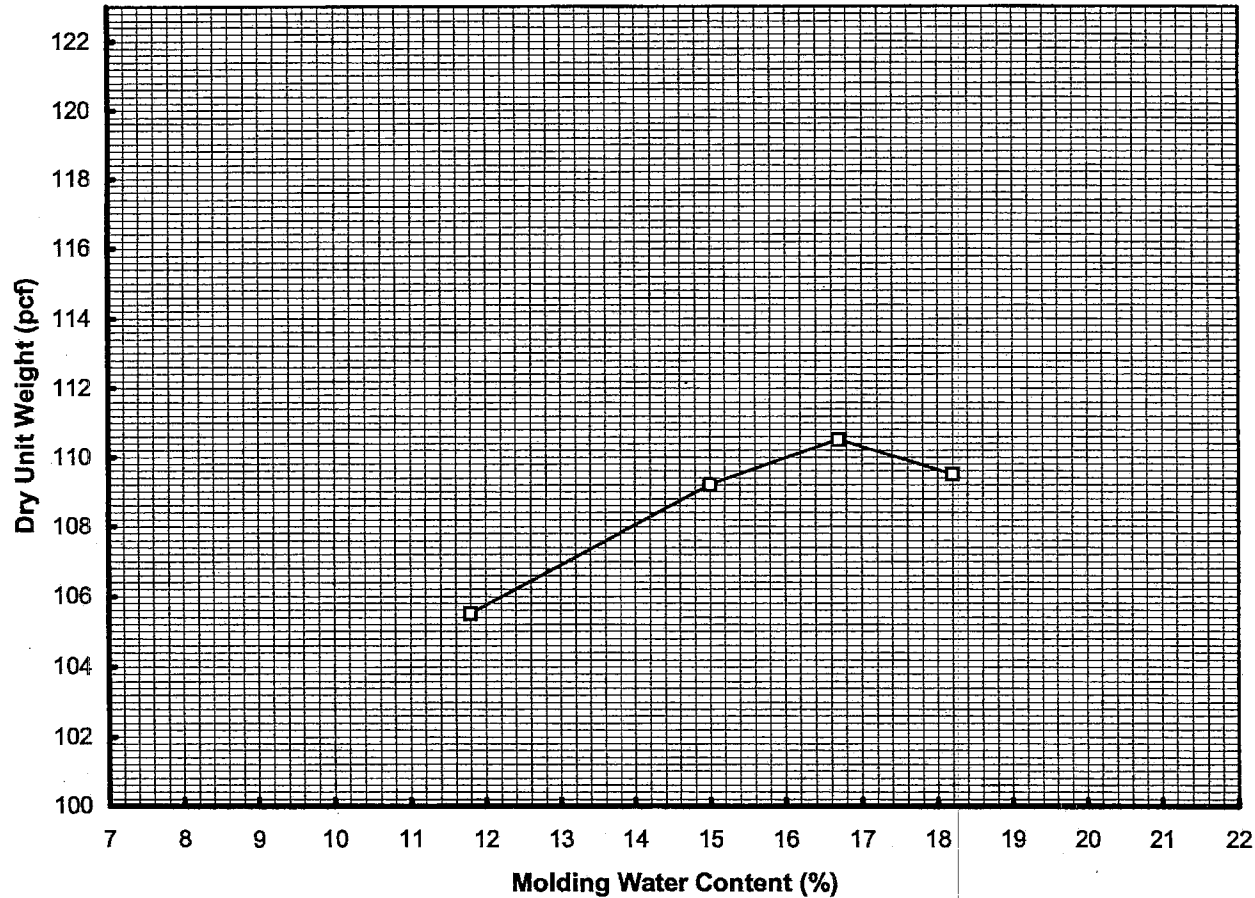
**BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION  
SAN DIEGO, CALIFORNIA**

<b>PROJECT NO. 72NB5</b>	<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>	<b>FIGURE B-1</b>
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### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry

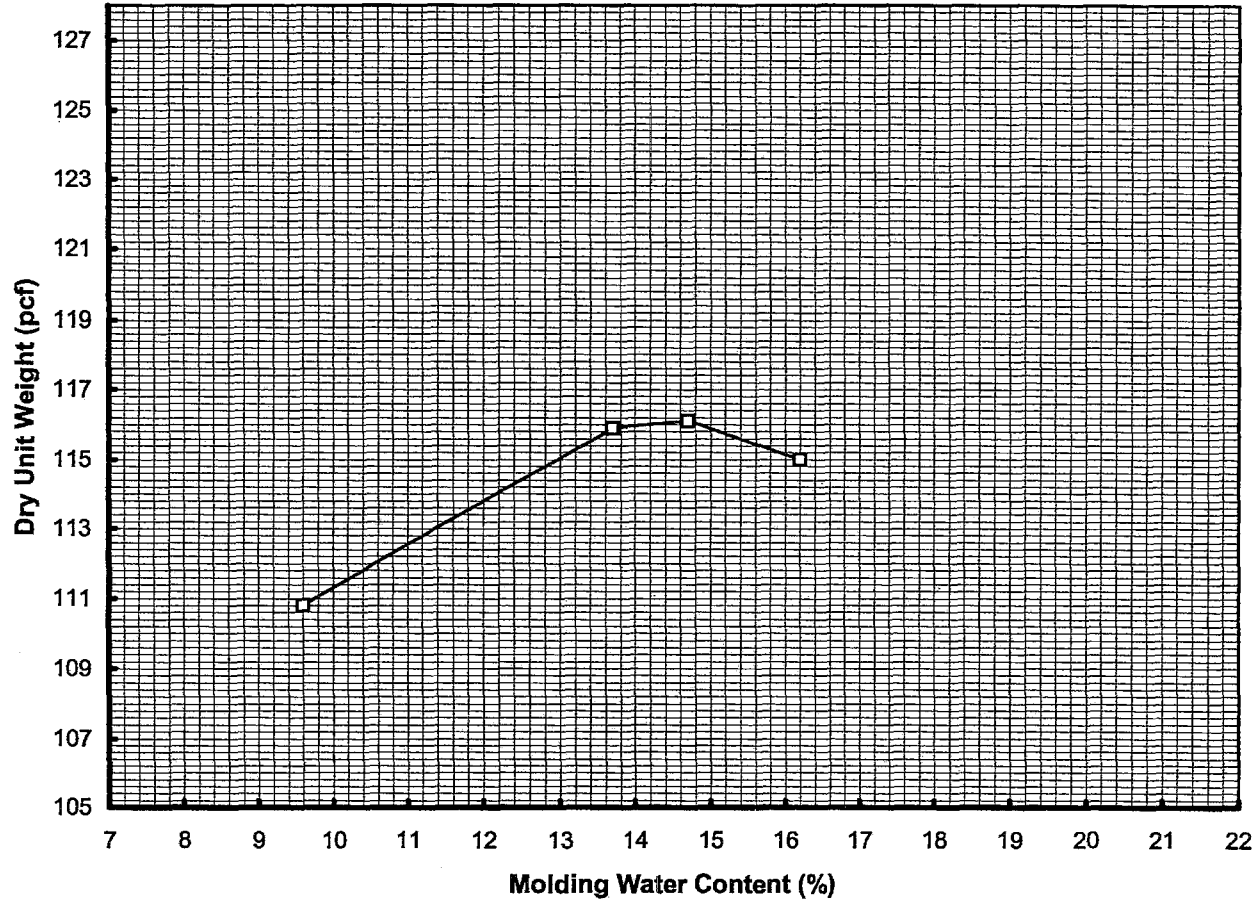


Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
5-1	Bulk	2 - 4	16.7	110.5			Gray brown, sandy clay
<b>BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION SAN DIEGO, CALIFORNIA</b>							
<b>PROJECT NO. 72NB5</b>			<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>				<b>FIGURE B-2</b>

### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry



Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
8-1	Bulk	2 - 5	14.7	116.1			Gray brown, sandy clay

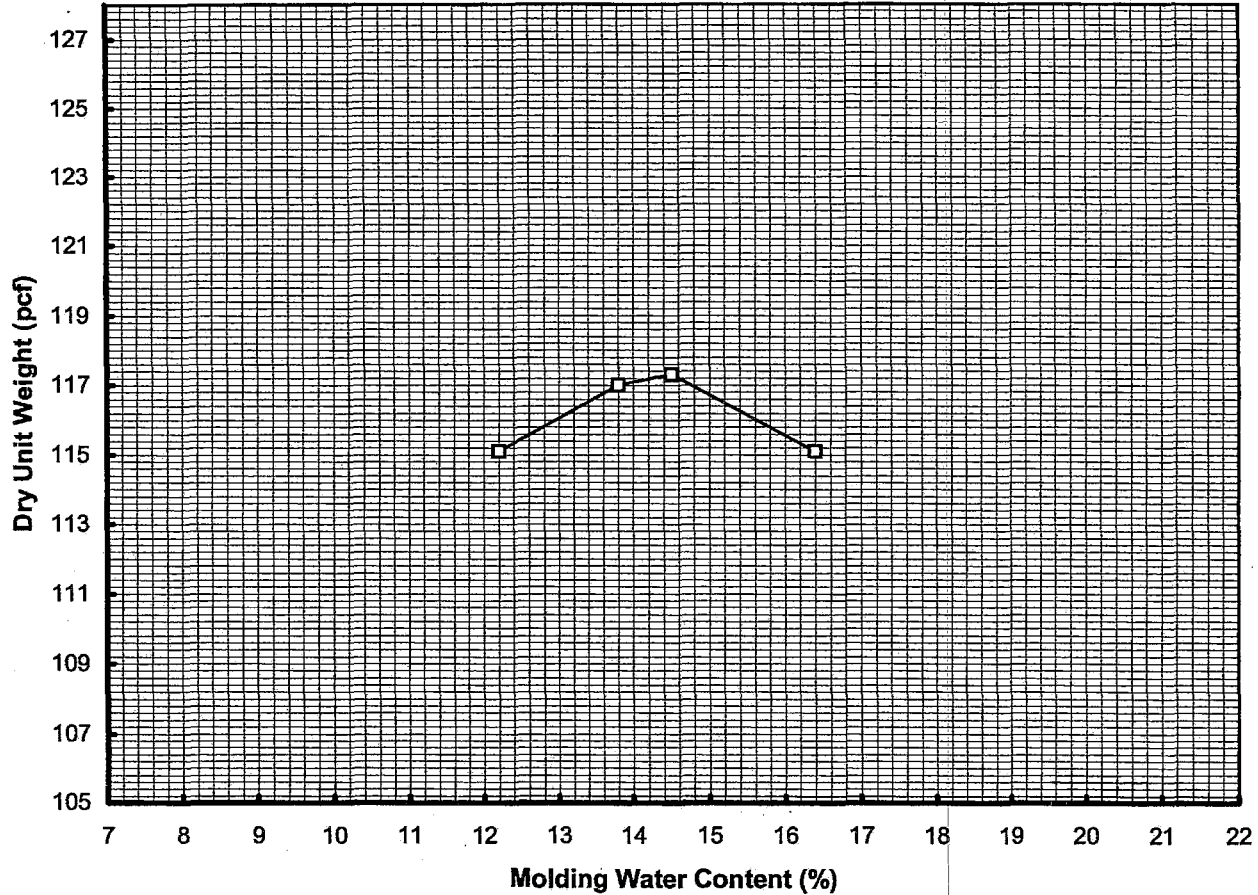
**BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION  
SAN DIEGO, CALIFORNIA**

<b>PROJECT NO. 72NB5</b>	<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>	<b>FIGURE B-3</b>
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### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry



Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
14-1	Bulk	2-5	14.5	117.3			Gray brown, sandy clay

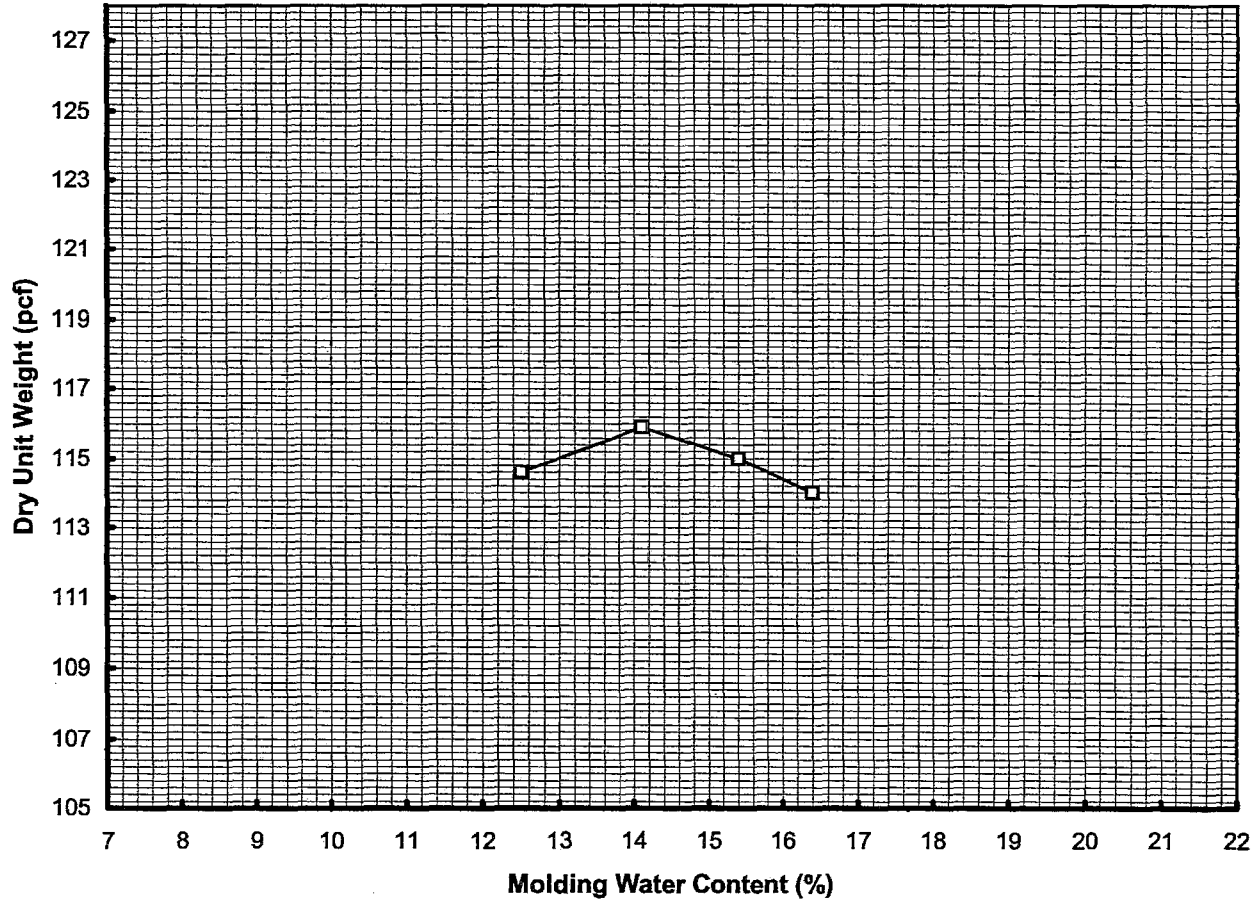
**BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION  
SAN DIEGO, CALIFORNIA**

<b>PROJECT NO. 72NB5</b>	<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>	<b>FIGURE B-4</b>
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### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry

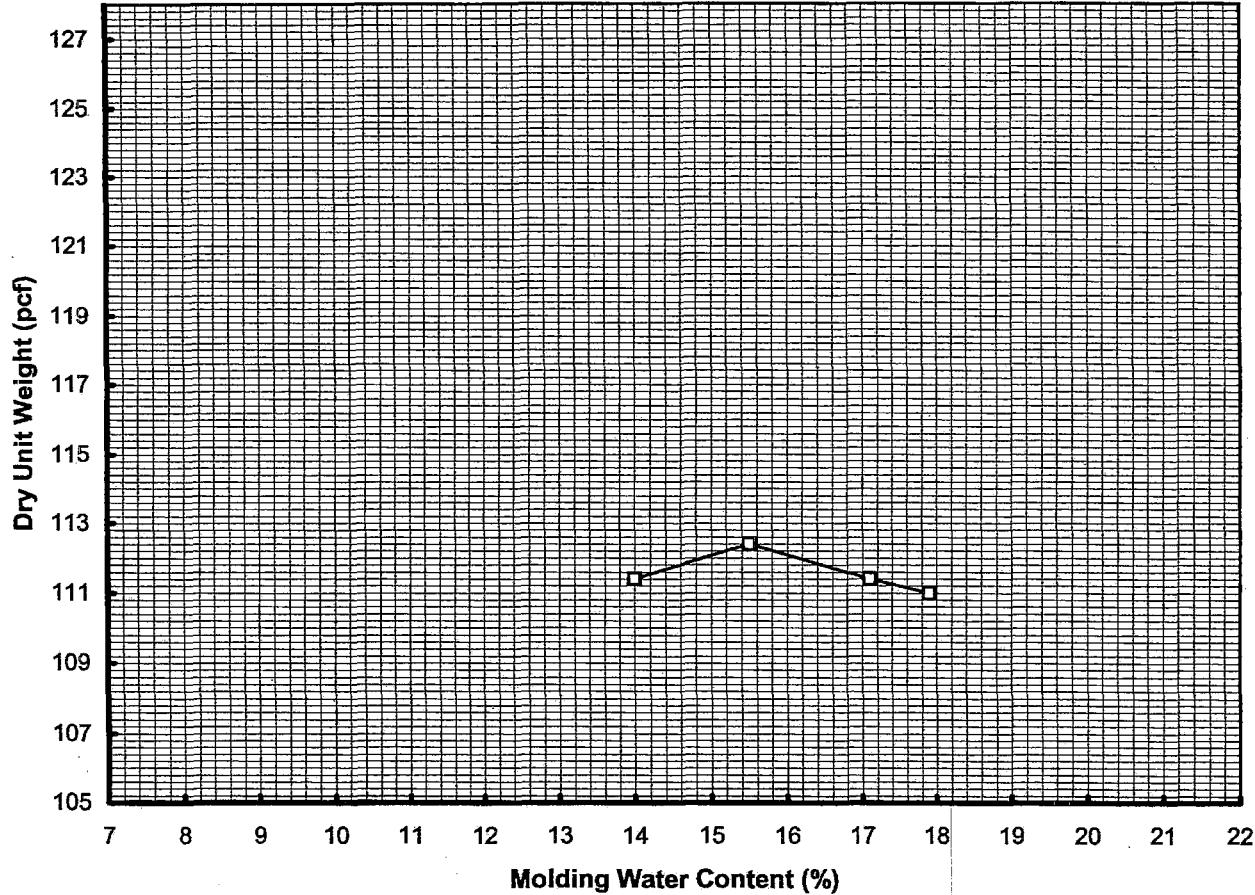


Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
17-1	Bulk	3-5	14.1	115.9			Gray brown, sandy clay
<b>BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION SAN DIEGO, CALIFORNIA</b>							
<b>PROJECT NO. 72NB5</b>			<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>				<b>FIGURE B-5</b>

### COMPACTION CURVE

Test Method: ASTM D 1557

Compaction Procedure:  A Specimen Preparation Method:  Moist or  Dry



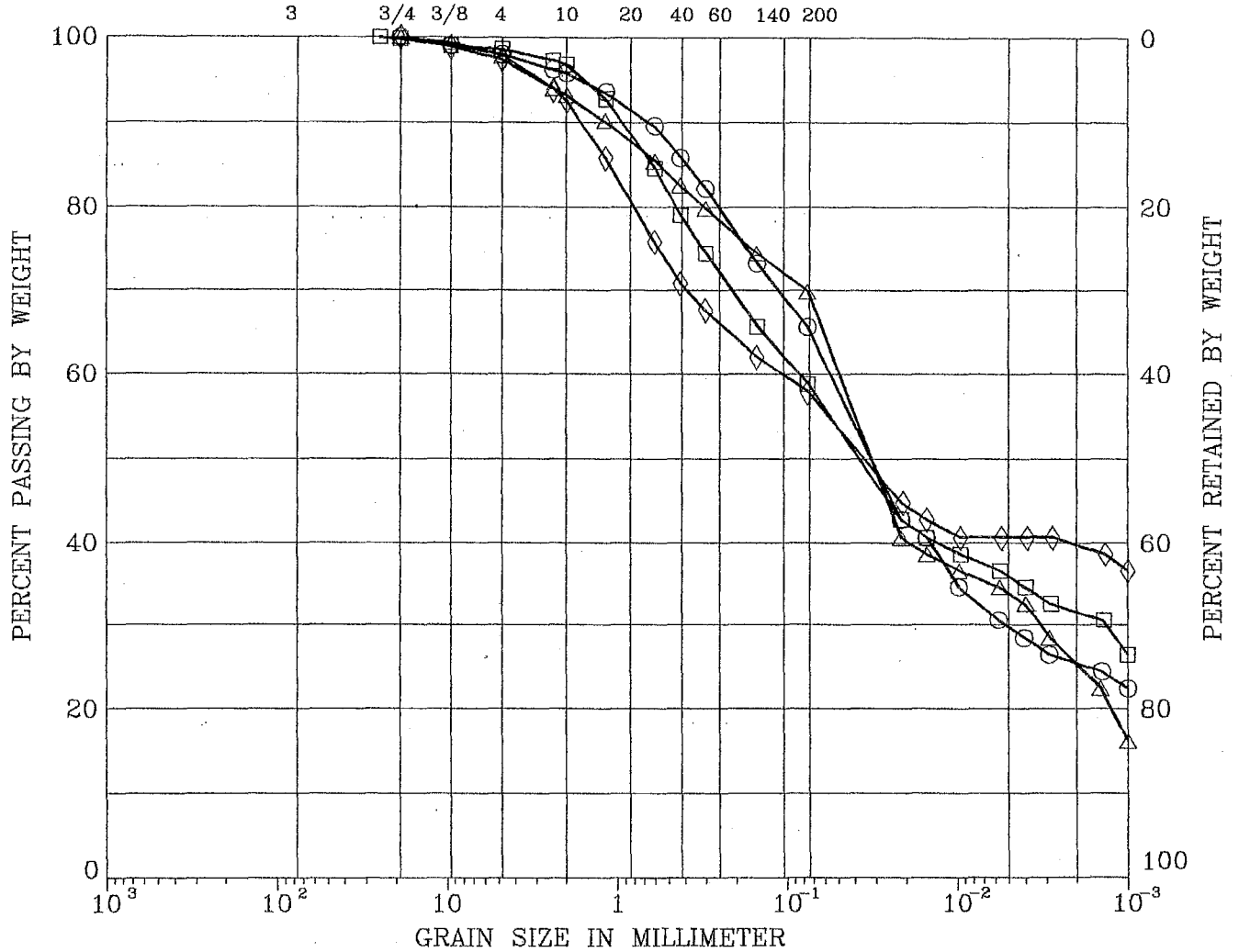
Sample No.	Sample Type	Depth (ft)	OPT. WC (%)	MAX. DUW (pcf)	LL	PI	Description and/or Classification
23-1	Bulk	2 - 5	15.5	112.4			Gray brown, sandy clay

**BROWN FIELD AIRPORT RUNWAY 8L/26R PAVEMENT REHABILITATION  
SAN DIEGO, CALIFORNIA**

<b>PROJECT NO. 72NB5</b>	<b>ALLIED GEOTECHNICAL ENGINEERS, INC.</b>	<b>FIGURE B-6</b>
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UNIFIED SOIL CLASSIFICATION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	
U.S. SIEVE SIZE IN INCHES			U.S. STANDARD SIEVE No.			HYDROMETER



SYMBOL	BORING	DEPTH (ft)	LL (%)	PI (%)	DESCRIPTION
○	1-2	2-8	72	49	SANDY CLAY (CH)
□	8-1	2-5	59	39	SANDY CLAY (CH)
△	14-1	2-5	70	51	SANDY CLAY (CH)
◇	17-1	3-5	67	45	SANDY CLAY (CH)

Remark :

Project No. 72NB5

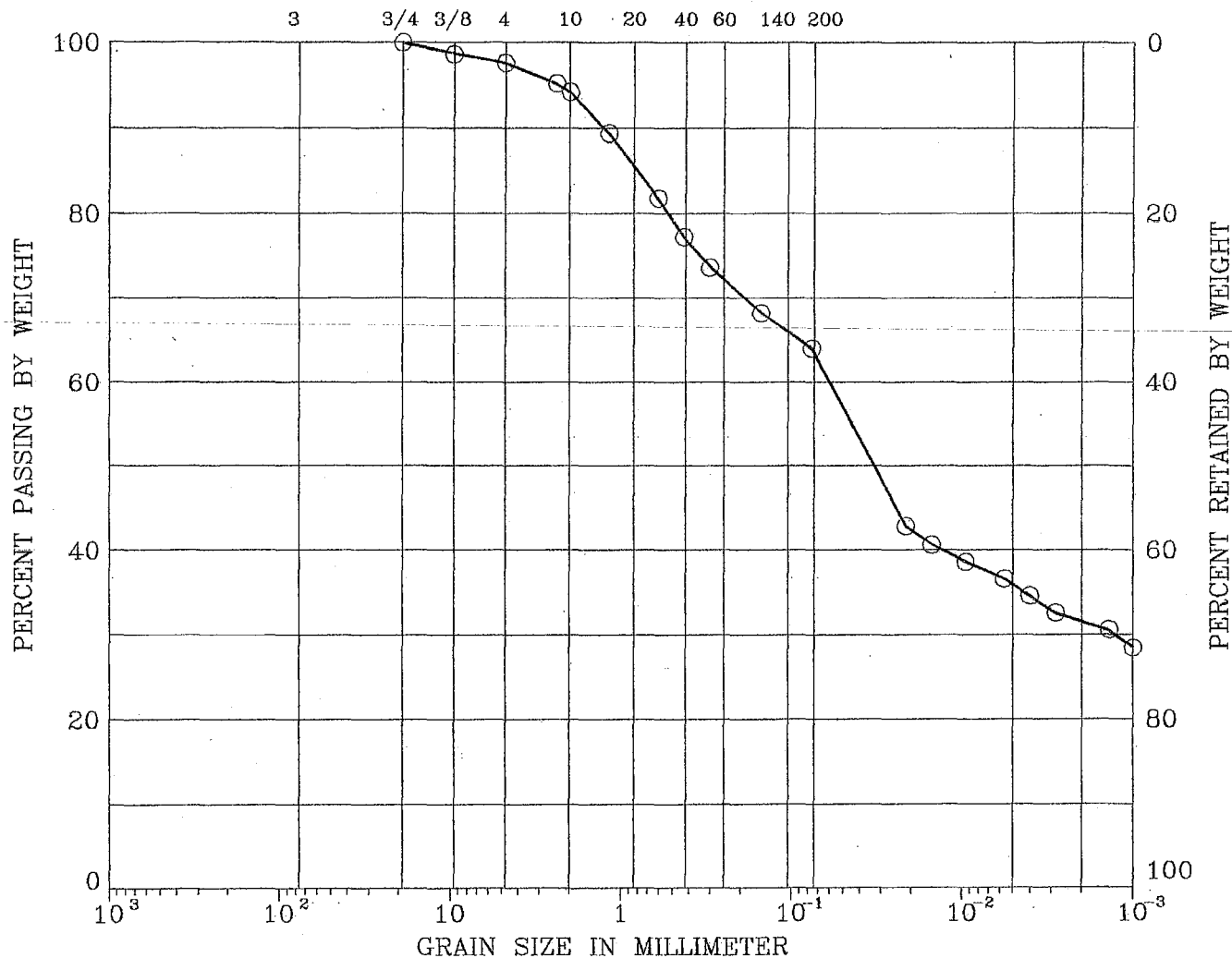
BROWN FIELD PAVEMENT REHABILITATION

ALLIED GEOTECHNICAL ENGINEERS, INC.

GRAIN SIZE DISTRIBUTION Figure B-7

UNIFIED SOIL CLASSIFICATION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	
U.S. SIEVE SIZE IN INCHES			U.S. STANDARD SIEVE No.			HYDROMETER

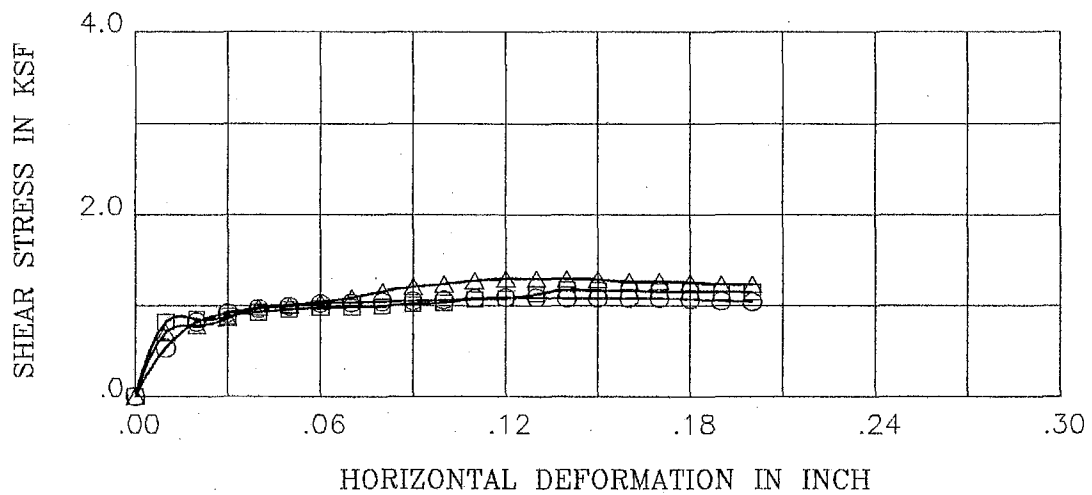
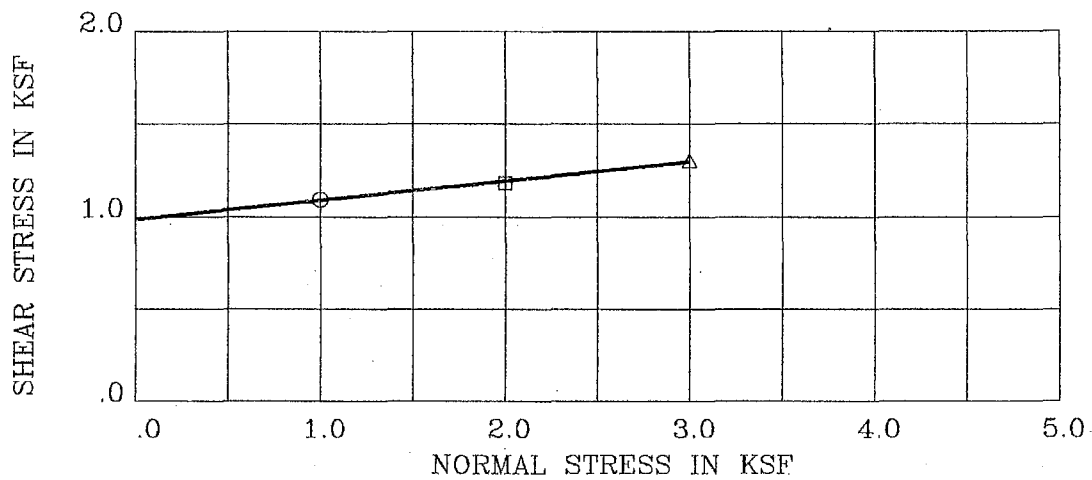


SYMBOL	BORING	DEPTH (ft)	LL (%)	PI (%)	DESCRIPTION
○	23-1	2-5	71	49	SANDY CLAY (CH)

Remark :

Project No. 72NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	GRAIN SIZE DISTRIBUTION Figure B-8



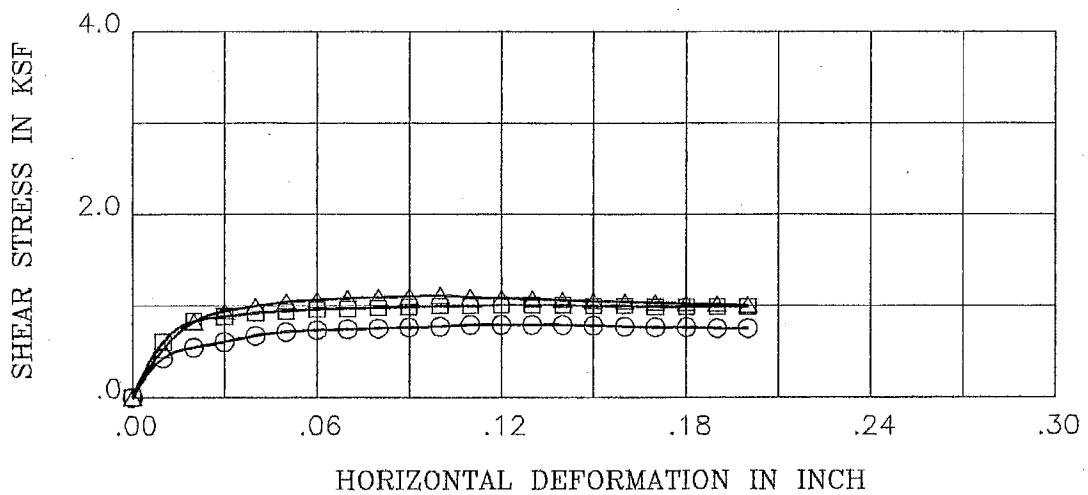
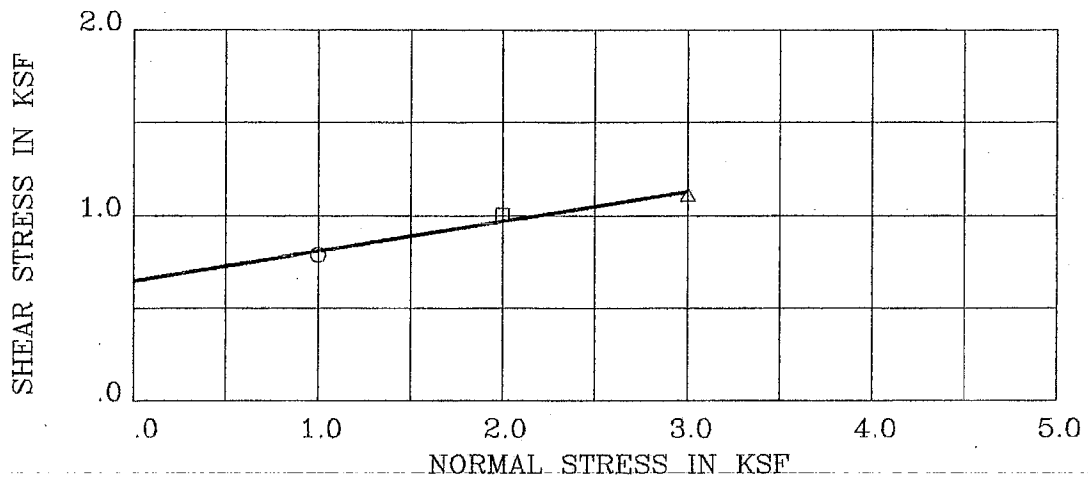


BORING/SAMPLE : 3-2                      DEPTH (ft) : 6-6.5  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : .987    KSF                      (PEAK STRENGTH)  
 FRICTION ANGLE (PHI) : 5.9    DEG

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	37.5	84.4	.923	1.00	1.10	1.04
□	32.6	87.0	.864	2.00	1.18	1.15
△	33.2	87.2	.861	3.00	1.30	1.24

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION	
ALLIED GEOTECHNICAL ENGINEERS, INC.	<b>DIRECT SHEAR TEST</b>	Figure B-9

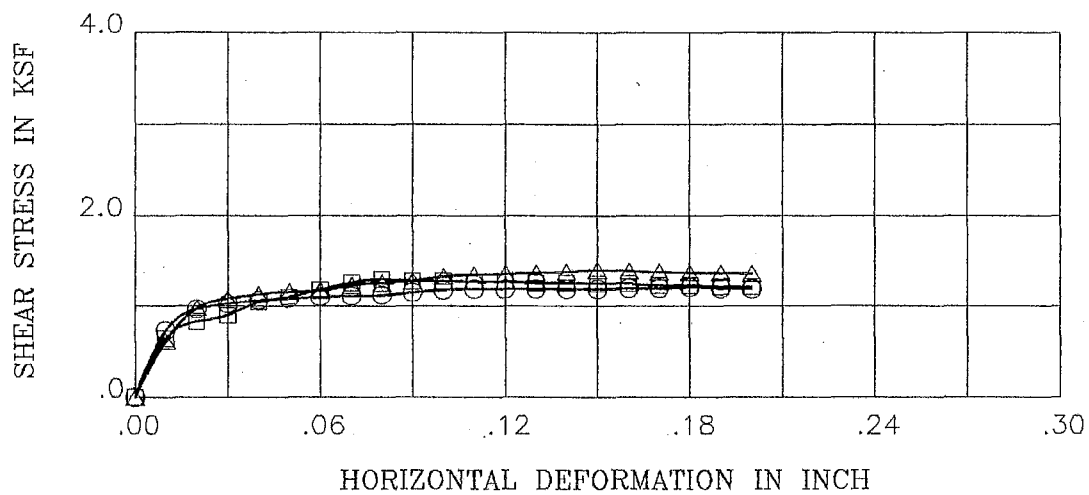
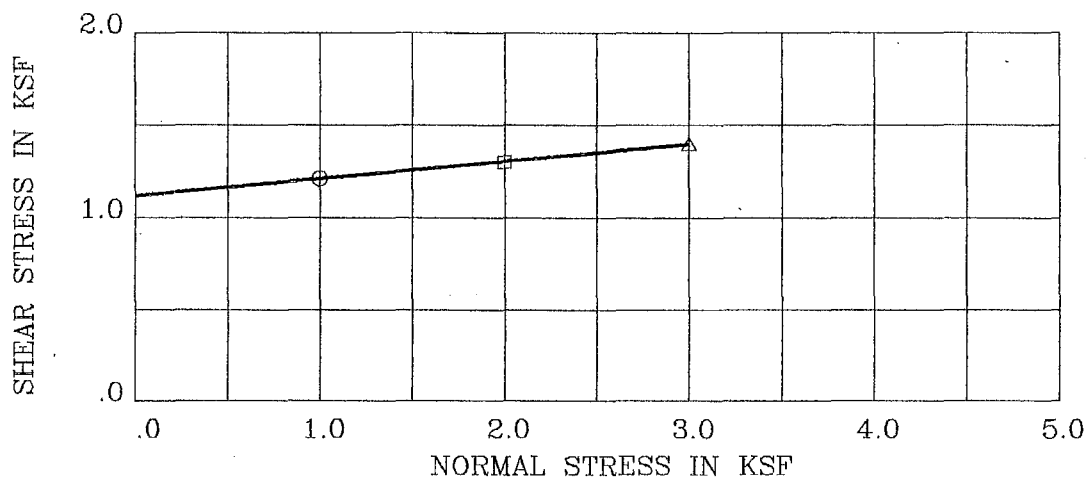


BORING/SAMPLE : 6-1                      DEPTH (ft) : 4-4.5  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : .647      KSF                      (PEAK STRENGTH)  
 FRICTION ANGLE (PHI) : 9.2      DEG

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	34.0	92.0	.763	1.00	.79	.75
□	39.2	87.0	.864	2.00	1.01	.98
△	34.1	92.4	.757	3.00	1.11	1.01

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	DIRECT SHEAR TEST      Figure B-10

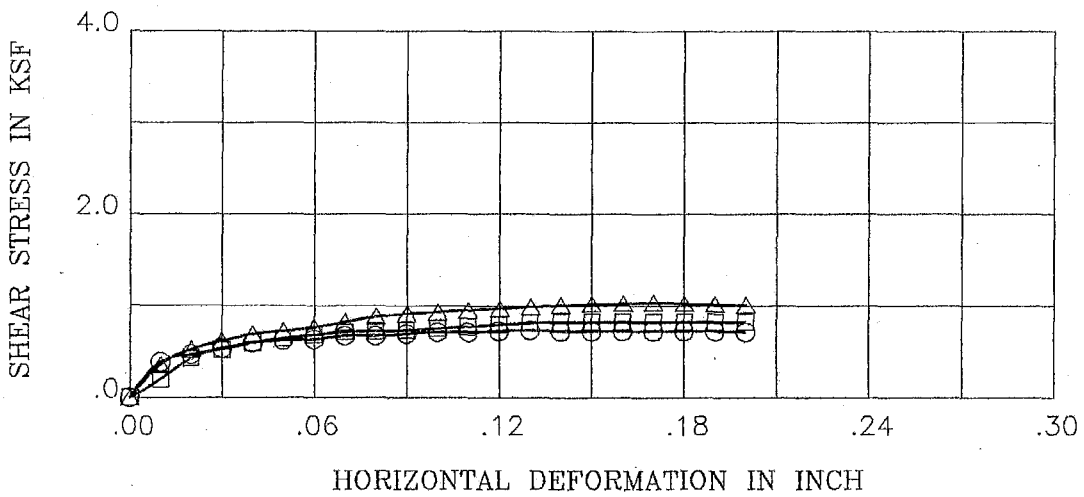
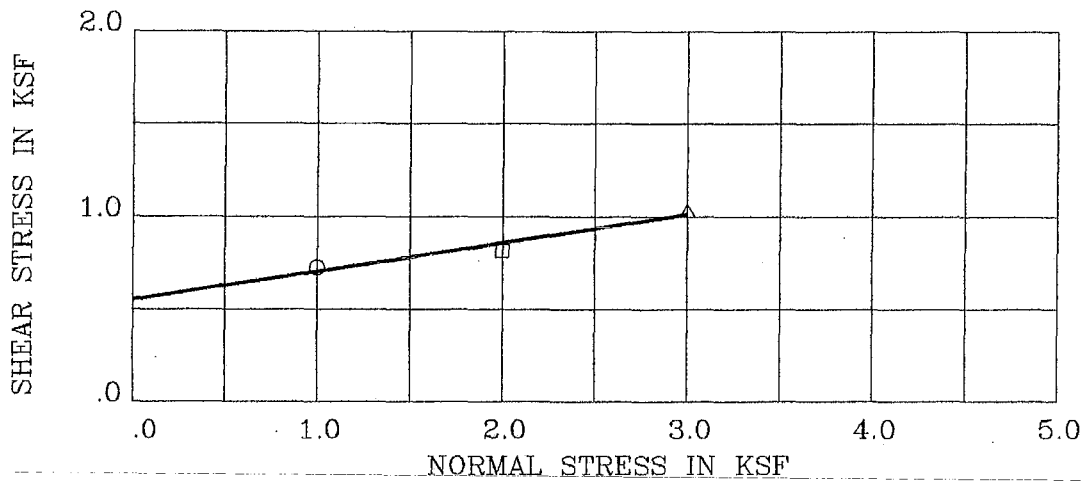


BORING/SAMPLE : 12-2                      DEPTH (ft) : 3.5-4  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : 1.117      KSF                      (PEAK STRENGTH)  
 FRICTION ANGLE (PHI) : 5.3      DEG

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	23.6	98.3	.651	1.00	1.21	1.19
□	25.0	97.3	.667	2.00	1.30	1.22
△	23.6	99.7	.626	3.00	1.40	1.36

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	<b>DIRECT SHEAR TEST</b> Figure B-11

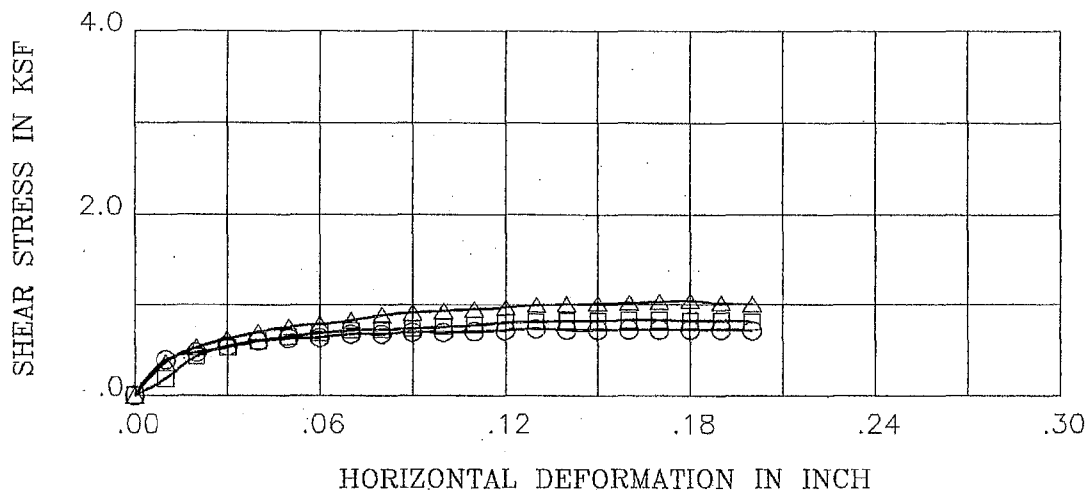
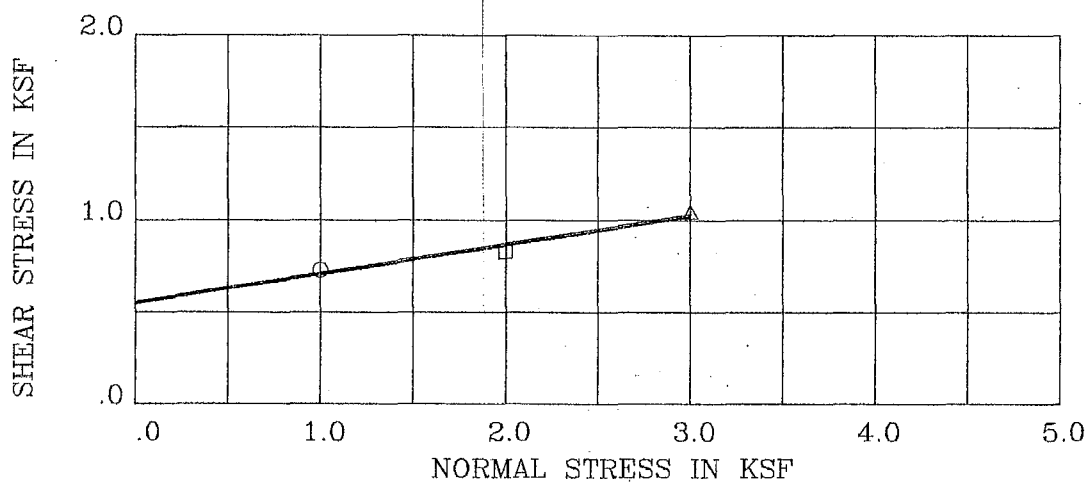


BORING/SAMPLE : 13-2                      DEPTH (ft) : 6-6.5  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : .555      KSF                      (PEAK STRENGTH)  
 FRICTION ANGLE (PHI) : 8.7      DEG

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	38.4	83.8	.935	1.00	.73	.71
□	33.9	88.5	.834	2.00	.82	.82
△	39.4	86.7	.872	3.00	1.03	1.01

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	DIRECT SHEAR TEST      Figure B-12

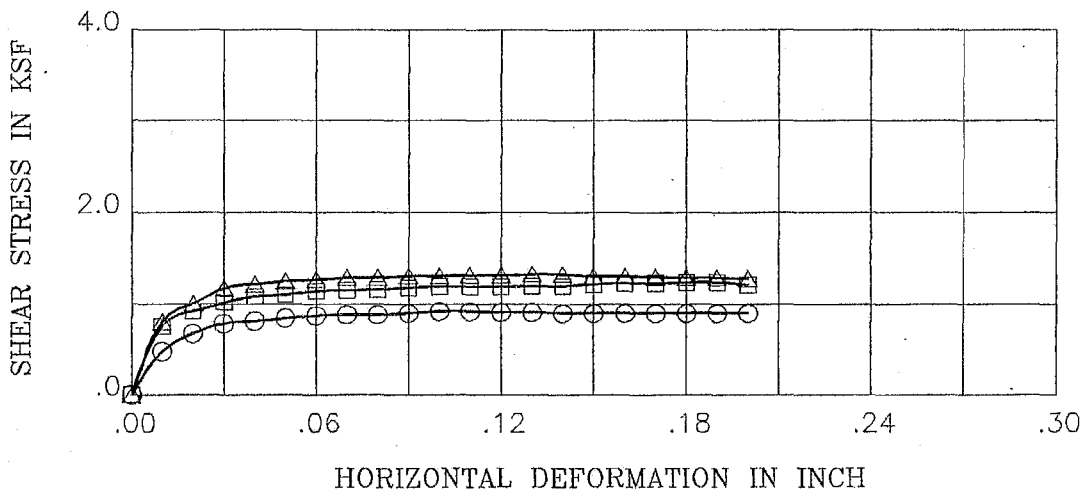
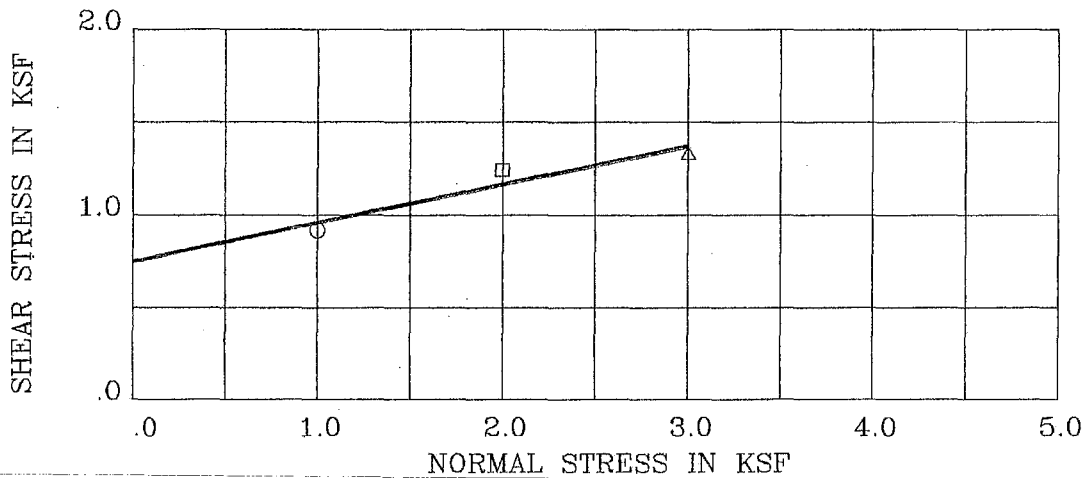


BORING/SAMPLE : 15-1                      DEPTH (ft) : 4-4.5  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : .552    KSF                      (PEAK STRENGTH)  
 FRICTION ANGLE (PHI) : 9.0    DEG

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	36.2	85.1	.906	1.00	.73	.71
□	37.9	82.9	.957	2.00	.83	.81
△	36.1	82.4	.969	3.00	1.05	1.01

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	<b>DIRECT SHEAR TEST</b> Figure B-13



BORING/SAMPLE : 19-1                      DEPTH (ft) : 4-4.5  
 DESCRIPTION :  
 STRENGTH INTERCEPT (C) : .751      KSF  
 FRICTION ANGLE (PHI) : 11.7      DEG                      (PEAK STRENGTH)

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	35.3	83.4	.945	1.00	.92	.90
□	34.1	86.8	.870	2.00	1.24	1.21
△	31.6	86.7	.872	3.00	1.33	1.28

Remark :

Project No. 70NB5	BROWN FIELD PAVEMENT REHABILITATION
ALLIED GEOTECHNICAL ENGINEERS, INC.	DIRECT SHEAR TEST      Figure B-14



LABORATORY REPORT

Telephone (619) 425-1993 Fax 425-7917 Established 1928

CLARKSON LABORATORY AND SUPPLY INC.  
350 Trousdale Dr. Chula Vista, Ca. 91910 www.clarksonlab.com  
ANALYTICAL AND CONSULTING CHEMISTS

Date: June 26, 2013  
Purchase Order Number: 72NB5  
Sales Order Number: 18292  
Account Number: ALLG  
To:

\*-----\*  
Allied Geotechnical Engineers  
1810 Gillespie Way Ste 104  
El Cajon, CA 92020  
Attention: Sani Sutanto

Laboratory Number: SO5020-2 Customers Phone: 449-5900  
Fax: 449-5902

Sample Designation:  
\*-----\*

One soil sample received on 06/13/13 at 1:35pm,  
taken on 06/13/13 from Brown Field Airport Runway 8L/26R  
Pavement Rehabilitation Proj#72NB5 marked as B5-B1 @ 2'-4'.

Analysis By California Test 643, 1999, Department of Transportation  
Division of Construction, Method for Estimating the Service Life of  
Steel Culverts.

pH 8.9

Water Added (ml)	Resistivity (ohm-cm)
15	3500
5	1200
5	960
5	850
5	800
5	790
5	730
5	830
5	850

- 27 years to perforation for a 16 gauge metal culvert.
- 35 years to perforation for a 14 gauge metal culvert.
- 48 years to perforation for a 12 gauge metal culvert.
- 62 years to perforation for a 10 gauge metal culvert.
- 75 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417	0.005%
Water Soluble Chloride Calif. Test 422	0.005%
Bicarbonate (as CaCO <sub>3</sub> ) (In a saturated soil paste extract)	100 ppm

  
\_\_\_\_\_  
Laura Torres



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Date: June 26, 2013
Purchase Order Number: 72NB5
Sales Order Number: 18292
Account Number: ALLG
To:

\*-----\*
Allied Geotechnical Engineers
1810 Gillespie Way Ste 104
El Cajon, CA 92020
Attention: Sani Sutanto

Laboratory Number: SO5020-3 Customers Phone: 449-5900
Fax: 449-5902

Sample Designation:
\*-----\*
One soil sample received on 06/13/13 at 1:35pm,
taken on 06/13/13 from Brown Field Airport Runway 8L/26R
Pavement Rehabilitation Proj#72NB5 marked as B8-B1 @ 2'-5'.

Analysis By California Test 643, 1999, Department of Transportation
Division of Construction, Method for Estimating the Service Life of
Steel Culverts.

pH 8.5

Table with 2 columns: Water Added (ml) and Resistivity (ohm-cm). Rows show values for 15ml, 5ml, and 5ml.

23 years to perforation for a 16 gauge metal culvert.
29 years to perforation for a 14 gauge metal culvert.
41 years to perforation for a 12 gauge metal culvert.
52 years to perforation for a 10 gauge metal culvert.
63 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417 0.005%
Water Soluble Chloride Calif. Test 422 0.002%

Bicarbonate (as CaCO3) 100 ppm
(In a saturated soil paste extract)

Laura Torres
Laura Torres
Brown Field (SDM) Airport Runway 8L/26R Rehab
Appendix F - Report of Geotechnical Investigation Brown Field Airport Runway 8L/26R Pavement Rehabilitation Volume 1 of 2 (Rev. Apr. 2015)

L A B O R A T O R Y   R E P O R T

Telephone (619) 425-1993      Fax 425-7917      Established 1928

C L A R K S O N   L A B O R A T O R Y   A N D   S U P P L Y   I N C .  
350 Trousdale Dr. Chula Vista, Ca. 91910 www.clarksonlab.com  
A N A L Y T I C A L   A N D   C O N S U L T I N G   C H E M I S T S

Date: June 26, 2013  
Purchase Order Number: 72NB5  
Sales Order Number: 18292  
Account Number: ALLG  
To:

\*-----\*  
Allied Geotechnical Engineers  
1810 Gillespie Way Ste 104  
El Cajon, CA 92020  
Attention: Sani Sutanto

Laboratory Number: SO5020-4      Customers Phone: 449-5900  
Fax: 449-5902

Sample Designation:  
\*-----\*

One soil sample received on 06/13/13 at 1:35pm,  
taken on 06/13/13 from Brown Field Airport Runway 8L/26R  
Pavement Rehabilitation Proj#72NB5 marked as B11-B1 @ 2'-5'.

Analysis By California Test 643, 1999, Department of Transportation  
Division of Construction, Method for Estimating the Service Life of  
Steel Culverts.

pH 8.4

Water Added (ml)	Resistivity (ohm-cm)
30	810
5	740
5	800
5	800
5	780
5	960
5	800
5	990
5	1100

- 27 years to perforation for a 16 gauge metal culvert.
- 35 years to perforation for a 14 gauge metal culvert.
- 49 years to perforation for a 12 gauge metal culvert.
- 62 years to perforation for a 10 gauge metal culvert.
- 76 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417      0.011%  
Water Soluble Chloride Calif. Test 422      0.002%

Bicarbonate (as CaCO<sub>3</sub>)      80 ppm  
(In a saturated soil paste extract)



Laura Torres  
Brown Field (SDM) Airport Runway 8L/26R Rehab

LABORATORY REPORT

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ANALYTICAL AND CONSULTING CHEMISTS

Date: June 26, 2013
Purchase Order Number: 72NB5
Sales Order Number: 18292
Account Number: ALLG
To:

\*-----\*
Allied Geotechnical Engineers
1810 Gillespie Way Ste 104
El Cajon, CA 92020
Attention: Sani Sutanto

Laboratory Number: SO5020-5 Customers Phone: 449-5900
Fax: 449-5902

Sample Designation:
\*-----\*

One soil sample received on 06/13/13 at 1:35pm,
taken on 06/13/13 from Brown Field Airport Runway 8L/26R
Pavement Rehabilitation Proj#72NB5 marked as B14-B1 @ 2'-5'.

Analysis By California Test 643, 1999, Department of Transportation
Division of Construction, Method for Estimating the Service Life of
Steel Culverts.

pH 7.7

Table with 2 columns: Water Added (ml) and Resistivity (ohm-cm). Rows show values for 10ml, 5ml, and 5ml water additions.

21 years to perforation for a 16 gauge metal culvert.
28 years to perforation for a 14 gauge metal culvert.
38 years to perforation for a 12 gauge metal culvert.
49 years to perforation for a 10 gauge metal culvert.
59 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417 0.099%
Water Soluble Chloride Calif. Test 422 0.011%
Bicarbonate (as CaCO3) 70 ppm
(In a saturated soil paste extract)

Laura Torres
Laura Torres

LABORATORY REPORT

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Date: June 26, 2013
Purchase Order Number: 72NB5
Sales Order Number: 18292
Account Number: ALLG
To:

\*-----\*
Allied Geotechnical Engineers
1810 Gillespie Way Ste 104
El Cajon, CA 92020
Attention: Sani Sutanto

Laboratory Number: SO5020-6 Customers Phone: 449-5900
Fax: 449-5902

Sample Designation:
\*-----\*
One soil sample received on 06/13/13 at 1:35pm,
taken on 06/13/13 from Brown Field Airport Runway 8L/26R
Pavement Rehabilitation Proj#72NB5 marked as B16-B1 @ 5'-8'.

Analysis By California Test 643, 1999, Department of Transportation
Division of Construction, Method for Estimating the Service Life of
Steel Culverts.

pH 6.5

Table with 2 columns: Water Added (ml) and Resistivity (ohm-cm). Rows show values for 10, 5, 5, 5, 5, 5, 5, 5 ml of water added, with corresponding resistivity values ranging from 4800 to 330.

- 6 years to perforation for a 16 gauge metal culvert.
8 years to perforation for a 14 gauge metal culvert.
11 years to perforation for a 12 gauge metal culvert.
14 years to perforation for a 10 gauge metal culvert.
17 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417 0.045%
Water Soluble Chloride Calif. Test 422 0.012%
Bicarbonate (as CaCO3) N/A
(In a saturated soil paste extract)

Note: N/A = Unable to determine due to the texture of the soil (Clay).

Laura Torres
Laura Torres

LABORATORY REPORT

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Fax 425-7917

Established 1928

CLARKSON LABORATORY AND SUPPLY INC.  
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Date: June 26, 2013  
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Sales Order Number: 18292  
Account Number: ALLG  
To:

\*-----\*  
Allied Geotechnical Engineers  
1810 Gillespie Way Ste 104  
El Cajón, CA 92020  
Attention: Sani Sutanto

Laboratory Number: SO5020-7      Customers Phone: 449-5900  
Fax: 449-5902

Sample Designation:  
\*-----\*  
One soil sample received on 06/13/13 at 1:35pm,  
taken on 06/13/13 from Brown Field Airport Runway 8L/26R  
Pavement Rehabilitation Proj#72NB5 marked as B19-B2 @ 3'-6'.

Analysis By California Test 643, 1999, Department of Transportation  
Division of Construction, Method for Estimating the Service Life of  
Steel Culverts.

pH 8.9

Water Added (ml)	Resistivity (ohm-cm)
10	3800
5	2100
5	1400
5	1000
5	1000
5	800
5	870
5	900

28 years to perforation for a 16 gauge metal culvert.  
36 years to perforation for a 14 gauge metal culvert.  
50 years to perforation for a 12 gauge metal culvert.  
64 years to perforation for a 10 gauge metal culvert.  
78 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417      0.013%  
Water Soluble Chloride Calif. Test 422      0.002%  
  
Bicarbonate (as CaCO<sub>3</sub>)      100 ppm  
(In a saturated soil paste extract)



Laura Torres

LT/ram

Brown Field (SDM) Airport Runway 8L/26R Rehab



LABORATORY REPORT

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ANALYTICAL AND CONSULTING CHEMISTS

Date: June 26, 2013
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Sales Order Number: 18292
Account Number: ALLG
To:

\*-----\*
Allied Geotechnical Engineers
1810 Gillespie Way Ste 104
El Cajon, CA 92020
Attention: Sani Sutanto

Laboratory Number: SO5020-9 Customers Phone: 449-5900
Fax: 449-5902

Sample Designation:
\*-----\*
One soil sample received on 06/13/13 at 1:35pm,
taken on 06/13/13 from Brown Field Airport Runway 8L/26R
Pavement Rehabilitation Proj#72NB5 marked as B23-B1 @ 2'-5'.

Analysis By California Test 643, 1999, Department of Transportation
Division of Construction, Method for Estimating the Service Life of
Steel Culverts.

pH 8.4

Table with 2 columns: Water Added (ml) and Resistivity (ohm-cm). Rows show values for 10, 5, 5, 5, 5, 5, 5 ml of water added, corresponding resistivity values of 8300, 3100, 1200, 710, 560, 580, and 590 ohm-cm.

- 24 years to perforation for a 16 gauge metal culvert.
31 years to perforation for a 14 gauge metal culvert.
43 years to perforation for a 12 gauge metal culvert.
55 years to perforation for a 10 gauge metal culvert.
67 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417 0.007%
Water Soluble Chloride Calif. Test 422 0.013%
Bicarbonate (as CaCO3) N/A
(In a saturated soil paste extract)

Note: N/A = Unable to determine due to the texture of the soil (Clay).

Handwritten signature of Laura Torres

Laura Torres
LT/ram
Brown Field (SDM) Airport Runway 8L/26R Rehab
Appendix F - Report of Geotechnical Investigation Brown Field Airport Runway 8L/26R Pavement Rehabilitation Volume 1 of 2 (Rev. Apr. 2015)





LABORATORY REPORT

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ANALYTICAL AND CONSULTING CHEMISTS

Date: June 26, 2013  
Purchase Order Number: 72NB5  
Sales Order Number: 18292  
Account Number: ALLG

To:  
\*-----\*  
Allied Geotechnical Engineers  
1810 Gillespie Way Ste 104  
El Cajon, CA 92020  
Attention: Sani Sutanto

Laboratory Number: SO5020-11 Customers Phone: 449-5900  
Fax: 449-5902

Sample Designation:  
\*-----\*  
One soil sample received on 06/13/13 at 1:35pm,  
taken on 06/13/13 from Brown Field Airport Runway 8L/26R  
Pavement Rehabilitation Proj#72NB5 marked as B29-B1 @ 2'-5'.

Analysis By California Test 643, 1999, Department of Transportation  
Division of Construction, Method for Estimating the Service Life of  
Steel Culverts.

pH 8.6

Water Added (ml)	Resistivity (ohm-cm)
10	10000
5	4200
5	1700
5	1100
5	930
5	890
5	900
5	950

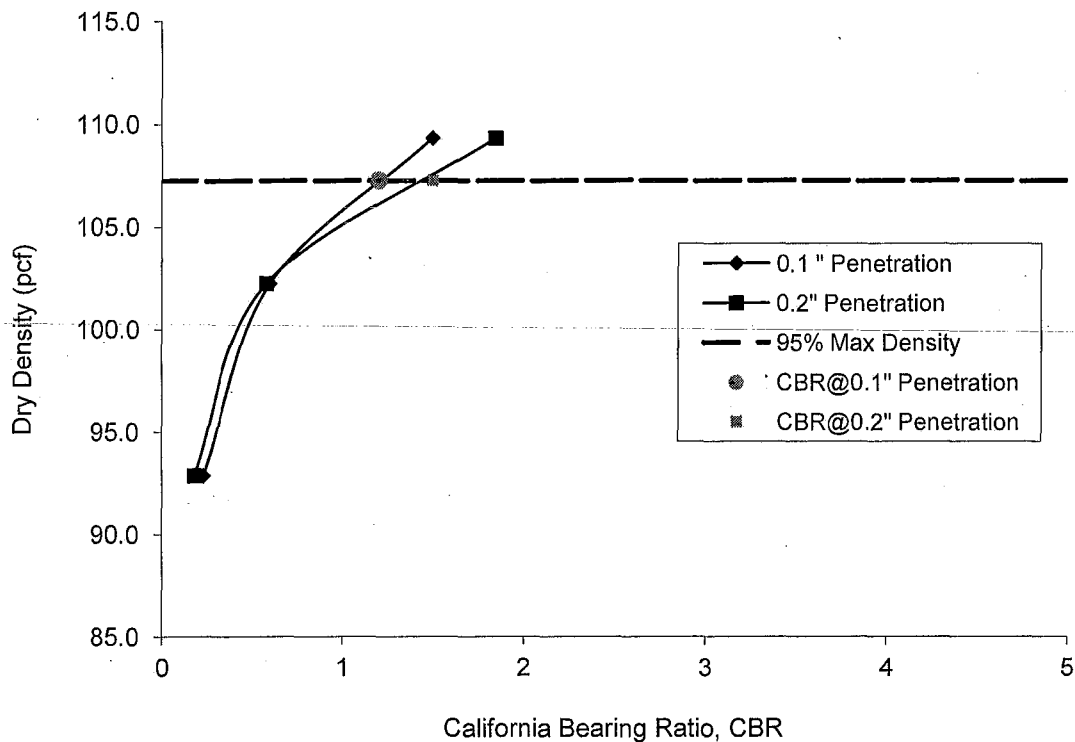
- 29 years to perforation for a 16 gauge metal culvert.
- 38 years to perforation for a 14 gauge metal culvert.
- 52 years to perforation for a 12 gauge metal culvert.
- 67 years to perforation for a 10 gauge metal culvert.
- 82 years to perforation for a 8 gauge metal culvert.

Water Soluble Sulfate Calif. Test 417	0.006%
Water Soluble Chloride Calif. Test 422	0.001%
Bicarbonate (as CaCO <sub>3</sub> ) (In a saturated soil paste extract)	N/A

Note: N/A = Unable to determine due to the texture of the soil (Clay).

  
\_\_\_\_\_  
Laura Torres  
LT/ram

### California Bearing Ratio of Laboratory-Compacted Soils ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B2-B1@2-5	1.2	1.5

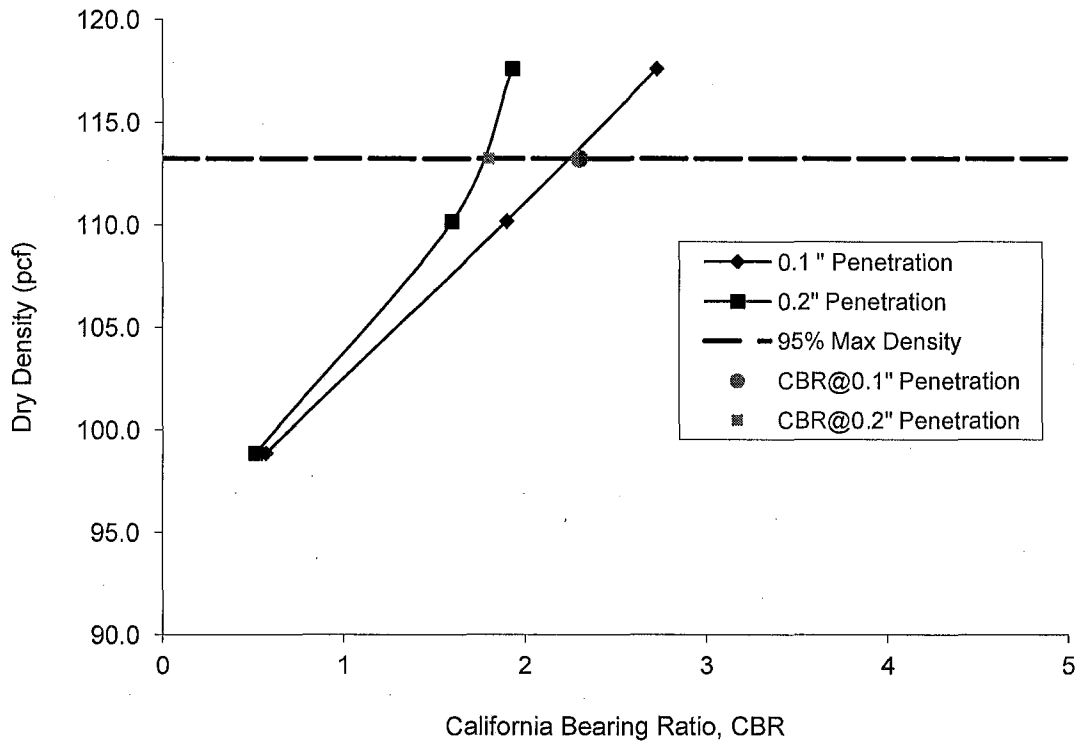


**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/11/2013
JOB No.:	1312035		

### California Bearing Ratio of Laboratory-Compacted Soils ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B4-B1@2-9	2.3	1.8

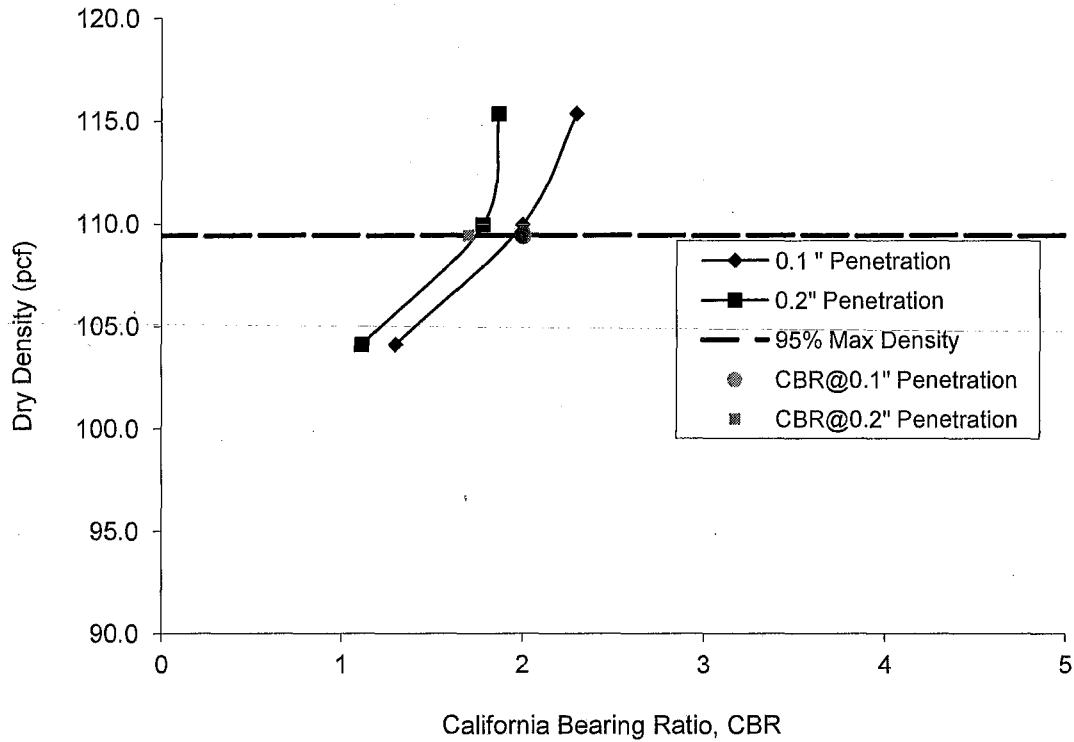


**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/15/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B7-B1@1-8	2	1.7

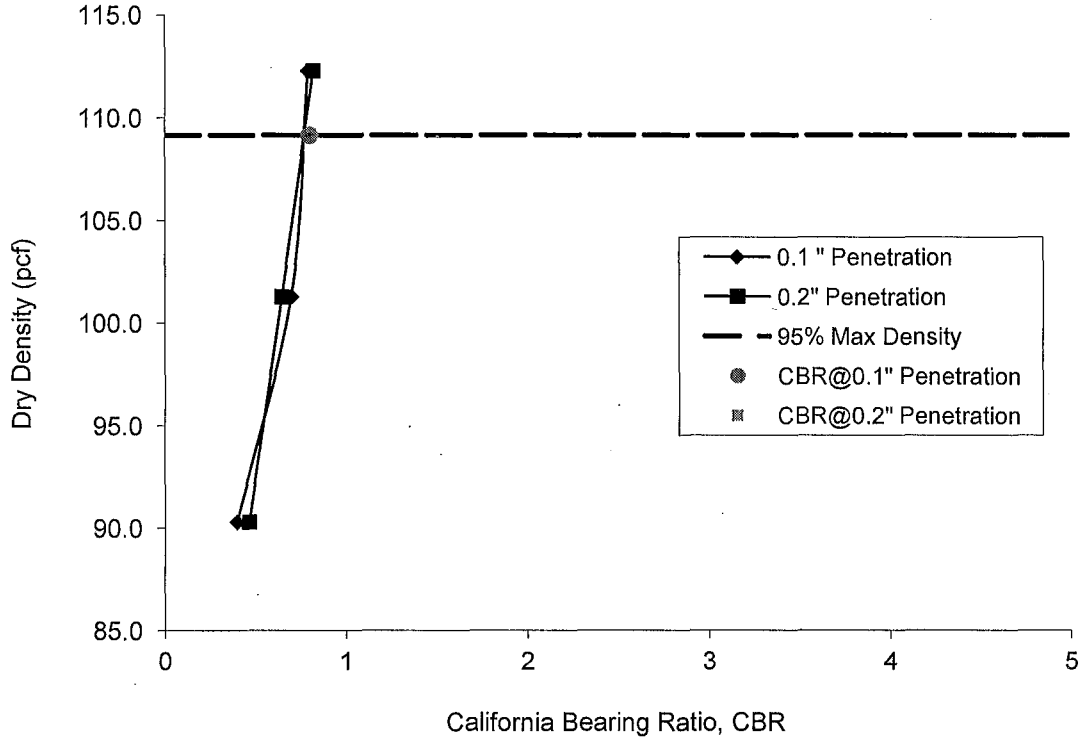


**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/15/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B9-B1@3-10	0.8	0.8

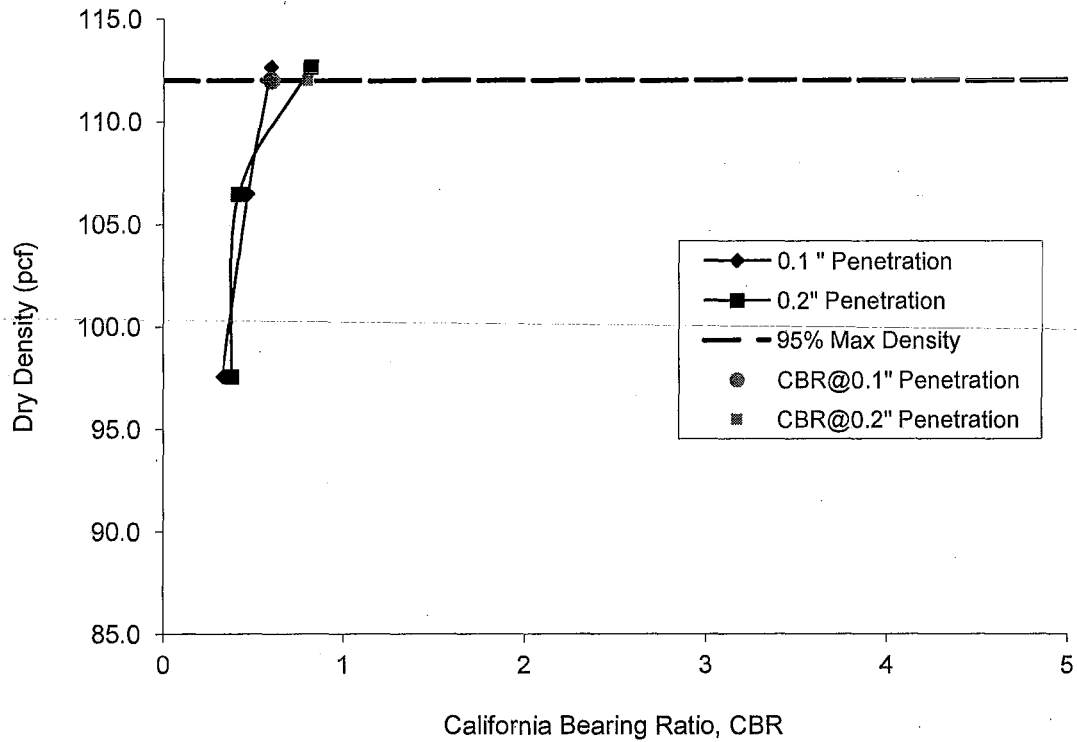


**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/3/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B10-B1@2-9	0.6	0.8

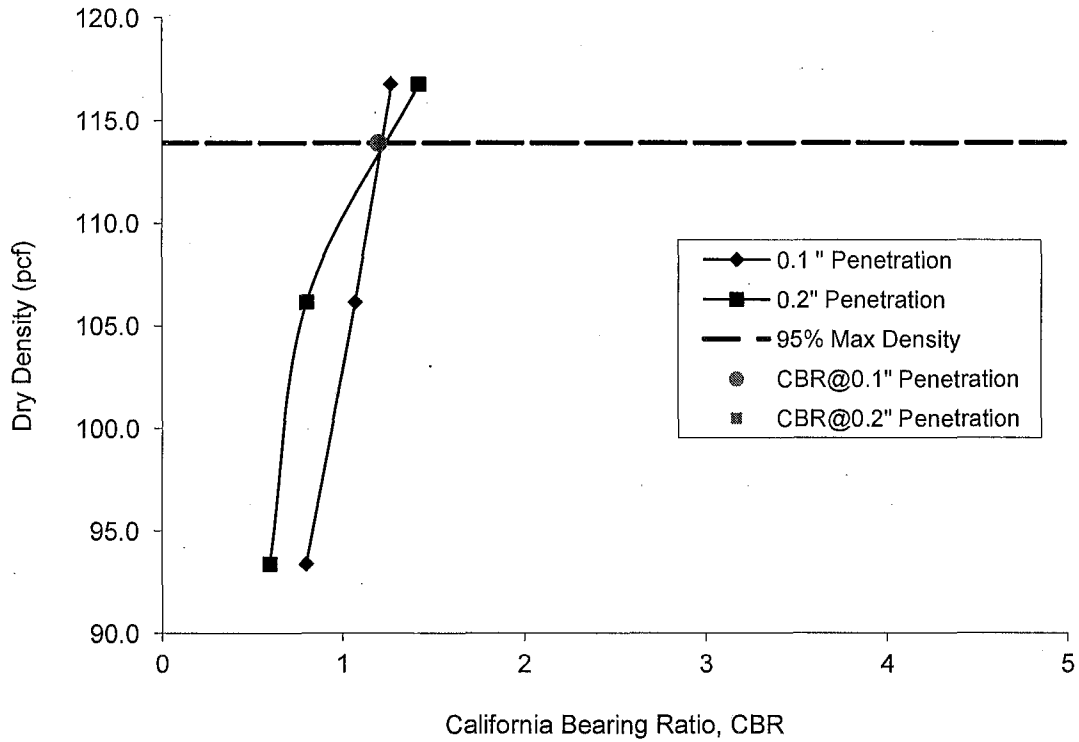


**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/11/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B13-B1@2-8	1.2	1.2

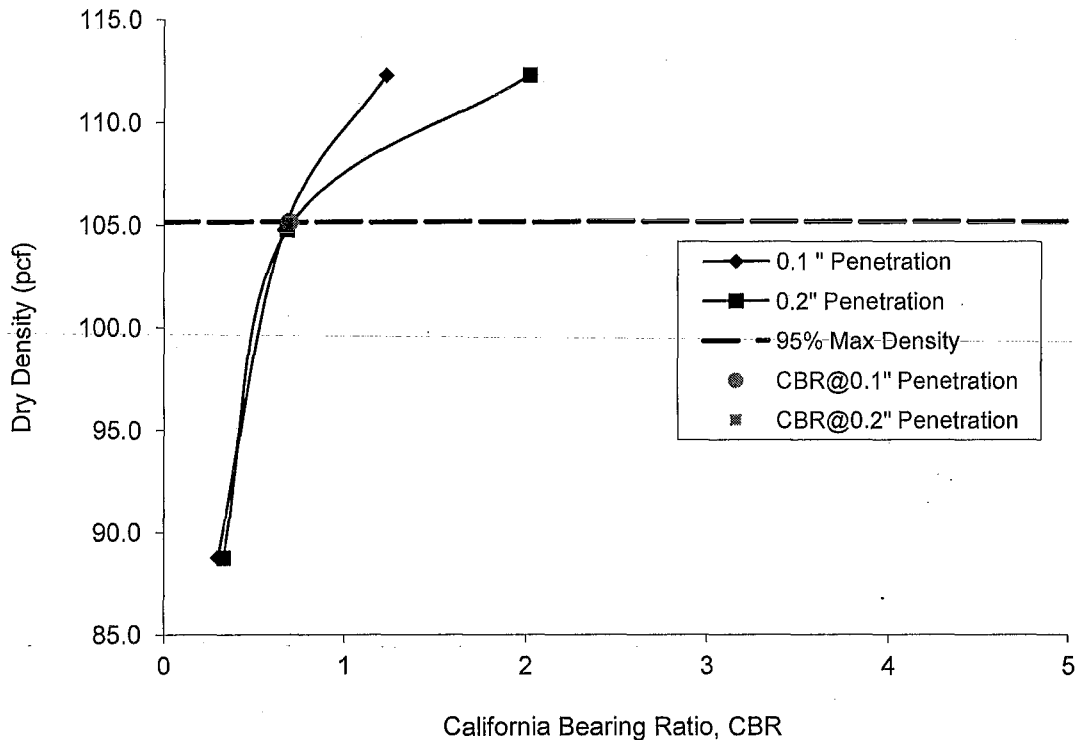


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BY:	CA	DATE	7/11/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B15-B2@5-9	0.7	0.7



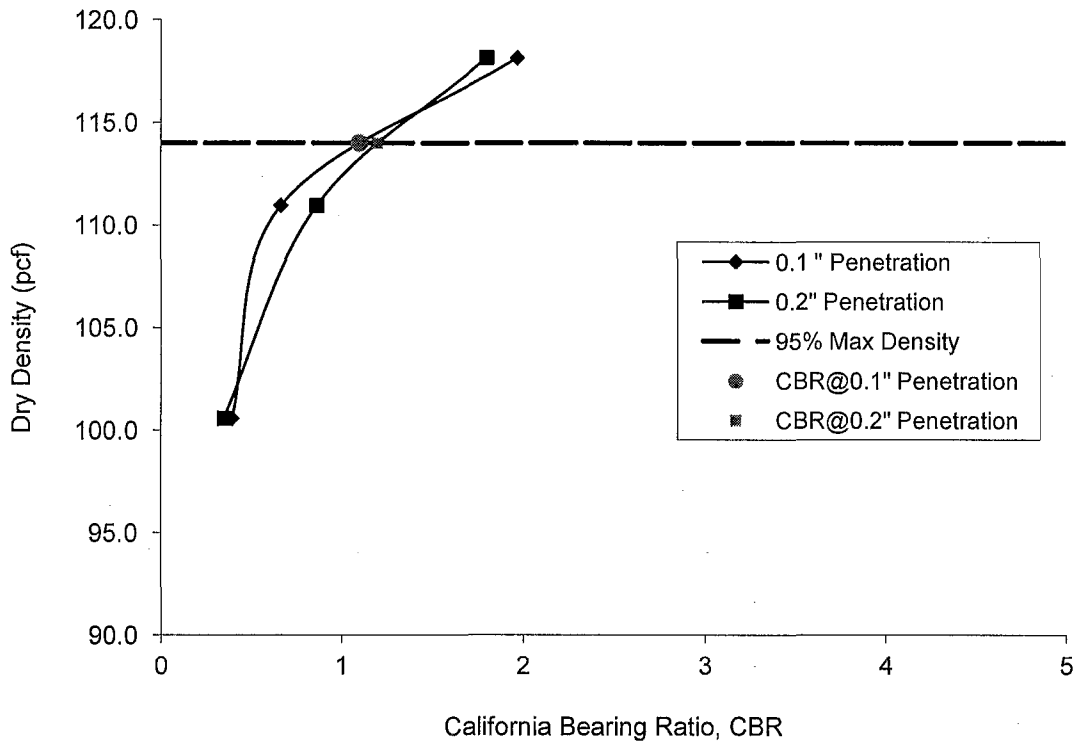
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JOB No.:	1312035		



**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B18-B2@2-8	1.1	1.2

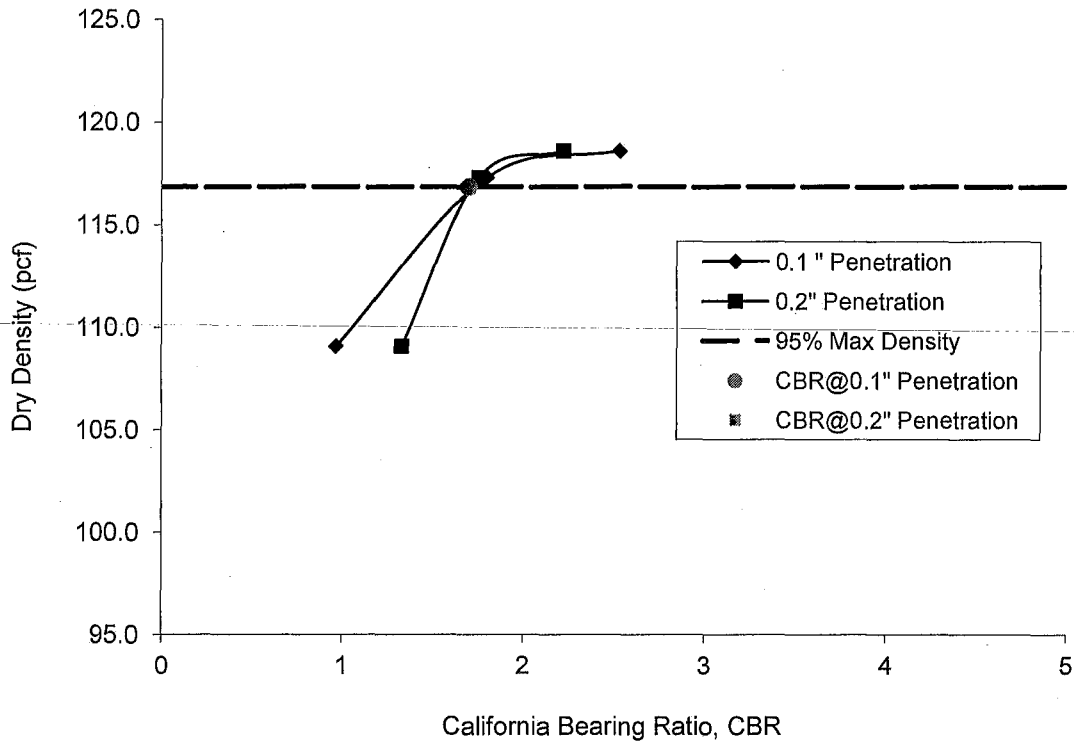


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BY:	CA	DATE	7/15/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B20-B1@2-9	1.7	1.7

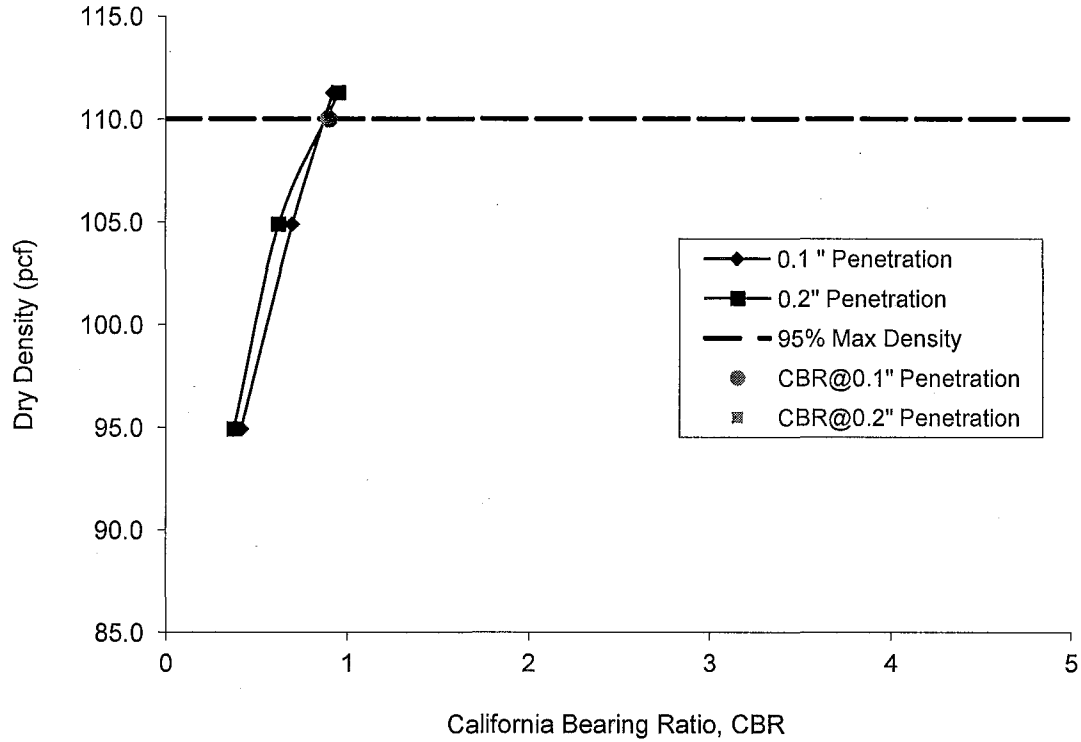


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Allied Geotechnical #72NB5

BY:	CA	DATE	7/15/2013
JOB No.:	1312035		

### California Bearing Ratio of Laboratory-Compacted Soils ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B22-B1@2-9	0.9	0.9

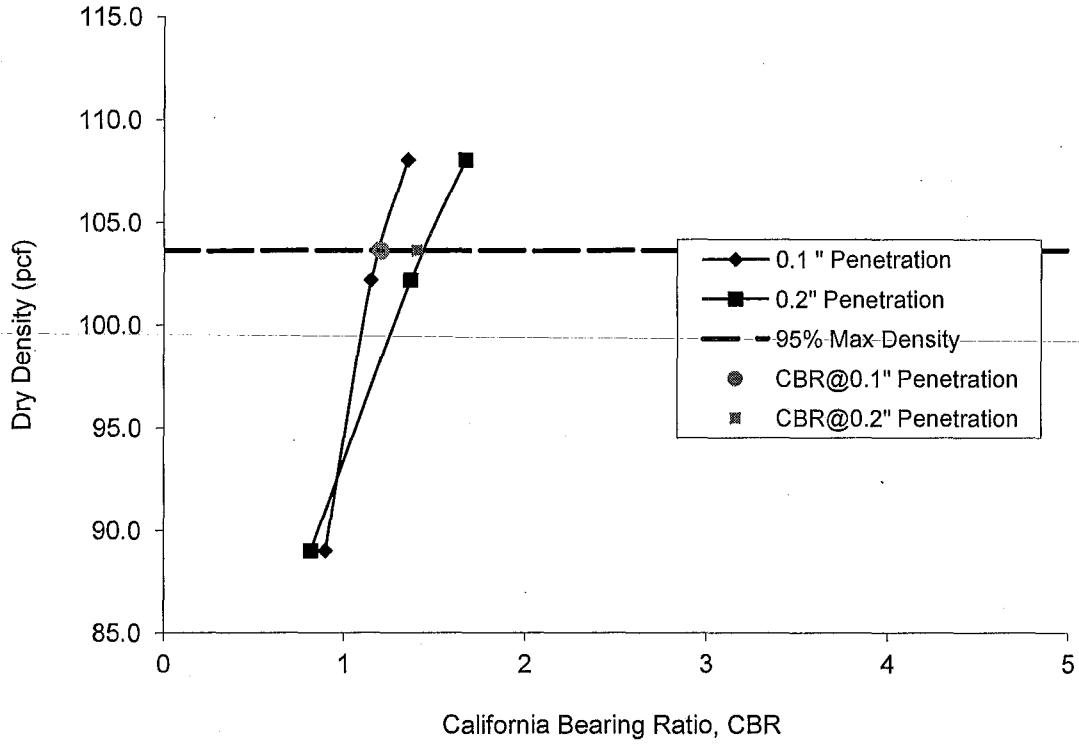


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JOB No.:	1312035		

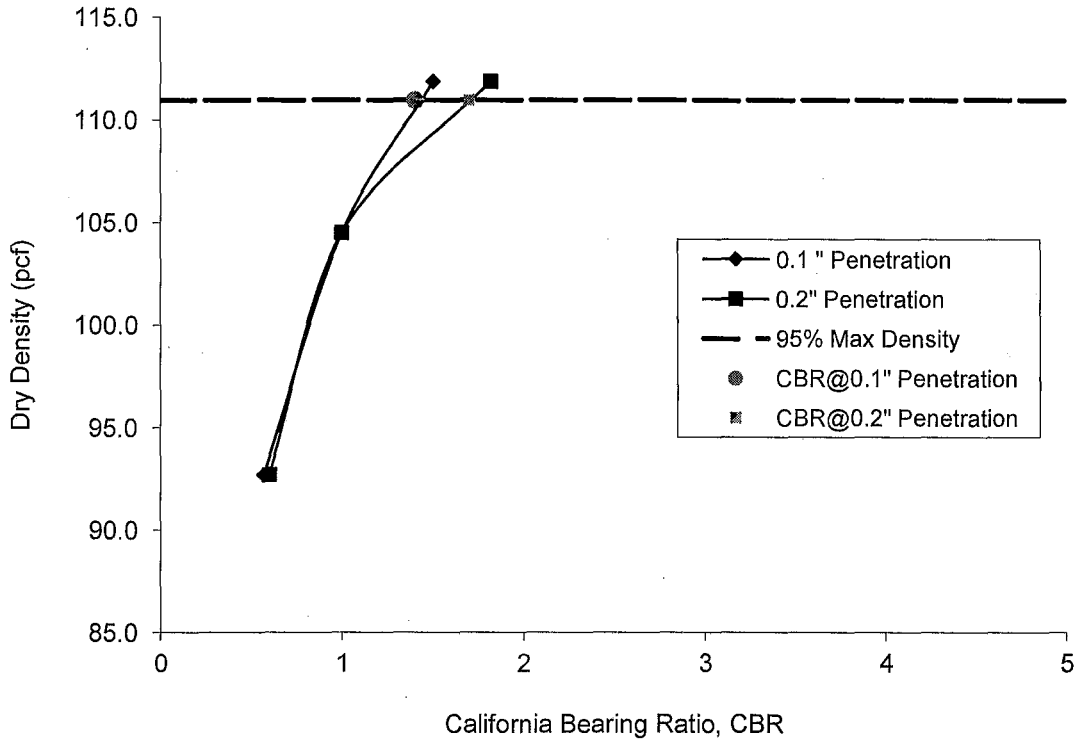
**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B24-B1@2-9	1.2	1.4

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	BY:	CA	DATE	7/3/2013
	JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B26-B1@2-9	1.4	1.7

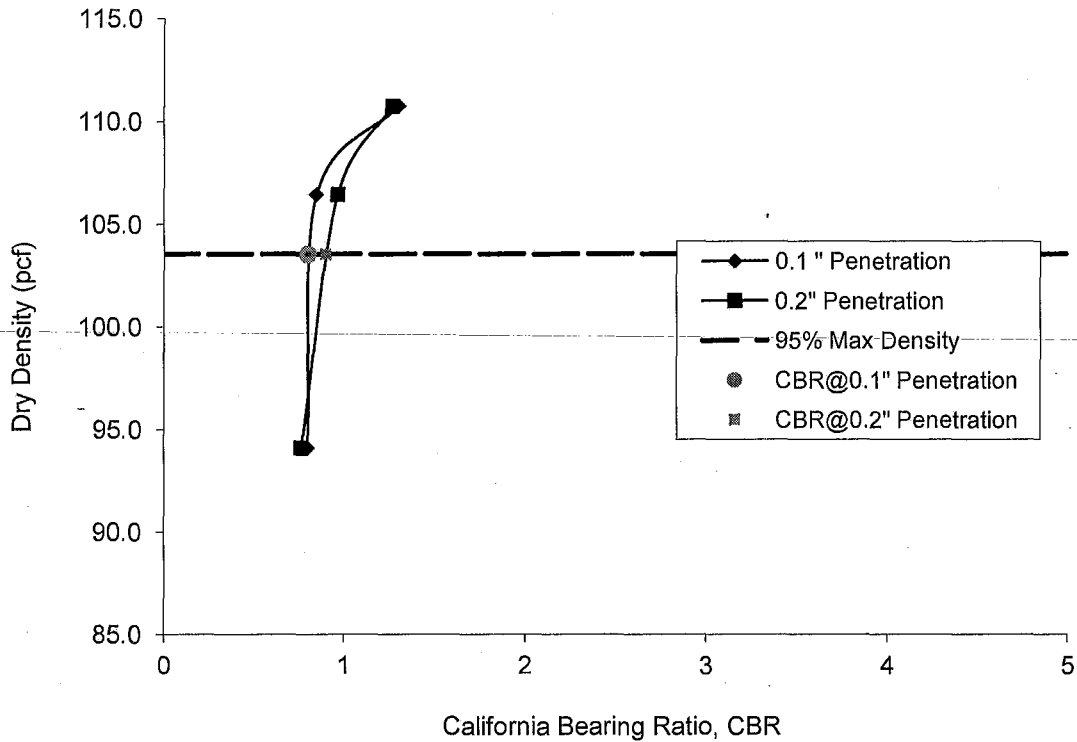


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Allied Geotechnical #72NB5

BY:	CA	DATE	7/11/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B28-B1@2-9'	0.8	0.9

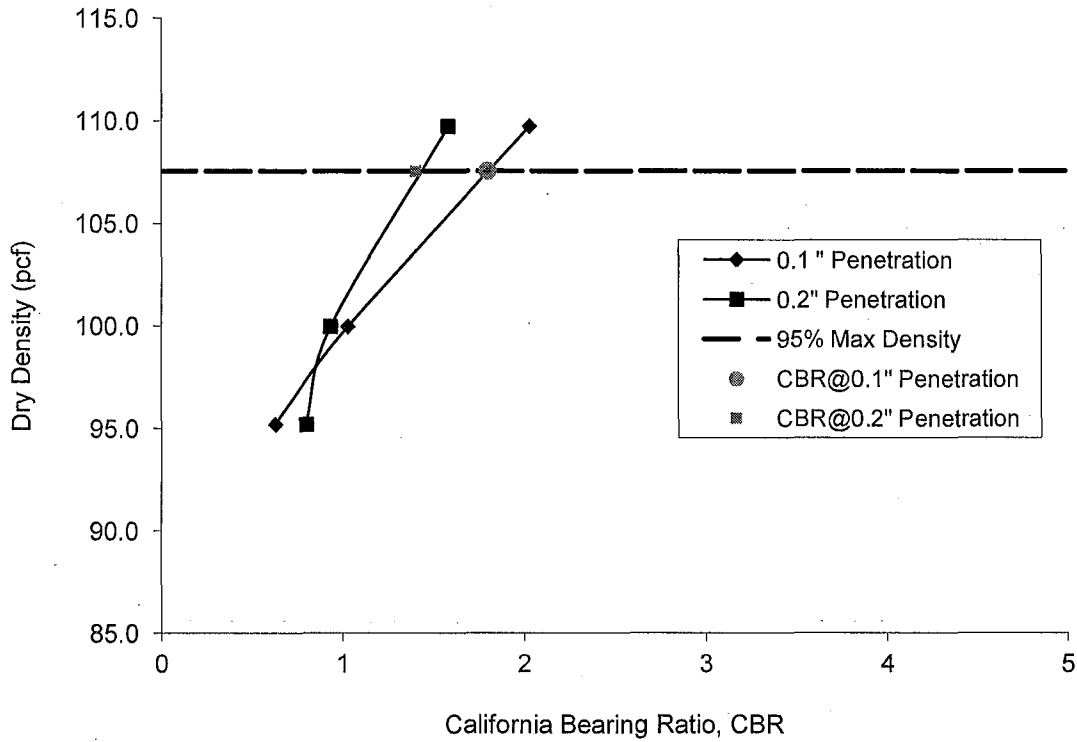


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Allied Geotechnical #72NB5

BY:	CA	DATE	7/3/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B30-B1@2-9	1.8	1.4

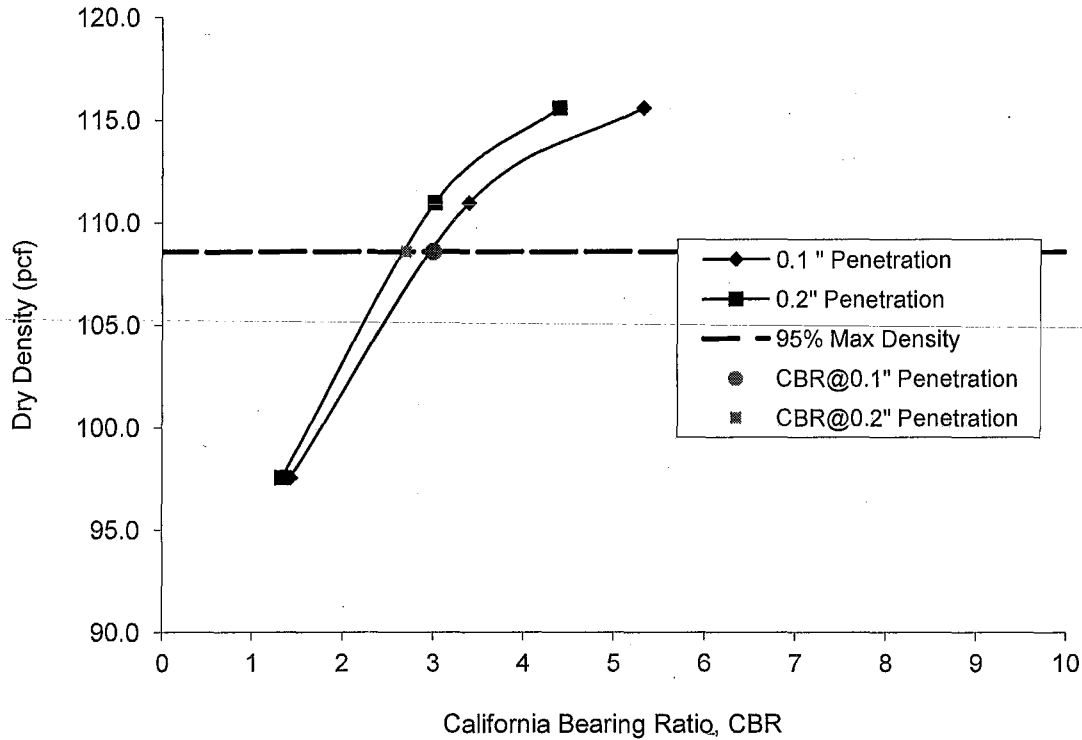


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BY:	CA	DATE	7/11/2013
JOB No.:	1312035		

**California Bearing Ratio of Laboratory-Compacted Soils**  
ASTM D1883



Sample Location	CBR at 0.1" penetration	CBR at 0.2" penetration
B-31-B2@2-8	3	2.7



**SOUTHERN CALIFORNIA  
SOIL & TESTING, INC.**

Allied Geotechnical #72NB5

BY:	CA	DATE	7/15/2013
JOB No.:	1312035		



**APPENDIX G**

**CONSTRUCTION SAFETY AND PHASING PLAN PREPARED BY HNTB**

# Construction Safety & Phasing Plan

Runway 8L-26R Rehabilitation

AIP: 3-06-0213-016-2012

Brown Field Municipal Airport (SDM)  
San Diego, CA

Prepared For:



The City of San Diego  
Airports Division

Prepared By:

**HNTB**

The HNTB Companies  
Infrastructure Solutions

6151 W. Century Blvd, Suite 1200  
Los Angeles, CA 90278

4/28/2014 – Rev. 0

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## I. Coordination

### A. Design/Pre-Construction

Throughout the design of this project, the design engineer, HNTB Corporation, met with city and airport officials to develop a preferred phasing and construction approach. The preferred alternatives were discussed with local FAA representatives. An over the shoulder review of the project plans and specifications was completed with Eric Vermeeren, (Airport Civil Engineer, FAA WSC ADO) on April 2<sup>nd</sup>, 2014. The meeting minutes from these discussions are available upon request.

The airport reviewed the proposed construction phasing and associated impacts to airport operations with the Airport Advisory Council on April 8<sup>th</sup>, 2014. The airport convened a second meeting open to all tenants on the airfield, on April 22<sup>nd</sup>, 2014. No action items or revisions to the concept were developed as part of either of these reviews with the stakeholders.

A pre-bid conference will be held prior to accepting bids to explain the unique challenges and requirements associated with this project. At this meeting, the airport will explain in depth the phasing and safety requirements to the contracting community.

Prior to initiating construction, the contractor will be required to submit detailed safety plans, schedules, and quality control plans for review and approval by the engineer

### B. Construction

Coordination of airfield activities is an important component of a safe operating environment. During the construction of this project the following coordination meetings will be held to discuss airfield activities:

- Pre-construction meeting
- Weekly progress meetings
- Phase change-over coordination meetings
- Daily coordination will take place between all involved parties.
- Daily airfield safety coordination meetings

All contractor personnel working on the AOA will receive a safety briefing approved by Airport operations prior to working on the AOA. The safety briefing will cover the following subjects:

- Aircraft jet blast
- Aircraft versus vehicles
- Airfield layout including signs, markings and lighting
- Closed or prohibited areas
- Foreign object damage
- Wildlife



## C. FAA/ATCT

FAA form 7460; One (1) will be filed for this project along with all crane activity associated with construction.

There will be a weekly coordination meeting with FAA and Air Traffic Control Tower (ATCT) to discuss:

- Project progress
- Operational impacts and solutions
- Future schedule

This project will require two (2) flight inspections. The initial flight inspection will certify a temporary Pulse Light Approach Slope Indicator (PLASI) installed to enhance the safety of the shortened runway. The final flight inspection will be required to re-commission the existing Precision Approach Path Indicator (PAPI) that will be deactivated for 120 days as part of this project. The scheduling of these flight inspections will be closely coordinated between the airport and the FAA.

## II. Phasing

### A. Sequence of Work

Figure 1 on the following page presents the assumed construction schedule for the subject project. This schedule may be updated during construction due to weather and or other unforeseen conditions. Airport users, tenants, and the FAA will be notified upon any schedule revisions. Changes in the scope or duration of the project may necessitate revisions to the CSPP and review and approval by the airport operator and the FAA.

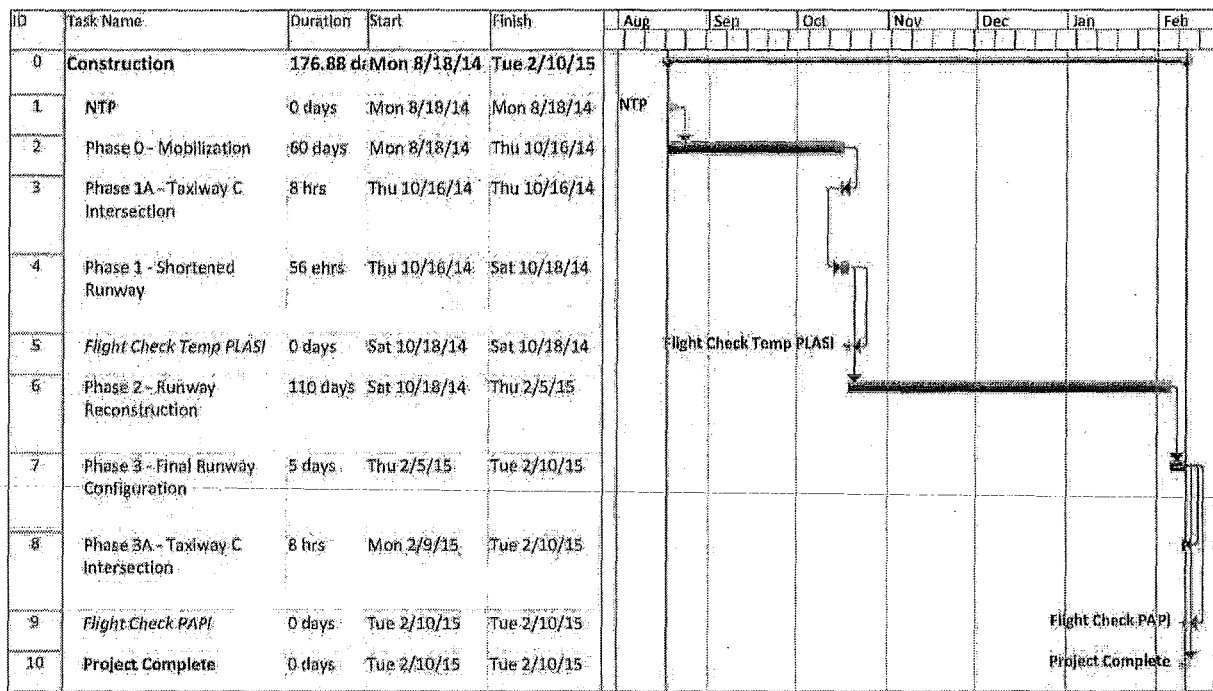


Figure 1: Assumed Construction Schedule

## B. Phase Descriptions

### Phase 0 - Mobilization

- *Description of Work:* Installation of temporary fences, trailers, and utility connections to create contractor laydown yard to the south west of the existing ATCT. Construction of test strip and reconstruction of existing vehicle access road.
- *Duration:* 60 calendar days
- *Work Hours:* Monday – Friday, 8:00AM – 5:00PM
- *Areas Closed to Aircraft Operations:* None
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road. No crossing of active taxiways required
- *Lighting/Marking Changes:* No temporary airfield lighting or marking modifications

### Phase 1A - Taxiway C Intersection

- *Description of Work:* Installation of temporary construction haul road and marking/lighting modifications to close Taxiway A east of Taxiway C. Installation of temporary barricades and a taxiway circuit bypass
- *Duration:* 1 Night
- *Work Hours:* 10:00PM – 6:00AM
- *Areas Closed to Aircraft Operations:* Taxiway C and Taxiway A East of Taxiway C
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway to work site.





- *Lighting/Marking Changes:* Installation of low profile barricades with red lights to close taxiway A. Taxiway A bypass circuit to deenergize all taxiway lights east of taxiway C. Black- out taxiway centerline east of taxiway C intersection. Cover airfield signs directing aircraft into the work zone.
- *Coordination Items:* Airport to issue appropriate NOTAMS

### Phase 1 – Shortened Runway

- *Description of Work:* Temporary marking and lighting modifications to shorten the runway. Installation of temporary blast fence. Installation of temporary PLASI
- *Duration:* 56 hours (10:00 PM Day 1 - 6:00 AM Day 4)
- *Work Hours:* Monday-Saturday, minimum of 2, 10-hour shifts
- *Areas Closed to Aircraft Operations:* Runway 8L-26R, Taxiway A East of Taxiway C
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
- *Impacts to NAVAID's:* Deenergize existing 26R PAPI and REIL. Protect area with low profile barricades.
- *Lighting/Marking Changes:* Installation of illuminated X's or runway closure markers. Runway bypass circuit to deenergize all lights east of taxiway C. Runway edge light modifications. Installation of PLASI. Runway Distance remaining sign modifications. Remove all runway markings to the East of Taxiway C. Installation of temporary runway displaced threshold, identifier and aiming points
- *Coordination Items:* PLASI requires a flight check prior to being available for use. Airport to issue appropriate NOTAMS

### Phase 2 – Runway Reconstruction

- *Description of Work:* Runway reconstruction east of Taxiway C.
- *Duration:* 110 Calendar Days
- *Work Hours:* Monday – Saturday, Minimum of 1, 10-hour shift
- *Areas Closed to Aircraft Operations:* Taxiway A East of Taxiway C
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
- *Impacts to NAVAID's:* PAPI and REIL remain deenergized
- *Lighting/Marking Changes:* Maintain temporary installations completed in prior phases
- *Available Runway Length:*

Table 1: Shortened Runway Lengths

	TORA	TODA	ASDA	LDA
Runway 8L	6049'	6049'	5104'	5104'
Runway 26R	6049'	6049'	6049'	5504'



### Phase 3 – Final Runway Configuration

- *Description of Work:* Removal of temporary runway marking and lighting modifications. Installation of final marking and lighting. Removal of temporary blast fence. Installation of enhanced centerline marking. Tie in pavement west of full reconstruction
- *Duration:* 112 hours (6:00AM Day 1 - 10:00PM Day 5)
- *Work Hours:* Monday-Saturday, minimum of 2, 10-hour shifts
- *Areas Closed to Aircraft Operations:* Runway 8L-26R, Taxiway A East of Taxiway C
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway, transition onto closed taxiway A via previously installed haul road and proceed to eastern end of runway
- *Impacts to NAVAID's:* Reenergize existing PAPI and REIL.
- *Lighting/Marking Changes:* Installation of illuminated X's or runway closure markers. Removal of all temporary marking and lighting. Return all marking and lighting to original configuration. Remove PLASI. Install enhanced centerline markings.
- *Coordination Items:* PAPI requires a flight check prior to being available for use. Airport to cancel existing NOTAMs for shortened Runway

### Phase 3A – Taxiway C Intersection

- *Description of Work:* Removal of temporary marking and lighting modification at the intersection of Taxiway C and Taxiway A
- *Duration:* 1 Night
- *Work Hours:* 10:00PM – 6:00AM
- *Areas Closed to Aircraft Operations:* Taxiway C and Taxiway A East of Taxiway C
- *Contractor Access / Haul Routes:* Access AOA via gate and proceed along vehicle access road to laydown yard. Construction traffic will travel along abandoned taxiway to work site.
- *Lighting/Marking Changes:* Removal of low profile barricades. Uncover signs, reinstall taxiway lights. Remove taxiway circuit bypass. Reinstall taxiway centerline markings.

## III. Areas and Operations Affected by Construction Activity

Table 2 on the following page summarizes the anticipated operational effects of the proposed construction.



Operational Requirements	Normal (Existing/Final)	Phase 1/1A	Phase 2	Phase 3/3A
<b>Runway 8L/26R Status</b>	Open	Closed	Shortened	Closed
<b>Runway 8L Declared Distances</b>	TORA: 7972' TODA: 7972' ASDA: 7972' LDA: 7972'	N/A	TORA: 5654' TODA: 5654' ASDA: 5141' LDA: 5141'	N/A
<b>Runway 26R Declared Distances</b>	TORA: 7972' TODA: 7972' ASDA: 7972' LDA: 7972'	N/A	TORA: 6050' TODA: 6050' ASDA: 6050' LDA: 5541'	N/A
<b>Runway 8L Approach Procedures</b>	RNAV (GPS), VOR, GPS-A	N/A	RNAV (GPS), VOR, GPS-A	N/A
<b>Runway 26R Approach Procedures</b>	VOR, GPS-A	N/A	VOR, GPS-A	N/A
<b>Runway 8L Visual Slope Indicator (VSI)</b>	4-light PAPI on left (3.00 degrees glide path)	N/A	4-light PAPI on left (3.00 degrees glide path)	N/A
<b>Runway 26R Visual Slope Indicator (VSI)</b>	4-light PAPI on left (4.00° glide path)	N/A	PLASI on left (4.00° glide path) *PAPI Deenergized	N/A
<b>Taxiway A</b>	Open	Closed East of TWY C	Closed East of TWY C	Closed East of TWY C

Table 2: Operational Effects



#### **IV. Protection of Navigation Aids**

There are no FAA owned NAVAIDs which will be impacted as part of this project.

The only Visual Aids impacted will be the 26R PAPI and REILs. At the start of Phase 1, the contractor will deenergize the 26R PAPI and REILs and surround the installations with low-level barricades to limit the chance of damage. Both facilities will remain deenergized for 110 days. During Phase 3, the PAPI and REILs will be reenergized and the surrounding barricades removed. At this point, a flight inspection will be performed to bring the PAPI back into service.

NOTAMs will be issued 7 days prior to the shutdown of the PAPI in conjunction with the shortened runway NOTAM. NOTAMs shall be issued by the airport manager.

#### **V. Contractor Access**

##### **A. Location of Stockpiled Construction Materials**

Storage of equipment and materials outside of working hours shall be in the contractor staging area. The contractor shall be solely responsible for the security of the staging area and shall be liable for any damage caused to such premises. At no point shall equipment or material be permitted within the RSA, OFZ, or OFA of any active facility. Stockpiled material within the contractor laydown area shall be appropriately secured to avoid FOD and or dust propagation.

##### **B. Vehicle and Pedestrian Operations**

Contractor will be granted airfield access via an automated gate to the south east of the airport office buildings. All vehicles shall proceed via service road directly to the contractor laydown yard. Only vehicles with the appropriate marking and signage may proceed from the contractor's laydown yard to the work areas. This include but is not limited to vehicle markings, operational beacon, flag, and current driver training badge. Vehicles shall also be inspected to ensure their cargo is sufficiently secured to avoid the propagation of debris and or FOD. All private vehicles shall be parked within the provided contractor's laydown yard; private vehicles are not permitted within the AOA work areas unless they meet the aforementioned identification requirements.

Access to the work areas will be accomplished via established haul routes as shown per phase. In phase 1A, contractor shall install a temporary gravel haul route to allow transition onto the closed portion of Taxiway A without entering the active OFA.

Acting supervisor of the contractor shall be in two-way radio communication with airport operations at all times. In the event of an emergency or other situation requiring action by the contractor, airport operations will notify the supervisor, and the contractor shall immediately respond with the appropriate actions. In the event of an emergency requiring evacuation from the work site, the contractor shall remove all men from the work site and evacuate to the laydown yard. As practicable, construction equipment should be vacated from the work area as well during times of emergency evacuation.



## **VI. Wildlife Management**

This project site is in the vicinity of environmentally sensitive areas populated by Borrowing Owls and San Diego Fairy Shrimp. The limits and schedule of construction have been designed to avoid impacts to either population. The contractor will be required to work within the prescribed limits and schedule and advised of any other necessary precautions.

All project personnel working on the AOA will receive an airfield safety briefing that will include information on the dangers of wildlife and aircraft operations. Contractor will be advised to collect all food trash in secure containers to avoid FOD and attracting birds. Standing water shall be minimized at all times to avoid attracting wildlife.

Inspection of the construction area will be conducted on a daily basis by Airport Operations personnel. Any unusual wildlife activity will be noted on the airfield inspection check list. Notifications will be made to the USDA staff wildlife biologist and airport operation wildlife superintendent and the air traffic control tower. All personnel shall take immediate action to eliminate wildlife hazards whenever they are detected. The project engineer, in consultation with airport operations and the USDA wildlife biologist will develop and implement corrective measures to eliminate any wildlife threat.

## **VII. Foreign Object Debris (FOD) Management**

All aircraft movement areas will be under constant surveillance by all parties to ensure they are acceptable for aircraft operations.

No loose material or waste (FOD), capable of causing damage to aircraft or capable of being ingested into jet engines may be left in the working area on or next to runways, taxiways, ramps, or aprons. The contractor shall direct special attention to all areas which are operational to aircraft during construction. These shall be kept clean and clear of all materials or debris at all times.

FOD located on aircraft movement areas shall be reported to the inspectors immediately. The inspectors shall coordinate with airport operations to close the area to aircraft traffic until cleanup is accomplished.

Trucks and equipment shall have all accumulated dirt, mud, rocks and debris removed before accessing the AOA and when leaving the work areas. Loads shall be struck flush and secured to prohibit loss of material. If spillage occurs, such roadways shall be swept clean immediately after such spillage to allow for safe operation of vehicles.

The contractor shall keep an operational vacuum sweeper and at least two (2) water trucks on site and operational at all times during working and non-working hours and shall maintain the sites free from dust and objectionable debris. During the period of time that there is no construction activity (between work shifts), the vacuum sweeper trucks and water trucks must be ready and on-site with contractor's personnel available by phone to respond immediately to a dust or debris problem as identified by airfield operations staff or the engineer. At no time shall there be more than a 10 minute response time



to calls concerning dust/debris problems during work hours and a 60 minute response time at all other times on a 24-hour per day basis.

The contractor shall provide truck washes, rumble strips, shakers and or other means as necessary to prevent the creation of FOD in the AOA. If the contractor's method does not remove debris adequately to meet safety requirements, the contractor may be shut down and will be required to utilize other methods at no additional cost to the airport.

### **VIII. Hazardous Material Management**

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. No fuel, oil, grease, flammable liquids, or contaminants of any kind, including detergents, shall be allowed to flow into or be placed in any sewer system or open water areas.

All construction activity involved with the handling of hazardous materials must provide the project engineer with a hazardous materials removal plan. The plan will include the name of the company used for removal of hazardous materials and the names and 24-hour telephone numbers of staff authorized to handle such removals.

### **IX. Notification of Construction Activities**

Airport Operations will make notifications to airport users through existing distribution methodologies and a pre-construction meeting. No ramp, apron, taxiway runway or Visual Aid shall be closed to aircraft without approval of airport operations and the engineer. This will enable notices to airmen (NOTAMS), or other advisory communications to be issued. A minimum of 72 hours of advanced notice will be provided for all closures.

Contractor will be responsible for issuing FAA form 7460-1, Notice of Proposed Construction or Alteration, to the governing FAA Office during mobilization. Contractor will not be authorized to initiate work within the AOA until such form has been submitted.

### **X. Inspection Requirements**

Airport operations and City personnel will conduct continual inspections of the construction site to ensure that areas surrounding the sites are safe for aircraft operations. Airport Operations personnel will note any discrepancies on the daily inspection checklist.

Frequent inspections will be made by Airport Operations and the engineer or his authorized representative during the critical phases of the work to insure that the contractor is following the recommended safety procedures. The inspector shall report any violations or potential safety hazards to the engineer who will in turn advise the contractor of the concern for immediate correction by the contractor.



## **XI. Underground Utilities**

The contractor will be required to mark all FAA utility lines prior to any work in a given area. Marking shall consist of a 36-inch high lathe, placed 10 feet on center. Lathe shall be marked with the words danger - FAA or equivalent, and shall be affixed with red or orange surveyor tape to enhance visibility. Additionally, the contractor shall expose and verify (by survey) the depth and alignment of all underground utilities in the construction site. The contractor shall pothole and survey all utilities within a five foot distance of any work prior to excavation.

The contractor shall contact utility owners after the i.d. number is obtained from the underground service alert [USA] (phone: 1-800-227-2600) but not less than fourteen (14) days before excavation work is started, to mark or identify existing utilities. If the utility owner is the city, a confirmation number indicating that the city has been notified shall be obtained by USA or the contractor from the appropriate city department. The i.d. number together with the date acquired shall be reported to the engineer when calling for inspection.

All utilities encountered along the line of the work shall be maintained in service during all operations under the contract, unless other arrangements satisfactory to the utility owner, the affected agency, and the engineer are made in advance. Utilities shall include, all above or below ground conduit, pipes, wet wells, ducts, cables, and appurtenances associated with oil, gas, water, steam, irrigation, sewer, storm drain, wastewater, air, electrical, power, instrumentation, communication, telephone, tv, and lighting systems, whether or not owned by the city. All valves, switches, vaults, and meters shall be maintained and readily accessible for emergency shutoff.

Any utility that is damaged by the contractor shall be immediately reported to the engineer and airport operations and immediately repaired to a condition equal to, or better than, the condition they were in prior to such damage. Repair work shall be continuous until the utility or improvement is placed back in service. The contractor shall be responsible for and repair at its own expense any damages resulting from his/her failure to locate utilities as specified.

All existing utilities within the construction areas or the staging area that are designated to remain in place shall be maintained, accessible, and protected at all times (i.e., waterlines, fire hydrants, valves, drainage structures, electrical & FAA cables/equipment, etc.)

Exercise extreme care when using any equipment to prevent contact with any nearby power lines and power sources. Safe working clearances shall conform to the national electrical code.

The contractor may make certain temporary connections to the existing airfield lighting system only if it is associated with keeping the required lighting systems operational and approved by the resident engineer. The contractor shall provide a separate power source for other construction related power

Power and control cables for airfield lighting and navigational aids are located in the construction areas. The contractor's personnel shall be familiar with these cable locations and keep vehicles and equipment clear of any cables at all times. Mark/delineate the surface for each utility in a manner acceptable to the



engineer. As indicated on the phasing plans and the specifications, the contractor shall locate all utilities (operational and abandoned) prior to starting any excavation, demolition or earthwork.

High voltage lines are within the project limits. All work shall be performed in conformance with all federal, state, and local utility and contract requirements. Sequencing of work and safety practices used in, on or around high voltage lines or other utility structures are the responsibility of the contractor, except where electrical distribution and transmission lines have been deenergized and visibly grounded at the point of work. Assume that all such lines are energized and the contractor shall conform his operations to (among other requirements) Title 29 of the code of Federal Regulations Part 1926, "Safety and Health Regulations for Construction," Section 1926.550(a)(19).

## **XII. Penalties**

In the event an employee of the contractor violates a safety provision, they shall be prohibited from returning to work on the AOA without remedial safety training and the approval of the engineer. Violations may be deemed as just and sufficient cause to require the employee be permanently removed from the job site. The contractor shall be responsible for all costs and delays caused by an employee's safety violation.

Due to the impacts to airport operations, it is critically important that the contractor remain on schedule. As such, this project will employee liquidated damages to recoup the costs of the contractor's inability to meet the agreed upon schedule. As specified in the contract, for every unit of time a facility remains closed or otherwise impacted, the contractor shall be assessed an appropriate fee that represents the cost of having that facility impacted.

## **XIII. Special Conditions**

This project requires the contractor to work directly beneath aircraft operations. It is of paramount importance that all equipment stays clear of the prescribed approach and departure surfaces. In addition, adequate marking and signage shall be maintained on all vehicles at all times to ensure pilots are aware of any potential hazard posed by construction equipment operations.

To limit impacts to airfield operations, this project will employ a shortened runway to allow for reconstruction of the east end while maintaining airport operations. Appendix B includes a graphic depicting the shortened runway configuration.

To improve visibility of the shortened runway, the runway lights shall remain operational at all times, day and night. This will also ensure that the blast fence is illuminated as prescribed in the plans and specifications. Should any fixture become non-operational, airport operations shall identify the fixture and immediately report it to the project engineer. Engineer will coordinate with the contractor and or airport maintenance to determine the most efficient way to replace/repair the impacted fixture.





In case of an emergency caused by an accident, fire, or personal injury or illness, airport operations are to be immediately notified. Operations will coordinate with other emergency agencies as necessary. The contractor shall also notify the engineer so that any coordination or closures that may be required can be addressed immediately.

Construction may also be stopped or suspended by airport operations, in consultation with the engineer during periods of inclement weather, such as low visibility, or when it is necessary to provide an extra margin of safety to aircraft operations, or reduce other activities to keep the airport operational.

#### **XIV. Runway and Taxiway Visual Aids**

Airport Operations will be responsible to ensure all marking and lighting meet appropriate standards.

The phasing plans and specifications for this project detail the specific lighting and signage requirements for each phase. At no time will a closed facility provide visual guidance to pilots. All markings entering work areas will be removed. All lighting within closed facilities will be denergized and associated signs will be covered or otherwise modified. During runway closures, lighted X's will be placed on the current runway identifiers to signal a closed runway to approaching pilots.

The shortened runway will require significant modifications to the existing runway lighting and marking. The details of the proposed modifications are included within the phasing plans as well as Appendix B. In summary, all marking and lighting outside of the proposed shortened runway will be removed. Runway edge lights and runway distance remaining signs will be modified to reflect the new runway lengths and thresholds. Temporary threshold and runway end lights will be installed. A PLASI will be employed to provide vertical slope guidance. Temporary markings will be installed including 1000' aiming points, runway identifier and displaced threshold. Temporary blast deflector will be marked with obstruction lights and the rear of the fence will be illuminated with floodlights.

All existing pavement markings requiring removal shall be obliterated in a manner that will not leave marking shadows. Blacking out of existing markings will only be employed when the presence of black markings is unlikely to produce confusion for pilots. All permanent pavement markings shall be restored at project completion.

Every effort possible will be made to construct temporary lighting to conform to the runway or taxiway safety area frangibility and height restrictions as specified in the Federal Aviation Administration (FAA) Advisory Circular 150/5370-2, latest edition, entitled Operational Safety on Airports During Construction.

Temporary light plants used in conjunction with nighttime work will not be located in such a manner as to be an obstruction or hazard. In addition, these light plants will not be located where the glare of the light will cause visual or physical interference to operating aircraft, vehicle traffic and the FAA air traffic control tower and will be located outside of any movement area or taxiway safety areas unless approved by the engineer or Airport Operations.



## **XV. Marking and Signs for Access Routes**

The access routes for this project will be segregated from active aircraft areas and will employ low level barricades to direct traffic in the appropriate direction. Refer to the associated phasing plans for additional detail. No crossing of active facilities will be required as part of this project.

## **XVI. Hazard Marking and Lighting**

Every excavation or hazard on or adjacent to airfield areas shall be marked. The contractor shall completely fence or barricade all excavations, to the satisfaction of airport operations and the engineer to provide protection against anyone falling into the excavation. The fencing and or barricades shall be in place at all times except when workers are present and actual construction operations are in progress.

Continuous burning red light hazard devices stipulated on the phasing plans shall be operative at all times while in place. It shall be the contractor's responsibility to immediately repair or replace any light or flasher that is not operating.

Barricades shall be in place prior to commencing construction operations, and shall be maintained for the life of the contract. To delineate work areas and avoid contractor personnel from entering critical areas, barricades and or safety fences shall be installed per plan. Contractor shall continually inspect and maintain all construction barriers, fencing, and gates in good condition.

In the event that airport operations deem a hazard insufficiently marked, the contractor shall be notified and take immediate action to rectify the situation.

## **XVII. Protection**

No work will occur within any active RSA or OFA. As previously stated, construction barricades signs and lighting will be employed to segregate construction and airport traffic.

## **XVIII. Other Limitations on Construction**

Contractor shall only use tall equipment (cranes, concrete pumps, anything over 15') after submission of a 7460-1 Form.

No open flames, welding, or torching may be employed unless fire safety precautions have been implemented and airport operations has been notified

No blasting of any sort will be permitted on this project.



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# Appendix A

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Excerpt from Runway 8L-26R Rehabilitation – Bid Set, Dated 4/18/2014



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# BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION



**THE CITY OF SAN DIEGO**  
AIRPORTS DIVISION  
BROWN AND MONTGOMERY FIELDS

**BID SET  
04-18-2014**

**AIRPORT IMPROVEMENT PROGRAM AIP NO: 3-06-0213-046-2012**

**PREPARED BY:**

**HNTB**

The HNTB Companies  
Infrastructure Solutions  
6151 W. Century Blvd., Suite 1200  
Los Angeles, Ca 90045  
Phone: 310-417-8777  
Fax: 310-417-5369

**WORK TO BE DONE**

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO. THE WORK INVOLVES FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, AND CONSTRUCTION OF THE PROJECT, WHICH CONSISTS OF A PAVEMENT REHABILITATION IN AN EFFORT TO COMPLY WITH CURRENT FAA STANDARDS AND INCREASE RELIABILITY AND SAFETY. THE PROJECT ELEMENTS INCLUDE INSTALLATION AND MAINTENANCE OF CONSTRUCTION BARRICADES, TEMPORARY CLOSURE X'S, DEMOLITION AND REMOVAL OF EXISTING PAVEMENTS, RELOCATION OF MISCELLANEOUS ELECTRICAL ITEMS INCLUDING SIGNS AND LIGHTS, CONDUIT, PULL BOXES, INSTALLATION OF AIRFIELD IMPROVEMENTS INCLUDING NEW AC PAVEMENTS, TAXIWAY EDGE LIGHTS, RUNWAY EDGE LIGHTS, THRESHOLD LIGHTS, IN-PAVEMENT AND ELEVATED GUARD LIGHTS, AND INSTALLATION OF TEMPORARY BLAST FENCING AND PLASI.

**STANDARD SPECIFICATIONS**

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2012 EDITION), INCLUDING THE REGIONAL AND CITY OF SAN DIEGO SUPPLEMENT AMENDMENTS DOCUMENT No. AEC 1231061, FILED DEC 31, 2006.

CITY OF SAN DIEGO, STANDARD SPECIAL PROVISIONS FOR STREET LIGHTING AND TRAFFIC SIGNAL SYSTEMS (1989 EDITION), DOCUMENT No. 7698423 FILED OCT 2009

**STANDARD DRAWINGS**

CITY OF SAN DIEGO STANDARD DRAWINGS, DOCUMENT AEC 1231063, FILED DEC. 31, 2006.

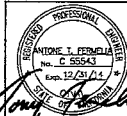
**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
6151 W. Century Blvd., Suite 1200  
Los Angeles, CA 90045  
Phone: 310-417-8777  
Fax: 310-417-5369

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR CONSTRUCTION OF ANY AGENCY (SUA) 1-800-451-7012  
EXCERPTION NO. 2009  
CITY CONTRACT  
CP No. 31-3030

PLANS FOR THE CONSTRUCTION OF:		SHEET
BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION COVER SHEET		<b>T001</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 1 OF 75 SHEETS		ISS No. B-11010
FOR CITY ENGINEER	DATE	ELIF CETIN SECTION HEAD
DESCRIPTION	BY	APPROVED
FILE NAME	DATE	FILED
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR CONSTRUCTION OF ANY AGENCY (SUA) 1-800-451-7012 EXCERPTION NO. 2009 CITY CONTRACT CP No. 31-3030		JIHAD SLEMAN PROJECT MANAGER HNTB Corp. DESIGN ENGINEER 146-1767 LAUREY COOPER/PHAS 37992-1-D
CONTRACTOR	DATE STARTED	DATE COMPLETED
INSPECTOR		

Sheet List Table		
Sheet Number	Sheet Description	Sheet Title
1	T001	COVER SHEET
2	T002	SHEET INDEX
3	T003	ABBREVIATIONS AND LEGEND
4	G001	SITE LAYOUT AND SURVEY CONTROL
5	G002	GENERAL NOTES
6	G031	SOIL BORING LOCATION PLAN
7	G032	SOIL BORING LOGS B1-B7
8	G033	SOIL BORING LOGS B8-B14
9	G034	SOIL BORING LOGS B15-B21
10	G035	SOIL BORING LOGS B22-B28
11	G036	SOIL BORING LOGS B29-B31
12	G100	CONSTRUCTION PHASING AND SAFETY NOTES
13	G101	OVERALL CONSTRUCTION PHASING PLAN
14	G102	CONSTRUCTION PHASING LOGIC DIAGRAM
15	G110	CONTRACTOR STAGING AREA DETAIL
16	G120	PHASE 1 OVERALL
17	G121	PHASE 1A
18	G122	PHASE 1 SHEET 1 OF 3
19	G123	PHASE 1 SHEET 2 OF 3
20	G124	PHASE 1 SHEET 3 OF 3
21	G130	PHASE 2 OVERALL
22	G131	ENLARGED PHASE 2
23	G132	PHASE 2 - HEIGHT RESTRICTION PLAN
24	G140	PHASE 3 OVERALL
25	G141	PHASE 3A
26	G142	PHASE 3 SHEET 1 OF 3
27	G143	PHASE 3 SHEET 2 OF 3
28	G144	PHASE 3 SHEET 3 OF 3
29	G201	CONSTRUCTION PHASING DETAILS 1
30	G202	CONSTRUCTION PHASING DETAILS 2
31	G203	CONSTRUCTION PHASING DETAILS 3
32	G204	CONSTRUCTION PHASING DETAILS 4
33	C001	EXISTING UTILITIES 1
34	C002	EXISTING UTILITIES 2
35	C003	EXISTING UTILITIES 3
36	C004	EXISTING UTILITIES 4
37	C101	DEMOLITION AND REMOVAL PLAN 1
38	C102	DEMOLITION AND REMOVAL PLAN 2
39	C103	DEMOLITION AND REMOVAL PLAN 3
40	C104	DEMOLITION AND REMOVAL PLAN 4
41	C111	DEMOLITION AND REMOVAL DETAILS 1
42	C201	HORIZONTAL CONTROL PLAN 1
43	C202	HORIZONTAL CONTROL PLAN 2
44	C203	HORIZONTAL CONTROL PLAN 3
45	C204	HORIZONTAL CONTROL PLAN 4
46	C301	PAVEMENT PLAN 1
47	C302	PAVEMENT PLAN 2
48	C303	PAVEMENT PLAN 3
49	C304	PAVEMENT PLAN 4
50	C311	PAVEMENT DETAILS
51	C321	PAVEMENT PROFILES
52	C351	PAVEMENT ELEVATIONS 1
53	C352	PAVEMENT ELEVATIONS 2
54	C353	PAVEMENT ELEVATIONS 3
55	C354	PAVEMENT ELEVATIONS 4
56	C401	GRADING PLAN 1
57	C402	GRADING PLAN 2
58	C403	GRADING PLAN 3
59	C404	GRADING PLAN 4
60	C421	CROSS SECTIONS
61	C501	PAVEMENT MARKING PLAN 1
62	C502	PAVEMENT MARKING PLAN 2
63	C503	PAVEMENT MARKING PLAN 3
64	C505	PAVEMENT MARKING PLAN 5
65	C506	PAVEMENT MARKING PLAN 6
66	C511	PAVEMENT MARKING DETAILS 1
67	C512	PAVEMENT MARKING DETAILS 2
68	C700	CONCRETE REPAIR PLAN ADDITIVE ALTERNATE
69	C701	PAVEMENT MARKING PLAN ADDITIVE ALTERNATE
70	C702	DETAILS - ADDITIVE ALTERNATE

"NOTE:  
 Highlighted sheets (sheets 1-4, sheets 12-32, and sheets 66-67) have been included as part of this CSPP. The included sheets are directly relevant to the CSPP. The remaining sheets are part of the overall construction package and were not included here since they do not directly relate to the content of this CSPP. The complete construction package is available upon request.

	PLANS FOR THE CONSTRUCTION OF:		SHEET
	<b>BROWN FIELD AIRPORT          RUNWAY 8L-28R REHABILITATION          SHEET INDEX</b>		<b>T002</b>
<b>CITY OF SAN DIEGO, CALIFORNIA</b> ENGINEERING DEPARTMENT SHEET 2 OF 76 SHEETS		WBS NO. <u>B-11010</u>	
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8151 K Century Blvd., Suite 1200 San Diego, CA 92123 Phone: 310-417-8777 Fax: 310-417-3200		<b>ELIF CETIN</b> SECTION HEAD <b>JIHAD SLEIMAN</b> PROJECT MANAGER <b>HNTB Corp.</b> DESIGN ENGINEER 146-1767 LAMBERT COOPERATES	
FOR CITY ENGINEER DESCRIPTION BY APPROVED DATE FILED	CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS BEFORE THE COMMENCEMENT OF CONSTRUCTION (UNLESS OTHERWISE SPECIFIED) (054) 1-800-422-6143		
AS-SHEET CONTRACTOR _____ DATE STARTED _____ INSPECTOR _____ DATE COMPLETED _____	SPECIFICATION NO. 2990 CITY CONTRACT NO. 11-2010 37992-2-D		

**ABBREVIATIONS**

<b>A</b> AMPERE	<b>HV</b> HIGH VOLTAGE	<b>PROVIDE</b> FURNISH, INSTALL, CONNECT, TEST AND PUT INTO OPERATION
<b>AIC</b> AMP INTERRUPTING CAPACITY	<b>JB</b> JUNCTION BOX	<b>PSI</b> POUNDS PER SQUARE INCH
<b>AF</b> AMPERE FRAME, AMPERE FUSE	<b>JCAN</b> JUNCTION CAN	<b>PT</b> POINT
<b>ALC</b> AIRFIELD LIGHTING CABLE	<b>KVA</b> KILOVOLT AMPERES	<b>PVC</b> POLYVINYL CHLORIDE
<b>ALCMS</b> AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM	<b>KW</b> KILOWATT	<b>PWR</b> POWER
<b>ALV</b> AIRFIELD LIGHTING VAULT	<b>LIR</b> LOW IMPACT RESISTANCE LIGHTING	<b>RCVR</b> RECEIVER
<b>AS</b> AMPERE SWITCH	<b>LTG</b> LIGHTING	<b>RDRS</b> RUNWAY DISTANCE REMAINING SIGN
<b>ASOS</b> AIRPORT SURFACE OBSERVATION SYSTEM	<b>LTS</b> LIGHTS	<b>RECEPT</b> RECEPTACLE
<b>ATCT</b> AIR TRAFFIC CONTROL TOWER	<b>MDSB</b> MAIN DISTRIBUTION SWITCH BOARD	<b>REF</b> REFERENCE, REFER
<b>ATS</b> AUTOMATIC TRANSFER SWITCH	<b>MAX</b> MAXIMUM	<b>REIL</b> RUNWAY END IDENTIFIER LIGHTS
<b>AWG</b> AMERICAN WIRE GAUGE	<b>MFR</b> MANUFACTURER	<b>RELOC</b> RELOCATE
<b>BC</b> BARE COPPER	<b>MH</b> MANHOLE	<b>REQD</b> REQUIRED
<b>BLDG</b> BUILDING	<b>MRL</b> MEDIUM INTENSITY RUNWAY LIGHT	<b>RGL</b> RUNWAY GUARD LIGHT
<b>C</b> CONDUIT	<b>MM</b> MULTIMODE	<b>RGS</b> RIGID GALVANIZED STEEL
<b>CB, C/B</b> CIRCUIT BREAKER	<b>MTD</b> MOUNTED	<b>RM</b> ROOM
<b>CCR</b> CONSTANT CURRENT REGULATOR	<b>(N), N</b> NEW NATIONAL ELECTRICAL CODE	<b>RMC</b> RIGID METAL CONDUIT
<b>CKT</b> CIRCUIT	<b>NEC</b> NON FUSED	<b>RSA</b> RUNWAY SAFETY AREA
<b>CLMS</b> CONTROL LOW STRENGTH MATERIAL	<b>NIC</b> NOT IN CONTRACT	<b>RWY</b> RUNWAY
<b>COMM</b> COMMUNICATIONS	<b>NO.</b> NUMBER	<b>RX</b> RELOCATED LOCATION
<b>COND</b> CONDUCTOR	<b>NTS</b> NOT TO SCALE	<b>SCH</b> SCHEDULE
<b>CONN</b> CONNECTION, CONNECT	<b>O&amp;M</b> OPERATIONS AND MAINTENANCE	<b>SDG&amp;E</b> SAN DIEGO GAS & ELECTRIC SWITCHBOARD
<b>CO</b> CONDUIT ONLY W/PULL WIRE	<b>REC</b> RECEPTION CENTER	<b>SWBD</b> SWITCHBOARD
<b>CSR</b> CURRENT SENSING RELAYS	<b>OD</b> OUTER DIAMETER	<b>TCH</b> TOUCHSCREEN ASSEMBLY
<b>CU</b> COPPER	<b>OFL</b> OPTICAL FIBER LOSS (dB/KM)	<b>TEL</b> TELEPHONE
<b>DOA</b> DEPARTMENT OF AIRPORTS	<b>OFNR</b> NON-CONDUCTIVE OPTICAL FIBER	<b>OC</b> ON CENTER
<b>DIA</b> DIAMETER	<b>OSHA</b> OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION	<b>TSA</b> TAXIWAY SAFETY AREA
<b>DWG</b> DRAWING	<b>OTDR</b> OPTICAL TIME DOMAIN REFLECTOMETER	<b>TWR</b> TOWER PLC ENCLOSURE
<b>(E), EX</b> EXISTING	<b>P</b> POLE	<b>TWY</b> TAXIWAY
<b>ELEC</b> ELECTRIC	<b>PROPOSED</b>	<b>TYP</b> TYPICAL
<b>EMERG</b> EMERGENCY	<b>PAPI</b> PRECISION APPROACH PATH INDICATOR	<b>UN</b> UNLESS OTHERWISE NOTED
<b>EMT</b> ELECTRICAL METALLIC TUBING	<b>PB</b> PULL BOX	<b>UG</b> UNDERGROUND
<b>EAA</b> EXPERIMENTAL AIRCRAFT ASSOCIATION	<b>PC</b> PERSONAL COMPUTER	<b>UL</b> UNDERWRITERS LABORATORIES
<b>FAA</b> FEDERAL AVIATION ADMINISTRATION	<b>PCC</b> PORTLAND CEMENT CONCRETE	<b>UPS</b> UNINTERRUPTABLE POWER SUPPLY
<b>FDR</b> FEEDER	<b>PE</b> POLYETHYLENE CABLE JACKET	<b>V</b> VOLTAGE, VOLTS
<b>FLA</b> FULL LOAD AMPS	<b>PH</b> PHASE	<b>VA</b> VOLT-AMPERES
<b>FLEX</b> FLEXIBLE	<b>PLC</b> PROGRAMMABLE LOGIC CONTROLLER	<b>VAC</b> VOLT ALTERNATING CURRENT
<b>FS</b> FAIL SAFE	<b>PNL</b> PANEL	<b>VLT</b> VAULT TOUCHSCREEN PLC ENCLOSURE
<b>FT</b> FEET	<b>PR</b> PAIR	<b>W</b> WIRE, WATTS
<b>G, GND</b> GROUND		<b>W/</b> WITH
<b>GEN</b> GENERATOR		<b>WP</b> WEATHER PROOF
<b>MRL</b> HIGH INTENSITY RUNWAY LIGHT		<b>X</b> EXISTING TO BE REMOVED
<b>HM</b> HUMAN MACHINE INTERFACE		<b>XFMR</b> TRANSFORMER
		<b>XMTX</b> TRANSMITTER
		<b>XR</b> EXISTING TO BE RELOCATED

**LEGEND**

**EXISTING:**

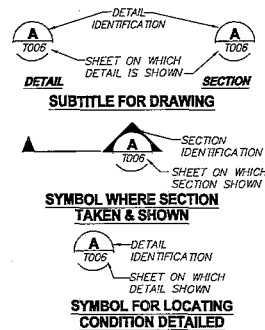
	NORTH ARROW
	UNIDENTIFIED UTILITY
	BUILDING OUTLINE
	ROADWAY EDGE OF PAVEMENT
	TREES AND TREE LINES
	TELEPHONE/COMMUNICATIONS
	ELECTRICAL/POWER
	FIBER OPTIC
	SANITARY SEWER
	DOMESTIC WATER
	STORM WATER
	MAJOR CONTOUR
	MINOR CONTOUR
	SPOT ELEVATION
	FENCE
	GUARDRAIL
	MISCELLANEOUS MARKING
	ELECTRICAL PULL BOX
	ELECTRICAL JUNCTION CAN
	ELECTRICAL DUCT MARKER
	ELECTRICAL FLUSH LIGHT
	ELECTRICAL RAISED LIGHT
	ELECTRICAL UTILITY POWER
	ELECTRICAL AIRFIELD LIGHT
	ELECTRICAL MANHOLE
	ELECTRICAL LUMINARY
	FAA DUCT/CABLE MARKER

**EXISTING CONTINUED:**

	STORM MANHOLE
	STORM DRAIN INLET
	ROADWAY SIGN
	GUARD POST
	RUNWAY CHEVRONS MARKING
	RUNWAY CENTERLINE MARKING
	RUNWAY DESIGNATION MARKING
	RUNWAY EDGE MARKING
	RUNWAY TOUCH DOWN ZONE MARKING
	TAXIWAY CENTERLINE MARKING
	TAXIWAY EDGE MARKING
	TAXIWAY HOLDING POSITION MARKING
	TAXIWAY SHOULDER MARKING
	ROADWAY MARKING
	AIRFIELD ELECTRICAL SIGN
	ELECTRICAL HANDHOLE
	ELECTRICAL MANHOLE
	RUNWAY EDGE LIGHT
	RUNWAY EDGE LIGHT
	TAXIWAY EDGE LIGHT
	IN-PAVEMENT LIGHT
	RUNWAY THRESHOLD LIGHT
	RUNWAY END IDENTIFIER LIGHT (REIL)

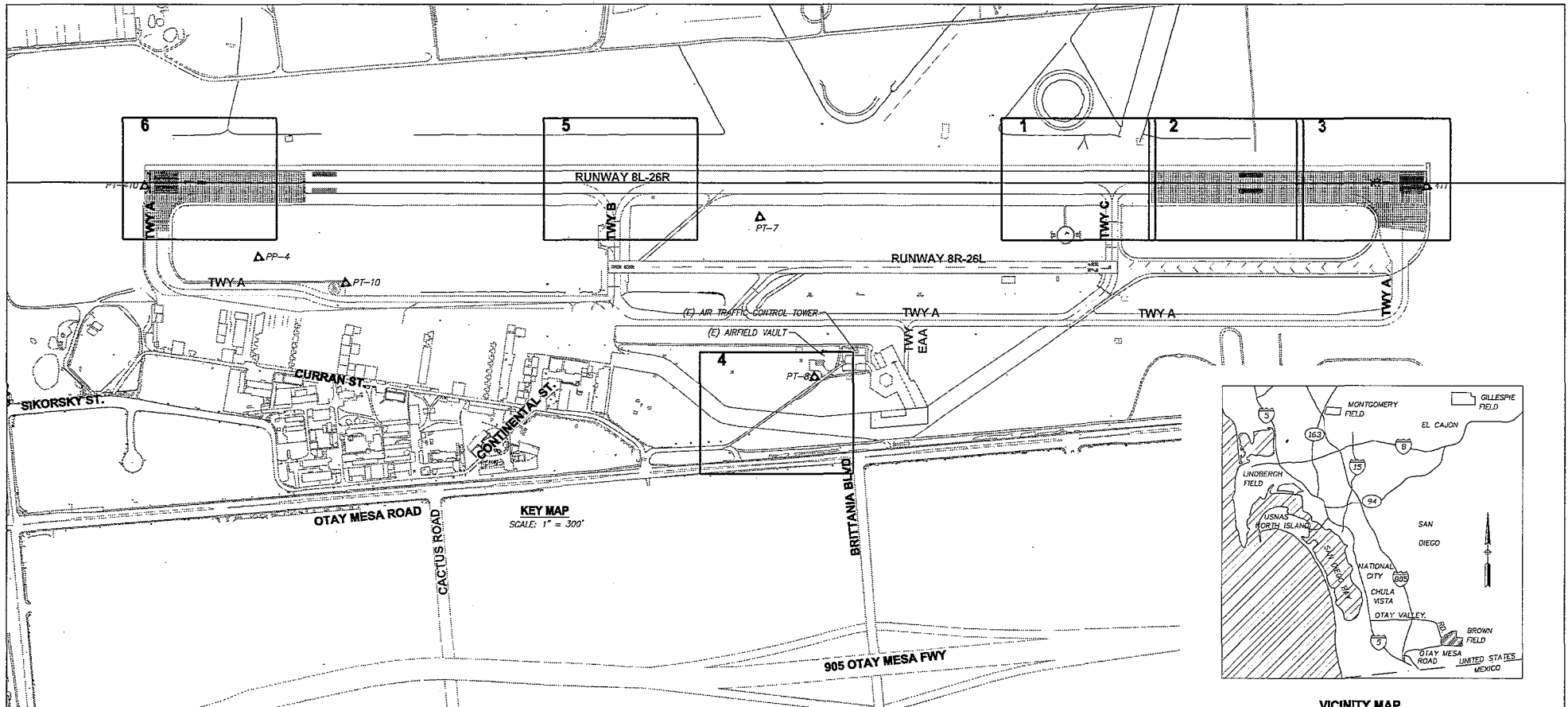
**PROPOSED:**

	REMOVE CAP
	SPOT ELEVATION
	PAVEMENT JOINT TYPE
	ELECTRICAL MANHOLE
	FINISHED GRADE MAJOR CONTOUR
	FINISHED GRADE MINOR CONTOUR
	ELECTRICAL/POWER
<b>RWY, TWY, TXL</b>	RUNWAY, TAXIWAY, TAXILANE LABEL
	TEMPORARY CONSTRUCTION FENCE
	SAFETY FENCE



	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>T003</b>
	BROWN FIELD AIRPORT RUNWAY 6L-26R REHABILITATION ABBREVIATIONS AND LEGEND		
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 3 OF 75 SHEETS		HNTB PROJECT NO. B-11010	
THE HNTB COMPANIES Infrastructure Solutions 6151 R. Conkey Blvd., Suite 1200 Los Angeles, CA 90045 Phone: 310-417-8777 Fax: 310-417-5300		ELIF CETIN SECTION HEAD	
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCIES AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION UNDERGROUND SERVICE ALERT (USA) 1-800-485-4133		JIHAD SLEIMAN PROJECT MANAGER	
SPECIFICATION NO. 2990 CITY CONTRACT CIP No. 31-2010		HNTB Corp. DESIGN ENGINEER 145-1767 LAURET COOPER/INKS	
CONTRACTOR: _____ DATE STARTED: _____ INSPECTOR: _____ DATE COMPLETED: _____		37992-3-D	





HORIZONTAL AND VERTICAL CONTROL			
POINT NO.	NORTHING	EASTING	ELEV.
410	1789345.29	6332603.85	525.28
411	1788508.91	6340557.69	508.95
PP-4	1788830.01	6333264.74	519.95
PT-7	1788748.54	6336402.79	515.24
PT-10	1788613.90	6333786.97	519.54
8	1787857.04	6336345.89	507.95

**BENCHMARK**

2.5" DISC IN WELL MON STAMPED "HPGN STA 11-01" LOCATED AT THE EAST SIDE OF CONTINENTAL STREET AND TOWER ACCESS ROAD AT BROWN FIELD. ELEV=512.29 (NGVD 29) PER RFB ROS #14492.

**BASIS OF BEARINGS**

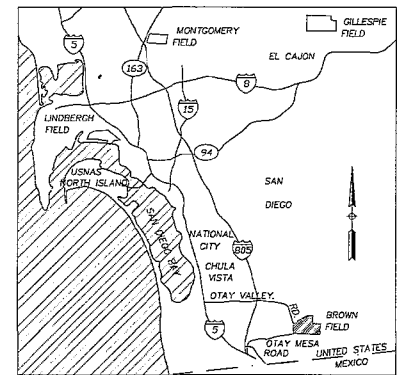
THE BASIS OF BEARINGS IS THE NAD 83 (1991.35 EPOCH), ZONE 6 GRID BEARING BETWEEN CONTROL MONUMENTS "SD GPS 24" AND "HPGN CA 11 01" PER RECORD OF SURVEY MAP NO. 14492, I.E. S 81° 58' 49" E.

**GENERAL NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE OF ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILLED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYOR'S ACT.
- THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (1-800-422-4133) AT LEAST TWO(2) DAYS PRIOR TO EXCAVATION AND, IF PRACTICAL, TO DELINEATE THE AREAS TO BE EXCAVATED.
- THIS TOPOGRAPHIC SURVEY WAS CONDUCTED UNDER THE DIRECTION OF MICKEY B. AGUIRRE, PE, OF AGUIRRE & ASSOCIATES ON THE 13 & 14 OF JANUARY 2005.

**LEGEND:**

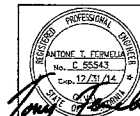
- KEY MAP DENOTES LOCATION OF IMPROVEMENTS
- SURVEY CONTROL POINT



**VICINITY MAP**

NTS

SCALE 1" = 300' - 0"



**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
4150 W. Century Blvd., Suite 1200  
Los Angeles, CA 90045  
Phone: 310-417-8977  
Fax: 310-417-5300  
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION: UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133  
SPECIFICATION NO. 2099  
CITY CONTRACT  
CIP NO. JF-3228

PLANS FOR THE CONSTRUCTION OF:				<b>G001</b>
BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION SITE LAYOUT AND SURVEY CONTROL				
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET # OF 70 SHEETS				WBS NO. B-11010
FOR CITY ENGINEER	DATE	SECTION HEAD		
DESCRIPTION	BY	APPROVED	DATE FILMED	
PROJECT MANAGER			ELIJAH CETIN	
DESIGN ENGINEER			JIHAD SLEIMAN	
PROJECT NUMBER			HNTB Corp.	
DESIGN NUMBER			146-1767	
LABORER COORDINATES			37992-4-D	
AS-BUILT	DATE STARTED	CONTRACTOR		
INSPECTOR	DATE COMPLETED	INSPECTOR		

**GENERAL PHASING REQUIREMENTS**


1. NO WORK ON THE AOA SHALL START BEFORE THE NOTICE TO PROCEED (NTP). THE PHASING PLANS FOR EACH PORTION OF WORK SPECIFICALLY OUTLINE CONSTRUCTION TIME PERIODS AND ADDITIONAL PHASING REQUIREMENTS ASSOCIATED WITH THOSE ITEMS OF WORK. SCHEDULING AND DAILY OPERATIONS: ALL WORK HOURS WILL BE SUBJECT TO WRITTEN APPROVAL OF THE ENGINEER AND IN ACCORDANCE WITH THE APPROVED WORK SCHEDULE. THE CONTRACTOR SHALL ALSO PROVIDE WEEKLY AND DAILY WORK PLANS. PRIOR TO THE END OF EACH WORK SHIFT, THE CONTRACTOR SHALL ARRANGE (BY WAY OF THE RESIDENT ENGINEER) TO HAVE AIRPORT OPERATIONS INSPECT THE SITE TO CONFIRM IT MEETS CFR 14 FAR PART 139 CRITERIA AND AGREES THAT THE SITE IS BEING LEFT IN AN OPERATIONALLY SAFE MANNER. THE CONTRACTOR SHALL ALLOW ENOUGH TIME IN THE DAILY/NIGHTLY SCHEDULE SUCH THAT ANY CORRECTIONS/CLEANUP ITEMS FOUND CAN BE MADE PRIOR TO THE REQUIRED OPENING TIMES LISTED. ANY AIRCRAFT MOVEMENT SURFACES OR ADJOINING AREAS WITHIN A RUNWAY, TAXIWAY OR TAXILANE SAFETY AREA THAT DOES NOT PASS THE INSPECTION SHALL REMAIN CLOSED UNTIL THE CLEANUP IS COMPLETE AND APPROVED. DAMAGES WILL BE ASSESSED FOR ANY LATE OPENINGS AS DEFINED IN THE SPECIFICATIONS.
2. CONDITIONS REQUIRED TO START: THE CONTRACTOR MUST HAVE THE FOLLOWING PRIOR TO STARTING ANY WORK ON THE AOA:
  - a. AN ACCEPTED WORK SCHEDULE.
  - b. ON-SITE CABLE LOCATING COMPANY AVAILABLE.
  - c. APPROVED FAA CABLE SPLICING EQUIPMENT/MATERIALS AND CERTIFIED CABLE SPLICERS AVAILABLE ON A 24-HOUR/DAY BASIS FOR EMERGENCY REPAIRS.
  - d. AN APPROVED W/PC.
  - e. AIRCRAFT AND VEHICLE MOVEMENTS ON TEMPORARY ROUTES ESTABLISHED (SEE OPERATING CONDITIONS).
  - f. NOTICE TO ARRIVE (NTA) FILED BY BROWN FIELD AIRPORT.
  - g. 48 HOURS NOTICE PRIOR TO REQUIRED ANY CLOSURE OF RUNWAYS.
  - h. 48 HOURS NOTICE PRIOR TO REQUIRED ANY CLOSURE OR REROUTING OF TAXIWAYS OR TAXILANES.
3. THE CONTRACTOR MUST HAVE THE FOLLOWING PRIOR TO STARTING ON THE SPECIFIC ITEMS OF WORK LISTED:
  - a. LIGHTED CLOSURE MARKERS ON SITE AND OPERATIONAL PRIOR TO ANY RUNWAY CLOSURES.
  - b. LIGHT CANS AND CONDUIT AVAILABLE AND ON SITE BEFORE STARTING IN ANY WORK AREA WHERE LIGHTING IS TO BE INSTALLED.
4. CLOSURE RESTRICTIONS: TO MAINTAIN ACCEPTABLE OPERATION LEVELS AND SAFETY, THE FOLLOWING RESTRICTIONS ARE MANDATORY:
  - a. FOR CLOSURE OF A RUNWAY, THE CONTRACTOR SHALL SET UP THE PORTABLE LIGHTED CLOSURE MARKERS ON THE RUNWAY PAINTED NUMBERS AT EACH END OF THE RUNWAY AS SOON AS THE RUNWAY IS CLOSED. THE CONTRACTOR SHALL REMOVE THE CLOSURE MARKERS JUST PRIOR TO THE RUNWAY OPENING. SEE SPECIFICATIONS SECTIONS P-820 FOR CLOSURE MARKER REQUIREMENTS.
  - b. PRIOR TO STARTING WORK WITHIN A PHASE, ALL BARRICADES SHALL BE IN PLACE AND HAVE OPERABLE LIGHTS. CONTRACTOR SHALL MAINTAIN BARRICADES THROUGHOUT THE DURATION OF THE PHASE INSURING THEY REMAIN ADEQUATELY FILLED WITH WATER AND THE LIGHTS REMAIN OPERATIONAL. BARRICADES SHALL ONLY BE REMOVED ONCE ALL OTHER WORK HAS BEEN COMPLETED WITHIN THE PHASE.
  - c. ALL EXISTING MARKING PROVIDING AIRCRAFT GUIDANCE INTO THE WORK AREA SHALL BE BLACKED OUT OR REMOVED PRIOR TO STARTING WORK WITHIN A PHASE. MARKING OUTSIDE OF THE WORK AREA LIMITS SHALL BE COORDINATED WITH AIRPORT OPERATIONS AND MAY REQUIRE PULL-BACK OPERATIONS. FINAL MARKINGS PROVIDING GUIDANCE INTO A WORK AREA SHALL BE COMPLETED IMMEDIATELY PRIOR TO VACATING THE WORK AREA.
  - d. TEMPORARY ELECTRICAL MODIFICATIONS INCLUDING FIXTURE REMOVALS AND SIGN COVERS SHALL BE COMPLETED IMMEDIATELY PRIOR TO VACATING THE WORK AREA.
  - e. THE ABOVE RESTRICTIONS MUST BE SCHEDULED WITH ANY CLOSURES REQUIRED BY OTHER CONTRACTORS COMPLETING WORK WITHIN THE AIRFIELD AREA. SEE "WORK BY OTHERS" FOR ADDITIONAL RESTRICTIONS. SEE THE SPECIFIC PHASING PLANS.
5. ALL UNAFFECTED LIGHTS AND EQUIPMENT WITHIN THE WORK AREAS, SAFETY AREAS AND ON THE AIRPORT OPERATIONAL AREA SHALL BE PROTECTED AT ALL TIMES. THE CONTRACTOR SHALL PROTECT THESE LIGHTS AND EQUIPMENT FROM DAMAGE WHILE WORKING AT THE WORKSITE. WHEN A RUNWAY/TAXIWAY IS CLOSED, THE LIGHTS ARE TURNED OFF. THE CONTRACTOR SHALL PLACE BARRICADES AROUND ANY ELEVATED LIGHTS AND EQUIPMENT THAT MAY BE IN THE WORK AREA TO DELINEATE AND PROTECT THEM. REPAIRS SHALL BE REPAIRED IMMEDIATELY. DAMAGE DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. UTILITIES: EXISTING UTILITY LINES IN THE WORK AREAS SHALL REMAIN IN OPERATION EXCEPT THOSE DESIGNATED AS ABANDONED OR INDICATED FOR REPLACEMENT ON THE PLANS. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES (OPERATIONAL AND ABANDONED) 14 DAYS PRIOR TO STARTING WORK IN AN AREA.

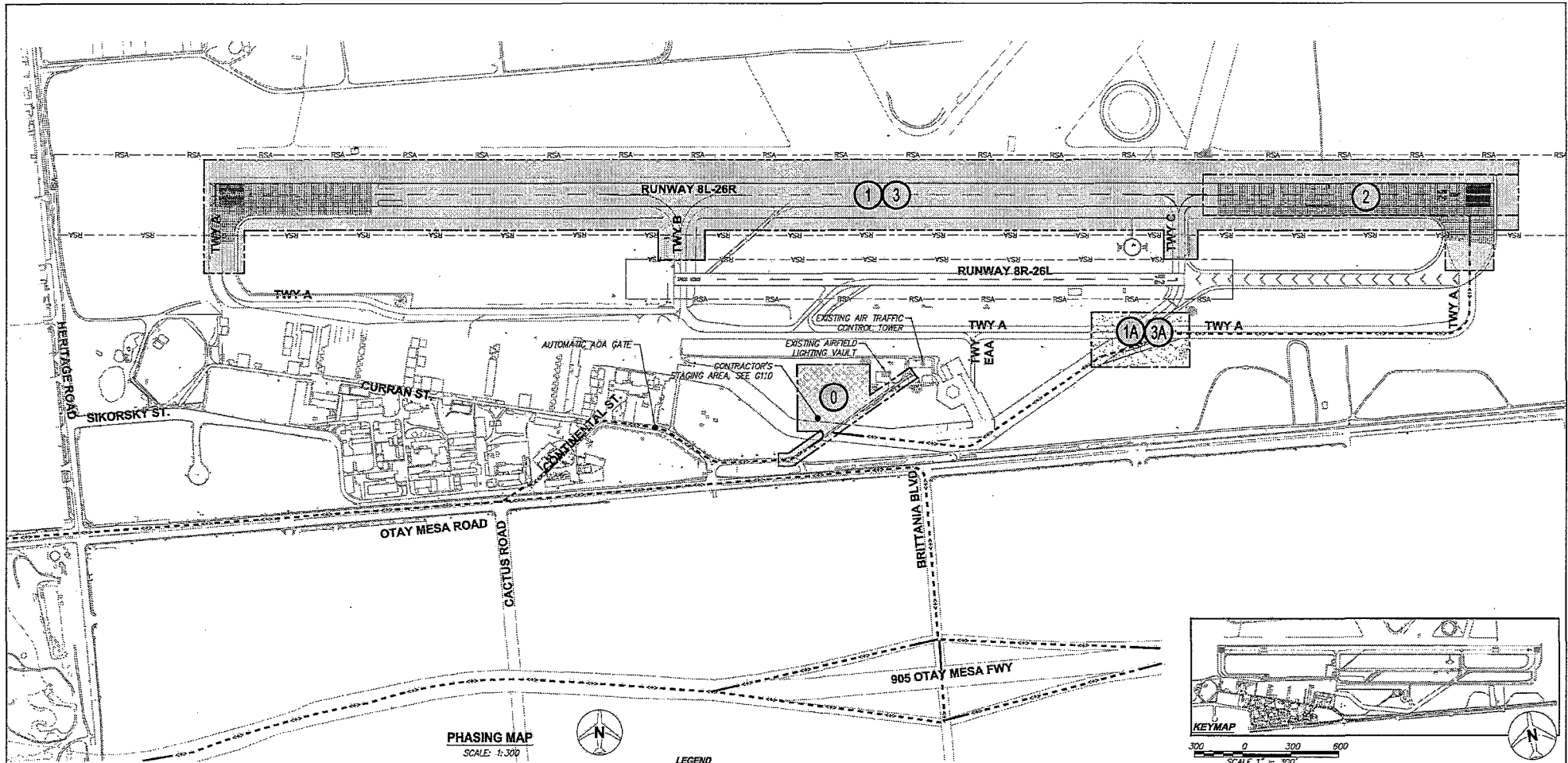
7. OPERATING CONDITIONS AND SAFETY: REFER TO "CLOSURE RESTRICTIONS" ABOVE. AT THE START OF CONSTRUCTION, ESTABLISH THE CONTINUOUS BARRICADE LINES TO PROVIDE A CLEAR DELINEATION BETWEEN WORK AREA AND OPERATIONAL AREA. THE CONTRACTOR SHALL ACCESS THE WORK AREAS THROUGH THE ACCESS ROUTES PROVIDED AND AS DEPICTED IN THE DRAWINGS. CONTRACTOR SHALL NOT CROSS OR TRAVERSE ANY TAXIWAYS/TAXILANES AND/OR RUNWAYS OTHER THAN THOSE CLOSED OR DUE TO THE WORK AREAS.
8. NO HOLES OR OPEN DITCHES MAY BE LEFT IN THE RUNWAY, TAXIWAY OR TAXILANE SAFETY AREA. ALL AREAS WITHIN THE SAFETY AREAS SHALL BE MAINTAINED AS SMOOTH SURFACES AT ALL TIMES (FAR 139) WHEN THE RUNWAY, TAXIWAY OR TAXILANE IS IN OPERATION TO ALLOW SAFE PASSAGE OF AIRCRAFT WITHOUT CAUSING STRUCTURAL DAMAGE TO THE AIRCRAFT OR LOSS OF AIRCRAFT CONTROL. DESIGN PARAMETERS SHALL BE IN ACCORDANCE WITH FAA ADVISORY CIRCULAR AC 150-5320-6, APPENDIX 3.
9. WORK BY OTHERS: THE CONTRACTOR SHALL CLOSELY COORDINATE AND SCHEDULE WORK WITH OTHER CONTRACTORS COMPLETING WORK ON THE AIRFIELD. PRIOR TO PREPARING THE CONSTRUCTION SCHEDULE AND REGULARLY DURING THE CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH THE RESIDENT ENGINEER AND BE UPDATED ON OTHER WORK OCCURRING ON THE AIRFIELD. THE CONTRACTOR SHALL INCORPORATE IN THE CONSTRUCTION SCHEDULE ANY REQUIRED RESTRICTIONS OR DATES REQUIRED TO MAKE SURE THAT NO CONFLICTS WITH OTHER CONTRACTORS OCCUR.
10. BARRICADES: BARRICADES PER DETAIL 1, SHEET G201 ARE REQUIRED TO PROVIDE A CLEAR SEPARATION LINE BETWEEN ACTIVE AIRCRAFT OPERATING AND AREAS THE CONTRACTOR WORK AREA OR TO PROTECT ELEVATED LIGHTS/EQUIPMENT. WHENEVER A TAXIWAY/TAXILANE IS CLOSED AND AN ADJACENT RUNWAY OR TAXIWAY IS OPERATIONAL, THE CONTRACTOR SHALL PROVIDE A BARRICADE LINE ACROSS THE TAXIWAY OR TAXILANE LOCATED JUST OUTSIDE, WITHIN 5 FEET, OF THE OPERATIONAL RUNWAY/TAXIWAY SAFETY AREA.
11. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE BARRICADES AT OTHER LOCATIONS WHEN REQUESTED BY THE RESIDENT ENGINEER. INSTALL BARRICADES AT THE BEGINNING OF THE PHASE TO PROVIDE A SAFE OPERATING AREA FOR BOTH THE CONTRACTOR AND THE AIRCRAFT. REMOVE AT THE END OF THE PHASE. AT NO TIME SHALL A BARRICADE BE PLACED WITHIN A RUNWAY, TAXIWAY OR TAXILANE SAFETY AREA EXCEPT DURING CLOSURE OF THAT RUNWAY, TAXIWAY OR TAXILANE.

**SAFETY NOTES**

1. IN ADDITION TO THE FOLLOWING REQUIREMENTS, ALSO REFER TO SPECIFICATION REGARDING OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION; AIRPORT PERSONNEL/ACCESS CONTROL, FOR SECURITY REQUIREMENTS; TEMPORARY FACILITIES AND CONTROLS, WHERE ACCESS BETWEEN THE REQUIREMENTS OF THE SAFETY AND PHASING PLANS AND THOSE INDICATED IN THE SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.
2. FAA ADVISORY CIRCULAR 150/5370-2F OR MOST CURRENT VERSION, "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION," IS INCORPORATED INTO THE ABOVE SPECIFICATIONS.
3. THE CONTRACTOR SHALL ALSO BE FAMILIAR WITH AND COMPLY WITH FAA ADVISORY CIRCULAR 70/7460-24, "OBSTRUCTION MARKING AND LIGHTING," FAA ADVISORY CIRCULAR 150/5210-60 APPENDIX 1, "PAINTING, MARKING, LIGHTING OF VEHICLES USED ON AIRFIELD," CFR 14 FAR PART 17, "OBJECTS AFFECTING NAVIGABLE AIRSPACE" AND CFR 14 FAR PART 139 "CERTIFICATION AND OPERATIONS: LAND AIRPORT SERVING CAS-CERTIFIED SCHEDULED AIR CARRIERS OPERATING LARGE AIRCRAFT" (OR MOST CURRENT VERSIONS).
4. ALL CONSTRUCTION WORK IN THIS PROJECT WILL OCCUR WITHIN THE AIR OPERATIONS AREA, AND IS SUBJECT TO THE OPERATIONAL SAFETY, AND SECURITY REQUIREMENTS OF THE ABOVE REFERENCES AND ANY ADDITIONAL REQUIREMENTS AS REQUIRED BY THE FEDERAL GOVERNMENT, STATE, COUNTY, CITY OR AS MAY BE DEMED NECESSARY BY BROWN FIELD AIRPORT (SOM).
5. EACH CONTRACTOR, INCLUDING EACH CONTRACTOR/SUBCONTRACTOR EMPLOYEE, WHO OPERATES A GROUND VEHICLE ON ANY PORTION OF THE AIR OPERATIONS AREA AT SOM MUST COORDINATE OPERATIONS WITH SOM.
6. VEHICLES DELIVERING MATERIALS TO OR HAULING MATERIAL FROM THE CONTRACTORS STAGING AREA SHALL USE THE ROUTE SHOWN ON PLAN.
7. THE ROADS DESIGNATED AS CONTRACTOR ROUTES WILL BE USED BY OTHER AIRPORT VEHICLES, CONTRACTORS AND THE GENERAL PUBLIC (ALONG PUBLIC ROADS). THE CONTRACTOR SHALL NOT INTERFERE WITH OTHER VEHICLE TRAFFIC AND SHALL YIELD EMERGENCY VEHICLES ALONG ANY OF THE AIRPORT OR PUBLIC ROADS. THE CONTRACTOR SHALL PROVIDE ALL FLAGGING, SIGNING, LIGHTING, ETC., REQUIRED BY THE CITY, THE AIRPORT, COUNTY OR THE STATE TO PROVIDE ALL REASONABLE SAFETY MEASURES TO PROTECT ALL PERSONS UTILIZING THE AOA PERIMETER ROAD, THE HAUL ROAD OR ALL PUBLIC ROADS USED BY THE CONTRACTOR. THE CONTRACTOR SHALL OBEY ALL VEHICLE WEIGHT AND SPEED LIMITS ESTABLISHED IN THE SPECIFICATIONS OR AS POSTED ON AIRPORT PROPERTY OR PUBLIC STREETS. THE CONTRACTOR SHALL CONTINUOUSLY SWEEP AND WASHDOWN ALL ACCESS ROUTES TO THE CONSTRUCTION AREAS AND EXISTING ADJACENT PAVED AREAS AND AOA PAVEMENTS. THESE AREAS SHALL BE KEPT FREE OF DEBRIS AT ALL TIMES. CONTRACTOR SHALL STAY OFF AOA PAVEMENTS, EXCEPT AS PERMITTED HEREIN. ANY DAMAGE ALONG THE CONTRACTOR ACCESS/HAUL ROUTES DUE TO THE CONTRACTOR'S USE SHALL BE REPAIRED IMMEDIATELY. AT THE COMPLETION OF THE PROJECT, ALL PAVEMENTS AND SURFACES ALONG THE ACCESS ROUTES THAT WERE EXISTING AT THE START OF THE PROJECT SHALL BE RESTORED TO THE ORIGINAL CONDITIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE HAUL ROAD DUE TO HIS/HER OPERATIONS. THE CONTRACTOR SHALL COORDINATE AND MEET THE CLEANING AND REPAIR REQUIREMENTS SET BY OTHER PUBLIC AGENCIES FOR USE OF THEIR ROADS FOR CONSTRUCTION RELATED WORK.
8. CONTRACTOR EMPLOYEES' PERSONAL VEHICLES AND FOOD VENDORS ARE ONLY PERMITTED WITHIN THE STAGING AREA. AFOREMENTIONED VEHICLES ARE NOT PERMITTED WITH THE OTHER WORK AREAS OR ELSEWHERE IN THE AOA.
9. THE CONTRACTOR SHALL KEEP A VACUUM SWEEPER TRUCK AND WATER TRUCK ON SITE AT ALL TIMES DURING WORKING AND NON-WORKING HOURS AND SHALL MAINTAIN THE SITES FREE FROM DUST AND OBSTRUCTIONABLE DEBRIS. DURING THE PERIOD OF TIME THAT THERE IS NO CONSTRUCTION ACTIVITY (BETWEEN WORKSHIFTS), THE VACUUM SWEEPER TRUCK AND WATER TRUCK MUST BE READY AND ON-SITE WITH CONTRACTOR'S PERSONNEL AVAILABLE BY PHONE TO RESPOND IMMEDIATELY TO A DUST OR DEBRIS PROBLEM AS IDENTIFIED BY AIRPORT OPERATIONS STAFF OR THE ENGINEER. AT NO TIME SHALL THERE BE MORE THAN A 10 MINUTE RESPONSE TIME TO CALLS CONCERNING DUST/DEBRIS PROBLEMS DURING WORK HOURS AND A 90 MINUTE RESPONSE TIME AT ALL OTHER TIMES ON A 24-HOUR PER DAY BASIS. THE CONTRACTOR SHALL PROVIDE WHATEVER MEANS ARE NECESSARY TO PREVENT FOREIGN OBJECT DEBRIS (FOD) IN AIRCRAFT MOVEMENT AREAS AND PROVIDE CONSTRUCTION AREA GENERATED DUST CONTROL ON A 24-HOUR BASIS. TRUCKS AND EQUIPMENT SHALL HAVE ALL LOOSE DIRT, ROCKS AND OTHER MATERIALS REMOVED WHEN ACCESSING THE AOA OR WHEN LEAVING A WORK AREA. THE CONTRACTOR SHALL PROVIDE TRUCK WASHES, RUMBLE STRIPS, SHAKERS OR WHATEVER MEANS ARE NECESSARY TO PREVENT FOD IN AIRCRAFT MOVEMENT AREAS. THIS WILL BE CONTINUOUSLY MONITORED BY THE AIRPORT AND IF THE CONTRACTOR'S METHOD IS NOT REMOVING THE DEBRIS ADEQUATELY TO MEET SAFETY REQUIREMENTS, THE CONTRACTOR WILL BE REQUIRED TO IMPROVE HIS/HER METHOD OR UTILIZE A NEW METHOD AT NO ADDITIONAL COST TO THE CITY.
10. ALL VEHICLES AND EQUIPMENT SHALL BE KEPT WITHIN THE WORK AREAS ESTABLISHED FOR THAT WORKSHIFT UNLESS TRAVELING TO OR FROM THE SITE UNDER NO CIRCUMSTANCES SHALL VEHICLES BE PARKED OR EQUIPMENT BE STORED OUTSIDE OF THESE AREAS.
11. POWER AND CONTROL CABLES FOR AIRFIELD LIGHTING AND NAVIGATIONAL AIDS ARE LOCATED IN THE CONSTRUCTION AREAS. THE CONTRACTOR'S PERSONNEL SHALL BE FAMILIAR WITH THESE CABLE LOCATIONS AND KEEP VEHICLES AND EQUIPMENT CLEAR OF ANY CABLES AT ALL TIMES. AS INDICATED ON THE PHASING PLANS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL LOCATE ALL UTILITIES (OPERATIONAL AND ABANDONED) PRIOR TO STARTING ANY EXCAVATION, DEMOLITION OR EARTHWORK.
12. ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION AREAS OR THE STAGING AREA SHALL REMAIN ACTIVE, ACCESSIBLE, AND PROTECTED AT ALL TIMES (I.E., WATERLINES, FIRE HYDRANTS, VALVES, DRAINAGE STRUCTURES, ELECTRICAL & FAA

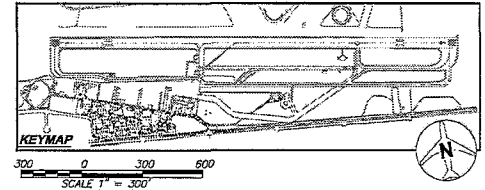
- CABLES/EQUIPMENT), REFER TO THE SPECIFICATIONS, PHASING PLANS, AND DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS THAT ARE ASSOCIATED WITH THIS PROJECT.
13. ALL CONSTRUCTION VEHICLES OR EQUIPMENT OPERATING WITHIN THE AOA SHALL BE EQUIPPED WITH YELLOW FLASHING BEACONS AND A STAFF MOUNTED 3' X 3' INTERNATIONAL ORANGE AND WHITE CHECKERED FLAG. CHECKERED PATTERNS TO BE ONE FOOT SQUARE. THE BEACONS ON THE EQUIPMENT AND VEHICLES SHALL BE ON AND OPERATIONAL AT ALL TIMES WHILE WITHIN THE AOA.
  14. LIGHTING PROVIDED FOR ANY NIGHT WORK SHALL NOT INTERFERE WITH AIR NAVIGATION. LIGHTS SHALL BE TRANSPORTED TO THE WORK AREAS WITH THE LIGHTS POINTED DOWN OR OFF.
  15. THE CONTRACTOR'S STAGING AREA IS SHOWN ON THE PLANS. THE CONTRACTOR PROJECT OFFICE MAY BE SET UP AT THIS LOCATION, BUT THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITTING AND UTILITY CONNECTIONS REQUIRED TO OPERATE OUT OF THIS LOCATION. PARKING OF EMPLOYEES PRIVATE VEHICLES IS RESTRICTED TO PUBLIC AREAS/FACILITIES ONLY AND WILL NOT BE ALLOWED WITHIN ANY OF THE SECURED AREAS OR AT THE PROJECT OFFICE SITE. NO EQUIPMENT/MATERIAL STORAGE WILL BE ALLOWED AT THE INDIVIDUAL WORK AREAS DURING NON-WORKING HOURS, INCLUDING BARRICADES, EQUIPMENT/MATERIAL STORAGE FOR ALL WORK SHALL BE LOCATED AT THE CONTRACTOR'S STAGING AREA ONLY. ANY EQUIPMENT TEMPORARILY PARKED AT A WORKSITE FOR USE DURING THE CURRENT WORKSHIFT SHALL BE PROPERLY MARKED, PARKED OUTSIDE ALL SAFETY AREAS AND WITHIN THE BARRICADED WORKSITE. IT SHALL NOT EXCEED 15 FEET IN HEIGHT AND SHALL BE LEFT IN THE LOWEST POSSIBLE PROFILE POSITION.

	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>G100</b>
	BROWN FIELD AIRPORT RUNWAY 8L-28R REHABILITATION CONSTRUCTION PHASING AND SAFETY NOTES		
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 12 OF 70 SHEETS			RES. NO. <u>B-11270</u>
FOR CITY ENGINEER		DATE	ELF CETIN SECTION HEAD
DESCRIPTION		BY	JHAD SLEIMAN PROJECT MANAGER
APPROVED		DATE	HNTB Corp. DESIGN ENGINEER
FILE NAME			146-1767 LABORER COORDINATOR
CONTRACTOR MUST NOTIFY THE CITY ENGINEER AT LEAST 7 (7) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION (APPROVED SERVICE ALERT) (OSA) 1-800-521-4123			
SPECIFICATION NO. 2300 CITY CONTRACT NO. 37992-12-D CP No. 37-2010		DATE STARTED	
CONTRACTOR		DATE COMPLETED	



**PHASING MAP**  
SCALE: 1" = 300'

- LEGEND**
- CONTRACTOR'S ACCESS/HAUL ROUTE
  - PHASE NUMBER
  - UNRESTRICTED WORK HOURS
  - NIGHTTIME WORK HOURS (2200 - 0600 LOCAL)
  - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)



**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
6101 W. Century Blvd., Suite 1200  
Los Angeles, CA 90045  
Phone: 310-417-7777  
Fax: 310-417-5262

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION UNDERGROUND SERVICE ALERT (USA) 1-800-422-6143  
SPECIFICATION NO. 2999  
CITY STANDARD  
CIP NO. 31-300-D

**PLANS FOR THE CONSTRUCTION OF:**

**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION  
OVERALL CONSTRUCTION PHASING PLAN **G101****

SHEET

**G101**

CITY OF SAN DIEGO, CALIFORNIA  
ENGINEERING DEPARTMENT  
SHEET 13 OF 70 SHEETS

ISS NO. B-131010

FOR CITY ENGINEER		DATE	
DESCRIPTION	BY	APPROVED	DATE FILLED
FILE NAME:			
AS-BUILT			
CONTRACTOR		DATE STARTED	
INSPECTOR		DATE COMPLETED	

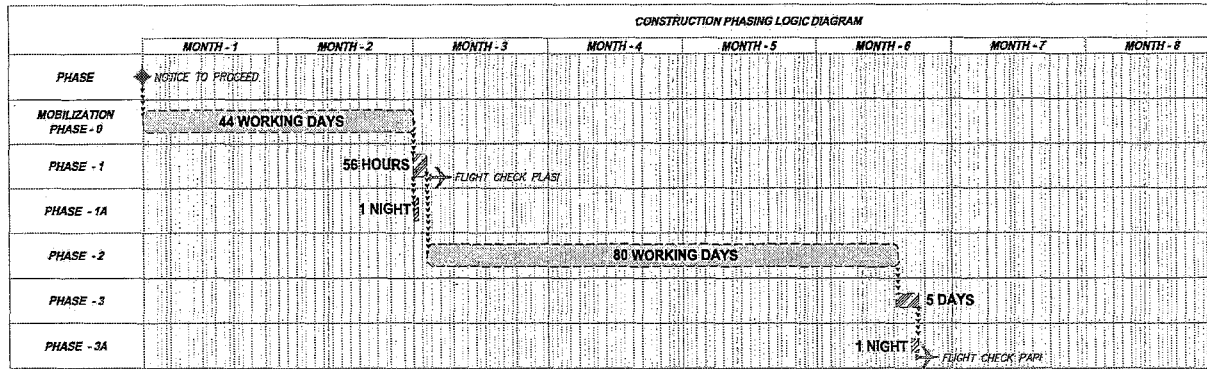
**ELIF CETIN**  
SECTION HEAD

**JIHAD SLEIMAN**  
PROJECT MANAGER

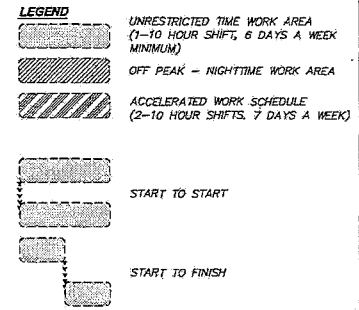
**HNTB Corp.**  
DESIGN ENGINEER

**146-1767**  
EMERGENCY TELEPHONE

37992-13-D



- NOTES:**
- UNLESS OTHERWISE NOTED, WORK HOURS DENOTED AS NIGHTTIME WILL OCCUR FROM THE HOURS OF 10:00 PM-6:00AM.
  - THE TEMPORARY WORK LISTED IS FOR REFERENCE ONLY AND SHALL NOT BE CONSTRUED AS AN ALL INCLUSIVE LIST. ADDITIONAL TEMPORARY WORK MAY BE REQUIRED, CONTRACTOR TO SEE INDIVIDUAL PHASING SHEETS.
  - DURING PHASE 2, THE CONTRACTOR MAY REQUEST TO WORK ON SATURDAYS, IN ORDER TO STAY ON SCHEDULE. IF SATURDAY WORK IS AUTHORIZED BY THE ENGINEER, OPERATIONS ON SATURDAY WILL NOT BE COUNTED AS CONTRACT TIME OR AS AN OFFICIAL WORKING DAY.



PHASE	PREDECESSOR	SUCCESSOR	CONCURRENT	TEMPORARY WORK (SEE NOTE 2)	WORK HOURS	DURATION	TRAFFIC RESTRICTIONS
0	NONE	PHASE 1	NONE	UTILITY CONNECTIONS, MOBILE TRAILERS, CONTRACTOR SIGNAGE	MONDAY - FRIDAY (7-8 HOUR SHIFT MIN)	44 WORKING DAYS	N/A
1	MOBILIZATION	PHASE 2	PHASE 1A	SIGNAGE, BARRICADES, MARKING, INSTALLATION OF BLAST FENCING, PLAS1, AND THRESHOLD LIGHTING	ACCELERATED (2-10 HOUR SHIFT MIN)	56 HOURS, 10:00 PM DAY 1 - 6:00 AM DAY 4	RWY 8L-26R CLOSED
1A	MOBILIZATION	PHASE 2	PHASE 1	MARKING REMOVAL AND BARRICADE INSTALLATION	OFF-PEAK HOURS (10:00 PM - 6:00 AM)	8 HOURS	RWY 8L-26R CLOSED PORTIONS OF TAXIWAY A AND C CLOSED
2	PHASE 1	PHASE 3	NONE	SIGNAGE, BARRICADES	MONDAY - SATURDAY (7-10 HOUR SHIFT MIN)	80 WORKING DAYS	PORTIONS OF TAXIWAY A CLOSED, RWY 8L-26R SHORTENED
3	PHASE 2	NONE	PHASE 3A	SIGNAGE, BARRICADES, REMOVAL OF BLAST FENCE, & MARKING	ACCELERATED (2-10 HOUR SHIFT MIN)	112 HOURS CONSECUTIVE DAYS 6:00AM DAY 1 - 10:00PM DAY 5	RWY 8L-26R CLOSED
3A	PHASE 2	NONE	PHASE 3	BARRICADE REMOVAL	OFF-PEAK HOURS (10:00 PM - 6:00 AM)	8 HOURS	RWY 8L-26R CLOSED PORTIONS OF TAXIWAY A AND C CLOSED

PLANS FOR THE CONSTRUCTION OF:

**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION  
CONSTRUCTION PHASING LOGIC  
DIAGRAM**

SHEET: **G102**

CITY OF SAN DIEGO, CALIFORNIA  
ENGINEERING DEPARTMENT  
SHEET #1 OF 79 SHEETS

RES NO. B-11000

**FOR CITY ENGINEER** \_\_\_\_\_ DATE \_\_\_\_\_  
**BY** \_\_\_\_\_ **APPROVED** \_\_\_\_\_ **DATE FORWARDED** \_\_\_\_\_

**FOR CONTRACTOR** \_\_\_\_\_

**CONTRACTOR MUST NOTIFY THE**  
**DESIGN ENGINEER AT LEAST**  
**72 HOURS BEFORE ANY WORK**  
**TO BE PERFORMED IN THE**  
**CONSTRUCTION AREA**  
**(SEE) 14-00-002-413**  
**SPECIFICATION NO. 2890**  
**CITY CONTRACT**  
**NO. 3-3000**

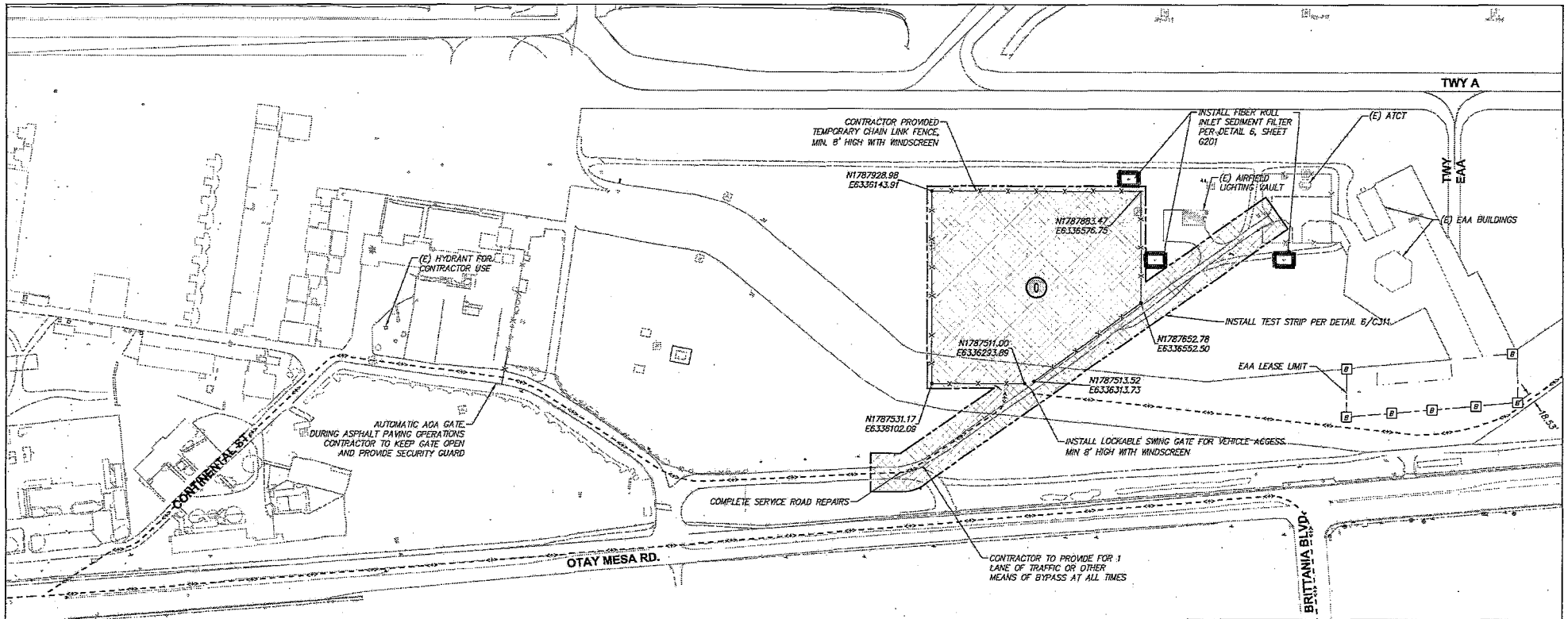
**ELF CETIN**  
SECTION HEAD

**JHAO SLEIMAN**  
PROJECT MANAGER

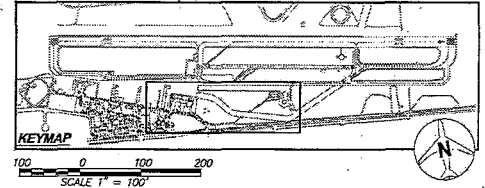
**HNTB Corp.**  
DESIGN ENGINEER

**146-1767**  
LABORATORY COORDINATOR

CONTRACTOR \_\_\_\_\_ DATE STARTED \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_



- LEGEND**
- CONTRACTOR'S ACES/HAIL ROUTE
  - - - SAFETY FENCE, SEE DETAIL 2, SHEET G201
  - ① PHASE NUMBER
  - ▨ PHASE LIMITS - UNRESTRICTED WORK HOURS
  - ▨ PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
  - ▨ PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
  - - - BLACK OUT EXISTING MARKINGS, FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
  - ▢ B B B INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201, WITH 10' SPACING
  - ▢ COVER EXISTING SIGN PANEL(S) PROVIDING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
  - ▢ RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
  - X AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
  - ▢ TEMPORARY 6" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
  - ▢ FIBER ROLL, SEE DETAIL 5, SHEET G201



PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
 RUNWAY 6L-26R REHABILITATION  
 CONTRACTOR STAGING AREA DETAIL**

SHEET **G110**

CITY OF SAN DIEGO, CALIFORNIA  
 ENGINEERING CONTRACT  
 SHEET 15 OF 28 SHEETS

RES. NO. B-11010

**ELF CETIN**  
 SECTION HEAD

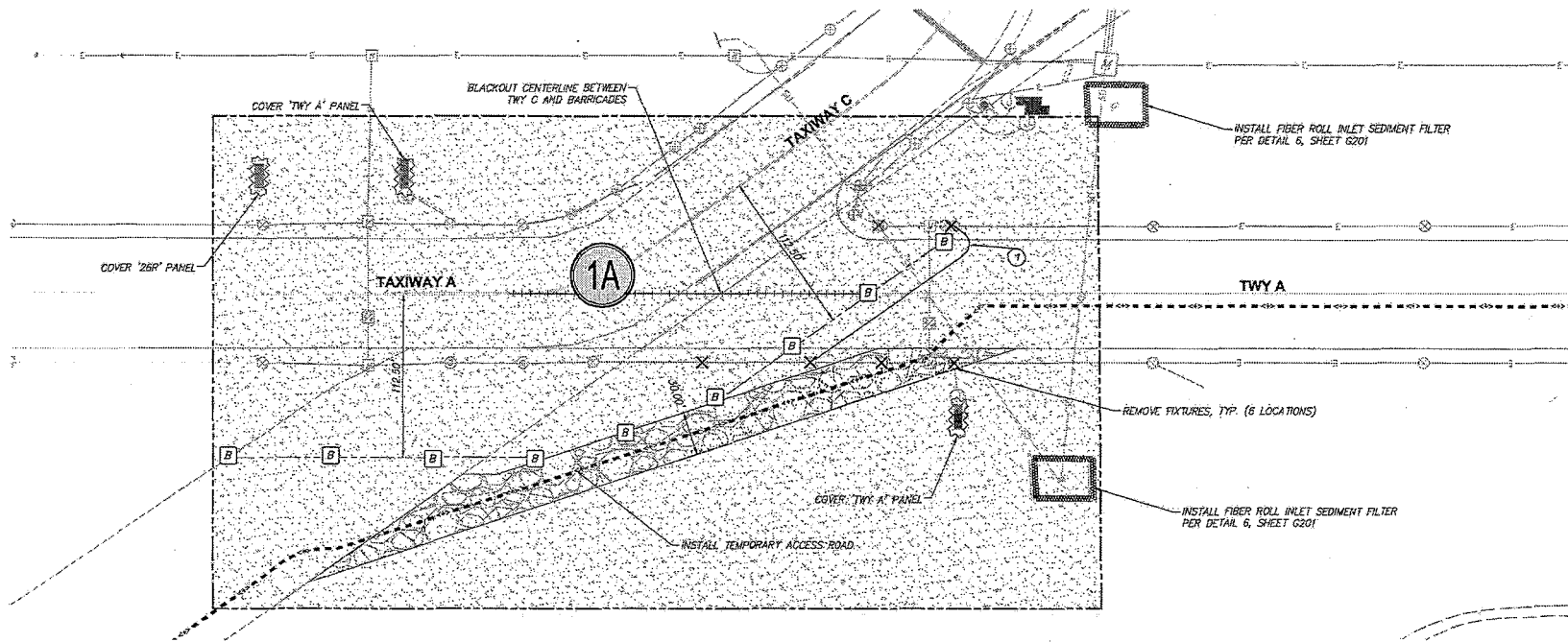
**JIHAD SLEMAN**  
 PROJECT MANAGER

**HNTB Corp.**  
 DESIGN ENGINEER  
 146-1767  
 LAMBERT SCOREMALES

FOR CITY ENGINEER	DATE
DISCUSSION	BY APPROVED DATE FRAMED
FILE NAME	
AS-BUILT	
CONTRACTOR INSPECTOR	DATE STARTED DATE COMPLETED

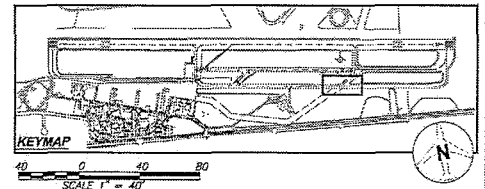
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION (UNDERGROUND SERVICE ALERT) (USA) 1-800-424-4133  
 SPECIFICATION NO. 2900  
 CITY CONTRACT NO. 31-2510





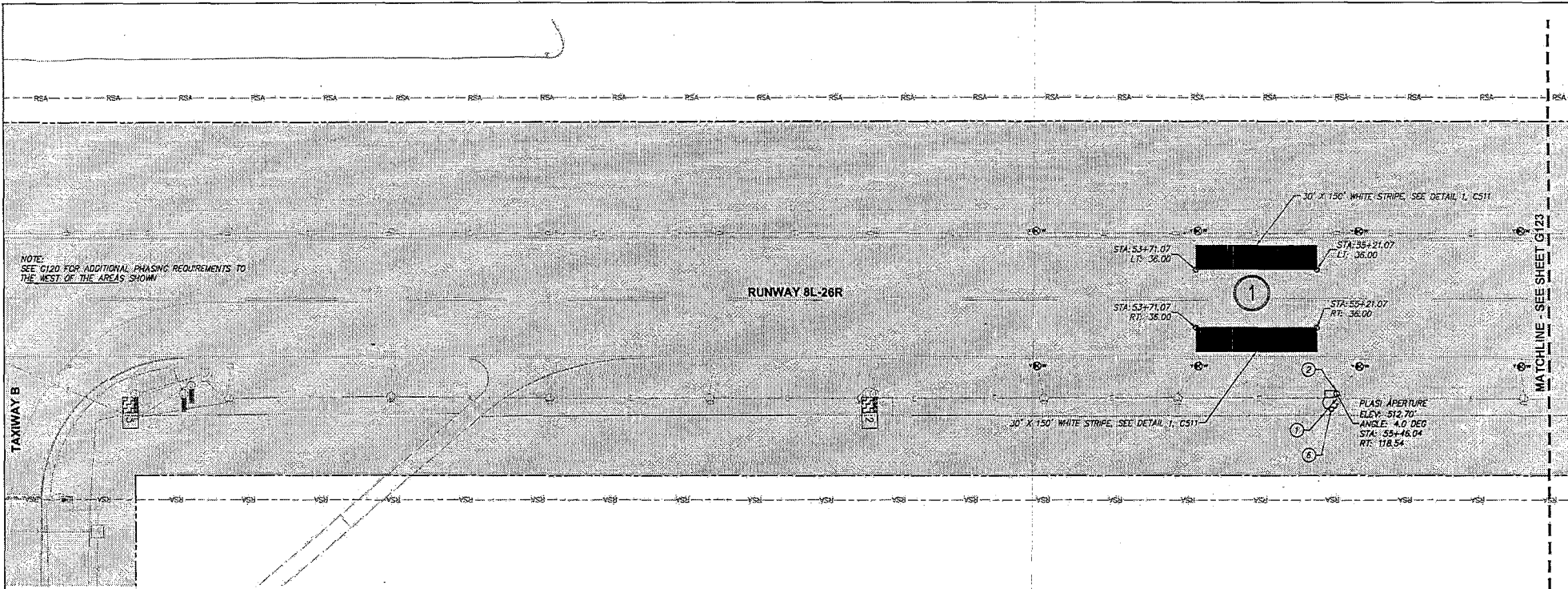
- LEGEND**
- CONTRACTOR'S ACCESS/HAUL ROUTE
  - - - SAFETY FENCE, SEE DETAIL 2, SHEET G201
  - ① PHASE NUMBER
  - ▨ PHASE LIMITS - UNRESTRICTED WORK HOURS
  - ▨ PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
  - ▨ PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
  - BLACK OUT EXISTING MARKING, FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
  - ▨ B B B INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201, WITH 10' SPACING
  - ▨ COVER EXISTING SIGN PANEL(S) PROVIDING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
  - ▨ RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
  - X AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
  - ▨ TEMPORARY 6" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
  - ▨ FIBER ROLL, SEE DETAIL 5, SHEET G201

- TEMPORARY ELECTRICAL LEGEND**
- REMOVE EXISTING FIXTURE LENS AND RELOCATE PER PLAN. REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
  - X REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
- TEMPORARY ELECTRICAL NOTES**
- ① INSTALL TEMPORARY TAXIWAY LIGHTING BYPASS IN SURFACE MOUNTED CONDUIT PER DETAIL 3, G203. PROVIDE 2-8" SVL CABLE AND 1-#6 GROUND TO MAINTAIN TAXIWAY CIRCUIT CONTINUITY. CONNECT TO BASE CANS SHOWN WITH LB FITTING.



		PLANS FOR THE CONSTRUCTION OF:	
		BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 1A	
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 17 OF 70 SHEETS		ISS. NO. B-11010	SHEET <b>G121</b>
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 5155 W Century Blvd, Suite 1200 Los Angeles, CA 90045 Phone: 310-417-4777 Fax: 310-417-5394		FOR CITY ENGINEER APPROVED BY: _____ DATE: _____ FILE NO.: _____	ELIF CETIN SECTOR HEAD JAHAD SLEIMAN PROJECT MANAGER HNTB CORP. 146-1767 CURRENT COORDINATOR
CONTRACTOR MUST NOTIFY THE FOLLOWING AGENCIES AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION: AIRPORT SECURITY AGENCY (ASA) 1-800-422-4147 SPECIFICATION NO. 2955 CITY CONTRACT SSP No. 31-2020		AS-BUILT CONTRACTOR: _____ DATE STARTED: _____ INSPECTOR: _____ DATE COMPLETED: _____	37992-17-D





NOTE:  
SEE G120 FOR ADDITIONAL PHASING REQUIREMENTS TO  
THE WEST OF THE AREAS SHOWN

**RUNWAY 8L-26R**

MATCHLINE - SEE SHEET G123

**LEGEND**

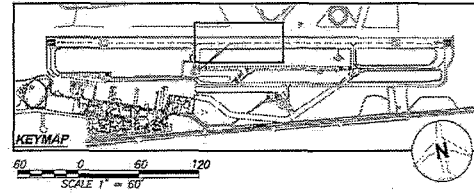
- CONTRACTOR'S ACCESS/HAUL ROUTE
- - - SAFETY FENCE, SEE DETAIL 2, SHEET G201
- ① PHASE NUMBER
- [Hatched Box] PHASE LIMITS - UNRESTRICTED WORK HOURS
- [Hatched Box] PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
- [Hatched Box] PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0500 LOCAL)
- [Dashed Line] BLACK OUT EXISTING MARKING, FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
- [B] [B] [B] INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201, WITH 10' SPACING
- [Wavy Line] COVER EXISTING SIGN PANEL(S) PROVIDING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
- [X] RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
- [X] AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- [Road] TEMPORARY 6" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
- [Roll] FIBER ROLL, SEE DETAIL 5, SHEET G201

**TEMPORARY ELECTRICAL LEGEND**

- REMOVE EXISTING FIXTURE LENS AND RELOCATE PER PLAN. REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
- ✕ REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
- + REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL SALVAGED YELLOW/WHITE LENS ON EXISTING FIXTURE.
- +\* REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL NEW YELLOW/RED LENS ON EXISTING FIXTURE.

**TEMPORARY ELECTRICAL NOTES**

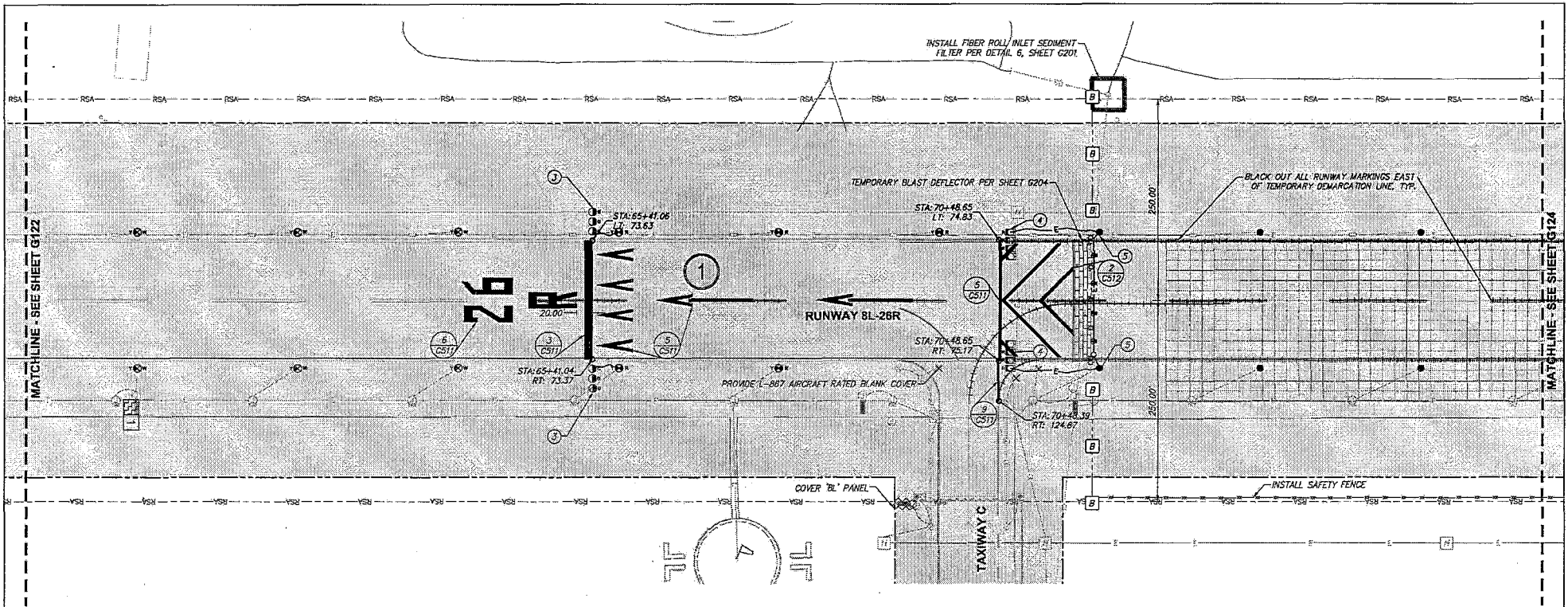
- ① TEMPORARY PLASI POWER. MAKE SPLICE INTO RUNWAY CIRCUIT AT EXISTING JUNCTION BOX WITH 2-#8 SRY WIRES AND 1-#6 GROUND, RUN 1" SEALTITE SECURED TO GRADE SURFACE WITH SKY SPLICE WIRES TO NEW TEMP PLASI JUNCTION CAN. CONNECT CABLES TO PARALLELED POWER ADAPTER.
- ② INSTALL TEMPORARY PLASI UNIT PER DETAIL 1, G202. CONNECT TO TEMPORARY PLASI POWER.
- ③ INSTALL TEMPORARY THRESHOLD LIGHTS PER DETAIL 2, G202. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT SHOWN WITH NEW BASE PLATE WITH SQUEEZE CONNECTOR.
- ④ INSTALL TEMPORARY RUNWAY END LIGHTS PER DETAIL 1, G203. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT CAN SHOWN WITH SURFACE MOUNTED CONDUIT.
- ⑤ INSTALL TEMPORARY RUNWAY BYPASS PER DETAIL 2, G203. PROVIDE 2-#8 SRY CABLE AND 1-#6 GROUND TO MAINTAIN RUNWAY CIRCUIT CONTINUITY. PROVIDE CONNECTION TO RUNWAY END LIGHTS AT BASE CANS SHOWN.
- ⑥ INSTALL NEW TEMPORARY L-8876 BASE CAN, 24" DIA X 36" DEEP, BELOW GRADE. REMOVE EXISTING PAVEMENT AND EXCAVATE SOIL TO ENSURE TOP OF CAN IS FLUSH WITH GRADE. INSTALL 2 PA-4 POWER ADAPTERS (ADD OR EQUAL) IN PARALLEL AND CONNECT TO PLASI. CONNECT TO PLASI VIA LE FITTING AND SURFACE MOUNTED SEALTITE SECURED TO GRADE.



**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
8181 K Century Blvd, Suite 1200  
Los Angeles, CA 90048  
Phone: 310-417-8777  
Fax: 310-417-5588

PLANS FOR THE CONSTRUCTION OF:		SHEET
BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 1 SHEET 1 OF 3		<b>G122</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 18 OF 70 SHEETS		MSB NO. B-11010
DESIGNED BY	DATE	ELIF CETIN
CHECKED BY	DATE	SEBASTIAN
APPROVED BY	DATE	JIHAD SLEMAN PROJECT MANAGER
CONTRACTOR	DATE STARTED	HNTB Corp.
INSPECTOR	DATE COMPLETED	146-1767 LAUREN COORDINATOR





**LEGEND**

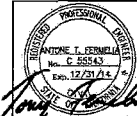
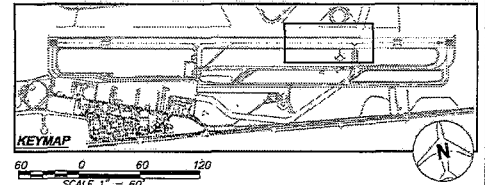
- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- ① PHASE NUMBER
- ▨ PHASE LIMITS - UNRESTRICTED WORK HOURS
- ▨ PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
- ▨ PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- ▨ BLACK OUT EXISTING MARKING, FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
- B — B — B INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. WITH 10' SPACING
- COVER EXISTING SIGN PANEL(S) PROVIDING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
- RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
- X AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- 6" TEMPORARY 6" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
- FIBER ROLL, SEE DETAIL 5, SHEET G201

**TEMPORARY ELECTRICAL LEGEND**

- REMOVE EXISTING FIXTURE LENS AND RELOCATE PER PLAN. REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
- X REMOVE EXISTING FIXTURE, BASE PLATE, AND ASSOCIATED TRANSFORMERS AND STORE FOR REINSTALLATION. INSTALL TEMPORARY BASE PLATE. MAINTAIN CIRCUIT CONTINUITY WITH A BYPASS SPLICE.
- ⊕ REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL SALVAGED YELLOW/WHITE LENS ON EXISTING FIXTURE
- ⊕ REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL NEW YELLOW/RED LENS ON EXISTING FIXTURE.

**TEMPORARY ELECTRICAL NOTES**

- 1 TEMPORARY PLASL POWER. MAKE SPLICE INTO RUNWAY CIRCUIT AT EXISTING JUNCTION BOX WITH 2-#8 SKV WIRES AND 1-#6 GROUND, RUN 1" SEALTITE SECURED TO GRADE SURFACE WITH SKV SPLICE WIRES TO NEW TEMP PLASL JUNCTION CAN. CONNECT CABLES TO PARALLELED POWER ADAPTERS.
- 2 INSTALL TEMPORARY PLASL UNIT PER DETAIL 1, G202. CONNECT TO TEMPORARY PLASL POWER.
- 3 INSTALL TEMPORARY THRESHOLD LIGHTS PER DETAIL 2, G202. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT SHOWN WITH NEW BASE PLATE WITH SQUEEZE CONNECTOR.
- 4 INSTALL TEMPORARY RUNWAY END LIGHTS PER DETAIL 1, G203. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT CAN SHOWN WITH SURFACE MOUNTED CONDUIT.
- 5 INSTALL TEMPORARY RUNWAY BYPASS PER DETAIL 2, G203. PROVIDE 2-#8 SKV CABLE AND 1-#6 GROUND TO MAINTAIN RUNWAY CIRCUIT CONTINUITY. PROVIDE CONNECTION TO RUNWAY END LIGHTS AT BASE CANS SHOWN.
- 6 INSTALL NEW TEMPORARY L-867E BASE CAN, 24" DIA X 36" DEEP, BELOW GRADE. REMOVE EXISTING PAVEMENT AND EXCAVATE SOIL TO ENSURE TOP OF CAN IS FLUSH WITH GRADE. INSTALL 2 PA-4 POWER ADAPTERS (ADS OR EQUAL) IN PARALLEL AND CONNECT TO PLASL. CONNECT TO PLASL VIA LB FITTING AND SURFACE MOUNTED SEALTITE SECURED TO GRADE.



**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
2118 W. Century Blvd., Suite 1200  
Los Angeles, CA 90045  
Phone: 310-417-3777  
Fax: 310-417-5369

PLANS FOR THE CONSTRUCTION OF:

**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION  
PHASE 1 SHEET  
2 OF 3**

SHEET: **G123**

CITY OF SAN DIEGO, CALIFORNIA  
ENGINEERING DEPARTMENT  
SHEET 19 OF 70 SHEETS

ISS. NO. B-11010

SECTION HEAD: **ELIJAH CETIN**

PROJECT MANAGER: **JIHAD SLEIMAN**

DESIGN ENGINEER: **HNTB Corp.**

14G-1767

LABORER COMPANIES

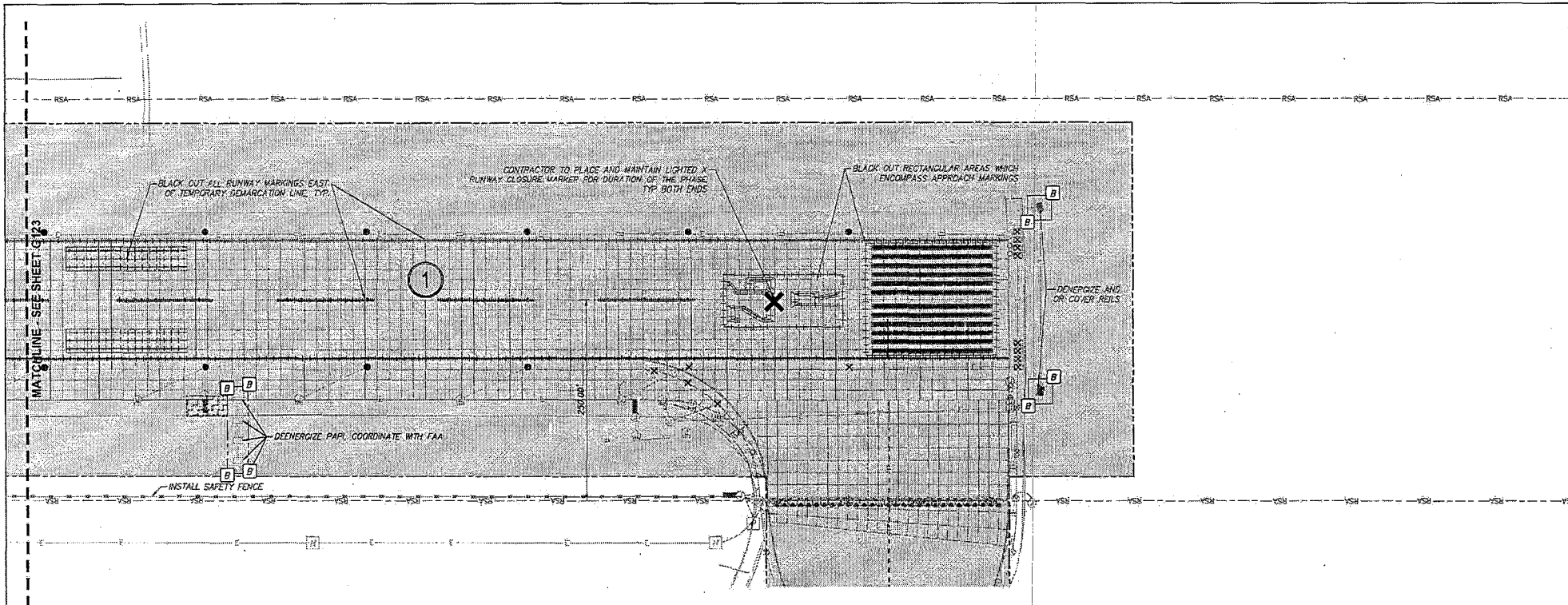
37992-19-D

FOR CITY ENGINEER	DATE
DESCRIPTION	BY
APPROVED	DATE
FRAMED	

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION UNDERGROUND SERVICE ALERT (USA) 1-800-468-4113

SPECIFICATION NO. 2990  
CITY OF SAN DIEGO  
CONTRACT NO. 37-000

CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_  
INSPECTOR: \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_



**LEGEND**

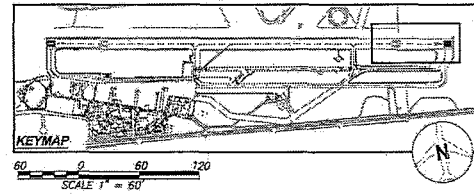
- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER:**
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- BLACK OUT EXISTING MARKING, FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201, WITH 10' SPACING
- COVER EXISTING SIGN PANEL(S) PROMOTING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
- RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
- AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- TEMPORARY 5" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
- FISER ROLL, SEE DETAIL 5, SHEET G201

**TEMPORARY ELECTRICAL LEGEND**

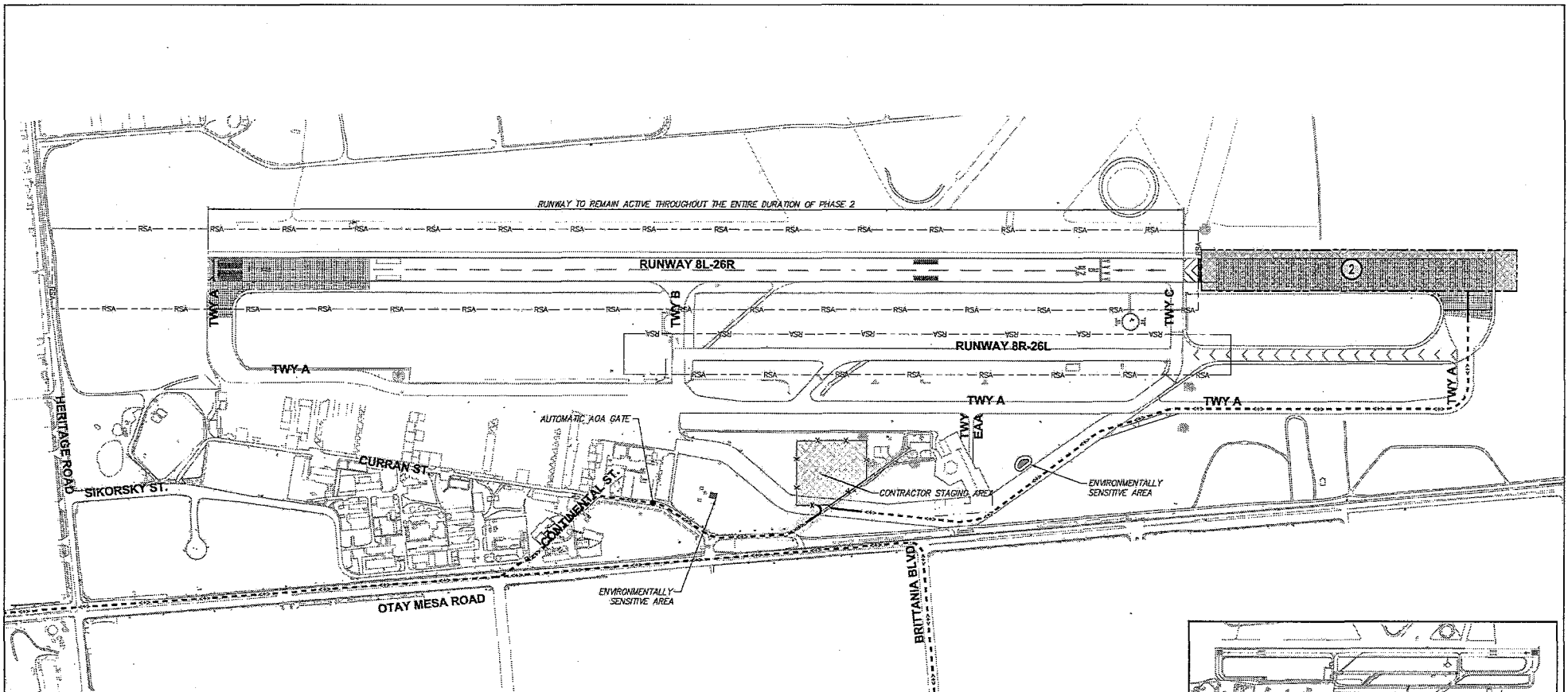
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- REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL SALVAGED YELLOW/WHITE LENS ON EXISTING FIXTURE
- REMOVE EXISTING FIXTURE LENS AND STORE FOR REINSTALLATION. INSTALL NEW YELLOW/RED LENS ON EXISTING FIXTURE.

**TEMPORARY ELECTRICAL NOTES**

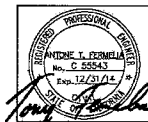
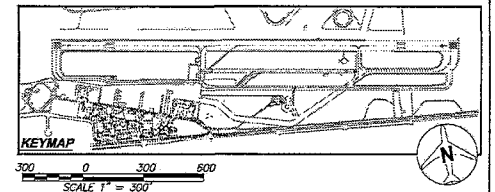
1. TEMPORARY PLASI POWER. MAKE SPICE INTO RUNWAY CIRCUIT AT EXISTING JUNCTION BOX WITH 2-#8 SKV WIRES AND 1-#5 GROUND, RUN 1" SEALTITE SECURED TO GRADE SURFACE WITH SKV SPICE WIRES TO NEW TEMP PLASI JUNCTION CAN. CONNECT CABLES TO PARALLELED POWER ADAPTER.
2. INSTALL TEMPORARY PLASI UNIT PER DETAIL 1, G202. CONNECT TO TEMPORARY PLASI POWER.
3. INSTALL TEMPORARY THRESHOLD LIGHTS PER DETAIL 2, G202. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT SHOWN WITH NEW BASE PLATE WITH SQUEEZE CONNECTOR.
4. INSTALL TEMPORARY RUNWAY END LIGHTS PER DETAIL 1, G203. CONNECT TO EXISTING RUNWAY CIRCUIT AT LIGHT CAN SHOWN WITH SURFACE MOUNTED CONDUIT.
5. INSTALL TEMPORARY RUNWAY BYPASS PER DETAIL 2, G203. PROVIDE 2-#8 SKV CABLE AND 1-#5 GROUND TO MAINTAIN RUNWAY CIRCUIT CONTINUITY. PROVIDE CONNECTION TO RUNWAY END LIGHTS AT BASE CANS SHOWN.
6. INSTALL NEW TEMPORARY L-807E BASE CAN, 24" DIA X 36" DEEP, BELOW GRADE. REMOVE EXISTING PAVEMENT AND EXCAVATE SOIL TO ENSURE TOP OF CAN IS FLUSH WITH GRADE. INSTALL 2 PA-4 POWER ADAPTERS (ADD OR EQUAL) IN PARALLEL AND CONNECT TO PLASI. CONNECT TO PLASI VIA LB FITTING AND SURFACE MOUNTED SEALTITE SECURED TO GRADE.



	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>G124</b>
	<b>BROWN FIELD AIRPORT RUNWAY 8L-26B REHABILITATION PHASE 1 SHEET 3 OF 3</b>		
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 20 OF 70 SHEETS		ISS. NO. B-11019	
		<b>ELF CETIN</b> REGISTERED PROFESSIONAL ENGINEER <b>JIHAD SLEMAN</b> PROJECT MANAGER <b>HNTB Corp.</b> DESIGN ENGINEER 146-1767 <b>LUBERT GOODMAN</b> REGISTERED PROFESSIONAL ENGINEER	
THE CITY ENGINEER _____ DATE _____ DESCRIPTION _____ BY _____ APPROVED _____ DATE/FILED _____ FILE NAME _____		CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK AND UNDERSTAND SIGNIFICANT ALIEN DATA 1-800-422-4143 SPOYER REG. NO. 2005 CITY CONTRACT NO. 37992-20-D CONTRACTOR _____ DATE STARTED _____ INSPECTOR _____ DATE COMPLETED _____	

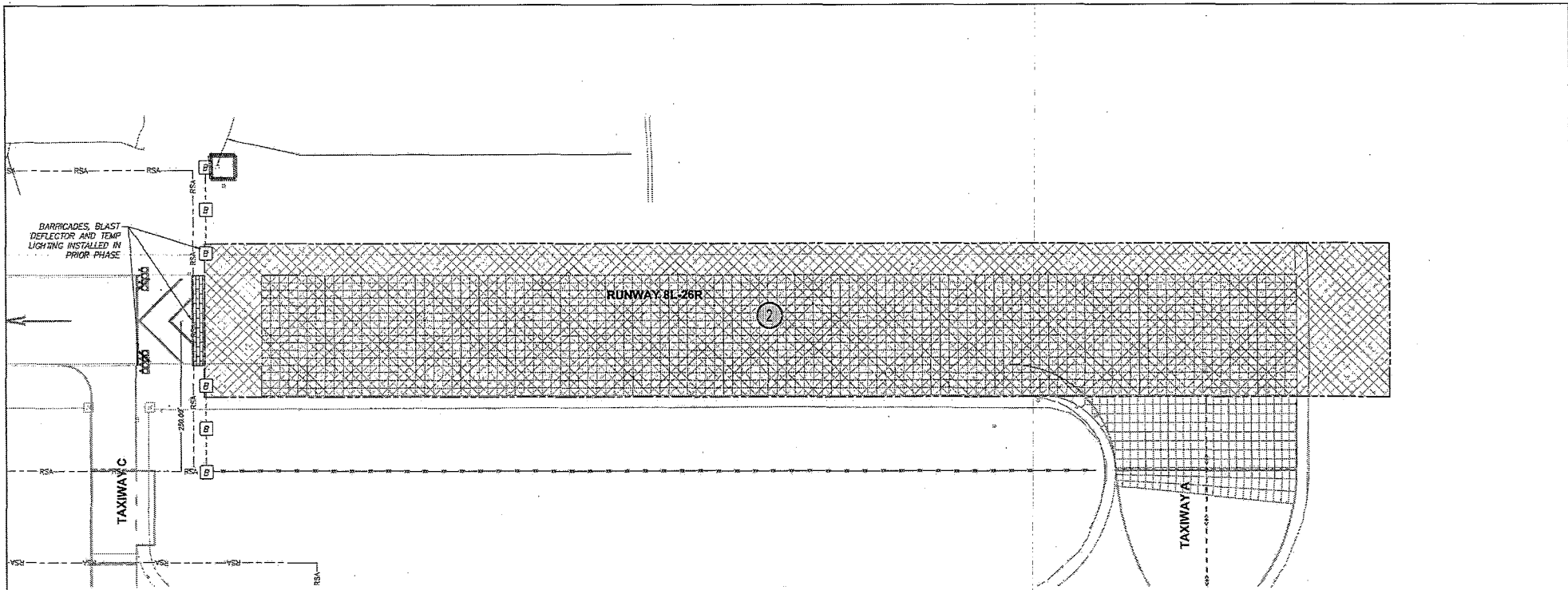


- LEGEND**
- CONTRACTOR'S ACCESS/HAUL ROUTE
  - SAFETY FENCE, SEE DETAIL 2, SHEET G201
  - PHASE NUMBER
  - PHASE LIMITS - UNRESTRICTED WORK HOURS
  - PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
  - PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0800 LOCAL)
  - BLACK OUT EXISTING MARKING. FOR RUNWAY DESIGNATORS AND APPROACH MARKINGS, BLACK OUT RECTANGULAR AREA ENCOMPASSING EXISTING MARKINGS
  - INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. WITH 10' SPACING
  - COVER EXISTING SIGN PANEL(S) PROVIDING GUIDANCE INTO WORK AREA PER DETAIL 3, SHEET G202
  - RUNWAY DISTANCE REMAINING SIGN MODIFICATIONS, SEE DETAIL 4, SHEET G202
  - AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
  - FIBER ROLL, SEE DETAIL 5, SHEET G201
  - ENVIRONMENTALLY SENSITIVE AREA, TO BE DELINEATED WITH CONSTRUCTION SAFETY FENCE PER DETAIL 2, G201



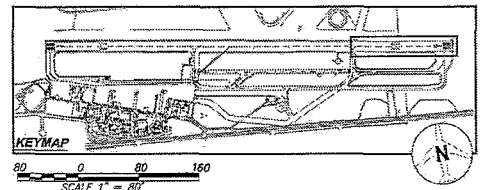
**HNTB**  
 The HNTB Companies  
 Infrastructure Solutions  
 5101 N. Century Blvd., Suite 1100  
 Los Angeles, CA 90045  
 Phone: 310-417-8777  
 Fax: 310-417-8388

PLANS FOR THE CONSTRUCTION OF:		SHEET
BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 2 OVERALL		<b>G130</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 21 OF 78 SHEETS		PROJ. NO. <b>E-1102D</b>
FOR CITY ENGINEER	DATE	ELUF CETIN SECTION HEAD
DESCRIPTION	BY	APPROVED
FILE NAME:		JHAD SLEIMAN PROJECT MANAGER
CONTRACTOR MUST NOTIFY THE CITY ENGINEER AT LEAST THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. (SCHEDULED SERVICE ALERT (SSA) 1-800-422-6113)		HNTB Corp. DESIGN ENGINEER 145-1767
AS-BUILT		LAMBERT COORDINATES
CONTRACTOR	DATE STARTED	37992-21-D
INSPECTOR	DATE COMPLETED	

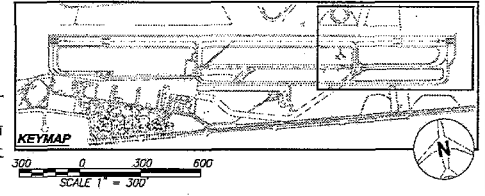
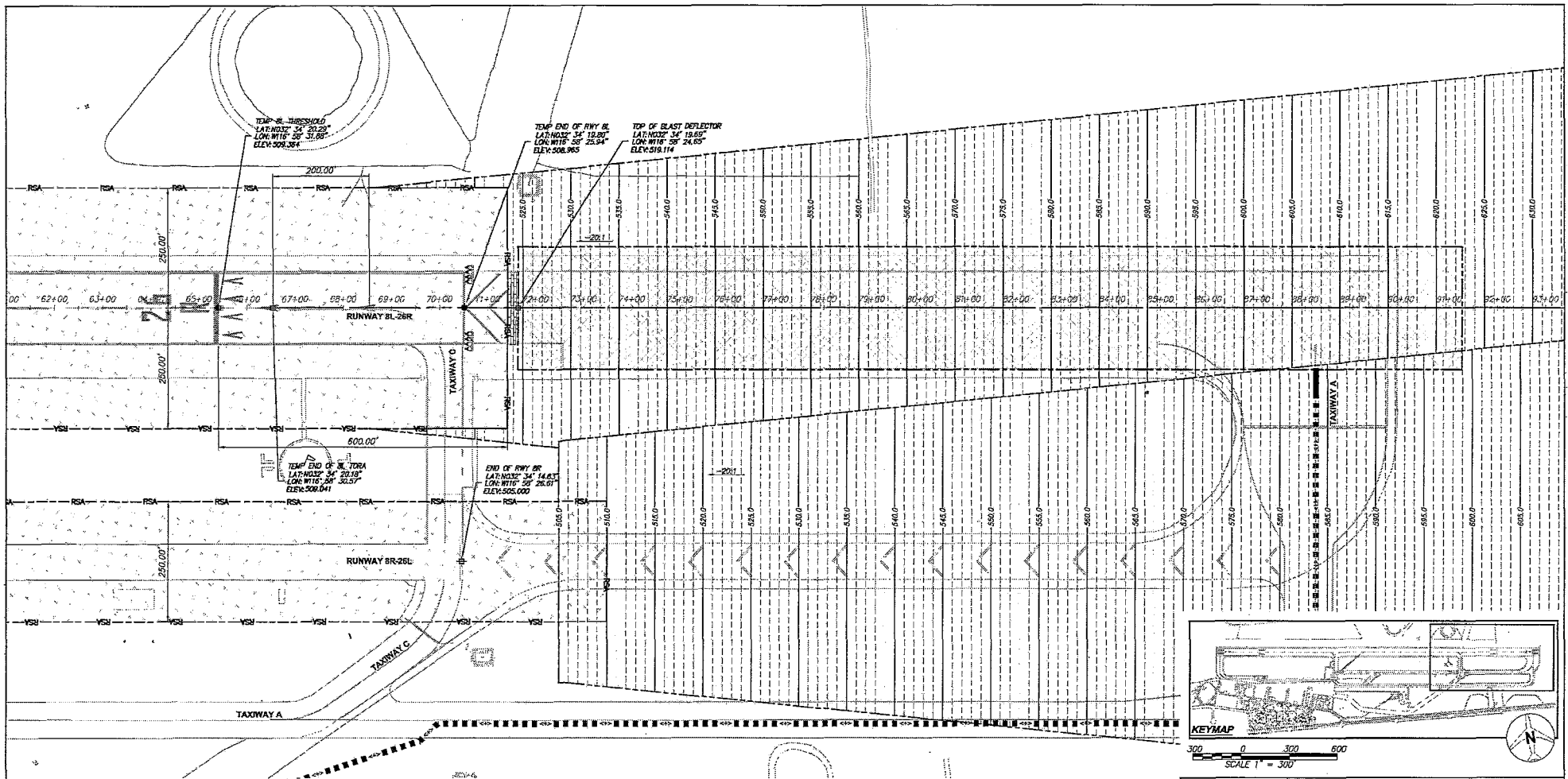


**LEGEND**

- CONTRACTOR'S ACCESS/HAIL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
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- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201, WITH 10' SPACING
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- TEMPORARY 6" CRUSHED AGGREGATE BASE ACCESS ROAD FOR CONSTRUCTION TRAFFIC
- FIBER ROLL, SEE DETAIL 3, SHEET G201



	PLANS FOR THE CONSTRUCTION OF:		SHEET
	<b>BROWN FIELD AIRPORT          RUNWAY BL-26R REHABILITATION          ENLARGED PHASE 2</b>		<b>G131</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 22 OF 29 SHEETS		HNTB PROJECT MANAGER <b>ELIF CETIN</b> DESIGN ENGINEER <b>JHAD SLEMAN</b> DESIGN ENGINEER <b>146-1767</b> LAMBERT COORDINATES	
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8121 N. Century Blvd., Suite 1200 San Antonio, TX 78217 Phone: 210-477-8777 Fax: 210-477-5388		HNTB Corp. DESIGN ENGINEER <b>146-1767</b> LAMBERT COORDINATES	
CONTRACTOR MUST NOTIFY THE DESIGN ENGINEER AT LEAST 72 HRS. (7) BEFORE DATE FIRST TO BE OPENED TO TRAFFIC AND UNDERGROUND SPACE FILLER (S202) 14600-020-0002		INSPECTOR: _____ DATE STARTED: _____ DATE COMPLETED: _____	



**LEGEND**

RUNWAY SAFETY AREA - CONTRACTOR MUST REMAIN CLEAR AT ALL TIMES

DEPARTURE SURFACE ELEVATION - CONTRACTOR MUST KEEP ALL EQUIPMENT BELOW DEPARTURE SURFACE DURING RUNWAY OPERATION

- NOTES:**
1. ALL EQUIPMENT, NO MATTER HEIGHT SHALL BE SUFFICIENTLY MARKED PER THE REQUIREMENTS OF THIS CONTRACT
  2. ANY EQUIPMENT OVER 15' IN HEIGHT WILL REQUIRE THE ISSUANCE OF A 7460 NO MATTER IF IT IS CLEAR OF THE DEPARTURE SURFACE OR NOT
  3. IF PENETRATIONS OF THE DEPARTURE SURFACE ARE REQUIRED TO COMPLETE THIS SCOPE OF WORK, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE AND AT LEAST 4 WEEKS PRIOR TO THAT PENETRATION BEING REQUIRED

**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
8151 W Century Blvd, Suite 1200  
Los Angeles, CA 90047  
Phone: 310-471-4777  
Fax: 310-471-5309

CONTRACTOR MUST NOTIFY THE ENGINEER AS SOON AS POSSIBLE AND AT LEAST 4 WEEKS PRIOR TO THAT PENETRATION BEING REQUIRED

THE (A) WORKING DATE INFO, THE (B) WORKING DATE INFO, AND THE (C) WORKING DATE INFO ARE UNCORRELATED TO THE (D) WORKING DATE INFO.

CONTRACT NO. 37992-23-D

PLANS FOR THE CONSTRUCTION OF:

**BROWN FIELD AIRPORT  
RUNWAY 8L-28R REHABILITATION  
PHASE 2 - HEIGHT RESTRICTION PLAN**

PROJECT NO. **B-11010**

SHEET NO. **G132**

CITY OF SAN DIEGO, CALIFORNIA  
ENGINEERING DEPARTMENT  
SHEET 23 OF 26 SHEETS

FOR CITY ENGINEER	BY	DATE	APPROVED	DATE (FILMED)

PROJECT MANAGER: **ELIF CETIN**

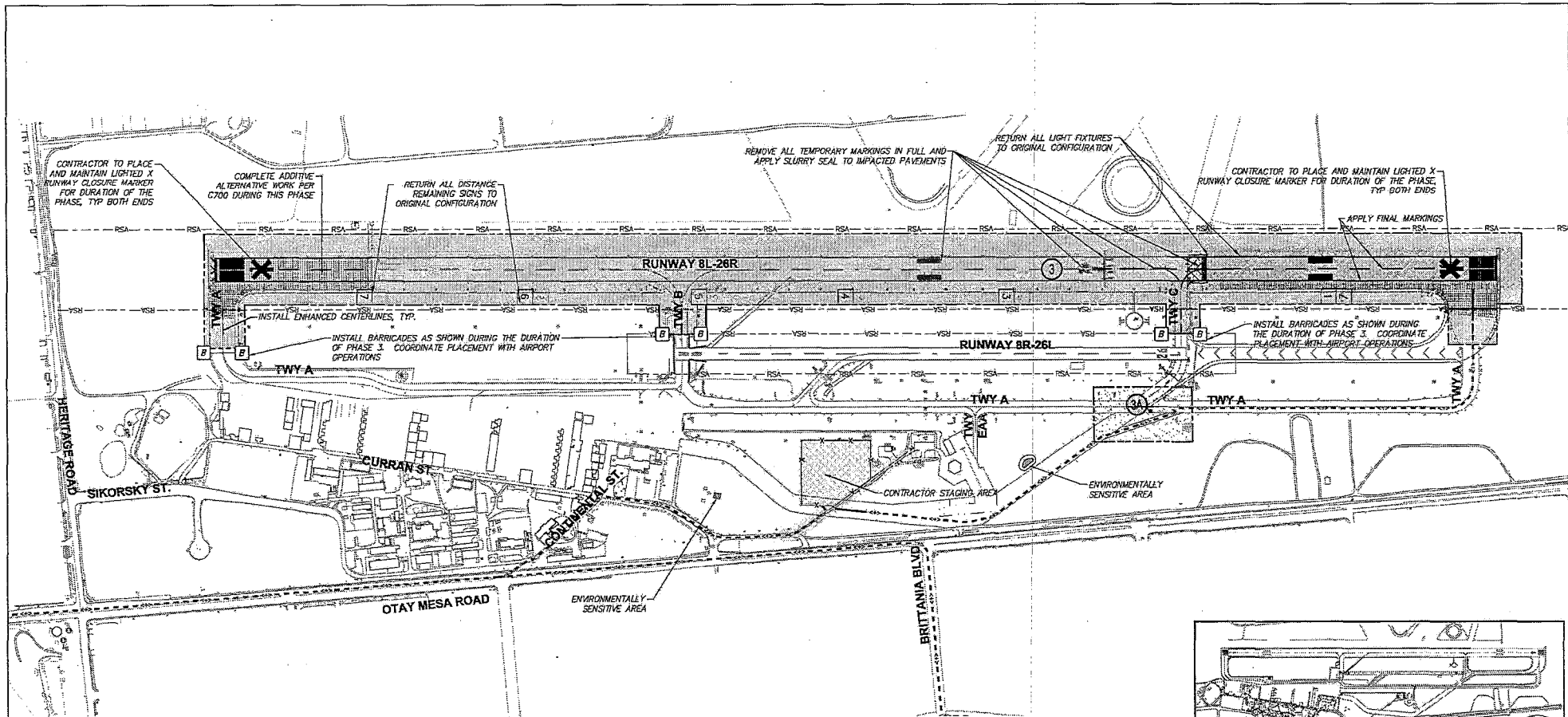
DESIGN ENGINEER: **JAHAD SLEIMAN**

PROJECT MANAGER: **HNTB Corp.**

DESIGN ENGINEER: **145-1767**

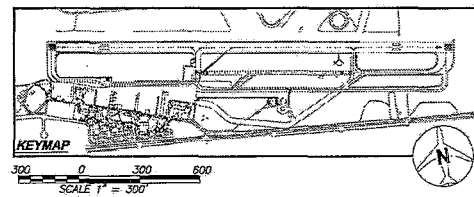
PROJECT MANAGER: **LAURET COOPERATES**

CONTRACTOR: **37992-23-D**



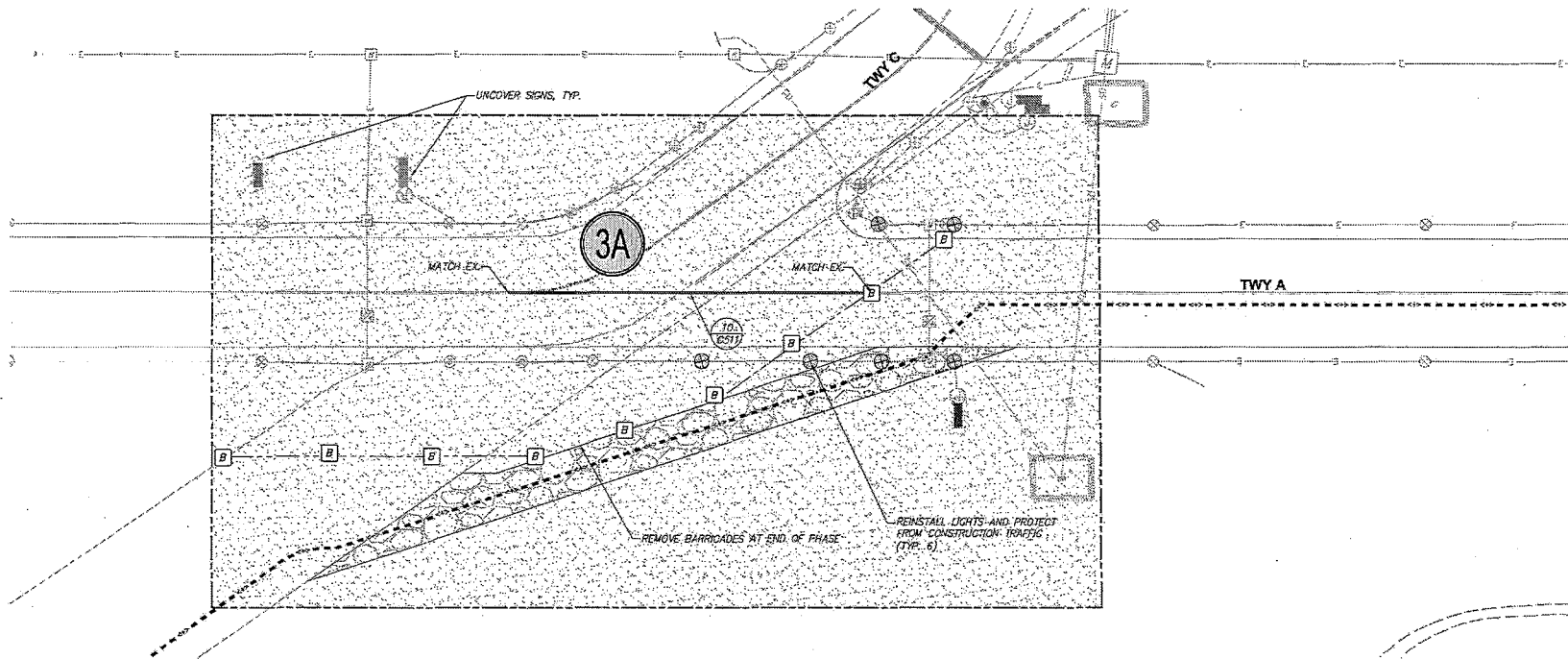
**LEGEND**

- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS, 6 DAYS A WEEK)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- REMOVE ALL TEMPORARY MARKINGS IN FULL. APPLY SLURRY SEAL TO IMPACTED PAVEMENTS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. 10' SPACING
- RETURN RUNWAY DISTANCE REMAINING SIGNS TO EXISTING CONDITIONS, SEE DETAIL 4, SHEET G202
- AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- UNCOVER AIRFIELD SIGN
- FIBER ROLL, SEE DETAIL 5, SHEET G201
- ENVIRONMENTALLY SENSITIVE AREA, TO BE DELINEATED WITH CONSTRUCTION SAFETY FENCE PER DETAIL 2, G201



	<b>PLANS FOR THE CONSTRUCTION OF:</b>		<b>SHEET</b>
	<b>BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 3 OVERALL</b>		<b>G140</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 24 OF 70 SHEETS			PROJ. NO. <b>R-1121D</b>
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8121 W. Century Blvd., Suite 1200 Los Angeles, CA 90045 Phone: 310-477-8777 Fax: 310-417-5315	FOR CITY ENGINEER	DATE	SECTION HEAD
CONTRACTOR MUST NOTIFY THE BROWN FIELD AIRPORT AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF DISRUPTION. DISRUPTION SERVICE ALERT (DSA) 1-800-522-4143. SPECIFICATION #12 2900 CITY OF SAN DIEGO, CALIF. 10-30-00	DESCRIPTION	BY	APPROVED DATE FILED
	FILE NAME:		PROJECT MANAGER
			HNTB Corp.
			DESIGN ENGINEER
			146-1767
	AS-BUILT		LABORER COORDINATOR
CONTRACTOR	DATE STARTED		37992-24-D
INSPECTOR	DATE COMPLETED		



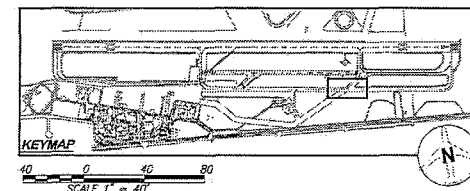


**LEGEND**

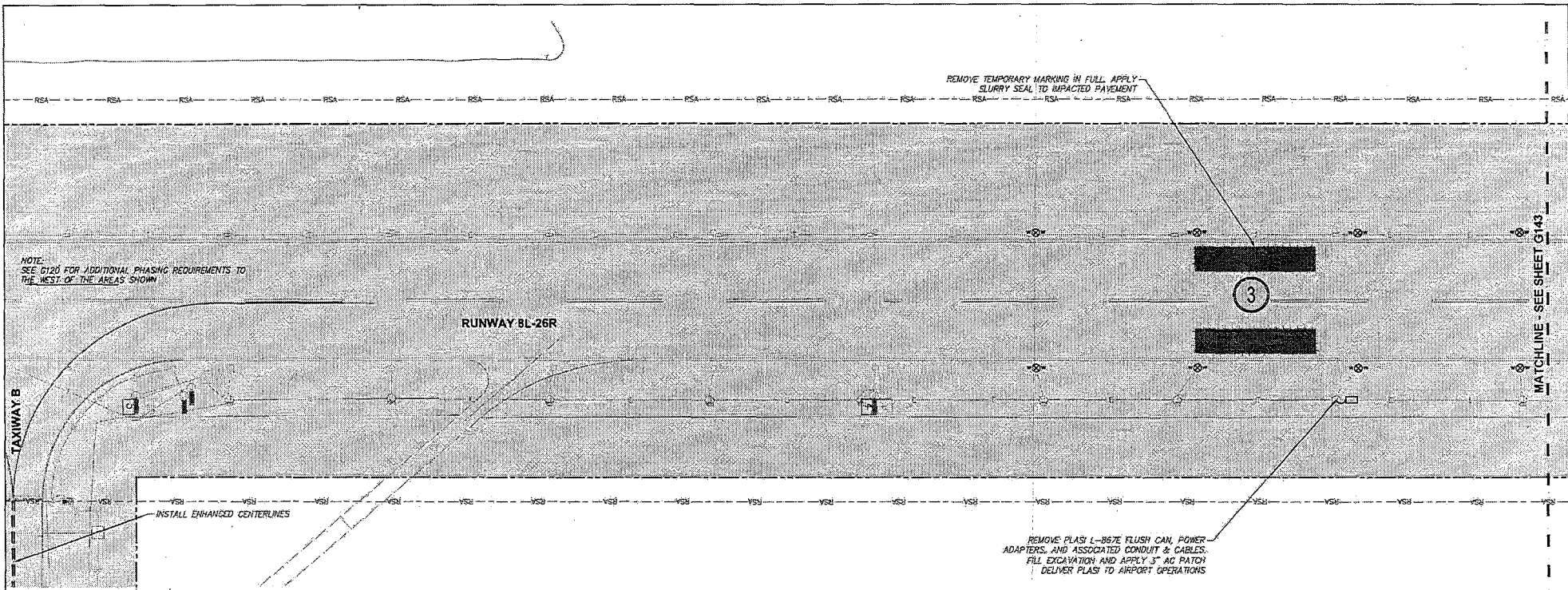
- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS, 6 DAYS A WEEK)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- REMOVE ALL TEMPORARY MARKINGS IN FULL. APPLY SLURRY SEAL TO IMPACTED PAVEMENTS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 7, SHEET G201. 10' SPACING
- RETURN RUNWAY DISTANCE REMAINING SIGNS TO EXISTING CONDITIONS, SEE DETAIL 4, SHEET G202
- AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- UNCOVER AIRFIELD SIGN
- FIBER ROLL, SEE DETAIL 5, SHEET G201

**LIGHTING LEGEND**

- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, WHITE/WHITE LENS
- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, YELLOW/WHITE LENS
- REINSTALL THRESHOLD LIGHTS, TRANSFORMERS AND BASE PLATE, RED/GREEN LENS
- REINSTALL TAXIWAY EDGE LIGHTS, TRANSFORMERS AND BASE PLATE, BLUE LENS



<b>PLANS FOR THE CONSTRUCTION OF:</b> BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 3A		SHEET <b>G141</b>
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 23 OF 70 SHEETS		WSS NO. B-11010
	<b>HNTB</b> The HNTB Companies Infrastructure Solutions 2151 K. Copley Blvd., Suite 2000 San Diego, CA 92122 Phone: 310-471-8777 Fax: 310-471-3388	
<b>ELIF CETIN</b> DESIGN LEAD	<b>JHAD SLEIMAN</b> PROJECT MANAGER	
<b>HNTB Corp.</b> DESIGN ENGINEER 145-1757 TAMERL COOKBOOKS		3792-25-D
FOR CITY ENGINEER DESCRIPTION BY APPROVED DATE FILMED	45-1017 CONTRACTOR DATE STARTED INSPECTOR DATE COMPLETED	

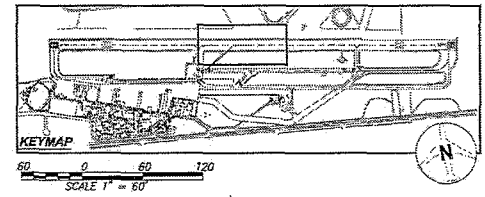


**LEGEND**

- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS, 6 DAYS A WEEK)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- REMOVE ALL TEMPORARY MARKINGS IN FULL. APPLY SLURRY SEAL TO IMPACTED PAVEMENTS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. 10' SPACING
- RETURN RUNWAY DISTANCE REMAINING SIGNS TO EXISTING CONDITIONS, SEE DETAIL 4, SHEET G202
- AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- UNCOVER AIRFIELD SIGN
- FIBER ROLL, SEE DETAIL 5, SHEET G201

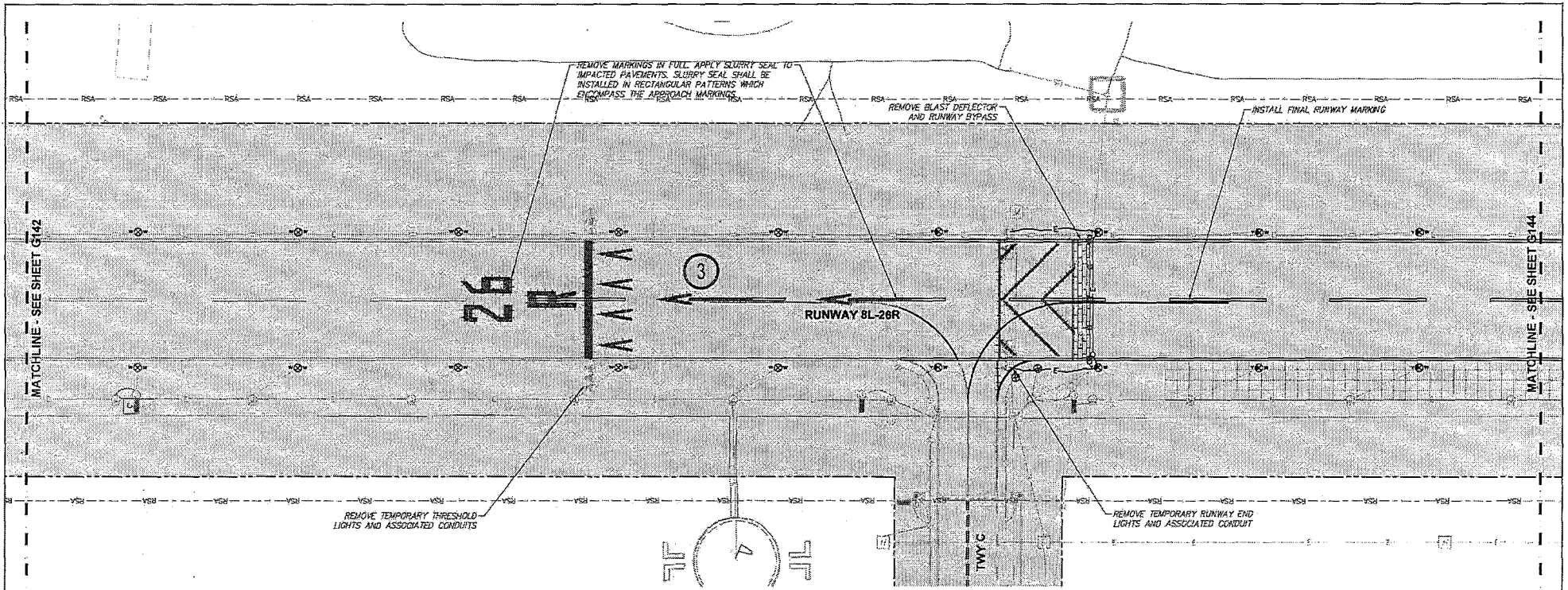
**LIGHTING LEGEND**

- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, WHITE/WHITE LENS
- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, YELLOW/WHITE LENS
- REINSTALL THRESHOLD LIGHTS, TRANSFORMERS AND BASE PLATE, RED/GREEN LENS
- REINSTALL TAXIWAY EDGE LIGHTS, TRANSFORMERS AND BASE PLATE, BLUE LENS



	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>G142</b>
	<b>BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 3 SHEET 1 OF 3</b>		
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 6151 K Century Blvd., Suite 1200 Los Angeles, CA 90048 Phone: 310-471-8777 Fax: 310-471-5359 <small>CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR SIGNIFICANT SOURCE AFFECT (SSA) 1-800-422-6155 SOURCES: LRS# 2909 CITY CONTRACT# 37892-26-D</small>		CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 26 OF 26 SHEETS MISS NO. B-11029	<b>ELIF CETIN</b> SEAL NO. 0-55543 <b>JIHAD SLEMAN</b> PROJECT MANAGER <b>HNTB Corp.</b> DESIGN ENGINEER 146-1767 LAWRENCE COOPERATES
FOR CITY ENGINEER DATE: _____ DESCRIPTION: _____ BY: _____ APPROVED: _____ DATE: _____ FILE NO.: _____	DATE STARTED: _____ DATE COMPLETED: _____	37892-26-D	



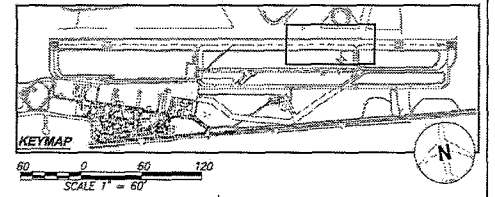


**LEGEND**

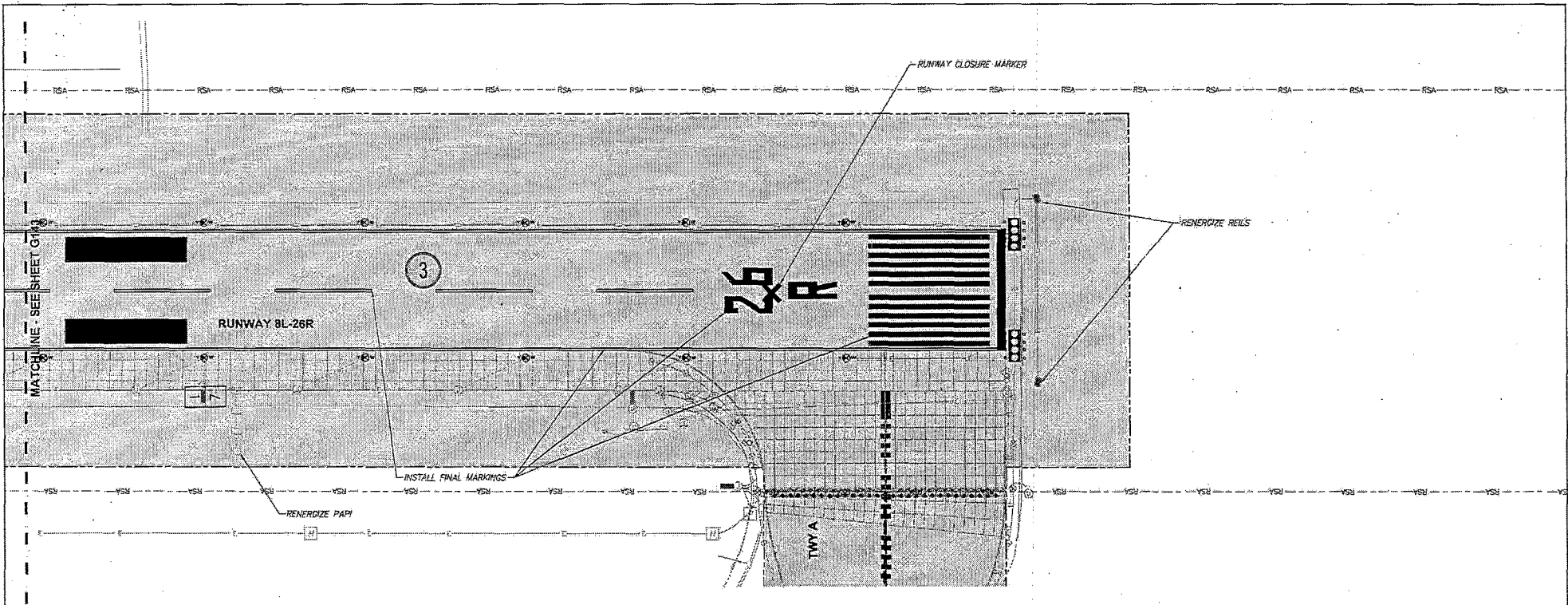
- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- PHASE NUMBER
- PHASE LIMITS - UNRESTRICTED WORK HOURS
- PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS, 5 DAYS A WEEK)
- PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0600 LOCAL)
- REMOVE ALL TEMPORARY MARKINGS IN FULL. APPLY SLURRY SEAL TO IMPACTED PAVEMENTS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. 10' SPACING
- RETURN RUNWAY DISTANCE REMAINING SIGNS TO EXISTING CONDITIONS, SEE DETAIL 4, SHEET G202
- RIPRAP PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE
- UNCOVER AIRFIELD SIGN
- FIBER ROLL, SEE DETAIL 5, SHEET G201

**LIGHTING LEGEND**

- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, WHITE/WHITE LENS
- REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, YELLOW/WHITE LENS
- REINSTALL THRESHOLD LIGHTS, TRANSFORMERS AND BASE PLATE, RED/GREEN LENS
- REINSTALL TAXIWAY-EDGE LIGHTS, TRANSFORMERS AND BASE PLATE, BLUE LENS



	PLANS FOR THE CONSTRUCTION OF:		SHEETS <b>G143</b>
	<b>BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION PHASE 3 SHEET 2 OF 3</b>		
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 37 OF 79 SHEETS			HNTB No. B-11019
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8151 N. Century Blvd., Suite 1200 San Antonio, TX 78245 Phone: 310-477-8777 Fax: 310-477-1581			<b>ELF CETIN</b> SENIOR MGR. <b>JHAD SLEIMAN</b> PROJECT MANAGER <b>HNTB Corp.</b> DESIGN ENGINEER 146-1767 LABORER/OPERATOR
CONTRACTOR MUST NOTIFY THE CITY OF SAN DIEGO AT LEAST 120 DAYS BEFORE THE START TO OBTAIN PERMITS FOR THE CONSTRUCTION OF THE AIRPORT CONSTRUCTION SERVICE ALERT (CSA) 1-800-927-4122 SPECIFICATION No. 2900 CITY CONTRACT CITY No. 11-0010			DATE STARTED _____ DATE COMPLETED _____ CONTRACTOR _____ INSPECTOR _____

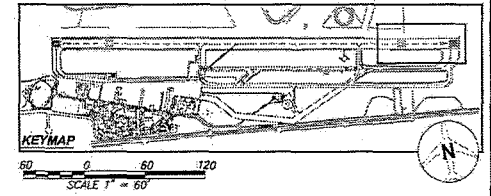


**LEGEND**

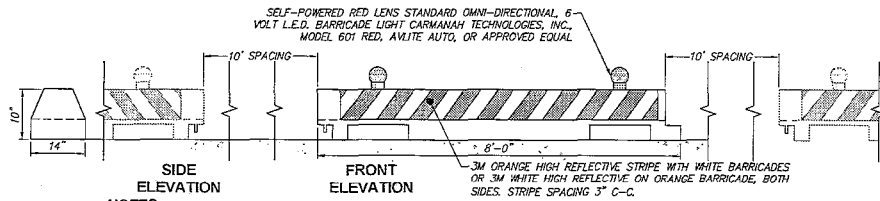
- CONTRACTOR'S ACCESS/HAUL ROUTE
- SAFETY FENCE, SEE DETAIL 2, SHEET G201
- ① PHASE NUMBER
- ▨ PHASE LIMITS - UNRESTRICTED WORK HOURS
- ▨ PHASE LIMITS - ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS, 6 DAYS A WEEK)
- ▨ PHASE LIMITS - NIGHT TIME WORK HOURS (2200-0800 LOCAL)
- REMOVE ALL TEMPORARY MARKINGS IN FULL. APPLY SLURRY SEAL TO IMPACTED PAVEMENTS
- INSTALL LOW-LEVEL WATER FILLED BARRICADES PER DETAIL 1, SHEET G201. 10' SPACING
- RETURN RUNWAY DISTANCE REMAINING SIGNS TO EXISTING CONDITIONS, SEE DETAIL 4, SHEET G202
- ✕ AIRPORT PROVIDED LIGHTED X RUNWAY CLOSURE MARKER, CONTRACTOR TO PLACE AND MAINTAIN DURING THE DURATION OF THE PHASE.
- UNCOVER AIRFIELD SIGN
- FIBER ROLL, SEE DETAIL 5, SHEET G201

**LIGHTING LEGEND**

- ⊙ REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, WHITE/WHITE LENS
- ⊙ REINSTALL RUNWAY EDGE LIGHT, TRANSFORMER AND BASE PLATE, YELLOW/WHITE LENS
- ⊙ REINSTALL THRESHOLD LIGHTS, TRANSFORMERS AND BASE PLATE, RED/GREEN LENS
- ⊙ REINSTALL TAXIWAY EDGE LIGHTS, TRANSFORMERS AND BASE PLATE, BLUE LENS

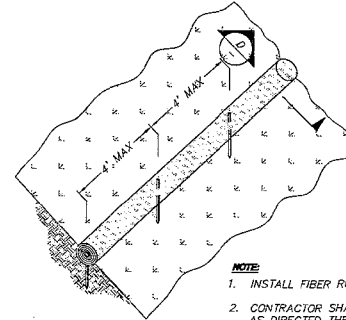


	<b>PLANS FOR THE CONSTRUCTION OF:</b> <b>BROWN FIELD AIRPORT</b> <b>RUNWAY 8L-26R REHABILITATION</b> <b>PHASE 3</b> <b>SHEET 3 OF 3</b>		SHEET <b>G144</b>																				
	CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 3 OF 3 SHEETS		PHS NO. <b>R-11010</b>																				
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8157 K Company Blvd, Suite 1200 San Diego, CA 92121 Phone: 310-417-4777 Fax: 310-417-5380 CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND/OR SERVICE ALERT. (651) 1-800-428-4133 (619) 451-2959 CITY CONTACT: 311-2222	<table border="1"> <thead> <tr> <th>FOR CITY ENGINEER</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>DESCRIPTION</td> <td>BY</td> </tr> <tr> <td>DATE</td> <td>APPROVED</td> </tr> <tr> <td>DATE</td> <td>FILED</td> </tr> </tbody> </table>	FOR CITY ENGINEER	DATE	DESCRIPTION	BY	DATE	APPROVED	DATE	FILED	<table border="1"> <tr> <td>ELIF CETIN</td> </tr> <tr> <td>SECTION IN CHARGE</td> </tr> <tr> <td>JIHAD SLEIMAN</td> </tr> <tr> <td>PROJECT MANAGER</td> </tr> <tr> <td>HNTB Corp.</td> </tr> <tr> <td>DESIGN ENGINEER</td> </tr> <tr> <td>146-1767</td> </tr> <tr> <td>LAWRENCE COORDINATOR</td> </tr> </table>	ELIF CETIN	SECTION IN CHARGE	JIHAD SLEIMAN	PROJECT MANAGER	HNTB Corp.	DESIGN ENGINEER	146-1767	LAWRENCE COORDINATOR	<table border="1"> <tr> <td>CONTRACTOR</td> <td>DATE STARTED</td> </tr> <tr> <td>INSPECTOR</td> <td>DATE COMPLETED</td> </tr> </table>	CONTRACTOR	DATE STARTED	INSPECTOR	DATE COMPLETED
FOR CITY ENGINEER	DATE																						
DESCRIPTION	BY																						
DATE	APPROVED																						
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HNTB Corp.																							
DESIGN ENGINEER																							
146-1767																							
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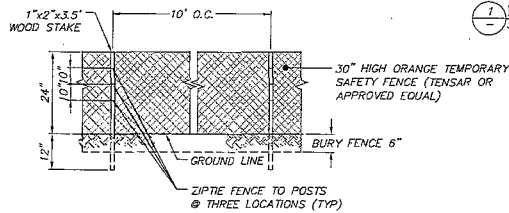
**NOTES:**

1. USE RED LIGHTS, STEADY-BURN MEETING THE LUMINANCE REQUIREMENTS OF THE CALIFORNIA HIGHWAY DEPARTMENT; BARRICADES WITH DIAGONAL ALTERNATING ORANGE AND WHITE AND REFLECTIVE MARKERS TO SEPARATE ALL THE CONSTRUCTION MARKED AREAS FROM AIRCRAFT MOVEMENT AREAS. ALL BARRICADES MUST BE AS LOW AS POSSIBLE TO THE GROUND; OF LOW MASS; EASILY COLLAPSIBLE UPON CONTACT WITH ANY AIRCRAFT OR ANY OF ITS COMPONENTS AND STURDILY ATTACHED TO THE SURFACE TO PREVENT DISPLACEMENT FROM PROP WASH, JET BLAST, WIND VORTEX OR OTHER SURFACE WIND CURRENTS.
2. BARRICADES SHALL DELINEATE THE AREA TO BE PROTECTED AS SHOWN ON THE PHASING PLANS.
3. CONTRACTOR SHALL USE BARRICADES IN ACCORDANCE WITH FM AC 150/5340-1L AND 150/5370-2F LATEST EDITION. CONSTRUCTED OF HIGH IMPACT, UV-RESISTANT POLYETHYLENE, WATER FILLED TYPE, AS MANUFACTURED BY "OFF THE WALL" (TYPE MULTI-BARRIER MODEL ART1006) OR APPROVED EQUAL.
4. BARRICADES MAY ALSO BE USED TO ALIGN TEMPORARY SERVICE ROADS DURING CONSTRUCTION. PLACE BARRICADES AT 20' C-C FOR ROAD ALIGNMENT.
5. ALL BARRICADES THAT ARE LEAKING (NOT HOLDING WATER) SHALL BE REMOVED AND REPLACED.



**NOTE:**

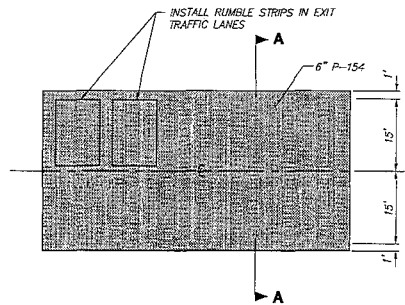
1. INSTALL FIBER ROLL ALONG A LEVEL CONTOUR.
2. CONTRACTOR SHALL MAINTAIN FIBER ROLL INSTALLATIONS AS DIRECTED THROUGHOUT THE DURATION OF THE PROJECT.



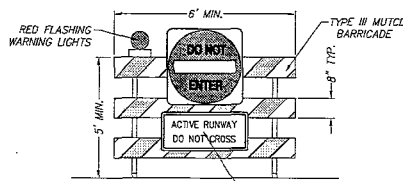
**1 LOW LEVEL BARRICADE**  
SCALE: NTS

**SAFETY FENCE NOTES:**

1. SAFETY FENCE SHALL BE PLACED 5' CLEAR OF THE RUNWAY SAFETY AREA PER PLAN TO DELINEATE AREA.
2. FENCE SHALL BE ERECTED ALONG ENTIRE LENGTH OF RSA WHICH IS ADJACENT AN ACTIVE WORK PHASE. WORK WITHIN SAID PHASE SHALL NOT COMMENCE UNTIL THE RSA IS SUFFICIENTLY DELINEATED.



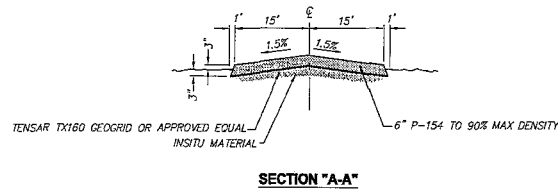
**2 CONSTRUCTION SAFETY FENCE**  
SCALE: NTS



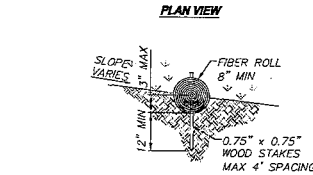
**NOTE:**

"MUTCD" IS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE U.S. FEDERAL HIGHWAY ADMINISTRATION.

**3 ACTIVE RUNWAY SIGN**  
SCALE: NTS

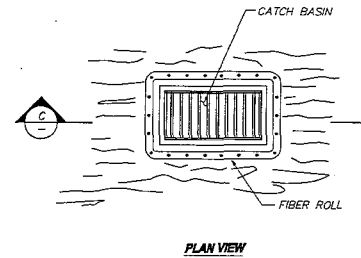


**4 TEMPORARY HAUL ROAD**  
SCALE: NTS

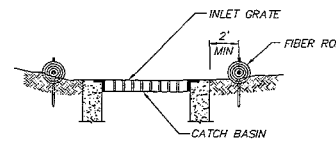


**ENTRENCHMENT SECTION D**

**5 FIBER ROLL INLET SEDIMENT FILTER**  
SCALE: NTS



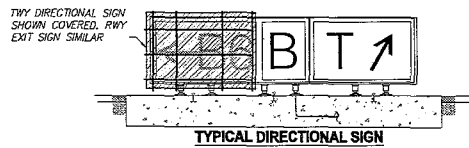
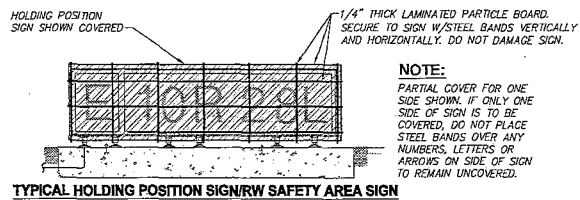
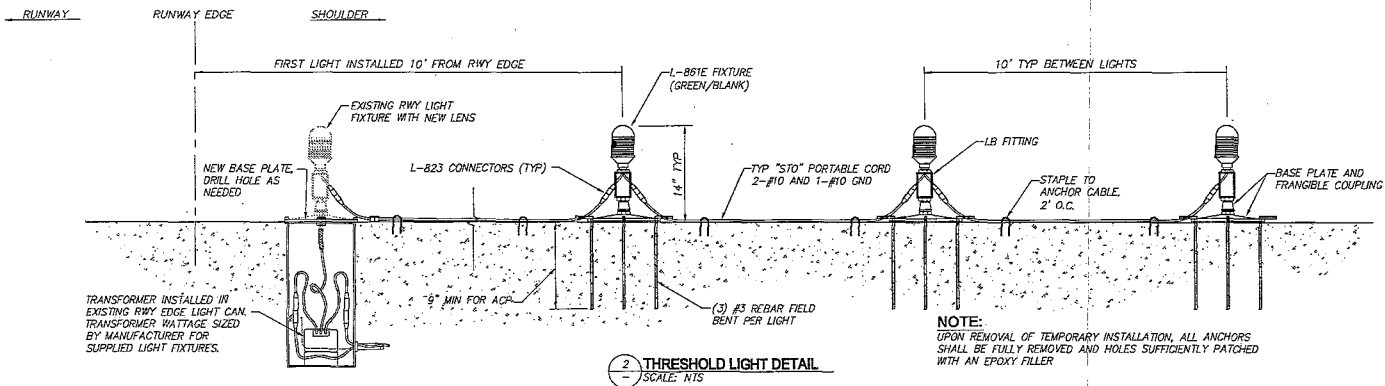
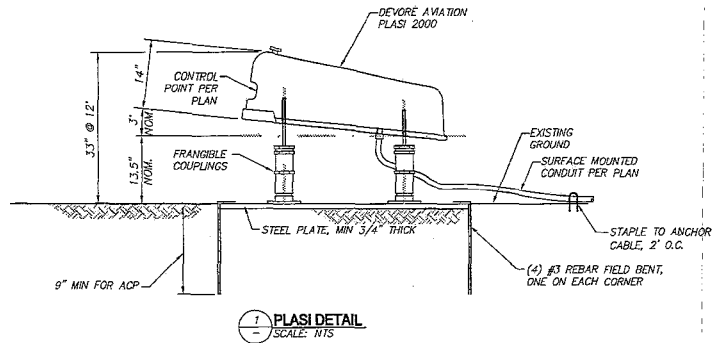
**PLAN VIEW**



**SECTION C**

**6 TYPICAL FIBER ROLL INSTALLATION**  
SCALE: NTS

	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>G201</b>
	BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION <b>CONSTRUCTION PHASING          DETAILS 1</b>		
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 20 OF 20 SHEETS		MIS NO. B-11010	
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 6151 R. Gentry Blvd., Suite 1200 Los Angeles, CA 90048 Phone: 310-417-8777 Fax: 310-417-5393		ELUF CETIN SECTION HEAD JIHAD SLEIMAN PROJECT MANAGER HNTB Corp. DESIGN ENGINEER 146-1757 LAMBERT COORDINATOR	
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION UNDERGROUND SERVICE ALERT (USA) 1-800-422-4433 SPECIFICATION NO. 2999 CITY CONTRACT NO. 37992-29-D		AS-BUILT CONTRACTOR DATE STAMPED _____ INSPECTOR DATE COMPLETED _____	



**3 SIGN COVERING DETAILS**  
SCALE: NTS

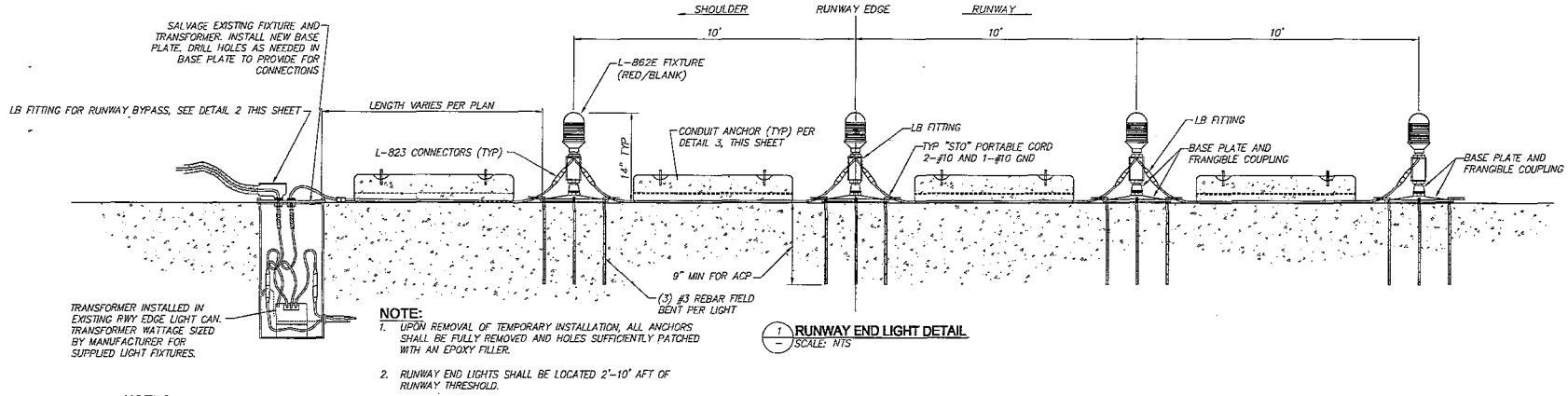
STATION	EXISTING		TEMPORARY	
	WEST	EAST	WEST	EAST
20+00	7	1	5	1
30+00	6	2	4	2
40+75	5	3	3	3
50+00	4	4	2	4
60+00	3	5	1	5
80+00	1	7	-	-

**NOTES:**

- CONTRACTOR SHALL COVER AND RELOCATE SIGN PANELS AS NEEDED TO MATCH THE PROPOSED LAYOUT PRESENTED IN THE TABLE TO THE LEFT.
- THE WEST FACING PANEL AT STATION 50+00 NEEDS TO BE PROCURED. CONTRACTOR SHALL PROCURE PANEL TO MATCH EXISTING. SIZE 5 AGS-2 DMS SIGN, CROUSE-HINDS 80667-3 OR APPROVED EQUAL.
- EXISTING SIGN AT STATION 80+00 SHALL BE COVERED PER SIGN COVER DETAIL 3, SHEET G202.

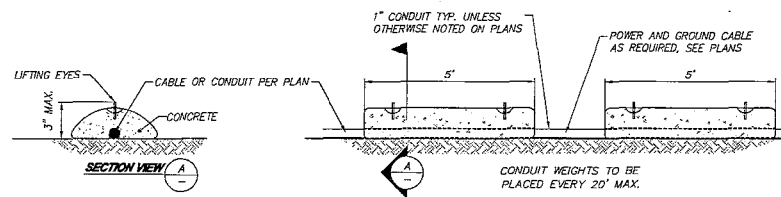
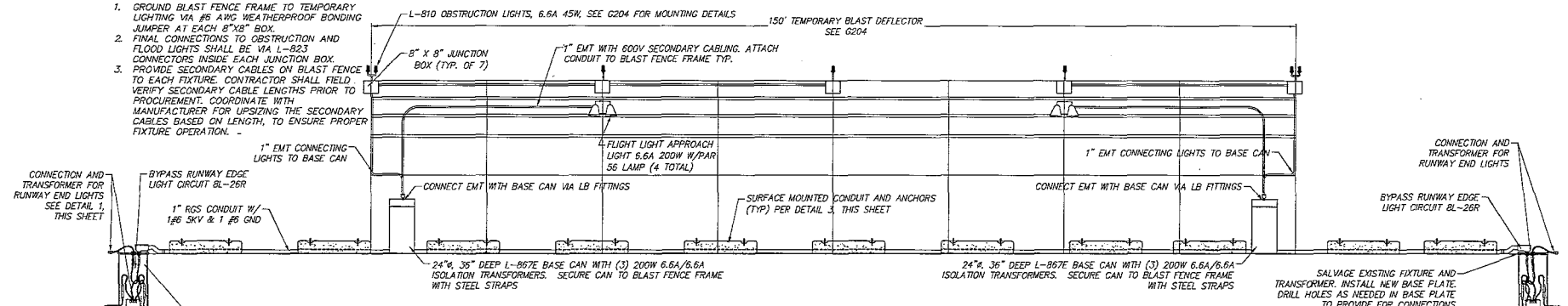
**4 DISTANCE REMAINING SIGN MODIFICATIONS**  
SCALE: NTS

	PLANS FOR THE CONSTRUCTION OF:		SHEET <b>G202</b>
	BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION <b>CONSTRUCTION PHASING          DETAILS 2</b>		
<b>HNTB</b> The HNTB Companies Infrastructure Solutions 8151 K Century Blvd., Suite 1200 San Diego, CA 92126 Phone: 312-417-8777 Fax: 312-417-5289		CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 20 OF 75 SHEETS	HES NO. <b>RL-11910</b> SECTION HEAD <b>ELIF CETIN</b> PROJECT MANAGER <b>JIHAD SLEIMAN</b> HNTB Corp. DESIGN ENGINEER <b>145-1757</b> LAMBERT COOPERATES
FOR CITY ENGINEER DESCRIPTION FILE NAME AS-BUILT CONTRACTOR INSPECTOR	DATE BY APPROVED DATE FILED	DATE STARTED DATE COMPLETED	37992-30-D



**NOTES:**

- GROUND BLAST FENCE FRAME TO TEMPORARY LIGHTING VIA #6 AWG WEATHERPROOF BONDING JUMPER AT EACH 8"X8" BOX.
- FINAL CONNECTIONS TO OBSTRUCTION AND FLOOD LIGHTS SHALL BE VIA L-823 CONNECTORS INSIDE EACH JUNCTION BOX.
- PROVIDE SECONDARY CABLES ON BLAST FENCE TO EACH FIXTURE. CONTRACTOR SHALL FIELD VERIFY SECONDARY CABLE LENGTHS PRIOR TO PROCUREMENT. COORDINATE WITH MANUFACTURER FOR UPSIZING THE SECONDARY CABLES BASED ON LENGTH, TO ENSURE PROPER FIXTURE OPERATION.



**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
1515 N. Gentry Blvd., Suite 1200  
San Antonio, TX 78246  
Phone: 210-411-8777  
Fax: 210-411-5883

**PLANS FOR THE CONSTRUCTION OF:**  
BROWN FIELD AIRPORT  
RUNWAY BL-26R REHABILITATION  
CONSTRUCTION PHASING  
DETAILS 3

**CITY OF SAN DIEGO, CALIFORNIA**  
ENGINEERING DEPARTMENT  
SHEET 37 OF 70 SHEETS

**ELIF CETIN**  
SECTION HEAD

**IJJHAD SLEIMAN**  
PROJECT MANAGER

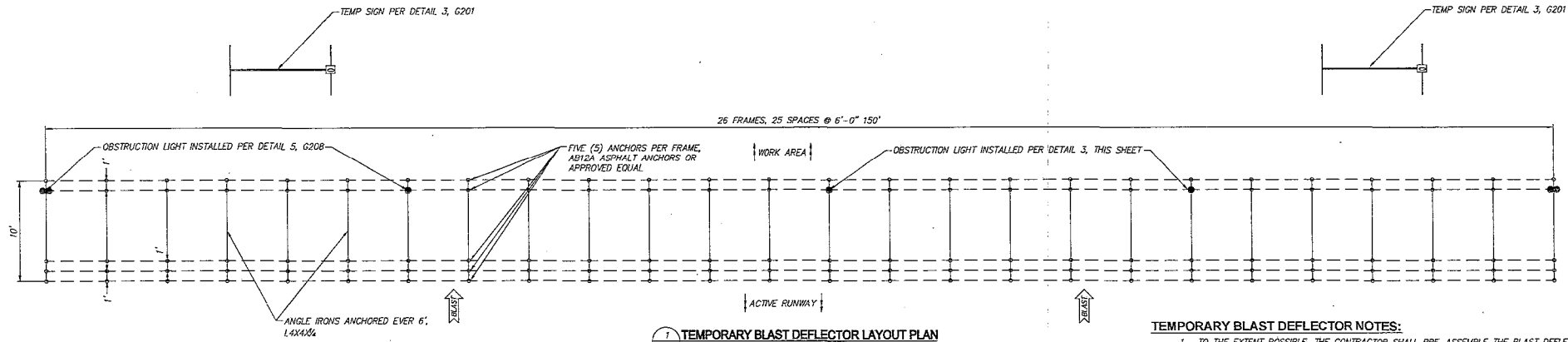
**HNTB Corp.**  
DESIGN ENGINEER  
146-1767

**LAURENT COOPER/PHOTOS**

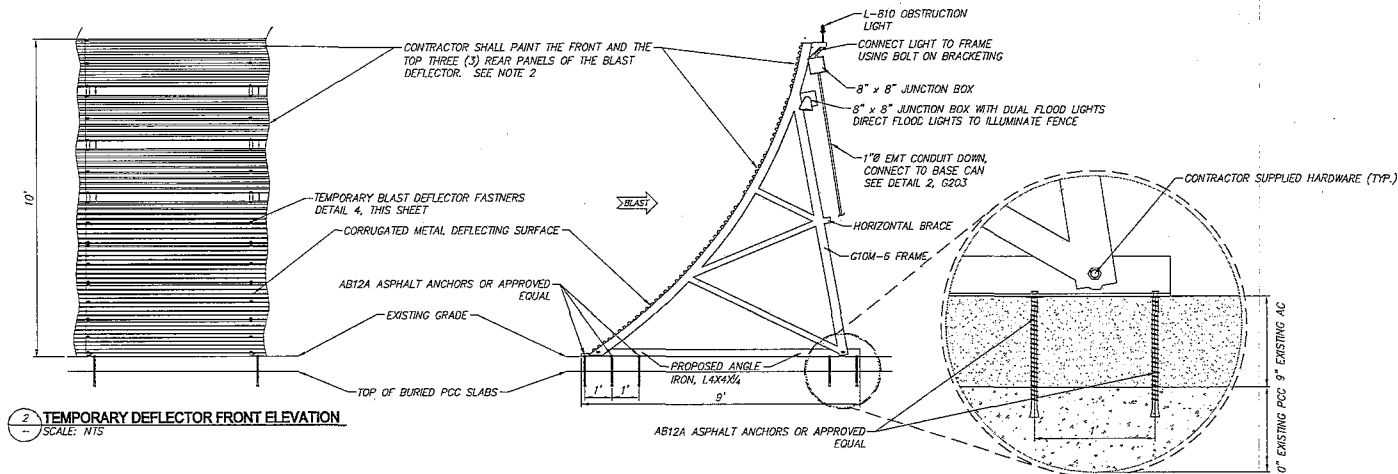
FOR CITY ENGINEER	DATE	DESCRIPTION	BY	APPROVED	DATE	FILED

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO COMMENCEMENT OF EXCAVATION (UNDERGROUND SERVICE ALERT) (USA) 1-800-422-4133

OPERATIONS NO. 2500  
CITY CONTACT: 37992-31-D

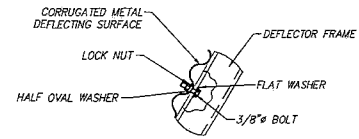


1 TEMPORARY BLAST DEFLECTOR LAYOUT PLAN  
SCALE: NTS



2 TEMPORARY DEFLECTOR FRONT ELEVATION  
SCALE: NTS

3 TEMPORARY BLAST DEFLECTOR SECTION VIEW  
SCALE: NTS



4 TEMPORARY BLAST DEFLECTOR FASTENERS  
SCALE: NTS

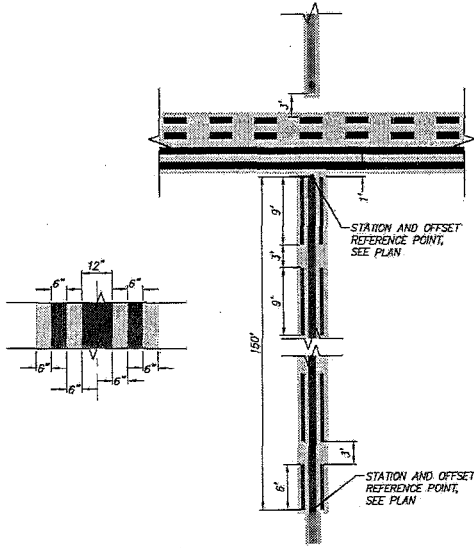
TEMPORARY BLAST DEFLECTOR NOTES:

1. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL PRE-ASSEMBLE THE BLAST DEFLECTOR TO ALLOW FOR RAPID INSTALLATION DURING THE NIGHTLY RUNWAY CLOSURES.
2. CONTRACTOR SHALL PAINT THE FRONT AND THE TOP THREE (3) REAR PANELS OF THE BLAST DEFLECTOR. PAINT SHALL BE ALTERNATING ORANGE AND WHITE VERTICAL STRIPES 12" IN WIDTH. PAINT SHALL BE FORMULATED FOR EXTERIOR USE ON GALVANIZED STEEL. COLORS SHALL BE EQUIVALENT TO FAA STANDARD AVIATION WHITE AND AVIATION ORANGE.
3. BASE OF FENCE SHALL BE A MINIMUM OF 129.5' FROM ACTIVE TAXIWAY CENTERLINE AND INSTALLED CENTERED ON RUNWAY CENTERLINE.
4. FRAME MEMBERS ARE ASTM A36 STEEL AND HOT-DIP GALVANIZED TO 2 OZ/FT<sup>2</sup> PER ASTM A123.
5. DEFLECTING SURFACES ARE CORRUGATED STEEL SHEETS DESIGNED TO SUPPORT LOADS IN A MINIMUM TWO SPAN CONDITION. THICKNESS IS 16 GA WITH A MINIMUM 2 OZ/FT<sup>2</sup> (G210) HOT-DIP GALVANIZED SURFACE PER ASTM A553. SECTION MODULUS SHALL BE A MINIMUM OF 0.1961 IN<sup>3</sup>/FT.
6. ALL FIELD CONNECTIONS ARE BOLTED (NO FIELD WELDING IS REQUIRED). ALL BOLTS / CAP SCREWS ARE GRADE 5, SAE J429 OR ASTM A449. ALL NUTS ARE ALL-METAL, SELF LOCKING TYPE. ALL FASTENERS ARE ZINC PLATED OR MECHANICALLY GALVANIZED.
7. DUE TO THE ACCELERATED NATURE OF THIS INSTALLATION, CONTRACTOR SHALL HAVE ALL MATERIALS ON SITE, INVENTORIED, AND CHECKED A MINIMUM OF 1 WEEK BEFORE INSTALLATION. ELEMENTS COMMONLY DAMAGED DURING INSTALLATION SHALL BE READILY REPLACEABLE SO AS TO AVOID ANY SCHEDULE DELAYS.
8. UPON REMOVAL OF TEMPORARY BLAST FENCE, ASPHALT ANCHORS SHALL BE REMOVED AND HOLES SHALL BE SUFFICIENTLY PATCHED.

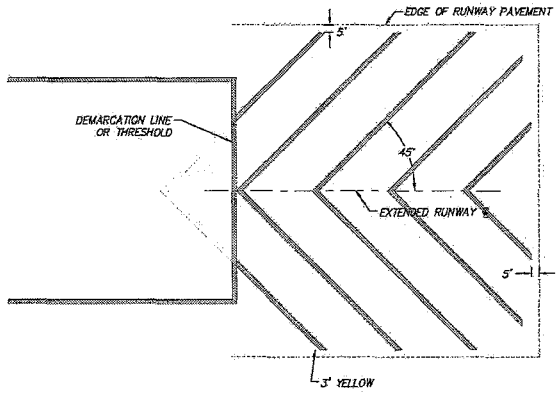
CONTRACTOR MUST NOTIFY THE BLDG. LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF ERECTION. CONSTRUCTION OVER OF AIRPORT (USA) 1-800-422-4143 REGISTRATION NO. 2999 CITY CONTRACTOR NO. 37-2510

PLANS FOR THE CONSTRUCTION OF:				SHEET:
BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION CONSTRUCTION PHASING DETAILS 4				G204
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 22 OF 70 SHEETS			PROJ. NO. B-1101D	
FOR CITY ENGINEER	DATE	ELUF CETIN SECTION HEAD		
DESCRIPTION	BY	APPROVED	DATE (MM/DD)	JIHAD SLEIMAN PROJECT MANAGER
FILE NAME				HNTB Corp. DESIGN ENGINEER
				146-1767 LAMBERT CORPORNATES
AS-BUILT				
CONTRACTOR	DATE STARTED			37992-32-D
INSPECTOR	DATE COMPLETED			





1 ENHANCED TAXIWAY CENTERLINE MARKING  
 CS01, CS03, CS05, CS08 SCALE: 1/8" = 1'-0"



2 RUNWAY BLAST PAD MARKING  
 G123, G101 SCALE: 1" = 40'

	PLANS FOR THE CONSTRUCTION OF:		SHEET:
	BROWN FIELD AIRPORT RUNWAY 01-20R REHABILITATION PAVEMENT MARKING DETAILS 2		<b>C512</b>
	CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET #1 OF 15 SHEETS		MES NO. <u>B-11010</u>
	FOR CITY ENGINEER	DATE	ELUF CETIN DEPUTY ASST.
DESCRIPTION	BY	APPROVED	DATE FILMED
FILE NAME	JHAD SLEIMAN PROJECT MANAGER	HNTB Corp. DESIGN ENGINEER	146-1767 LAURENT COORDINATOR
AS-BUILT	DATE STARTED	DATE COMPLETED	37992-67-D
CONTRACTOR CITY CONTRACT OFF. NO. 34-2012	SPECIFICATION NO. 2000	CITY CONTRACT NO. 34-2012	





## Appendix B

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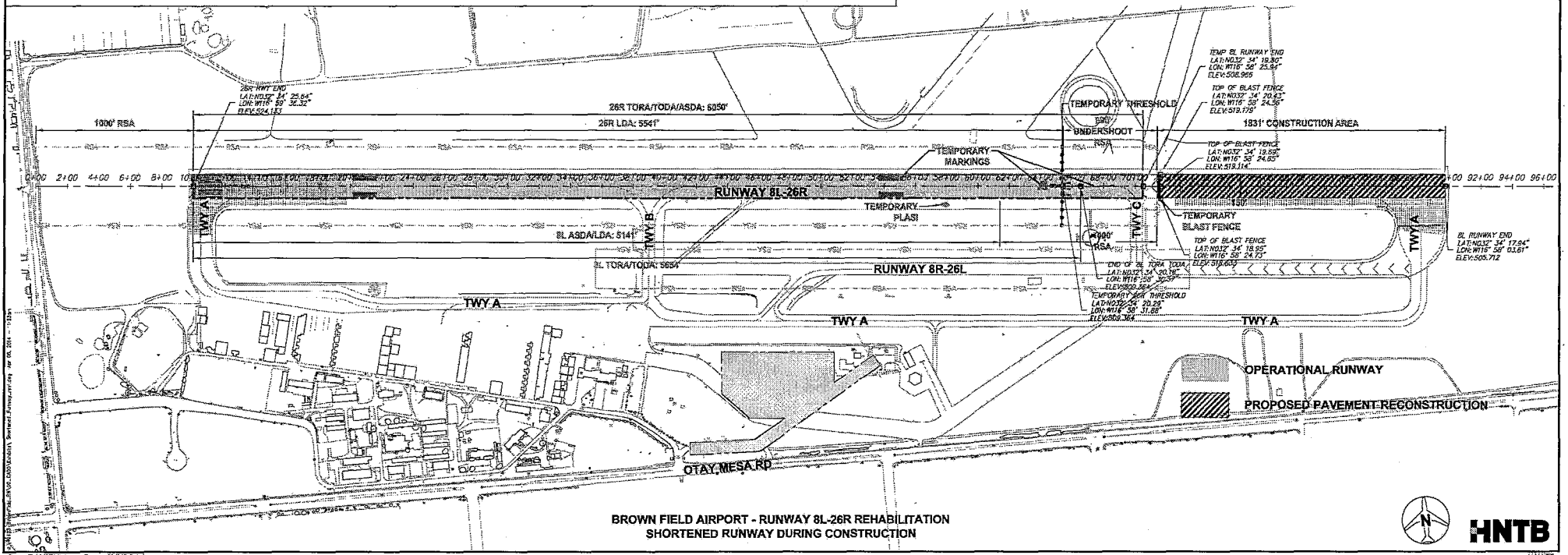
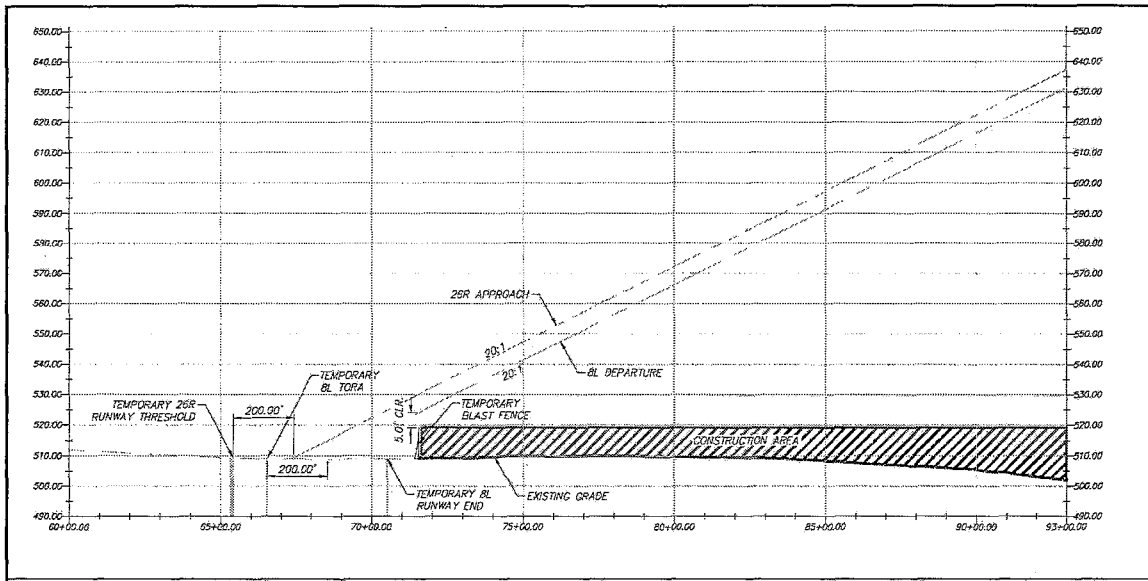
### Shortened Runway During Reconstruction



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RUNWAY LENGTHS DURING CONSTRUCTION				
	TORA	TODA	ASDA	LDA
BL	5654	5654	5141	5141
26R	6050	6050	6050	5541

- LEGEND:**
- TORA - TAKE-OFF ROLL AVAILABLE
  - TODA - TAKE-OFF DISTANCE AVAILABLE
  - ASDA - ACCELERATE-STOP DISTANCE AVAILABLE
  - LDA - LANDING DISTANCE AVAILABLE
- NOTE:**
- RUNWAY 26R ARRIVALS LIMITED TO VISUAL APPROACHES DURING CONSTRUCTION.
  - RNAV AND GPS APPROACH WILL REMAIN ACTIVE



BROWN FIELD AIRPORT - RUNWAY 8L-26R REHABILITATION  
SHORTENED RUNWAY DURING CONSTRUCTION





U.S. Department of Transportation

Federal Aviation Administration

July 18, 2014

Brown Field Airport  
Attn: Michael Tussey  
3750 John J Montgomery Drive  
San Diego, CA 92123

RE: (See attached Table 1 for referenced case(s))  
\*\*FINAL DETERMINATION\*\*

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2014-AWP-538-NRA		SAN DIEGO, CA	32-34-20.29N	116-58-31.88W	1	510
2014-AWP-539-NRA		SAN DIEGO, CA	32-34-19.80N	116-58-25.94W	1	510

Description: The Runway 26R Rehabilitation Project at SDM will employ a shortened runway during construction. The submitted Lat-Long-SE represents the center point of the temporary threshold. The attached CSPP details the proposed work and the temporary runway configuration.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued.

This determination is subject to review if disruption to FAA Operations should occur.

Insure ATCT receives advance notification of construction schedule including runway/taxiway closures and NAVAID shutdowns

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace

structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

This determination expires on January 18, 2016 unless:

(a) extended, revised or terminated by the issuing office.

(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650  
lloyd.e.lewis@faa.gov.

Lloyd E. Lewis  
DivUser

**APPENDIX H**  
**SAMPLE PUBLIC NOTICES**



# CONSTRUCTION NOTICE

## PROJECT NAME

### **Trenching on your street is complete.**

#### **What you need to know:**

- Pipe installation on your street is complete and construction crews are now installing new pipeline for this project at another location.
- You may see temporary trench plates or trench cap for some time, even after construction activities have concluded on your street.

#### **Street resurfacing:**

- Your Streets will be resurfaced once the entire pipeline project is complete. Concrete streets will not be resurfaced curb to curb; only the trench will be backfilled.
- Street resurfacing may be delayed due the City's slurry seal moratorium

#### **Estimated resurfacing completion on your street:**

(Insert Date-Month and Year)

**For questions related to this work**

**Call: (619) 533-4207**

**Email: [engineering@sandiego.gov](mailto:engineering@sandiego.gov)**

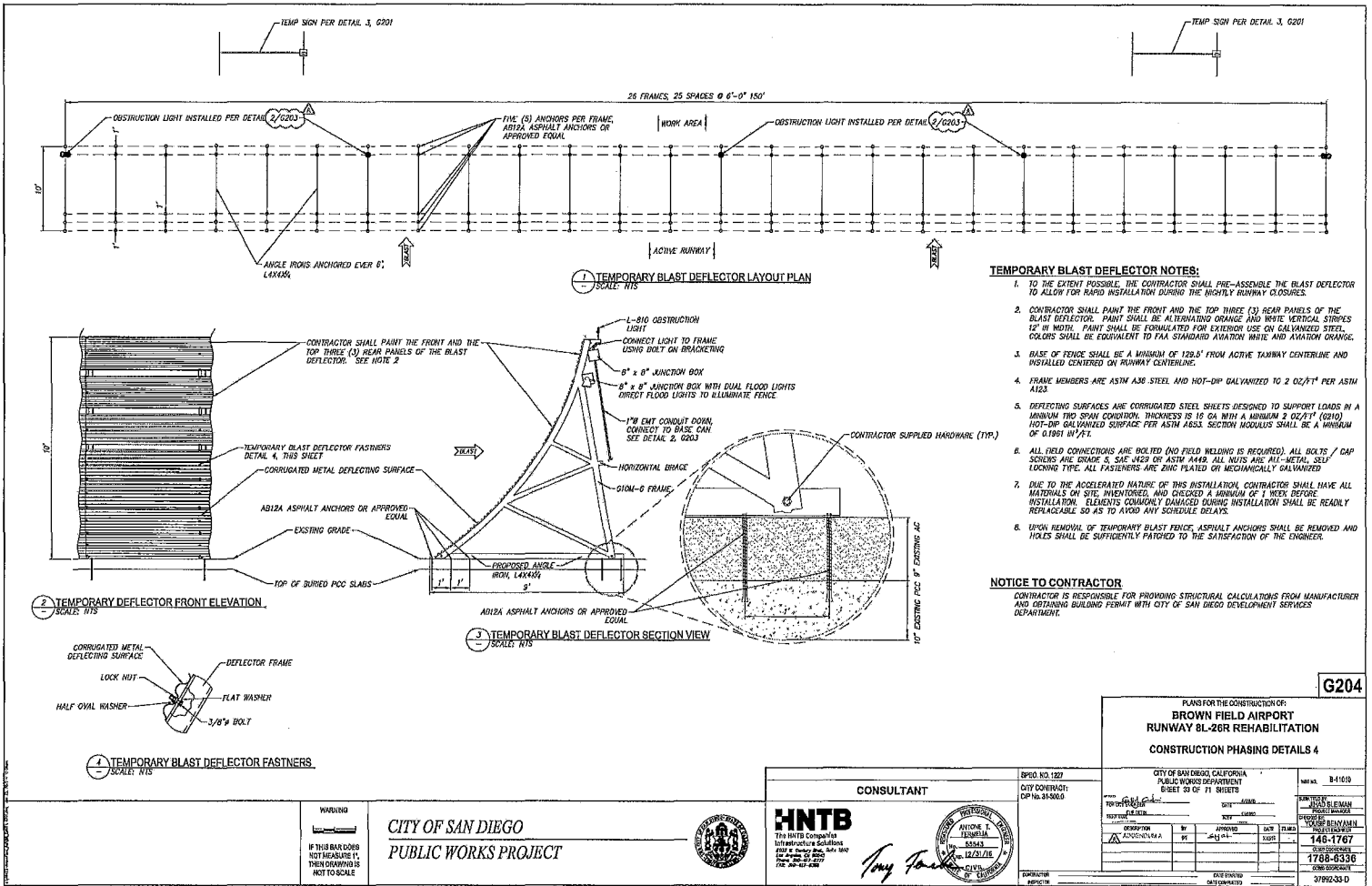


This information is available in alternative formats upon request.



**ATTACHMENT F**  
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- TEMPORARY BLAST DEFLECTOR NOTES:**
1. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL PRE-ASSEMBLE THE BLAST DEFLECTOR TO ALLOW FOR RAPID INSTALLATION DURING THE NIGHTLY RUNWAY CLOSURES.
  2. CONTRACTOR SHALL PAINT THE FRONT AND THE TOP THREE (3) REAR PANELS OF THE BLAST DEFLECTOR. PAINT SHALL BE ALTERNATING ORANGE AND WHITE VERTICAL STRIPES 12" IN WIDTH. PAINT SHALL BE FORMULATED FOR EXTERIOR USE ON GALVANIZED STEEL. COLORS SHALL BE EQUIVALENT TO FAA STANDARD AVIATION WHITE AND AVIATION ORANGE.
  3. BASE OF FENCE SHALL BE A MINIMUM OF 120.6' FROM ACTIVE TARMWAY CENTERLINE AND INSTALLED CENTERED ON RUNWAY CENTERLINE.
  4. FRAME MEMBERS ARE ASTM A36 STEEL AND HOT-DIP GALVANIZED TO 2 OZ./FT<sup>2</sup> PER ASTM A123.
  5. DEFLECTING SURFACES ARE CORRUGATED STEEL SHEETS DESIGNED TO SUPPORT LOADS IN A MINIMUM 10' SPAN CONDITION. THICKNESS IS 16 GA WITH A MINIMUM 2 OZ./FT<sup>2</sup> (G210) HOT-DIP GALVANIZED SURFACE PER ASTM A551. SECTION MODULUS SHALL BE A MINIMUM OF 0.1861 IN<sup>4</sup>/FT.
  6. ALL FIELD CONNECTIONS ARE BOLTED (NO FIELD WELDING IS REQUIRED). ALL BOLTS / CAP SCREWS ARE BRASS 8, SAE 4130 OR ASTM F436. ALL NUTS ARE 316-METAL, SELF-LOCKING TYPE. ALL FASTENERS ARE ZINC PLATED OR MECHANICALLY GALVANIZED.
  7. DUE TO THE ACCELERATED NATURE OF THIS INSTALLATION, CONTRACTOR SHALL HAVE ALL MATERIALS ON SITE, INVENTORIED, AND CHECKED A MINIMUM OF 1 WEEK BEFORE INSTALLATION. ELEMENTS CONSIDERED DAMAGED DURING INSTALLATION SHALL BE READILY REPLACEABLE SO AS TO AVOID ANY SCHEDULE DELAYS.
  8. UPON REMOVAL OF TEMPORARY BLAST FENCE, ASPHALT ANCHORS SHALL BE REMOVED AND HOLES SHALL BE SUFFICIENTLY PATCHED TO THE SATISFACTION OF THE ENGINEER.

**NOTICE TO CONTRACTOR**  
 CONTRACTOR IS RESPONSIBLE FOR PROVIDING STRUCTURAL CALCULATIONS FROM MANUFACTURER AND OBTAINING BUILDING PERMIT WITH CITY OF SAN DIEGO DEVELOPMENT SERVICES DEPARTMENT.

**G204**

PLAN FOR THE CONSTRUCTION OF  
**BROWN FIELD AIRPORT  
 RUNWAY 8L-26R REHABILITATION**  
 CONSTRUCTION PHASING DETAILS 4

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT 8-SECT 00 OF 71 SHEETS		REF NO. B-1819
DATE: 12/21/16	BY: [Signature]	APPROVED: [Signature]
PROJECT NO. 146-1767	DATE: 12/21/16	SCALE: AS SHOWN
1788-8336		

**CONSULTANT**

**HNTB**  
 The HNTB Companies  
 Infrastructure Solutions  
 1000 North Main Street, Suite 1000  
 San Diego, CA 92101  
 TEL: 619-594-4200  
 FAX: 619-594-4202

*Tony T...*

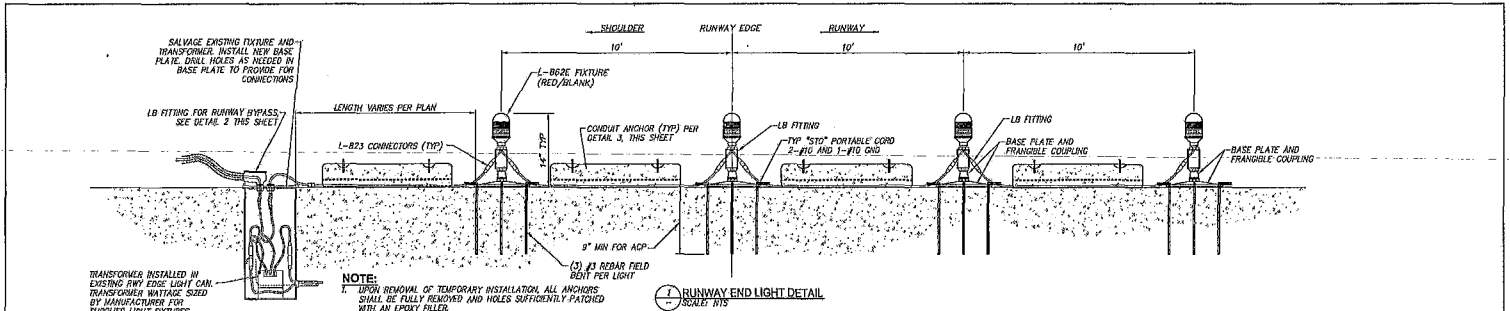
SPRO NO. 1222  
 CITY CONTRACT: DP No. 81-8060

APPROVED: [Signature]  
 DATE: 12/21/16

**CITY OF SAN DIEGO**  
 PUBLIC WORKS PROJECT

WARNING  
 IF THIS BAR DOES NOT MEASURE 1", THEN DIMENSIONS NOT TO SCALE

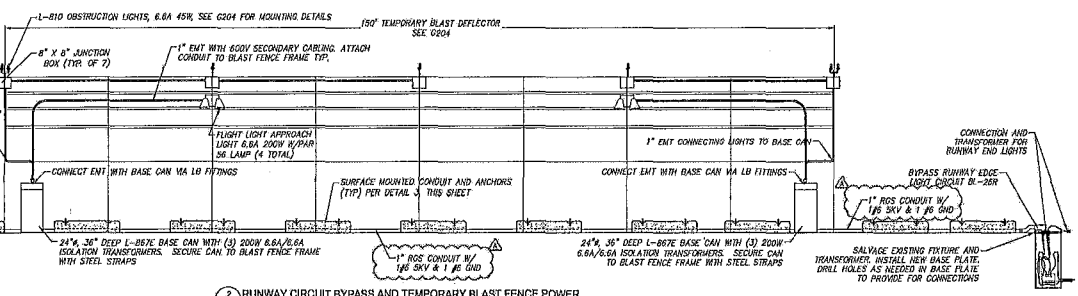
ANDORWH 10"



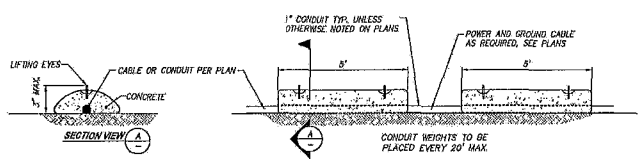
**NOTE:**  
 1. UPON REMOVAL OF TEMPORARY INSTALLATION, ALL ANCHORS SHALL BE FULLY REMOVED AND HOLES SUFFICIENTLY PATCHED WITH AN EPOXY FILLER.  
 2. RUNWAY END LIGHTS SHALL BE LOCATED 2'-10" AFT OF RUNWAY THRESHOLD.

**NOTES:**

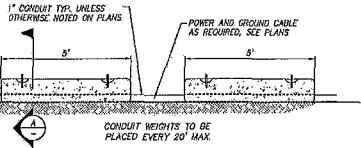
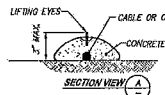
- GROUND BLAST FENCE FRAME TO TEMPORARY LIGHTING VIA #6 AWG WEATHERPROOF BONDING WIPPER AT EACH 8'x8' BOX.
- SWAGE CONNECTIONS TO CONSTRUCTION AND FLOOD LIGHTS SHALL BE VIA L-823 CONNECTORS INSIDE EACH JUNCTION BOX.
- PROVIDE SECONDARY CABLES ON BLAST FENCE TO EACH FIXTURE. CONTRACTOR SHALL FIELD VERIFY SECONDARY CABLE LENGTHS PRIOR TO PROCUREMENT. COORDINATE WITH MANUFACTURER FOR UPSIZING THE SECONDARY CABLES BASED ON LENGTH, TO ENSURE PROPER FIXTURE OPERATION.



**2 RUNWAY CIRCUIT BYPASS AND TEMPORARY BLAST FENCE POWER**  
 SCALE: NTS



**3 TEMPORARY CONDUIT ANCHOR**  
 SCALE: NTS



**G203**

PLANS FOR THE CONSTRUCTION OF  
**BROWN FIELD AIRPORT**  
**RUNWAY 8L-26R REHABILITATION**  
**CONSTRUCTION PHASING DETAILS 3**

**CONSULTANT**

**HNTB**  
 The HNTB Companies  
 Infrastructure Solutions  
 400 West 10th Street, Suite 1000  
 San Diego, CA 92101  
 Tel: 619.594.8800  
 Fax: 619.594.8801

*Tony T...*

SPCC NO. 1227  
 CITY CONTRACT: CP/16-20000  
 SHEET 32 OF 71 SHEETS

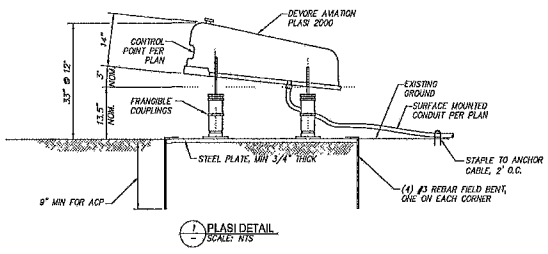
DATE	BY	CHECKED	DATE
11/14/16	JL	ES	11/14/16
DATE	BY	CHECKED	DATE
11/14/16	JL	ES	11/14/16

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT	DATE: 11/14/16	BY: JL	SCALE: AS SHOWN
PROJECT: BROWN FIELD AIRPORT REHABILITATION	DATE: 11/14/16	BY: ES	SCALE: AS SHOWN
PROJECT NO: 146-1767	DATE: 11/14/16	BY: ES	SCALE: AS SHOWN
PROJECT NO: 1768-6336	DATE: 11/14/16	BY: ES	SCALE: AS SHOWN
PROJECT NO: 37692-32-D	DATE: 11/14/16	BY: ES	SCALE: AS SHOWN

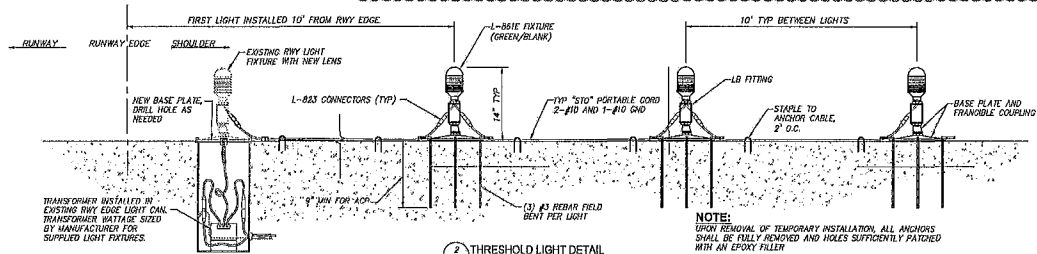
June 24, 2013 Brown Field (BFA) Airport Runway 8L/26R Rehabilitation

ADDENDUM A

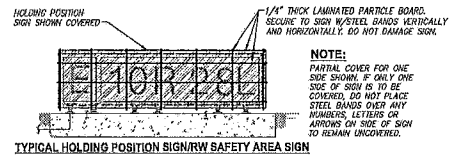
**ADDENDUM A**



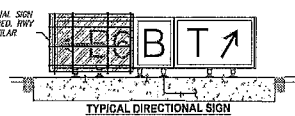
1 PLASI DETAIL  
SCALE: NTS



2 THRESHOLD LIGHT DETAIL  
SCALE: NTS



TYPICAL HOLDING POSITION SIGN/RW SAFETY AREA SIGN



TYPICAL DIRECTIONAL SIGN  
SCALE: NTS

STATION	EXISTING		TEMPORARY	
	WEST	EAST	WEST	EAST
50+00	7	1	5	1
50+25	6	2	4	2
50+50	5	3	3	3
50+75	4	4	2	4
51+00	3	5	1	5
51+25	2	6	-	-

- NOTES:
- CONTRACTOR SHALL COVER AND RELOCATE SIGN PANELS AS NEEDED TO MATCH THE PROPOSED LAYOUT PRESENTED IN THE TABLE TO THE LEFT.
  - THE WEST FACING PANEL AT STATION 50+00 NEEDS TO BE PROCURED. CONTRACTOR SHALL PROCURE PANEL TO MATCH EXISTING, SIZE 3 AGS-2 DIMS SIGN, CROSS-WINDS 60667-3, OR APPROVED EQUAL.
  - EXISTING SIGN AT STATION 60+00 SHALL BE COVERED PER SIGN COVER DETAIL 3, SHEET 6202.

3 DISTANCE REMAINING SIGN MODIFICATIONS  
SCALE: NTS

G202

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION**  
CONSTRUCTION PHASING DETAILS 2

CITY OF SAN DIEGO  
PUBLIC WORKS PROJECT



**HNTB**  
THE HNTB Companies  
Infrastructure Solutions  
1001 N. First Street, Suite 1000  
San Jose, CA 95131  
Tel: 408.435.4000  
Fax: 408.435.4001



RFQC NO. 1227	CITY CONTRACT: 6174K-B-0008	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 31 OF 31 SHEETS	ISSUED: B-15110
PROJECT: <i>6174K-B-0008</i>	DATE: 12/20/16	DESIGNED BY: <i>ARLEN</i>	CHECKED BY: <i>ARLEN</i>
APPROVED BY: <i>ARLEN</i>	DATE: 12/20/16	PROJECT MANAGER: <i>ARLEN</i>	PROJECT NUMBER: <i>146-1767</i>
CONTRACTOR: <i>ARLEN</i>	DATE: 12/20/16	PROJECT NUMBER: <i>1706-6336</i>	PROJECT NUMBER: <i>1706-6336</i>
CONTRACTOR: <i>ARLEN</i>	DATE: 12/20/16	PROJECT NUMBER: <i>1706-6336</i>	PROJECT NUMBER: <i>1706-6336</i>

ADDENDUM A

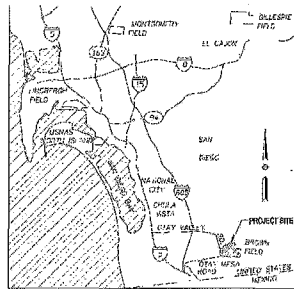
# BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION

## CONTRACTOR'S RESPONSIBILITIES

- PURSUANT TO SECTION 4214 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNIVERSITY MICROFILMS EAST OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
- NOTIFY SDOE AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDOE UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES, I.E., #9 KV & HIGHER.

## STORM WATER PROTECTION

- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS NOTED IN THE GREENBOOK/CITY OF SAN DIEGO'S BEST MANAGEMENT PRACTICES (BMP) FOR WATER POLLUTION CONTROL.



VICINITY MAP

## SITE ADDRESS:

641 CONVENTAL ST.  
SAN DIEGO, CALIFORNIA

## ASSESSOR'S NUMBER:

700 223 44 00

## FIELD DATA:

PERMITS: 217 0250 IN WELL MARK STAMPED "1101N STA 11 01" LOCATED AT THE EAST SIDE OF CONVENTAL STREET AND TOWER ACCESS ROAD AT BROWN FIELD. ELEV: 519.29 (MVD 70) PER REF ROS 81442.

BASIS OF BEARING / COORDINATES: THE BASIS OF BEARINGS IS THE NAD 83 (1983 EPOCH), ZONE 8 GRID BEARING BETWEEN CONVENTAL AND TOWER ACCESS ROAD AND 1101N CA 11 01 PER RECORD OF SURVEY MAP NO. 1440, I.E. 8 81 58 27 E.

DATE: MEAN SEA LEVEL

## TOPOGRAPHY SOURCE:

ADJUSTED ASSOCIATES  
JANUARY, 2005

## OWNER:

CITY OF SAN DIEGO  
518 S 31 STREET, SUITE 700, MS 08A  
SAN DIEGO, CA 92161  
PHONE: 619-683-7822 FAX: 619-683-4178  
CONTACT: JIM O'BRIEN

## PROJECT TEAM:

HNTB  
PHONE: 619-441-8777

## WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO. THE WORK INVOLVES FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, AND CONSTRUCTION OF THE PROJECT, WHICH CONSISTS OF A PAVEMENT REHABILITATION IN AN EFFORT TO COMPLY WITH CURRENT FAA STANDARDS AND INCREASE RELIABILITY AND SAFETY. THE PROJECT ELEMENTS INCLUDE INSTALLATION AND MAINTENANCE OF CONSTRUCTION BARRELS, TEMPORARY CLOSURES, DEMOLITION AND REMOVAL OF EXISTING PAVEMENT, RELOCATION OF MISCELLANEOUS ELECTRICAL ITEMS INCLUDING SIGNS AND LIGHTS, CONDUIT, PULL BOXES, INSTALLATION OF AIRFIELD IMPROVEMENTS INCLUDING NEW PAVEMENTS, TAXIWAY EDGE LIGHTS, RUNWAY EDGE LIGHTS, THREE ROW LIGHTS, IN PAVEMENT AND ELEVATED GUARD LIGHTS, AND INSTALLATION OF TEMPORARY BLAST FENCING AND PLAS.

## DECLARATION OF RESPONSIBLE CHARGE

"I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 4900 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONFORMANT WITH ALL CITY ORDINANCES. I UNDERSTAND THAT THE DESIGN 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 ANY RESPONSIBILITIES FOR PROJECT DESIGN."

*Tony Fackler*  
TONY FACKLER 06/22/15  
DATE

DATE	DESCRIPTION	APPROVAL NO.	WARNING
06/22/15	1001, 6220, 6225 & 6240		

CITY OF SAN DIEGO  
PUBLIC WORKS PROJECT



## CONSULTANT

HNTB

The HNTB Companies  
Infrastructure Solutions  
500 A Street, Suite 200, San Diego, CA 92101  
TEL: 619-441-8777  
WWW.HNTB.COM

EPIC NO. 127  
CITY CONTRACT: CP No. 15-000



PROJECT NO. 1001, 6220, 6225 & 6240

PLANS FOR THE CONSTRUCTION OF  
BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION  
COVER SHEET

T001

NO.	DATE	BY	APPROVED	DATE	REVISION
1	06/22/15	T.F.	T.F.	06/22/15	ISSUE FOR PERMITS

ADDENDUM A

# City of San Diego

CONTRACTOR'S NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
TELEPHONE NO.: \_\_\_\_\_ FAX NO.: \_\_\_\_\_  
CITY CONTACT: Clementina Giordano, Contract Specialist, Email: Cgiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633  
JSleiman/RW Bustamante/egz

## CONTRACT DOCUMENTS



## FOR

## BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

VOLUME 2 OF 2

BID NO.: \_\_\_\_\_ K-15-1227-DBB-3  
SAP NO. (WBS/IO/CC): \_\_\_\_\_ B-11010  
CLIENT DEPARTMENT: \_\_\_\_\_ 2111  
COUNCIL DISTRICT: \_\_\_\_\_ 8  
PROJECT TYPE: \_\_\_\_\_ AA

**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP
- THIS IS A U.S. DEPARTMENT OF TRANSPORTATION FUNDED CONTRACT THROUGH THE FAA.

**THIS BIDDING DOCUMENT TO BE SUBMITTED IN ITS ENTIRETY  
REFER TO VOLUME 1 COVER PAGE FOR TIME, DATE, AND LOCATION**

# City of San Diego

CONTRACTOR'S NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
TELEPHONE NO.: \_\_\_\_\_ FAX NO.: \_\_\_\_\_  
CITY CONTACT: Clementina Giordano, Contract Specialist, Email: Cgiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633  
JSleiman/RW Bustamante/egz

## CONTRACT DOCUMENTS



## FOR

### BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

VOLUME 1 OF 2

BID NO.: \_\_\_\_\_ K-15-1227-DBB-3  
SAP NO. (WBS/IO/CC): \_\_\_\_\_ B-11010  
CLIENT DEPARTMENT: \_\_\_\_\_ 2111  
COUNCIL DISTRICT: \_\_\_\_\_ 8  
PROJECT TYPE: \_\_\_\_\_ AA

**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP
- THIS IS A U.S. DEPARTMENT OF TRANSPORTATION FUNDED CONTRACT THROUGH THE FAA.

**BID DUE DATE:**

**2:00 PM  
JULY 9, 2015  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101**

# City of San Diego

CITY CONTACT: CLEMENTINA GIORDANO, Contract Specialist, Email: CGiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633

## ADDENDUM "E"

FOR



## BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

BID NO.: \_\_\_\_\_ K-15-1227-DBB-3 \_\_\_\_\_  
SAP NO. (WBS/IO/CC): \_\_\_\_\_ B-11010 \_\_\_\_\_  
CLIENT DEPARTMENT: \_\_\_\_\_ 2111 \_\_\_\_\_  
COUNCIL DISTRICT: \_\_\_\_\_ 8 \_\_\_\_\_  
PROJECT TYPE: \_\_\_\_\_ AA \_\_\_\_\_

### BID DUE DATE:

**2:00 PM**  
**JULY 23, 2015**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> 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.

**B. BIDDER'S QUESTIONS**

Q1. Addendum D changed the DBE Goal for the project. Does the contractor achieve the goal with any combination of percentages that sum up to at least 5.9%, or do the individual percentages for RC & RN need to be met to achieve the goal?

A1. Refer to Addendum E, Section C, Addendum, Item 2.

**C. ADDENDUM**

1. To Addendum B, page 2, Section B, Volume 1, Item 1, **DELETE** pages 3 through 32, in their entirety and **SUBSTITUTE** with pages 3 through 32 of this Addendum.

2. To Addendum D, pages 3 through 4, Section C, Addendum, Item 1, Sub-item 4.5., **DELETE** in its entirety and **SUBSTITUTE** with the following:

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

Total DBE Percentage                      **5.9%**

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

James Nagelvoort, Director  
Public Works Department

Dated: *July 20, 2015*  
San Diego, California

JN/RWB/egz



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

General Decision Number: CA150001 07/10/2015 CA1

Superseded General Decision Number: CA20140001

State: California

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

County: San Diego County in California.

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

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	02/13/2015
3	03/27/2015
4	05/29/2015
5	06/19/2015
6	07/10/2015

ASBE0005-002 06/30/2014

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 35.44	19.36
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 24.34	16.09

ASBE0005-004 06/24/2013

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 16.95	10.23

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27

BRCA0004-008 11/01/2014

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 34.12	15.65

BRCA0018-004 06/01/2014

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38
TILE FINISHER.....	\$ 23.78	9.84
TILE LAYER.....	\$ 35.14	14.33

BRCA0018-010 09/01/2013

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	10.34
TERRAZZO WORKER/SETTER.....	\$ 33.63	11.13

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CARP0409-002 07/01/2008

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

Amounts in "Rates" column are per day

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CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

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CARP0547-001 07/01/2009

	Rates	Fringes
CARPENTER		
(1) Bridge.....	\$ 37.28	10.58
(2) Commercial Building....	\$ 32.30	10.58
(3) Heavy & Highway.....	\$ 37.15	10.58
(4) Residential Carpenter..	\$ 25.84	10.58
(5) Residential Insulation Installer.....	\$ 18.00	8.16
MILLWRIGHT.....	\$ 37.65	10.58
PILEDRIVERMAN.....	\$ 37.28	10.58

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CARP0547-002 07/01/2009

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories		
Drywall Installer/Lather...	\$ 21.00	8.58
Drywall Stocker/Scraper...	\$ 11.00	6.67
(2) All other work		
Drywall Installer/Lather...	\$ 27.35	9.58
Drywall Stocker/Scraper...	\$ 11.00	6.67

-----  
\* ELEC0569-001 06/01/2015

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....	\$ 45.75	13.25
Electrician.....	\$ 45.00	13.22
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....	\$ 40.75	13.10
Electrician.....	\$ 40.00	13.07

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ELEC0569-006 10/06/2014

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

	Rates	Fringes
Traffic signal, street light and underground work		
Utility Technician #1.....	\$ 28.75	3%+7.42
Utility Technician #2.....	\$ 23.90	3%+7.42

**STREET LIGHT & TRAFFIC SIGNAL WORK:**

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

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

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ELEC0569-008 06/03/2013

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 22.37	3%+3.30

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ELEC1245-001 01/01/2015

	Rates	Fringes
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LINE CONSTRUCTION

(1) Lineman; Cable splicer..\$ 51.81	15.00
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....\$ 41.38	13.85
(3) Groundman.....\$ 31.65	13.51
(4) Powderman.....\$ 46.26	14.06

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

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ELEV0018-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC.....\$ 49.90		28.38

FOOTNOTE:

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

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ENGI0012-003 07/07/2014

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....\$ 39.05		22.25
GROUP 2.....\$ 39.83		22.25
GROUP 3.....\$ 40.12		22.25
GROUP 4.....\$ 41.61		22.25
GROUP 5.....\$ 41.86		22.25
GROUP 6.....\$ 41.83		22.25
GROUP 8.....\$ 41.94		22.25
GROUP 9.....\$ 42.19		22.25
GROUP 10.....\$ 42.06		22.25
GROUP 11.....\$ 42.31		22.25
GROUP 12.....\$ 42.23		22.25
GROUP 13.....\$ 42.33		22.25

GROUP 14.....	\$ 42.36	22.25
GROUP 15.....	\$ 42.44	22.25
GROUP 16.....	\$ 42.56	22.25
GROUP 17.....	\$ 42.73	22.25
GROUP 18.....	\$ 42.83	22.25
GROUP 19.....	\$ 42.94	22.25
GROUP 20.....	\$ 43.06	22.25
GROUP 21.....	\$ 43.23	22.25
GROUP 22.....	\$ 43.33	22.25
GROUP 23.....	\$ 43.44	22.25
GROUP 24.....	\$ 43.56	22.25
GROUP 25.....	\$ 43.73	22.25

OPERATOR: Power Equipment  
(Cranes, Piledriving &  
Hoisting)

GROUP 1.....	\$ 40.40	22.25
GROUP 2.....	\$ 41.18	22.25
GROUP 3.....	\$ 41.47	22.25
GROUP 4.....	\$ 41.61	22.25
GROUP 5.....	\$ 41.83	22.25
GROUP 6.....	\$ 41.94	22.25
GROUP 7.....	\$ 42.06	22.25
GROUP 8.....	\$ 42.23	22.25
GROUP 9.....	\$ 42.40	22.25
GROUP 10.....	\$ 43.40	22.25
GROUP 11.....	\$ 44.40	22.25
GROUP 12.....	\$ 45.40	22.25
GROUP 13.....	\$ 46.40	22.25

OPERATOR: Power Equipment  
(Tunnel Work)

GROUP 1.....	\$ 40.90	22.25
GROUP 2.....	\$ 41.68	22.25
GROUP 3.....	\$ 41.97	22.25
GROUP 4.....	\$ 42.11	22.25
GROUP 5.....	\$ 42.33	22.25
GROUP 6.....	\$ 42.44	22.25
GROUP 7.....	\$ 42.56	22.25

PREMIUM PAY:

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

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

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

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

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

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

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

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

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types

- Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel



type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

#### GROUP 9: Heavy Duty Repairman

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

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

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

self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

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

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

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

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

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

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

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

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar

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

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

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

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

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

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

#### CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

GROUP 4: Bridge-type unloader and turntable operator;

Helicopter hoist operator

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

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

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

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

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

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

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

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

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

#### TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

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

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE

corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

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

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County

and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

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 ENGI0012-004 08/01/2014

Rates      Fringes



OPERATOR: Power Equipment  
(DREDGING)

(1) Leverman.....	\$ 48.60	22.40
(2) Dredge dozer.....	\$ 42.63	22.40
(3) Deckmate.....	\$ 42.52	22.40
(4) Winch operator (stern winch on dredge).....	\$ 41.97	22.40
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 41.43	22.40
(6) Barge Mate.....	\$ 42.04	22.40

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\* IRON0377-002 07/01/2015

Rates Fringes

Ironworkers:

Fence Erector.....	\$ 27.08	20.21
Ornamental, Reinforcing and Structural.....	\$ 33.50	28.85

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

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LABO0089-001 07/01/2014

Rates Fringes

LABORER (BUILDING and all  
other Residential  
Construction)

Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19

LABORER (RESIDENTIAL  
CONSTRUCTION - See definition  
below)

(1) Laborer.....	\$ 25.47	14.52
(2) Cleanup, Landscape, Fencing (Chain Link & Wood).	\$ 24.18	14.52

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

LABORER CLASSIFICATIONS

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

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

operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellow

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

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

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

LABO0089-002 11/01/2012

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 27.98	13.39

\* LABO0089-004 07/01/2015

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19

LABORER CLASSIFICATIONS

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

GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer;

Kettleman-Potman hot mop, includes applying asphalt, lay-kold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, m makeing of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

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

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading

and placing; Horizontal directional driller, Boring system, Electronic tracking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

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LABO0300-005 01/01/2014

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 28.00	15.25

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

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LABO1184-001 07/01/2014

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 31.65	13.33
(2) Vehicle Operator/Hauler.	\$ 31.82	13.33
(3) Horizontal Directional Drill Operator.....	\$ 33.67	13.33
(4) Electronic Tracking Locator.....	\$ 35.67	13.33
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 32.56	16.28
GROUP 2.....	\$ 33.86	16.28
GROUP 3.....	\$ 35.87	16.28
GROUP 4.....	\$ 37.61	16.28

LABORERS - STRIPING CLASSIFICATIONS

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

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

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

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/07/2013

Rates Fringes

LABORER

PLASTER CLEAN-UP LABORER....	\$ 27.45	16.36
PLASTER TENDER.....	\$ 30.00	16.36

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

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

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PAIN0036-001 07/01/2014

Rates Fringes

Painters: (Including Lead Abatement)

(1) Repaint (excludes San Diego County).....\$ 26.89	12.28
(2) All Other Work.....\$ 30.27	12.28

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

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PAIN0036-010 10/01/2014

	Rates	Fringes
DRYWALL FINISHER/TAPER		
(1) Building & Heavy Construction.....\$ 26.84		14.29
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....\$ 21.00		13.91

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PAIN0036-012 12/01/2014

	Rates	Fringes
GLAZIER.....\$ 39.80		17.33

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PAIN0036-019 07/01/2014

	Rates	Fringes
SOFT FLOOR LAYER.....\$ 26.77		12.75

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PLAS0200-005 08/06/2014

	Rates	Fringes
PLASTERER.....\$ 37.43		13.28

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

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\* PLAS0500-001 07/01/2015



	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1.....	\$ 26.47	17.32
GROUP 2.....	\$ 28.12	17.32
GROUP 3.....	\$ 30.75	17.27

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

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

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

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 PLUM0016-006 07/01/2014

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton.....	\$ 49.21	20.36
Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 44.71	20.36
Work ONLY on new additions and remodeling of commercial buildings, bars, restaurants, and stores not to exceed 5,000 sq. ft. of floor space.....	\$ 43.33	19.38
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 34.59	17.71

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PLUM0016-011 07/01/2014

	Rates	Fringes
PLUMBER/PIPEFITTER		
Residential.....	\$ 36.15	16.28

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PLUM0345-001 07/01/2014

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter..	\$ 29.27	19.75
Sewer & Storm Drain Work....	\$ 33.24	17.13

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ROOF0045-001 07/01/2012

	Rates	Fringes
ROOFER.....	\$ 25.08	7.28

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SFCA0669-001 07/01/2013

	Rates	Fringes
SPRINKLER FITTER.....	\$ 34.86	18.66

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SHEE0206-001 01/01/2012

	Rates	Fringes
SHEET METAL WORKER		
Camp Pendleton.....	\$ 35.05	19.23
Except Camp Pendleton.....	\$ 33.05	19.23
Sheet Metal Technician.....	\$ 25.22	6.69

**SHEET METAL TECHNICIAN - SCOPE:**

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

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TEAM0036-001 07/01/2012

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.40	20.50
GROUP 2.....	\$ 24.99	20.50
GROUP 3.....	\$ 25.19	20.50
GROUP 4.....	\$ 25.39	20.50
GROUP 5.....	\$ 25.59	20.50
GROUP 6.....	\$ 26.09	20.50
GROUP 7.....	\$ 27.59	20.50

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

#### TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

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

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

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

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

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

GROUP 7: Repairman

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

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

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that

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

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

#### Union Average Rate Identifiers

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

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

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#### WAGE DETERMINATION APPEALS PROCESS

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

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

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

and 3.) should be followed.

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

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

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

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

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

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

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

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

---

END OF GENERAL DECISION

# City of San Diego

CITY CONTACT: Clementina Giordano, Contract Specialist, Email: CGiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633

## ADDENDUM "D"

FOR



## BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

BID NO.: K-15-1227-DBB-3  
SAP NO. (WBS/IO/CC): B-11010  
CLIENT DEPARTMENT: 2111  
COUNCIL DISTRICT: 8  
PROJECT TYPE: AA

### BID DUE DATE:

**2:00 PM**  
**JULY 23, 2015**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> 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 and Architect:

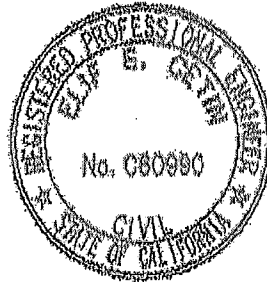
Tony Fendia  
1) Registered Engineer

07/14/2015  
Date



[Signature]  
2) For City Engineer

7/14/2015  
Date





**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. BIDDER'S QUESTIONS**

**Questions pertaining to Scope or Specifications**

Q1. We have an RFI on the intent of Spec Section T-920. The specification References Tensar TriAx TX 160 Geogrid or approved equal. The Spec also Mirafi 140 NC, for which there will be no payment item. Is the intent of the spec to have a double layer- Filter fabric & Geogrid installed?

A1. The plans & specifications require the placement of a single layer of Tensar TriAx TX 160 Geogrid or approved equal. Fiber fabric is included in the specifications as a contingency item as described below. Per Specification Section T-920-2.1.E, when appropriate for the soil gradation, filter fabric shall be Mirafi 140NC, or approved equal. The appropriate soil gradation is not expected to be encountered (see Sheets G033 - G036 for soil boring logs). However, the Contractor shall be prepared to remove and replace isolated pockets of unacceptable subgrade materials should they be found on the project, per Specific Section P-152 Part 3. This section also describes the process for removing and replacing unacceptable subgrade materials which includes placing filter fabric prior to backfilling. All work associated with remove and replace subgrade will be paid as unclassified excavation. All work shall be pre-approved by the Engineer in order to be eligible for payment under this item. The Mirafi 140NC, or approved equal, if required, is considered incidental to Bid Item 17 - Unclassified Excavation.

Q2. Will the City reduce the self-performance requirements to 30% to increase opportunities for DBE subcontractors to be awarded work and the Bidders be able to meet the City's DBE goals?

A2. The self-performance requirements have been revised per this addendum.

**C. ADDENDUM**

1. To Addendum C, page 5, Section D. Volume 1, Item 1, Sub-item 4.5., **DELETE** in its entirety and **SUBSTITUTE** with the following:

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

RC DBE Goal	<b>3.1%</b>
RN DBE Goal	<b>2.8%</b>

Total DBE Percentage                      **5.9%**

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

**D. VOLUME 1**

1. To Notice Inviting Bids, page 11, Section 27, Award of Contract or Rejection of Bids, Sub-item 27.5., **DELETE** in its entirety and **SUBSTITUTE** with the following:

**27.5.** 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 section 22.3017 of the San Diego Municipal Code.”

2. To Attachment E, Supplementary Special Provision, page 90, Section 2, Scope and Control of Work, Sub-item 2-3.2, Self Performance, **DELETE** in its entirety and **SUBSTITUTE** with the following:

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

1. You must perform, with your own organization, Contract work amounting to at least 30% of the base bid alone or base bid and any additive alternate(s) that together when added from the basis of award.

James Nagelvoort, Director  
Public Works Department

Dated: *July 14, 2015*  
San Diego, California

JN/RWB/egz

# City of San Diego

CITY CONTACT: Clementina Giordano, Contract Specialist, Email: CGiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633



## ADDENDUM "C"

FOR

### BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

BID NO.: K-15-1227-DBB-3  
SAP NO. (WBS/IO/CC): B-11010  
CLIENT DEPARTMENT: 2111  
COUNCIL DISTRICT: 8  
PROJECT TYPE: AA

---

#### **BID DUE DATE:**

**2:00 PM**  
**JULY 23, 2015**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> 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 and Architect:

Tommy Ferrelia  
1) Registered Engineer

7/2/2015  
Date



Elif E. Cetin  
2) For City Engineer

7/6/2015  
Date



**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. Sheet C101 – Demolition plan 1 – Legend shows Variable Depth Asphalt Pavement Milling / Surface Prep for Overlay, See Detail 3/C111..... Detail 3/C111 shows a note of Mill existing Asphalt Concrete Pavement Depth per Plan. What is the milling depth in this section?
- A1. Per 3/C111, Contractor to mill 3” (min.) at the outside edge of the runway, but the center of the runway will vary from 3” mill at STA 69+25 to a ±10” fill at STA 72+57.
- Q2. Existing service road grading plan does not show existing elevations, which does not allow us to quantify the export for this portion of work. The major and minor contours are shown, but no elevations are shown. Please provide existing elevations.
- A2. See revised grading sheets for revised limits of service road replacement and additional grading information (proposed and existing).
- Q3. Sheet C303 shows the East End of Runway 8L-26R Legend to be Full Strength AC. Pavement, See Detail 5/C311. Detail 5/C311 is labeled as AC pavement section at Taxiway A. This Detail shows a rubblized section which is not shown on the Improvements of East end of Runway 8L-26R. Please clarify how this section is to be built and provide the appropriate cross section.
- A3. From STA 86+22 to 87+57, the pavement shall be per 5/C311. Everything west of STA 87+57 shall be per the right side of 5/C311 (4” P-401 on 6” P-403 on 14” PMB on Geogrid and 12” of subgrade preparation).
- Q4. Sheet G201 - Detail 2 shows conflicting information. The description dictates a 30” high Orange Temporary Fence, but the measurement shows 24” for the height. Please clarify
- A4. Construction Safety Fence shall be 24” high.

- Q5. Phasing sheet G121 shows a location for safety fence but with no defined limits. All other phasing sheets do not show locations for safety fence. However, detail 2 on sheet 201 states that Safety Fence Shall be erected along entire length of RSA which is adjacent an active work phase. Safety Fence is not shown in all phases adjacent to work areas. Revise plan sheets to show all the limits of fenced areas.
- A5. See revised sheet G110 with limits of safety fence and fiber roll along abandoned taxiway defined. In addition to the locations shown on G110, safety fence is required only adjacent to work area in Phase 2, along south side of RSA east of Taxiway C (see sheets G123, G124, and G131).
- Q6. Will the Airport be marking out their own private facilities?
- A6. Contractor is only to mark as shown on sheets C501-C506 & C701.
- 
- Q7. Spec emission reporting notes crushing but the specs say no crushing on the airport property. Is the contractor allowed to crush within its laydown area?
- A7. All crushing and/or pavement recycling shall be performed off airport property per Specification P-150-2.5.
- Q8. Is an Exclusive Community Liaison required to be provided for this project?
- A8. No Exclusive Community Liaison is required for this project, however, the Contractor is still responsible for Community Outreach per Section 7-16 of the modified Supplementary Special Provisions. Payments for these services shall be included in various bid items.
- Q9. Could you clarify the extent of required archaeological monitoring for this project. We are unclear if the city is requiring monitoring for all ground disturbing work, or if the monitoring is required for all work regardless of ground disturbance.
- A9. All monitoring consultants must attend the Pre-Construction Meeting per MND Sections V.B.1 (page 401). Specific requirements for each consultant are described in MND Section V.C (page 402).
- Q10. The MND lists paleontological consultants/monitoring on pg. 401, however, there is no specific MMRP Area Condition/Requirements section that follows. Could you confirm the need for this discipline at this time?
- A10. Only an Archaeological Consultants and Native American Monitor, and a Biological Consultant/Monitor have been identified as a requirement for this project.
- Q11. 7/1 Bid Item 13 for Cold Milling of AC Pavement (P-101). The specification references Variable Depth Cold Milling, (¼"-3"). This work is shown on Plan C101. Also Shown on C101-C102 is 2" Cold Milling. Our take off quantity for the Variable Depth Milling is roughly the bid quantity. Adding the 2" depth area, the

total quantity of milling is double the bid quantity. The spec doesn't reference the 2" Depth. How will the quantity of the 2" Depth cold milling be paid?

- A11. The shoulder AC milling shall be paid for under Bid Item #13 "Cold Milling of AC Pavement". See revised bid schedule for revised quantities.
- Q12. In compiling our quantities for the materials, it looks like the bid items for P-401 and P-403 only capture about ½ of the material required to complete the project, based on our take off. If this is correct, will the City issue an addendum to change these quantities?
- A12. See revised bid schedule for revised material quantities.
- Q13. In P-150 2.7-B "Paintovers (Obliteration of existing markings by covering with paint or bituminous materials) will not be allowed. Yet the plans call for "Black Out" in several instances. If black out is to be used how will it be payed? Should we use the bid item for removal or plan to black out.
- A13. Black Out marking shall be allowed at temporary removals and where the pavement is to be removed, as indicated on the plans. Black Out striping shall be paid for under Bid Item 25 – Runway and Taxiway Markings – Temporary.

#### C. ADDENDUM

1. To Addendum A, E. PLANS, Item 1, **DELETE** Drawing number 37992-1-D and **REPLACE** with Drawing number 37992-1-D, page 11 of this Addendum.

#### D. VOLUME 1

1. To Notice Inviting Bids, page 5, Item 4, Subcontracting Participation Percentages, Sub-item 4.5., **DELETE** in its entirety and **SUBSTITUTE** with the following:

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

Total DBE Percentage	13.2%
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The Contractor shall meet the Project specific goals for DBE's as outlined in the Specifications or satisfy GFE documentation requirements.

2. To Attachment A - Scope of Work, page 29, Item 2, Construction Cost, **DELETE** in its entirety and **SUBSTITUTE** with the following:
  2. **CONSTRUCTION COST:** The City's estimated construction cost for this contract is **\$4,520,000.00**.

**E. VOLUME 2**

1. To Bidding Documents, Proposal (Bid), pages 14 through 17, **DELETE** in their entirety and **SUBSTITUTE** with pages 7 through 10 of this Addendum.

**F. PLANS**

1. To Drawing number 37992-14-D, **DELETE** in its entirety and **REPLACE** with page 12 of this Addendum.
2. To Drawing number 37992-16-D, **DELETE** in its entirety and **REPLACE** with page 13 of this Addendum.
3. To Drawing number 37992-37-D, **DELETE** in its entirety and **REPLACE** with page 14 of this Addendum.
4. To Drawing number 37992-41-D, **DELETE** in its entirety and **REPLACE** with page 15 of this Addendum.
5. To Drawing number 37992-46-D, **DELETE** in its entirety and **REPLACE** with page 16 of this Addendum.
6. To Drawing number 37992-50-D, **DELETE** in its entirety and **REPLACE** with page 17 of this Addendum.
7. To Drawing number 37992-56-D, **DELETE** in its entirety and **REPLACE** with page 18 of this Addendum.
8. To Drawing number 37992-60-D, **DELETE** in its entirety and **REPLACE** with page 19 of this Addendum.

James Nagelvoort, Director  
Public Works Department

Dated: *July 7, 2015*  
San Diego, California

JN/RWB/egz



**BIDDING DOCUMENTS**

**PROPOSAL (BID)**

The Bidder agrees to the construction of **Brown Field (SDM) Airport Runway 8L/26R Rehab**, for the City of San Diego, in accordance with these contract documents for the prices listed below. 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 to Award of the Contract. 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 e.g., bond and insurance.

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
<b>BASE BID</b>							
1	1	LS	524126	2-4.1	Bonds (Payment and Performance)		\$
2	1	LS	541214	3-3.2.2.1	Certified Payroll		\$
3	1	AL	236220	7-5.3	Building Permits - Type I		\$1,000.00
4	1	LS	541330	7-10.4.2.3	Qualified Safety Representative		\$
5	1	AL		9-3.5	Field Orders - Type II		\$200,000.00
6	1	LS	237310	M-100-2.2-1	Mobilization/Demobilization		\$
7	1	LS	541690	M-100-2.2-2	Biological Resources		\$
8	1	LS	541690	M-100-2.2-3	Historical Resources		\$
9	1	LS	237310	G-101-3.2-1	Construction Barricades, Fencing, Markers and Signs		\$
10	1	LS	237310	G-101-3.2-2	Temporary Jet Blast Deflector		\$
11	1	LS	238210	G-101-3.2-3	Temporary Airfield Lighting and Circuiting		\$
12	750	LF	237310	P-101-5.1-1	Asphalt Crack Sealing	\$	\$
13	12,620	SY	237310	P-101-5.1-2	Cold Milling of AC Pavement	\$	\$
14	2,450	SY	237310	P-150-4.1-1	Remove AC Pavement	\$	\$
15	20,257	SY	237310	P-150-4.1-2	Remove 10" PCC Pavement	\$	\$
16	16,076	SF	237310	P-150-4.1-3	Remove Pavement Markings	\$	\$

**BIDDING DOCUMENTS**

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
17	4,359	CY	237310	P-152-4.1-1	Unclassified Excavation	\$	\$	
18	22,666	SY	237310	P-152-4.1-2	Subgrade Preparation	\$	\$	
19	6,518	CY	237310	P-154-5.1	Subbase Course	\$	\$	
20	1	LS	237310	P-156-5.1	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	<del>    </del>	\$	
21	8,327	SY	237310	P-215-5.1	Rubblization	\$	\$	
22	8,458	TON	237310	P-401-8.1-1	Bituminous Surface Course	\$	\$	
23	11,258	TON	237310	P-403-8	Bituminous Base Course	\$	\$	
24	29,097	SF	237310	P-620-4.2-1	Runway and Taxiway Markings	\$	\$	
25	78,447	SF	237310	P-620-4.2-2	Runway and Taxiway Markings - Temporary	\$	\$	
26	22,666	SY	237310	T-920-5.2-1	Subgrade Stabilization Geotextile (Geogrid)	\$	\$	
27	1	LS	541330	701-13.8.4	Water Pollution Control Program Development	<del>    </del>	\$	
28	1	LS	237310	701-13.8.4	Water Pollution Control Program Implementation	<del>    </del>	\$	
29	1	AL	541330	701-13.8.4	Permit Fee - Type I	<del>    </del>	\$1,000.00	
<b>ESTIMATED TOTAL BASE BID:</b>							\$	
<b>ADDITIVE ALTERNATE A</b>								
1	335	SY	237310	P-101-5.1-2	Cold Milling of AC Pavement	\$	\$	
2	75	TON	237310	P-401-8.1-1	Bituminous Surface Course	\$	\$	
3	21,946	LF	237310	P-600-5.3-1	Concrete Joint Resealing	\$	\$	
4	5	EA	237310	P-600-5.3-2	Concrete Spall Repair - Small	\$	\$	
5	15	EA	237310	P-600-5.2-3	Concrete Spall Repair - Large	\$	\$	
6	19,946	SF	237310	P-620-4.2-1	Runway and Taxiway Markings	\$	\$	
<b>ESTIMATED TOTAL ADDITIVE ALTERNATE A:</b>							\$	
<b>ESTIMATED TOTAL BASE BID + ADDITIVE ALTERNATE A:</b>							\$	

**BIDDING DOCUMENTS**

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TOTAL BID PRICE FOR BID (Base Bid, Items 1 through 29, Plus Additive Alternate A, Items 1 through 6, inclusive) amount written in words:

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The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid form. If an addendum or addenda has been issued by the City and not noted as being received by the Bidder, this proposal shall be rejected as being **non-responsive**. The following addenda have been received and are acknowledged in this bid: \_\_\_\_\_

The names of all persons interested in the foregoing proposal as principals are as follows:

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**IMPORTANT NOTICE:** If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

Bidder: \_\_\_\_\_

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

Place of Business: \_\_\_\_\_

Place of Residence: \_\_\_\_\_

Signature: \_\_\_\_\_

## BIDDING DOCUMENTS

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### NOTES:

- A. The City shall determine the low Bid based on the Base Bid plus Additive Alternate A.
- B. After the low Bid has been determined, the City may award the Contract for the Base Bid alone or if applicable, for the Base Bid plus any combination of alternates selected in the City's sole discretion.
- C. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Bidder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the bid proposal.
- D. Failure to initial all corrections made in the bidding documents may cause the Bid to be rejected as **non-responsive** and ineligible for further consideration.
- E. Blank spaces must be filled in, using figures. Bidder's failure to submit a price for any Bid item that requires the Bidder to submit a price shall render the Bid **non-responsive** and shall be cause for its rejection.
- F. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
- G. All extensions of the unit prices bid will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.
- H. In the case of inconsistency or conflict, between the sums of the Extensions with the estimated total Bid, the sum of the Extensions shall govern.
- I. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
- J. Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

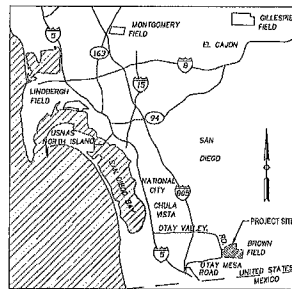
# BROWN FIELD AIRPORT RUNWAY 8L-26R REHABILITATION

## CONTRACTOR'S RESPONSIBILITIES

- PURSUANT TO SECTION 4116 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO COMMENCEMENT, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN IDENTITY IDENTIFICATION NUMBER.
- NOTIFY EIGHT AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF 5000V UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES, (E.G., 69 KV & 138 KV).

## WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO. THE WORK INCLUDES FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, AND CONSTRUCTION OF THE PROJECT, WHICH COMBISTS OF A PAVEMENT REHABILITATION IN AN EFFORT TO COMPLY WITH CURRENT FAA STANDARDS AND INCREASE RELIABILITY AND SAFETY. THE PROJECT ELEMENTS INCLUDE INSTALLATION AND MAINTENANCE OF CONSTRUCTION BARRICADES, TEMPORARY CLOSURE XS, DEMOLITION AND REMOVAL OF EXISTING PAVEMENTS, RELOCATION OF MISCELLANEOUS ELECTRICAL FEEDS INCLUDING SIGN AND LIGHTS, CONCRETE PULL BOXES, INSTALLATION OF AIRFIELD APPROACHMENTS INCLUDING NEW AC PAVEMENTS, TAXIWAY STRIP LIGHTS, RUNWAY EDGE LIGHTS, THRESHOLD LIGHTS, IMPAVEMENT AND ELEVATED GUARD LIGHTS, AND INSTALLATION OF TEMPORARY BLAST FENCING AND PLAS.



VICINITY MAP  
NTS

## SITE ADDRESS:

1424 CONTINENTAL ST,  
SAN DIEGO, CA 92154

## ASSESSOR'S NUMBER:

94203-24-00

## FIELD DATA:

SECTION:  
25" O.D. S.W. WELL, MON STAMPED "IPON STA 14-01" LOCATED AT THE EAST SIDE OF CONTINENTAL STREET AND TOWER ACCESS ROAD AT BROWN FIELD, ELEVATION 12.23 (HWD 25) PER RFP 1420 PH42.

## BASE OF BEARINGS COORDINATES:

THE BASIS OF BEARINGS IS THE NAD 83 1983 EPOCH, ZONE 8 GRID BEARINGS BETWEEN CONTROL POINTS 'S0 05 24' AND 'T0 04 CA 11 01' PER RECORD OF SURVEY MAP NO. 1442, I.E. 8 81 26 47' E.

## GRID:

STATE SCALE

TOPOGRAPHY SOURCE:  
AUGER & ASSOCIATES  
JANUARY, 2009

## OWNER:

CITY OF SAN DIEGO  
5556 GIBBS STREET, 3RD FLOOR  
SAN DIEGO, CA 92161  
PHONE: (619) 534-3222 FAX: (619) 534-5176

## PROJECT TEAM:

NTB  
PHONE: 916-481-4177

## STORM WATER PROTECTION

- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS NOTED IN THE GREENBOOK 0112 CITY SUPPLEMENT REC 701 - WATER POLLUTION CONTROL.

## DECLARATION OF RESPONSIBLE CHARGE

"I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE ASSUMED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 4116 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DESIGN AND PREPARATION BY THE CITY OF SAN DIEGO IS CONSIDERED A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN."

*Tommy F...*  
10/14/2010  
10/14/2010 DATE

CHANGE	DATE	DESCRIPTION	APPROVAL	REVISION
1	10/14/10	ISSUE FOR CONSTRUCTION		
2	10/14/10	ISSUE FOR CONSTRUCTION		
3	10/14/10	ISSUE FOR CONSTRUCTION		
4	10/14/10	ISSUE FOR CONSTRUCTION		
5	10/14/10	ISSUE FOR CONSTRUCTION		
6	10/14/10	ISSUE FOR CONSTRUCTION		
7	10/14/10	ISSUE FOR CONSTRUCTION		
8	10/14/10	ISSUE FOR CONSTRUCTION		
9	10/14/10	ISSUE FOR CONSTRUCTION		
10	10/14/10	ISSUE FOR CONSTRUCTION		

IF THIS BAR DOES NOT MEASURE TO SCALE

CITY OF SAN DIEGO  
PUBLIC WORKS PROJECT



CONSULTANT

**NTB**  
The NTC Companies  
1424 Continental St., 3rd Floor  
San Diego, CA 92161  
Phone: (619) 534-3222  
Fax: (619) 534-5176

*Tommy F...*

PROFESSIONAL ENGINEER  
ANTONIO J. BUSTOS  
85542  
10/14/2010

SPEC. NO. 1227  
CITY CONTRACT:  
CP No. 11-2008

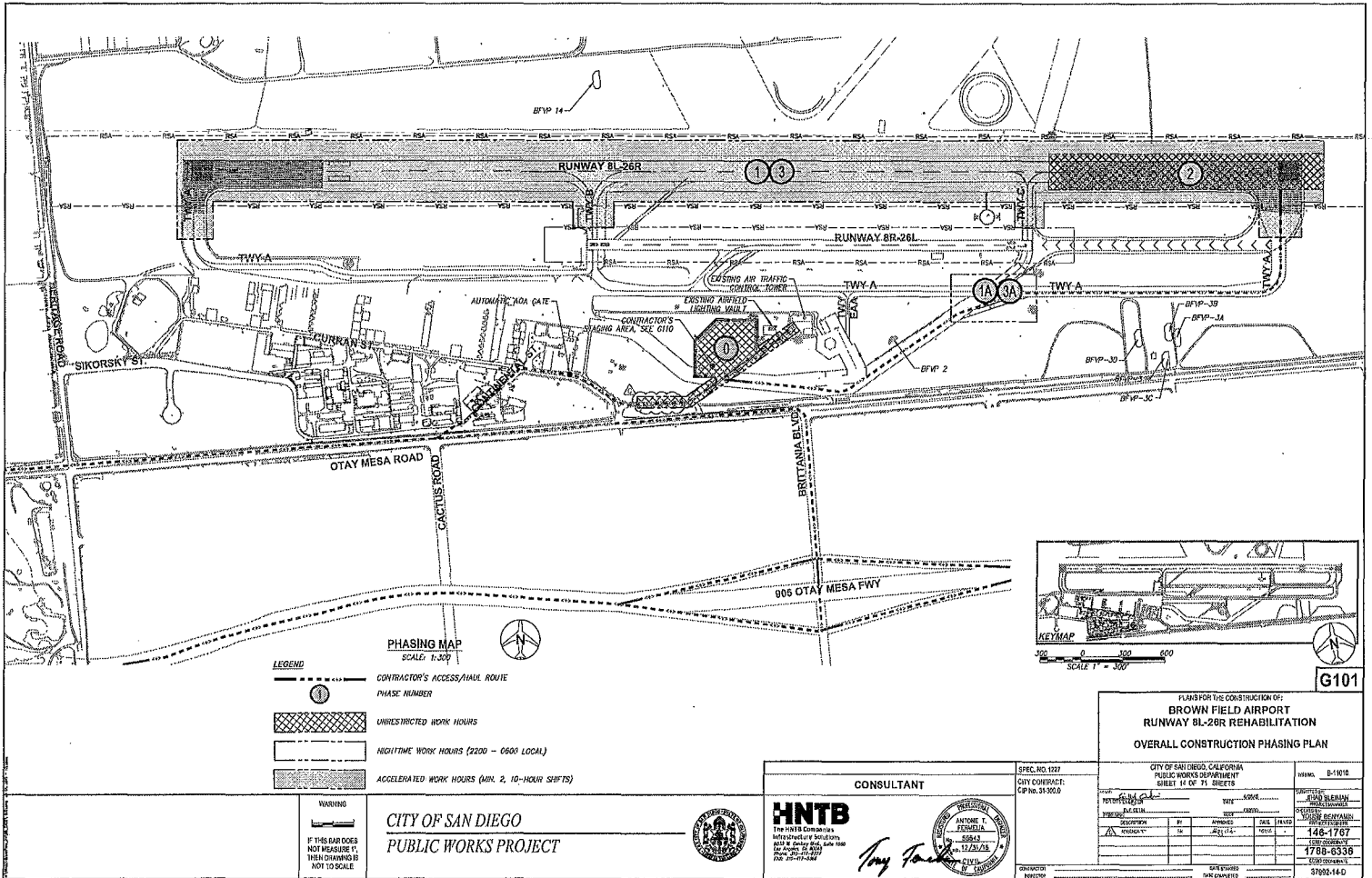
PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION**

COVER SHEET

CITY OF SAN DIEGO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
SHEET 1 OF 11 SHEETS

DATE: 10/14/10  
BY: [Signature]  
CHECKED: [Signature]  
DESIGNED: [Signature]  
DRAWN: [Signature]  
SCALE: AS SHOWN  
PROJECT NO.: 1788-6336  
SHEET NO.: 01000-010

ADDENDUM C



**PHASING MAP**  
SCALE: 1"=300'

**LEGEND**

- CONTRACTOR'S ACCESS/HAUL ROUTE
- PHASE NUMBER
- UNRESTRICTED WORK HOURS
- NIGHTTIME WORK HOURS (2200 - 0600 LOCAL)
- ACCELERATED WORK HOURS (MIN. 2, 10-HOUR SHIFTS)

**WARNING**  
IF THIS BAR DOES NOT MEASURE 1", THEN DIMENSIONS NOT TO SCALE

**CITY OF SAN DIEGO**  
**PUBLIC WORKS PROJECT**



**CONSULTANT**

**HNTB**  
The HNTB Companies  
Infrastructure Solutions  
6000 La Jolla Village Drive, Suite 1000  
San Diego, CA 92121  
619-594-2200  
hntb.com

*Tony Fancher*

PERMITS  
ANTHONY T. FANCHER  
58842  
12/20/18

SPEC. NO. 127  
CITY CONTRACT:  
CP No. 31-3000

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT**  
**RUNWAY BL-28R REHABILITATION**  
**OVERALL CONSTRUCTION PHASING PLAN**

DATE	BY	APPROVED	DATE REVISION	DESCRIPTION
12/20/18	AF	AF	12/20/18	148-1707
				4788-6336
				37093-14-D

ISSUE: 5-1910

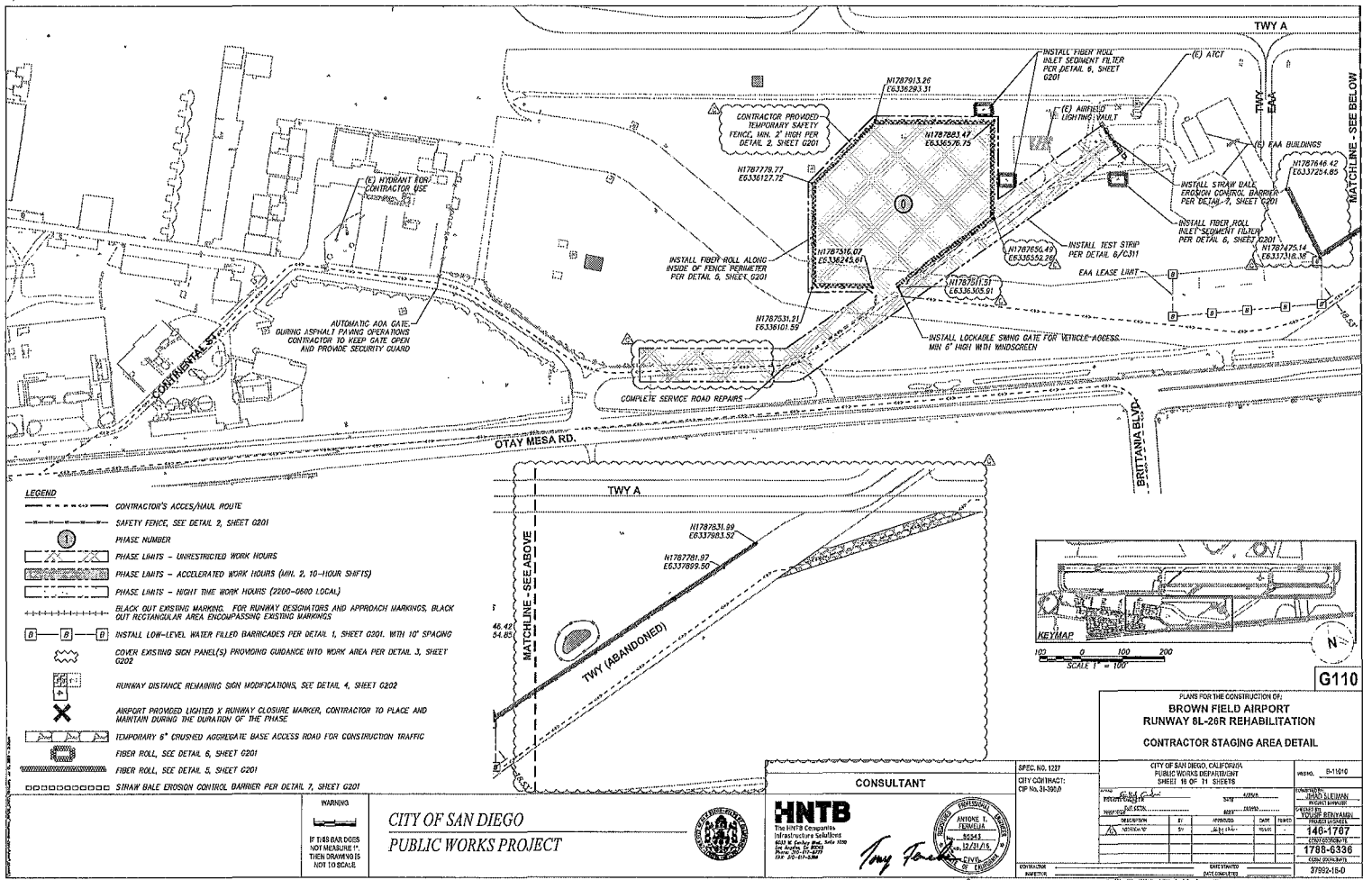
DESIGNED BY: JAMES BERLIN

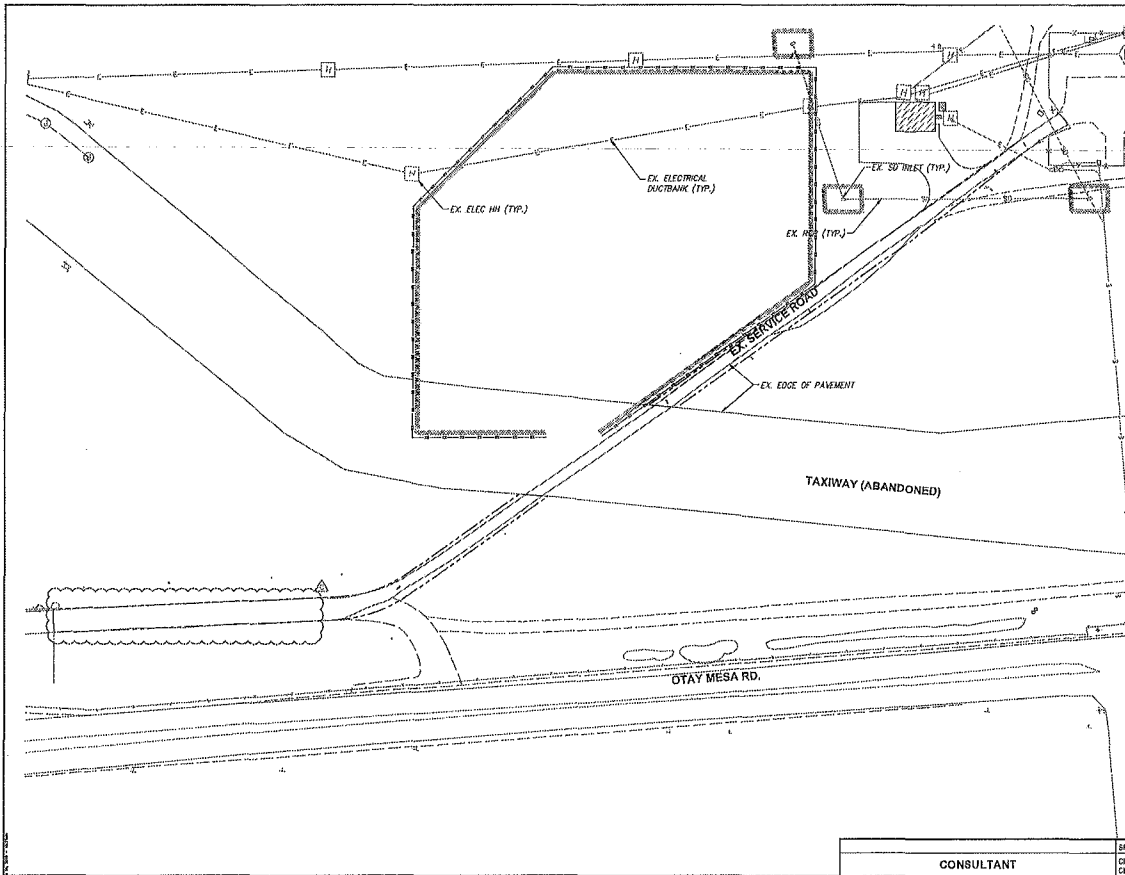
DRAWN BY: JAMES BERLIN

CHECKED BY: JAMES BERLIN

DATE: 12/20/18

**ADDENDUM C**



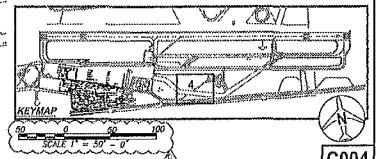


**UTILITIES NOTICE**  
 THE EXISTENCE, LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN IN THESE PLANS WAS OBTAINED FROM AVAILABLE RECORDS AND ARE THEREFORE APPROXIMATE. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES THAT MAY NOT BE SHOWN ON THESE PLANS. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO COMMENCING ANY EXCAVATION OPERATIONS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR ANY CONSTRUCTION DAMAGE TO ANY UTILITY OR STRUCTURE CAUSED BY HIS OPERATIONS, TO THE SATISFACTION OF THE ENGINEER.

**GENERAL NOTES:**

1. THE CONTRACTOR SHALL EXPOSE AND VERIFY BY SURVEY THE DEPTH AND ALIGNMENT OF ALL EXISTING UNDERGROUND UTILITIES WITHIN THE LIMITS OF WORK. THE CONTRACTOR SHALL POT-HOLE AND LOCATE ALL UTILITIES WHERE THEY ENTER THE HORIZONTAL LIMITS OF ANY PROPOSED PAVEMENT AND WHERE THEY CROSS OTHER PROPOSED OR EXISTING UTILITIES.
2. WHERE NOT PROHIBITED, POT-HOLING SHALL BE DONE 14 DAYS PRIOR TO DESIGNATED WORK AREA. SEE CONSTRUCTION PHASING SHEET G101 FOR WORK AREA LIMITS.
3. SEE SHEETS C101-C104 FOR DEMOLITION AND REMOVAL PLANS.
4. CONTRACTOR SHALL PROVIDE PROTECTION OF EXISTING UTILITIES, WHERE PROTECTION IS NOT SPECIFICALLY STATED, CONTRACTOR SHALL RECEIVE ENGINEER'S APPROVAL PRIOR TO EXCAVATION/DEMOLITION.

**LEGEND**  
 --- APPROXIMATE WORK AREA LIMITS



**C004**

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
 RUNWAY 8L-28R REHABILITATION  
 EXISTING UTILITIES 4**

CITY OF SAN DIEGO, CALIFORNIA FIELD WORKS DEPARTMENT SHEET 37 OF 71 SHEETS		WORK: B-1120
DESIGNED BY: G. J. ...	DATE: ...	CHECKED BY: ...
APPROVED BY: ...	DATE: ...	PROJECT NO.: ...
DATE: ...	SCALE: ...	PROJECT NO.: 1788-6336
DATE: ...	SCALE: ...	PROJECT NO.: 1788-6336
DATE: ...	SCALE: ...	PROJECT NO.: 1788-6336

WARNING  
 IF THIS BAR DOES NOT MEASURE 1", THEN DIMENSIONS NOT TO SCALE

CITY OF SAN DIEGO  
 PUBLIC WORKS PROJECT

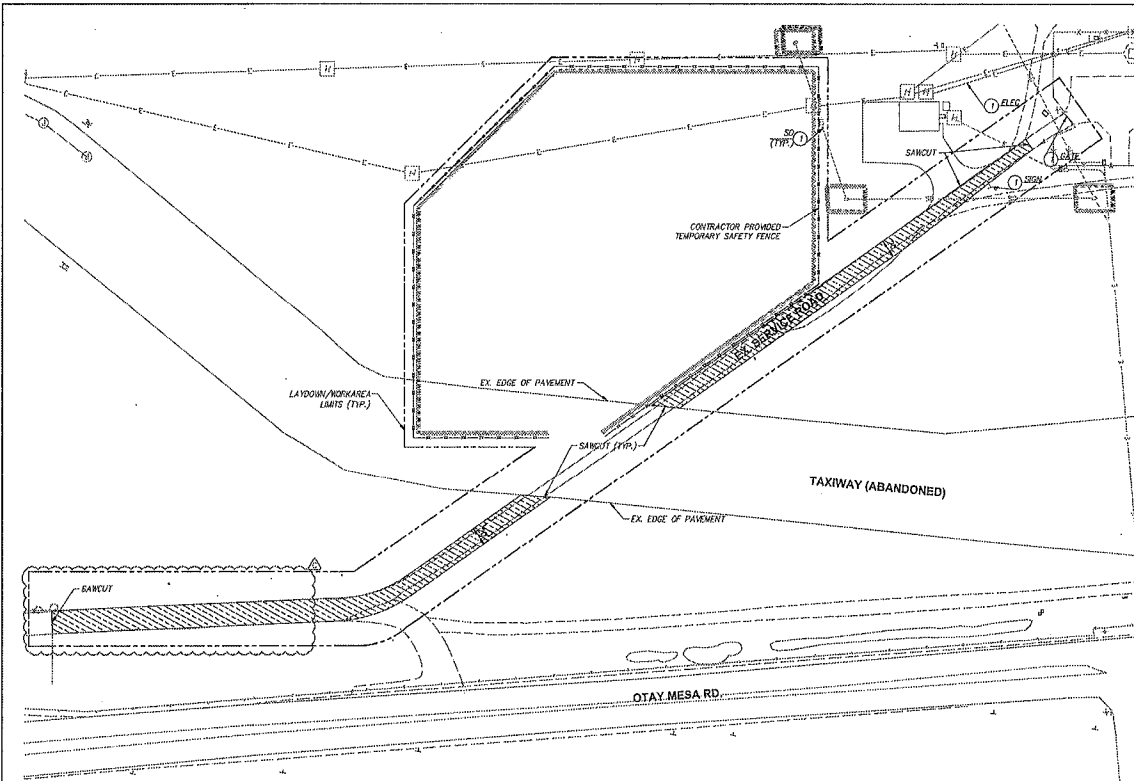
CONSULTANT  
**HNTB**  
 HNTB CONSULTANTS  
 1000 West Broadway, Suite 1000  
 San Diego, CA 92101  
 Tel: 619-594-2200  
 Fax: 619-594-2201

*Tony Fancher*

SPEC. NO. 1527  
 CITY CONTRACT: CP No. 31-003

CONTRACTOR: ...

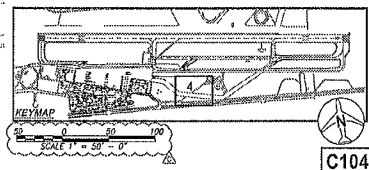




- DEMOLITION NOTES:**
1. PROTECT IN PLACE
  2. REMOVE AND REINSTALL. SEE PAVEMENT MARKING PLAN SHEETS C501-C505
  3. SEE PHASING PLANS

- LEGEND:**
- RUBBLIZE EXISTING PCC PAVEMENT.
  - VARIABLE DEPTH ASPHALT PAVEMENT MILLING/SURFACE PREP FOR OVERLAY. SEE DETAIL 3/C111.
  - REMOVE EX. PCC PAVEMENT AND EXCAVATE TO PROPOSED SUBGRADE
  - ASPHALT PAVEMENT MILLING/SURFACE PREP FOR OVERLAY. SEE DETAIL 3/C111.
  - REMOVE EX. AC PAVEMENT TO BOTTOM OF PROPOSED PAVEMENT TEST SECTION.
  - SAWCUT LINE
  - PAVEMENT MARKING REMOVALS

- GENERAL NOTES:**
1. REFER TO PHASING PLAN PRIOR TO BEGINNING WORK.
  2. SPECIAL CARE SHALL BE TAKEN NOT TO DISTURB EXISTING SYSTEMS. ALTHOUGH SOME CABLES AND THEIR ASSOCIATED INFRASTRUCTURES ARE SHOWN ON THIS PLAN, OTHERS MAY EXIST AND IF THEY INTERFERE WITH NEW WORK, CONTRACTOR SHALL REMOVE OR RELOCATE THEM IN CONSULTATION WITH THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUITY OF CIRCUITS FOR EQUIPMENT REMAINING OPERATIONAL DURING THE CONSTRUCTION PERIOD.
  3. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ELECTRICAL INFRASTRUCTURES, EQUIPMENT, CIRCUITS, ETC. WHERE EXISTING SYSTEMS MAY BE AFFECTED BY NEW WORK.
  4. ALL PAVEMENT TO BE REMOVED SHALL BE SAWCUT FULL DEPTH AT EDGES AND JOINT LINES.
  5. FOR EXISTING PAVEMENT SECTIONS SEE SHEET C111.
  6. FOR HORIZONTAL CONTROL OF PROPOSED PAVEMENT LIMITS SEE SHEETS C201-C204.



C104

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
RUNWAY 8L-26R REHABILITATION  
DEMOLITION AND REMOVAL PLAN 4**

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 41 OF 71 SHEETS	NO. B-10100
DESIGNED BY: [Signature]	APPROVED BY: [Signature]
DRAWN BY: [Signature]	CHECKED BY: [Signature]
DATE: [Date]	DATE: [Date]
PROJECT NO. 1799-6338	PROJECT NO. 146-1767
DATE: [Date]	DATE: [Date]
CONTRACT NO. 37922-41-D	

WARNING  
IF THESE BARS DO NOT MEASURE 1/4" THICK DRAWING IS NOT TO SCALE

CITY OF SAN DIEGO  
PUBLIC WORKS PROJECT



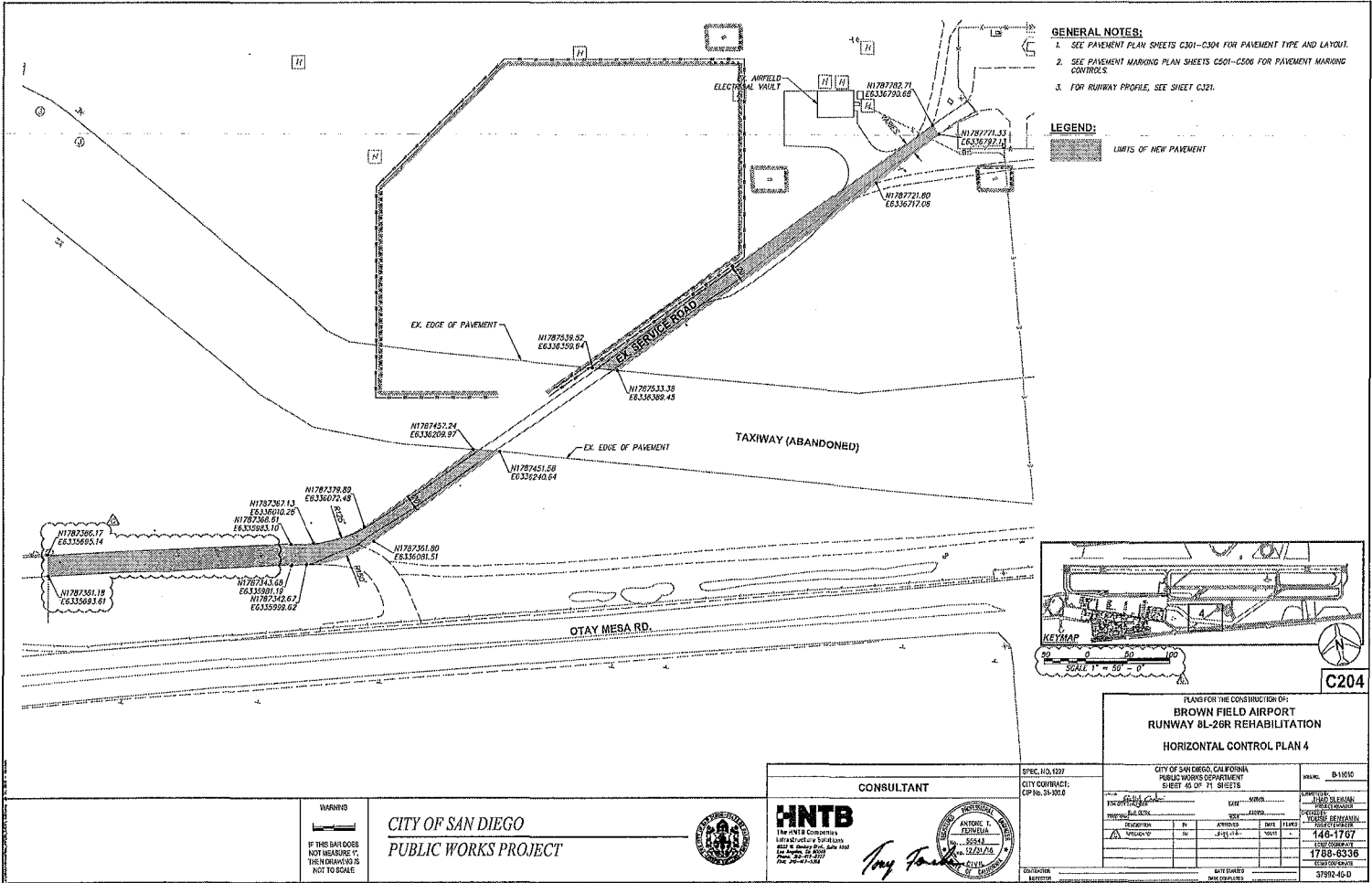
CONSULTANT

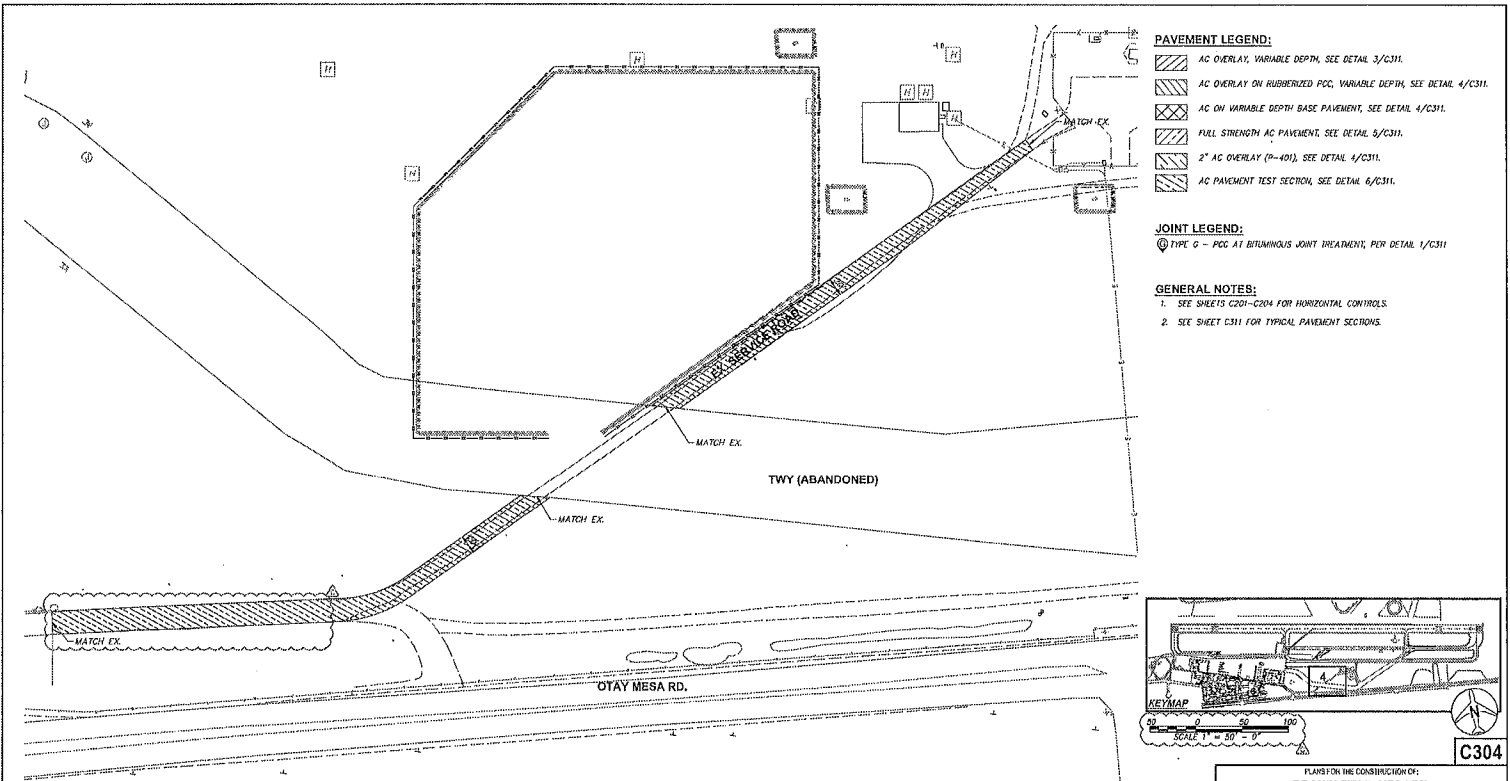
**HNTB**  
THE HNTB COMPANY  
1000 California Street, Suite 1000  
San Francisco, CA 94108  
Tel: 415.774.2000  
Fax: 415.774.2000

AVANCE & FERRERIA  
25543  
152 AVENUE  
SAN DIEGO, CA 92108

[Signature]

SPEC. NO. 1227	CITY CONTRACT: 1799-6338
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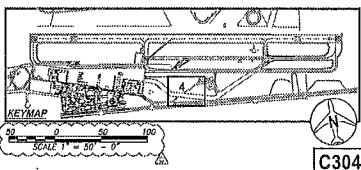


- PAVEMENT LEGEND:**
- AC OVERLAY, VARIABLE DEPTH, SEE DETAIL 3/C311.
  - AC OVERLAY ON RUBBERIZED PCC, VARIABLE DEPTH, SEE DETAIL 4/C311.
  - AC ON VARIABLE DEPTH BASE PAVEMENT, SEE DETAIL 4/C311.
  - FULL STRENGTH AC PAVEMENT, SEE DETAIL 5/C311.
  - 2" AC OVERLAY (P-401), SEE DETAIL 4/C311.
  - AC PAVEMENT TEST SECTION, SEE DETAIL 6/C311.

**JOINT LEGEND:**

- TYPE C - PCC AT BITUMINOUS JOINT TREATMENT, PER DETAIL 1/C311

- GENERAL NOTES:**
1. SEE SHEETS C201-C204 FOR HORIZONTAL CONTROLS.
  2. SEE SHEET C311 FOR TYPICAL PAVEMENT SECTIONS.



**C304**

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
 RUNWAY 8L-28R REHABILITATION  
 PAVEMENT PLAN 4**

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 66 OF 71 SHEETS		DESIGN: B-191010
DATE: 11/14/07	SCALE: AS SHOWN	DESIGNED BY: JAMES BLEWISAN
APPROVED BY: [Signature]	DATE: 11/14/07	CHECKED BY: [Signature]
PROJECT NO: 1788-6336	DATE: 11/14/07	DATE: 11/14/07
PROJECT NO: 1788-6336	DATE: 11/14/07	DATE: 11/14/07
PROJECT NO: 1788-6336	DATE: 11/14/07	DATE: 11/14/07

**WARNING**  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

**CITY OF SAN DIEGO  
 PUBLIC WORKS PROJECT**



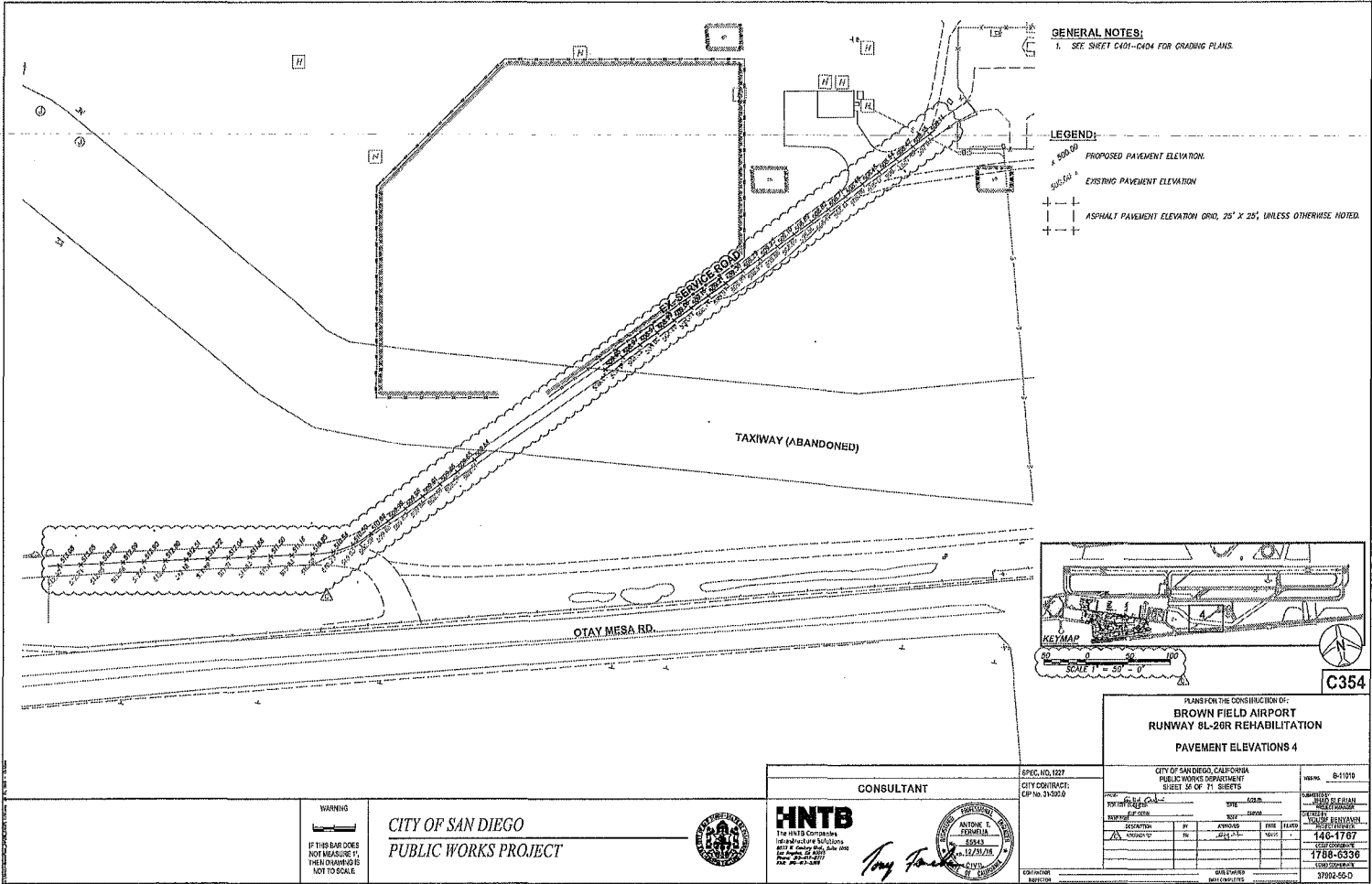
**CONSULTANT**

**HNTB**  
 THE HNTB COMPANY  
 10000 Wilshire Boulevard  
 Suite 2000, Beverly Hills, CA 90210  
 Tel: 310.271.2000  
 Fax: 310.271.2001  
 www.hntb.com

*Tony T...*

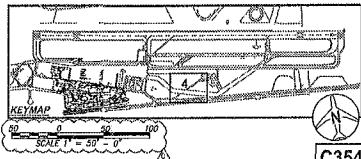
REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA  
 55843  
 12/21/76

SPEC. NO. 1327  
 CITY CONTRACT: ERFWS 10-0008



**GENERAL NOTES:**  
 1. SEE SHEET C401-C404 FOR GRADING PLANS.

**LEGEND:**  
 - - - - - PROPOSED PAVEMENT ELEVATION  
 \_\_\_\_\_ EXISTING PAVEMENT ELEVATION  
 -+--+ ASPHALT PAVEMENT ELEVATION GRID, 25' X 25', UNLESS OTHERWISE NOTED.



C354

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
 RUNWAY 8L-28R REHABILITATION**  
 PAVEMENT ELEVATIONS 4

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 34 OF 71 SHEETS		DATE: 8-11-10
DESIGNED BY: [Signature]	CHECKED BY: [Signature]	DATE: 11-08-10
PROJECT NO. 140-1767	CONTRACT NO. 1788-6336	CONTRACTOR: 37092-55-D

**WARNING**  
 IF THIS BAR DOES NOT MEASURE TO THE DIMENSIONS SHOWN, IT IS NOT TO SCALE.

CITY OF SAN DIEGO  
 PUBLIC WORKS PROJECT

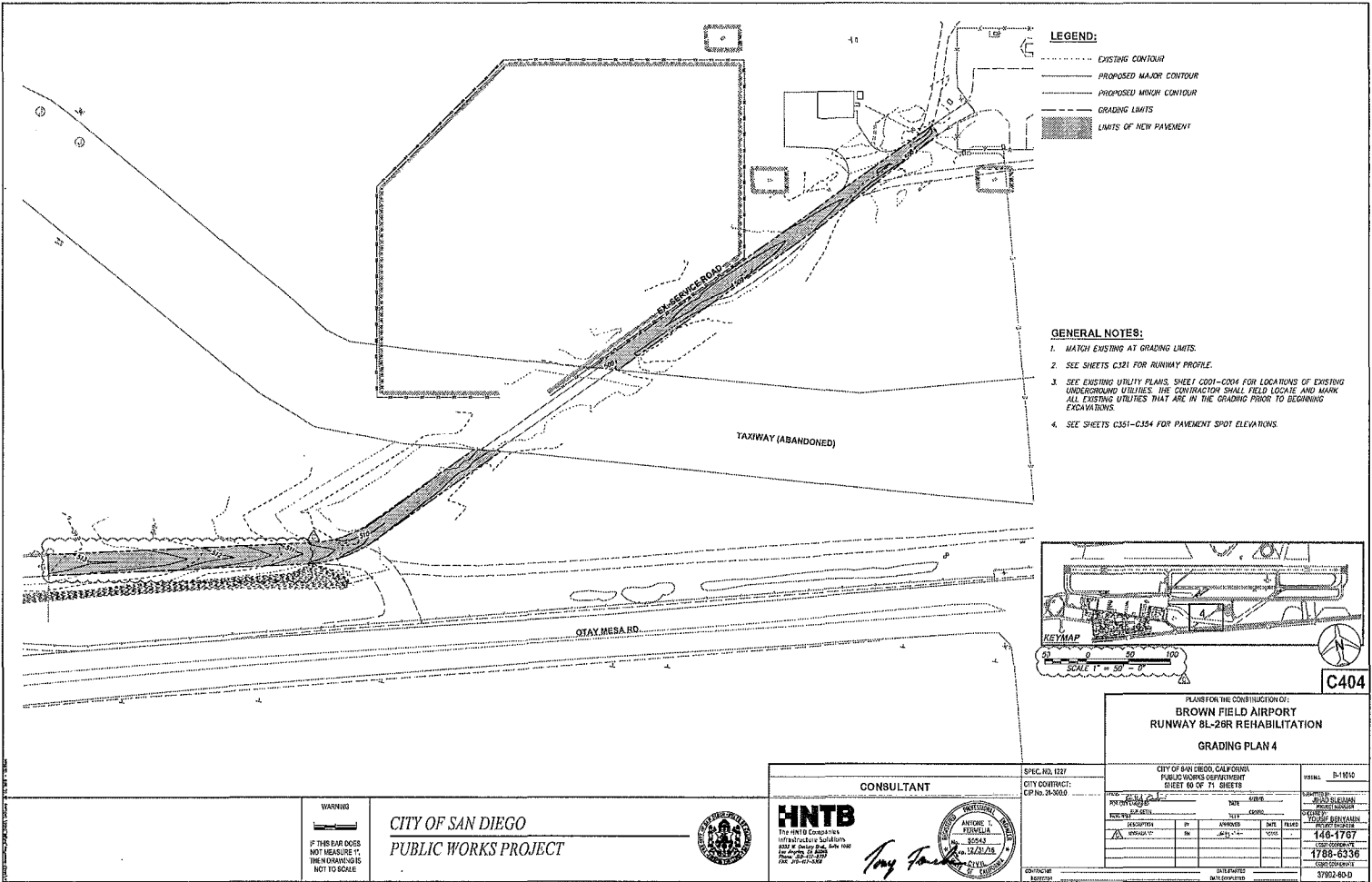


**HNTB**  
 The HNTB Companies  
 Infrastructure Solutions  
 6015 La Jolla Village Drive, Suite 1000  
 San Diego, CA 92161  
 Tel: 619.441.2277  
 Fax: 619.441.2278

CONSULTANT  
 AUTHORIZED SIGNATURE  
 [Signature]

SPEC. NO. 1227  
 CITY CONTRACT: CP# No. 21-002-D

ADDENDUM C

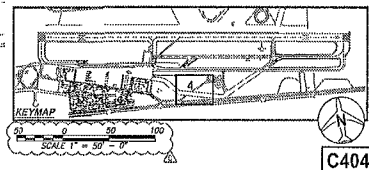


**LEGEND:**

- - - - - EXISTING CONTOUR
- - - - - PROPOSED MAJOR CONTOUR
- - - - - PROPOSED MINOR CONTOUR
- - - - - GRADING LIMITS
- ▨ LIMITS OF NEW PAVEMENT

**GENERAL NOTES:**

1. MATCH EXISTING AT GRADING LIMITS.
2. SEE SHEETS C321 FOR RUNWAY PROFILE.
3. SEE EXISTING UTILITY PLANS, SHEET C001-C004 FOR LOCATIONS OF EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL FIELD LOCATE AND MARK ALL EXISTING UTILITIES THAT ARE IN THE GRADING PRIOR TO BEGINNING EXCAVATIONS.
4. SEE SHEETS C351-C354 FOR PAVEMENT SPOT ELEVATIONS.



**C404**

PLANS FOR THE CONSTRUCTION OF:  
**BROWN FIELD AIRPORT  
 RUNWAY 8L-26R REHABILITATION**  
 GRADING PLAN 4

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 60 OF 71 SHEETS		PROJECT: B-1010
DESIGNED BY:	DATE:	APPROVED BY:
CHECKED BY:	DATE:	DATE:
PROJECT NO.:	DATE:	PROJECT NO.:
146-1767		1789-6336
		3792-60-D

**CONSULTANT**

**HNTB**  
 THE HNTB COMPANY  
 1000 AVENUE OF THE STARS  
 SUITE 1000  
 FORT MYERS, FL 33902  
 TEL: 888-426-4267

*Tony F...*

REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA  
 NO. 52542  
 EXPIRES 12/31/2026

**CITY OF SAN DIEGO  
 PUBLIC WORKS PROJECT**

**WARNING**  
 IF THIS BAR DOES NOT MEASURE 1" THE DRAWING IS NOT TO SCALE



**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. VOLUME 1**

1. To Attachment D, FAA Funding Agency Provisions, Section 10, Wage Rates, pages 44 through 71, **DELETE** in their entirety and **SUBSTITUTE** with pages 3 through 32 of this Addendum.

James Nagelvoort, Director  
Public Works Department

Dated: *June 29, 2015*  
San Diego, California

JN/RWB/egz

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

General Decision Number: CA150001 06/19/2015 CA1

Superseded General Decision Number: CA20140001

State: California

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

County: San Diego County in California.

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

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	02/13/2015
3	03/27/2015
4	05/29/2015
5	06/19/2015



ASBE0005-002 06/30/2014

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 35.44	19.36
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 24.34	16.09

ASBE0005-004 06/24/2013

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 16.95	10.23

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27

BRCA0004-008 11/01/2014

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 34.12	15.65

BRCA0018-004 06/01/2014

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38
TILE FINISHER.....	\$ 23.78	9.84
TILE LAYER.....	\$ 35.14	14.33

-----  
BRCA0018-010 09/01/2013

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	10.34
TERRAZZO WORKER/SETTER.....	\$ 33.63	11.13

-----  
CARP0409-002 07/01/2008

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

Amounts in "Rates" column are per day

-----  
CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

-----  
CARP0547-001 07/01/2009

	Rates	Fringes
CARPENTER		
(1) Bridge.....	\$ 37.28	10.58
(2) Commercial Building....	\$ 32.30	10.58
(3) Heavy & Highway.....	\$ 37.15	10.58
(4) Residential Carpenter..	\$ 25.84	10.58
(5) Residential Insulation Installer.....	\$ 18.00	8.16
MILLWRIGHT.....	\$ 37.65	10.58
PILEDRIVERMAN.....	\$ 37.28	10.58

-----  
CARP0547-002 07/01/2009

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories Drywall Installer/Lather...	\$ 21.00	8.58

Drywall Stocker/Scraper...\$ 11.00	6.67
(2) All other work	
Drywall Installer/Lather...\$ 27.35	9.58
Drywall Stocker/Scraper...\$ 11.00	6.67

-----  
 ELEC0569-001 12/01/2014

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....\$ 45.75		13.25
Electrician.....\$ 45.00		13.22
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....\$ 40.75		13.10
Electrician.....\$ 40.00		13.07

-----  
 ELEC0569-005 09/01/2014

	Rates	Fringes
Sound & Communications		
Sound Technician.....\$ 28.82		3%+10.81
Soundman.....\$ 23.06		3%+ 9.17

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

SOUNDMAN: Wire-pulling, splicing, assembling and installing devices

SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, frequency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music. All of the above shall include the installation and transmission over fiber optics.

-----  
ELEC0569-006 10/06/2014

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

	Rates	Fringes
Traffic signal, street light and underground work		
Utility Technician #1.....	\$ 28.75	3%+7.42
Utility Technician #2.....	\$ 23.90	3%+7.42

**STREET LIGHT & TRAFFIC SIGNAL WORK:**

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

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

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ELEC0569-008 06/03/2013

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 22.37	3%+3.30

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\* ELEC1245-001 01/01/2015

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 51.81	15.00
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution		

line equipment).....	\$ 41.38	13.85
(3) Groundman.....	\$ 31.65	13.51
(4) Powderman.....	\$ 46.26	14.06

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

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ELEV0018-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.90	28.38

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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ENGI0012-003 07/07/2014

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 39.05	22.25
GROUP 2.....	\$ 39.83	22.25
GROUP 3.....	\$ 40.12	22.25
GROUP 4.....	\$ 41.61	22.25
GROUP 5.....	\$ 41.86	22.25
GROUP 6.....	\$ 41.83	22.25
GROUP 8.....	\$ 41.94	22.25
GROUP 9.....	\$ 42.19	22.25
GROUP 10.....	\$ 42.06	22.25
GROUP 11.....	\$ 42.31	22.25
GROUP 12.....	\$ 42.23	22.25
GROUP 13.....	\$ 42.33	22.25
GROUP 14.....	\$ 42.36	22.25
GROUP 15.....	\$ 42.44	22.25
GROUP 16.....	\$ 42.56	22.25
GROUP 17.....	\$ 42.73	22.25
GROUP 18.....	\$ 42.83	22.25
GROUP 19.....	\$ 42.94	22.25
GROUP 20.....	\$ 43.06	22.25
GROUP 21.....	\$ 43.23	22.25
GROUP 22.....	\$ 43.33	22.25

GROUP 23.....	\$ 43.44	22.25
GROUP 24.....	\$ 43.56	22.25
GROUP 25.....	\$ 43.73	22.25
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 40.40	22.25
GROUP 2.....	\$ 41.18	22.25
GROUP 3.....	\$ 41.47	22.25
GROUP 4.....	\$ 41.61	22.25
GROUP 5.....	\$ 41.83	22.25
GROUP 6.....	\$ 41.94	22.25
GROUP 7.....	\$ 42.06	22.25
GROUP 8.....	\$ 42.23	22.25
GROUP 9.....	\$ 42.40	22.25
GROUP 10.....	\$ 43.40	22.25
GROUP 11.....	\$ 44.40	22.25
GROUP 12.....	\$ 45.40	22.25
GROUP 13.....	\$ 46.40	22.25

OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1.....	\$ 40.90	22.25
GROUP 2.....	\$ 41.68	22.25
GROUP 3.....	\$ 41.97	22.25
GROUP 4.....	\$ 42.11	22.25
GROUP 5.....	\$ 42.33	22.25
GROUP 6.....	\$ 42.44	22.25
GROUP 7.....	\$ 42.56	22.25

**PREMIUM PAY:**

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

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

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

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

operator; Pump operator; Signalman; Switchman

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

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

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

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

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system

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

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



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

**GROUP 9: Heavy Duty Repairman**

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

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

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

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

GROUP 14: Canal liner operator; Canal trimmer operator; Remote-control earth-moving equipment operator (operating

a second piece of equipment: \$1.00 per hour additional);  
Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

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

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

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

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

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

GROUP 21: Rubber-tired earth-moving equipment operator,

operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

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

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

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

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

#### CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

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

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

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar

gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

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

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

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

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

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

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

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

#### TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

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

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32,

T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

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

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

to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

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 ENGI0012-004 08/01/2014

Rates Fringes

OPERATOR: Power Equipment  
 (DREDGING)

(1) Leverman.....	\$ 48.60	22.40
(2) Dredge dozer.....	\$ 42.63	22.40
(3) Deckmate.....	\$ 42.52	22.40
(4) Winch operator (stern winch on dredge).....	\$ 41.97	22.40
(5) Fireman-Oiler, Deckhand, Bargeman,		

Leveehand.....	\$ 41.43	22.40
(6) Barge Mate.....	\$ 42.04	22.40

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IRON0377-002 01/01/2015

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 27.08	18.24
Ornamental, Reinforcing and Structural.....	\$ 33.50	28.20

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

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LABO0089-001 07/01/2014

	Rates	Fringes
LABORER (BUILDING and all other Residential Construction)		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer.....	\$ 25.47	14.52
(2) Cleanup, Landscape,		



Fencing (Chain Link & Wood).\$ 24.18      14.52

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

#### LABORER CLASSIFICATIONS

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

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

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, mult-plate; Kettlemen, potmen and mean applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying,

dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibrating machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

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

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

-----  
LABO0089-002 11/01/2012

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 27.98	13.39

-----  
LABO0089-004 07/01/2014

HEAVY AND HIGHWAY CONSTRUCTION

Rates Fringes

Laborers:

Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19

LABORER CLASSIFICATIONS

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

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

similar type brush shredders.

GROUP 3: Asphalt, installation of all fabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guardrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, making of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

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

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

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LABO0300-005 01/01/2014

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 28.00	15.25

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

-----  
LABO1184-001 07/01/2014

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 31.65	13.33
(2) Vehicle Operator/Hauler.	\$ 31.82	13.33
(3) Horizontal Directional Drill Operator.....	\$ 33.67	13.33
(4) Electronic Tracking Locator.....	\$ 35.67	13.33
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 32.56	16.28
GROUP 2.....	\$ 33.86	16.28
GROUP 3.....	\$ 35.87	16.28
GROUP 4.....	\$ 37.61	16.28

LABORERS - STRIPING CLASSIFICATIONS

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

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

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic

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

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/07/2013

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 27.45	16.36
PLASTER TENDER.....	\$ 30.00	16.36

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

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

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PAIN0036-001 07/01/2014

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 26.89	12.28
(2) All Other Work.....	\$ 30.27	12.28

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

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PAIN0036-010 10/01/2014

	Rates	Fringes
DRYWALL FINISHER/TAPER		
(1) Building & Heavy Construction.....	\$ 26.84	14.29
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....	\$ 21.00	13.91

-----  
PAIN0036-012 12/01/2014

	Rates	Fringes
GLAZIER.....	\$ 39.80	17.33

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PAIN0036-019 07/01/2014

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 26.77	12.75

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PLAS0200-005 08/06/2014

	Rates	Fringes
PLASTERER.....	\$ 37.43	13.28

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

-----  
PLAS0500-001 07/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1.....	\$ 22.29	17.10
GROUP 2.....	\$ 23.94	17.10
GROUP 3.....	\$ 26.57	17.25

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

GROUP 1: Residential wood frame project of any size; work

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

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

-----  
PLUM0016-006 07/01/2014

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton.....	\$ 49.21	20.36
Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 44.71	20.36
Work ONLY on new additions and remodeling of commercial buildings, bars, restaurants, and stores not to exceed 5,000 sq. ft. of floor space.....	\$ 43.33	19.38
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 34.59	17.71

-----  
PLUM0016-011 07/01/2014

	Rates	Fringes
PLUMBER/PIPEFITTER		
Residential.....	\$ 36.15	16.28

-----  
PLUM0345-001 07/01/2014

	Rates	Fringes
PLUMBER		



Landscape/Irrigation Fitter.\$ 29.27	19.75
Sewer & Storm Drain Work....\$ 33.24	17.13

-----  
 ROOF0045-001 07/01/2012

	Rates	Fringes
ROOFER.....	\$ 25.08	7.28

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 SFCA0669-001 07/01/2013

	Rates	Fringes
SPRINKLER FITTER.....	\$ 34.86	18.66

-----  
 SHEE0206-001 01/01/2012

	Rates	Fringes
SHEET METAL WORKER		
Camp Pendleton.....	\$ 35.05	19.23
Except Camp Pendleton.....	\$ 33.05	19.23
Sheet Metal Technician.....	\$ 25.22	6.69

SHEET METAL TECHNICIAN - SCOPE:

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

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 TEAM0036-001 07/01/2012

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.40	20.50
GROUP 2.....	\$ 24.99	20.50
GROUP 3.....	\$ 25.19	20.50
GROUP 4.....	\$ 25.39	20.50
GROUP 5.....	\$ 25.59	20.50
GROUP 6.....	\$ 26.09	20.50
GROUP 7.....	\$ 27.59	20.50

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

#### TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

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

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

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

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

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

GROUP 7: Repairman

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

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

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

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

#### Survey Rate Identifiers

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

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

## Union Average Rate Identifiers

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

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

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## WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator

(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

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

---

END OF GENERAL DECISION

# City of San Diego

CITY CONTACT: Clementina Giordano, Contract Specialist, Email: Cgiordano@sandiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633



## ADDENDUM "A"

FOR

### BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

VOLUME 1 OF 2

BID NO.:	K-15-1227-DBB-3
SAP NO. (WBS/IO/CC):	B-11010
CLIENT DEPARTMENT:	2111
COUNCIL DISTRICT:	8
PROJECT TYPE:	AA

**BID DUE DATE:**

**2:00 PM**

**JULY 9, 2015**

**CITY OF SAN DIEGO**

**PUBLIC WORKS CONTRACTS**

**1010 SECOND AVENUE, 14<sup>th</sup> 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 and Architect:

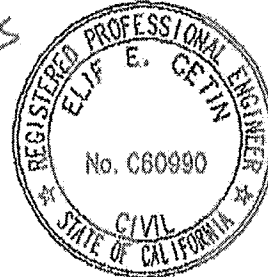
Antone T. Ferraia  
1) Registered Engineer

06/19/2015  
Date



[Signature]  
2) Por City Engineer

6/22/2015  
Date



**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. BIDDER's QUESTIONS**

**Question pertaining to Terms and Conditions**

- Q1. We are an SLBE civil engineering firm and we've been invited to bid on the survey work for this project. I'm looking at the specs/plans and don't see a requirement for a 3<sup>rd</sup> party surveyor. Since the City does most of its own survey work, can you please confirm if surveying is part of the scope for Primes to provide?
- A1. As outlined in the contract documents and stated during the mandatory pre bid meeting, the survey services associated with this project will be conducted by the City of San Diego survey section.

**Questions pertaining to Scope or Specifications**

- Q1. Sheet G202/Detail 5 does not match Sheet G203/Detail 2. Unless I am overlooking something these details are for the same single Blast Fence, yet the light fixture counts and types do not match between the two details-which detail is correct?
- A1. Detail 5 on sheet G202 has been removed and the details on G203 and G204 have been updated to reflect the design intent. Contractor shall review the revised sheets associated with this Addendum.
- Q2. Sheet G123 (Temporary Electrical Legend-symbol #1) reflects the existing runway edge lights in the Phase 2 Construction area being removed and stored under Phase-1. Can these fixtures not be removed and put away for storage at the beginning of Phase-2, as they are located in the construction area after Runway 8L-26R has been shortened and re-opened to aircraft? Phase -1 is a very short time duration so it would best to limit that Phase to critical path work items. We would propose to de-energize the aforementioned edge lights during Phase-1 and remove and store them under Phase-2 if acceptable.
- A2. All light fixtures east of the blast fence may be removed at the beginning of Phase 2 assuming they are de-energized during Phase 1. At the completion of Phase 1, the shortened runway shall be fully operational and there should be no energized lighting or marking east of the blast fence that may confuse pilots on approach.

**B. CLARIFICATIONS**

1. To Volume 1 and 2 where K-16-1227-DBB-3 is noted, revise to read K-15-1227-DBB-3.



**C. VOLUME 1**

1. To Cover Page, **DELETE** in its entirety and **SUBSTITUTE** with page 5 of this Addendum.

**D. VOLUME 2**

1. To Cover Page, **DELETE** in its entirety and **SUBSTITUTE** with page 6 of this Addendum.

**E. PLANS**

1. To Drawings numbered 37992-1-D (**T001**–Cover Sheet), 37992-31-D (**G202**–Construction Phasing Details 2), 37992-32-D (**G203**–Construction Phasing Details 3), 37992-33-D (**G204**–Construction Phasing Details 4), **DELETE** in their entirety and **REPLACE** with Pages 7 through 10 of this Addendum.

James Nagelvoort, Director  
Public Works Department

Dated: *June 24, 2015*  
San Diego, California

JN/RWB/egz

①

DIR ✓  
License ✓  
MC

# City of San Diego

CONTRACTOR'S NAME: COFFMAN SPECIALTIES, INC  
ADDRESS: 9685 VIA EXCELENCIA STE. 200 SAN DIEGO, CALIF. 92126  
TELEPHONE NO.: (858) 536-3100 FAX NO.: (858) 536-3131  
CITY CONTACT: Clementina Giordano, Contract Specialist, Email: Cgiordano@sanidiego.gov  
Phone No. (619) 533-3481, Fax No. (619) 533-3633  
JSleiman/RW Bustamante/egz

## CONTRACT DOCUMENTS



## FOR

## BROWN FIELD (SDM) AIRPORT RUNWAY 8L/26R REHAB

VOLUME 2 OF 2

BID NO.: K-15-1227-DBB-3  
SAP NO. (WBS/IO/CC): B-11010  
CLIENT DEPARTMENT: 2111  
COUNCIL DISTRICT: 8  
PROJECT TYPE: AA

**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP
- THIS IS A U.S. DEPARTMENT OF TRANSPORTATION FUNDED CONTRACT THROUGH THE FAA.

**THIS BIDDING DOCUMENT TO BE SUBMITTED IN ITS ENTIRETY  
REFER TO VOLUME 1 COVER PAGE FOR TIME, DATE, AND LOCATION**

TABLE OF CONTENTS

DESCRIPTION

PAGE NUMBER

Volume 2 - Bidding Documents

The following forms must be completed in their entirety and submitted with the Bid. Include the form(s) even if the information does not apply. Where the information does not apply write in N/A. Failure to include any of the forms may cause the Bid to be deemed **non-responsive**. If you are uncertain or have any questions about any required information, contact the City no later than 14 days prior to Bid due date.

1. Bid/Proposal.....	3
2. Bid Bond .....	6
3. Non-Collusion Affidavit to be executed by Bidder and Submitted with Bid under 23 USC 112 and PCC 7106 .....	7
4. Contractors Certification of Pending Actions .....	8
5. Equal Benefits Ordinance Certification of Compliance.....	9
6. Lobby Prohibition, Certification and Disclosure .....	10
7. Instructions for Completion of SF-LLL, Disclosure of Lobbying Activities .....	11
8. Disclosure of Lobbying Activities .....	12
9. Proposal (Bid).....	14
10. Form AA35 - List of Subcontractors .....	18
11. Form AA40 - Named Equipment/Material Supplier List .....	19
12. Form AA45 - Subcontractors Additive/Deductive Alternate.....	20

**BIDDING DOCUMENTS**

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**PROPOSAL**

**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.

**IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:**

- (1) Name under which business is conducted \_\_\_\_\_
- (2) Signature (Given and surname) of proprietor \_\_\_\_\_
- (3) Place of Business (Street & Number) \_\_\_\_\_
- (4) City and State \_\_\_\_\_ Zip Code \_\_\_\_\_
- (5) Telephone No. \_\_\_\_\_ Facsimile No. \_\_\_\_\_
- (6) Email Address \_\_\_\_\_

**IF A PARTNERSHIP, SIGN HERE:**

- (1) Name under which business is conducted \_\_\_\_\_

**BIDDING DOCUMENTS**

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(2) Name of each member of partnership, indicate character of each partner, general or special (limited):

\_\_\_\_\_  
\_\_\_\_\_

(3) Signature (Note: Signature must be made by a general partner)

\_\_\_\_\_

Full Name and Character of partner

\_\_\_\_\_  
\_\_\_\_\_

(4) Place of Business (Street & Number) \_\_\_\_\_

(5) City and State \_\_\_\_\_ Zip Code \_\_\_\_\_

(6) Telephone No. \_\_\_\_\_ Facsimile No. \_\_\_\_\_

(7) Email Address \_\_\_\_\_

**IF A CORPORATION, SIGN HERE:**

(1) Name under which business is conducted COFFMAN SPECIALTIES, INC.

(2) Signature, with official title of officer authorized to sign for the corporation:

Colleen Coffman  
(Signature)

COLLEEN COFFMAN  
(Printed Name)

PRESIDENT  
(Title of Officer)

(Impress Corporate Seal Here)

(3) Incorporated under the laws of the State of CALIFORNIA

(4) Place of Business (Street & Number) 9685 VIA EXCELENCIA STE. 200

(5) City and State SAN DIEGO, CALIF. Zip Code 92126

(6) Telephone No. (858) 536-3100 Facsimile No. (858) 536-3131

(7) Email Address colleen@coffmanspecialties.com



BIDDING DOCUMENTS

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS,

That COFFMAN SPECIALTIES, INC. as Principal, and  
LIBERTY MUTUAL INSURANCE COMPANY as Surety, are  
held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of 10%  
OF THE TOTAL BID AMOUNT for the payment of which sum, well and truly to be made, we  
bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally,  
firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required  
under the bidding schedule(s) of the OWNER's Contract Documents entitled

BROWN FIELD RUNWAY 8L/26R REHAB

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 24TH day of JUNE, 2015

COFFMAN SPECIALTIES, INC. (SEAL)  
(Principal)

LIBERTY MUTUAL INSURANCE  
COMPANY (SEAL)  
(Surety)

By: *Steven Coffman*  
(Signature)

By: *Charise Eberhard*  
(Signature)

CHARISE EBERHARD, ATTORNEY-IN-FACT

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

# California Acknowledgment Form

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

State of California }  
County of San Diego } ss.

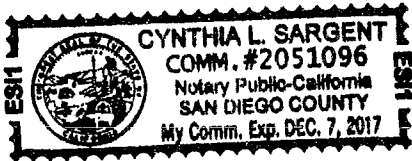
On 07/09/2015 before me, Cynthia L. Sargent, Notary Public  
(here insert name and title of the officer)  
personally appeared COLLEEN COFFMAN

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

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

Seal

WITNESS my hand and official seal.



Cynthia L. Sargent  
Signature of Notary

## Optional Information

To help prevent fraud, it is recommended that you provide information about the attached document below.  
\*\*\*This is not required under California State notary public law.\*\*\*

Document Title: \_\_\_\_\_ # of Pages: \_\_\_\_\_

## Notes

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# ACKNOWLEDGMENT

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

State of California  
County of Orange

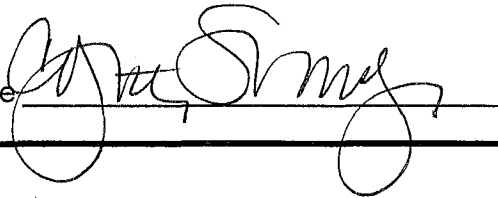
On June 24, 2015 before me, Cynthia S. Wozney, Notary Public  
(insert name and title of the officer)

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

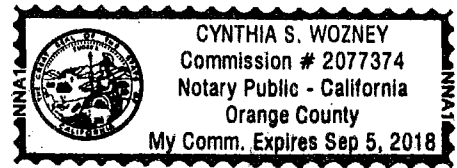
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing  
paragraph is true and correct.

WITNESS my hand and official seal.

Signature



(Seal)



**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.**

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6930765

American Fire and Casualty Company  
The Ohio Casualty Insurance Company

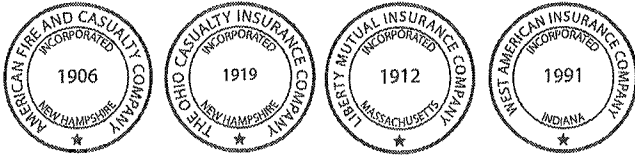
Liberty Mutual Insurance Company  
West American Insurance Company

**POWER OF ATTORNEY**

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Charise Eberhard; Cynthia S. Wozney; Denise Bennett; John M. Garrett; Paul A. Bland; Steven C. Mosier

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

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 31st day of March, 2015.



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

By: David M. Carey  
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss  
COUNTY OF MONTGOMERY

On this 31st day of March, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

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



COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Teresa Pastella, Notary Public  
Plymouth Twp., Montgomery County  
My Commission Expires March 28, 2017  
Member, Pennsylvania Association of Notaries

By: Teresa Pastella  
Teresa Pastella, Notary Public

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

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

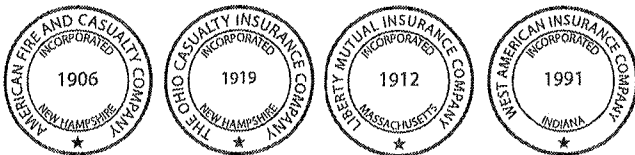
**ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings.** Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact,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

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

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

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

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 24TH day of JUNE, 2015.



By: Gregory W. Davenport  
Gregory W. Davenport, Assistant Secretary

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

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



# California Acknowledgment Form

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

State of California }  
County of San Diego } ss.

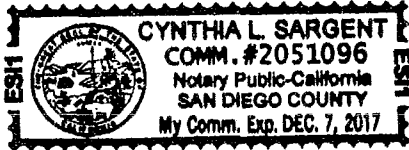
On 07/09/2015 before me, Cynthia L. Sargent, Notary Public  
(here insert name and title of the officer)  
personally appeared COLLEEN COFFMAN

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

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

Seal

WITNESS my hand and official seal.



Cynthia L. Sargent  
Signature of Notary

## Optional Information

To help prevent fraud, it is recommended that you provide information about the attached document below.  
\*\*\*This is not required under California State notary public law.\*\*\*

Document Title: \_\_\_\_\_ # of Pages: \_\_\_\_\_

## Notes

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**BIDDING DOCUMENTS**

**CONTRACTORS 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: COFFMAN SPECIALTIES, INC.

Certified By COLLEEN COFFMAN Title PRESIDENT

Name

*Colleen Coffman*

Signature

Date 7/9/15

**USE ADDITIONAL FORMS AS NECESSARY**

**BIDDING DOCUMENTS**

**EQUAL BENEFITS ORDINANCE  
CERTIFICATION OF COMPLIANCE**



For additional information, contact:  
**CITY OF SAN DIEGO**  
**EQUAL BENEFITS PROGRAM**  
 202 C Street, MS 9A, San Diego, CA 92101  
 Phone (619) 533-3948 Fax (619) 533-3220

**COMPANY INFORMATION**

Company Name: COFFMAN SPECIALTIES, INC.	Contact Name: CYNTHIA SARGENT
Company Address: 9685 VIA EXCELENCIA STE 200 SAN DIEGO, CALIF. 92126	Contact Phone: 858-536-3100 Contact Email: cyndi@coffmanspecialties.c

**CONTRACT INFORMATION**

Contract Title: BROWN FIELD AIRPORT RUNWAY 8L/26R REHAB	Start Date: TBD
Contract Number (if no number, state location): K-15-1227-DBB-3	End Date: TBD

**SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS**

The Equal Benefits Ordinance [EBO] requires the City to enter into contracts only with contractors who certify they will provide and maintain equal benefits as defined in SDMC §22.4302 for the duration of the contract. To comply:

- Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.
  - Benefits include health, dental, vision insurance; pension/401(k) plans; bereavement, family, parental leave; discounts, child care; travel/relocation expenses; employee assistance programs; credit union membership; or any other benefit.
  - Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.
- Contractor shall post notice of firm's equal benefits policy in the workplace and notify employees at time of hire and during open enrollment periods.
- Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.
- Contractor shall submit *EBO Certification of Compliance*, signed under penalty of perjury, prior to award of contract.

NOTE: This summary is provided for convenience. Full text of the EBO and Rules Implementing the EBO are available at [www.sandiego.gov/administration](http://www.sandiego.gov/administration).

**CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION**

Please indicate your firm's compliance status with the EBO. The City may request supporting documentation.

- I affirm **compliance** with the EBO because my firm (*contractor must select one reason*):
- Provides equal benefits to spouses and domestic partners.
  - Provides no benefits to spouses or domestic partners.
  - Has no employees.
  - Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.
- I request the City's approval to pay affected employees a cash equivalent in lieu of equal benefits and verify my firm made a reasonable effort but is not able to provide equal benefits upon contract award. I agree to notify employees of the availability of a cash equivalent for benefits available to spouses but not domestic partners and to continue to make every reasonable effort to extend all available benefits to domestic partners.

It is unlawful for any contractor to knowingly submit any false information to the City regarding equal benefits or cash equivalent associated with the execution, award, amendment; or administration of any contract. [San Diego Municipal Code §22.4307(a)]

Under penalty of perjury under laws of the State of California, I certify the above information is true and correct. I further certify that my firm understands the requirements of the Equal Benefits Ordinance and will provide and maintain equal benefits for the duration of the contract or pay a cash equivalent if authorized by the City.

COLLEEN COFFMAN/PRESIDENT		7/9/15
Name/Title of Signatory	Signature	Date

**FOR OFFICIAL CITY USE ONLY**

Receipt Date: \_\_\_\_\_ EBO Analyst: \_\_\_\_\_  Approved  Not Approved – Reason: \_\_\_\_\_

(Rev 02/15/2011)

**BIDDING DOCUMENTS**

**LOBBY PROHIBITION, CERTIFICATION AND DISCLOSURE**

In acknowledgment that funds received under this agreement have been provided pursuant to a Federal grant, recipient hereby recognizes the prohibitions against lobbying the Federal government with any of these funds. Recipient agrees that it shall comply with the laws set forth at 31 U.S.C. § 1352 (1989) and 24 C.F.R. part 87, to wit:

A. Conditions on use of funds

Recipient shall not expend any funds received pursuant to this agreement to pay any person to influence an officer or employee of Federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with any of the following Covered Federal actions:

- (1) The awarding of any federal contract
- (2) The making of any Federal grant
- (3) The making of any Federal Loan
- (4) The entering into of any cooperative agreement
- (5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

For purposes of defining the terms of this part of the agreement, the definitions set forth in 24 C.F.R. § 87.105 are hereby adopted and incorporated herein by reference.

B. Certification and Disclosure

Each recipient at every tier under this agreement shall file a certification regarding lobbying, and a Disclosure Form-LLL, where required by 24 C.F.R. § 87.110. The certification form and Disclosure Form-LLL are attached to this agreement.

C. Certifications must be filed:

- (1) By any person upon each submission that initiates agency consideration for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000, or a Federal loan or loan guarantee exceeding \$150,000.
- (2) Upon receipt by any person of a Federal contract, grant, or cooperative agreement exceeding \$100,000, or upon receipt of a Federal loan or loan guarantee exceeding \$150,000.
- (3) By any person who requests or receives from a person referred to in subsections 1 and 2 of this paragraph:
  - a. A subcontract exceeding \$100,000 at any tier under a Federal contract;
  - b. A subgrant, contract or subcontract exceeding \$100,000 at any tier under a Federal grant;
  - c. A contract or subcontract exceeding \$100,000 at any tier under a Federal loan exceeding \$150,000;
  - d. A contract or subcontract exceeding \$100,000 at any tier under a Federal cooperative agreement.

D. Disclosure Forms-LLL must be filed in every instance when a person applies for, requests, or receives Federal appropriations exceeding \$100,000 pursuant to a contract, subcontract, grant, subgrant, loan, or cooperative agreement when such person has paid or expects to pay any sum, in cash or in kind, to influence or attempt to influence any officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress. Further, Disclosure Form-LLL must be filed by recipients at any tier at the end of each calendar quarter in which there occurs any event that requires disclosure or materially affects information submitted in prior disclosures. Such events include:

- (1) 1. An increase of \$25,000 in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action;
- (2) 2. A change in the person(s) influencing or attempting to influence a covered action;
- (3) 3. A change in the officer(s), employee(s), or member(s) contacted to influence a covered action.

All disclosure Forms-LLL, but not certifications, shall be forwarded from tier to tier until received by the principal recipient, which in turn will file them with the appropriate Federal agency.

## BIDDING DOCUMENTS

### INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLLA Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing there port in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item4) to the lobbying entity (item10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLLA Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing datasources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.



**BIDDING DOCUMENTS**

"None"

**DISCLOSURE OF LOBBYING ACTIVITIES** Approved by OMB  
 Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352  
 (See reverse for public burden disclosure)

0348-0046

<b>1. Type of Federal Action:</b> <input type="checkbox"/> a. Contract a. Grant b. Cooperative agreement c. Loan d. Loan guarantee e. Loan insurance	<b>2. Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application b. initial award c. post-award	<b>Report Type:</b> <input type="checkbox"/> a. initial finding b. material change <b>For Material Change Only</b> year _____ quarter _____ date of last report _____
<b>4. Name and Address of Reporting Entity:</b> <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known:  Congressional District, if known:		<b>If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:</b>  Congressional District, if known:
<b>Federal Department/Agency:</b>		<b>Federal Program Name/Description:</b>  FDA Number, if applicable: _____
<b>Federal Action Number, if known:</b>		<b>Award Amount, if known:</b> \$ _____
<b>a. Name and Address of Lobbying Entity</b> (if individual, last name, first name, M)  (attach Continuation Sheet(s) SF-LLLA, if necessary)		<b>Individuals Performing Services</b> (including address if different from No. 10a) (last name, first name, MI):  (attach Continuation Sheet(s) SF-LLLA, if necessary)
<b>c. Amount of Payment</b> (check all that apply) \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned		<b>d. Type of Payment</b> (check all that apply) a. retainer b. one-time fee c. commission d. contingent fee e. deferral f. other: specify: _____
<b>e. Form of Payment</b> (check all that apply) a, cash b. in-kind: specify:    nature _____ Value _____		
<b>14. Brief Description of Services Performed or to be Performed and Date(s) of Service, Including officer(s), employee(s), or Member(s), contacted, for Payment indicated in item 11:</b>  (attach Continuation Sheet(s) SF-LLLA, if necessary)		
<b>15. Continuation Sheet(s) SF-LLLA attached:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		
Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form LLL (Rev. 7-07)

**BIDDING DOCUMENTS**

**DISCLOSURE OF LOBBYING ACTIVITIES** Approved by  
**CONTINUATION SHEET**

OMB0348-0046

Reporting Entity: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

"None"

Authorized for Local Reproduction  
Standard Form - LLL-A

**BIDDING DOCUMENTS**

**PROPOSAL (BID)**

The Bidder agrees to the construction of **Brown Field (SDM) Airport Runway 8L/26R Rehab**, for the City of San Diego, in accordance with these contract documents for the prices listed below. 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 to Award of the Contract. 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 e.g., bond and insurance.

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
<b>BASE BID</b>							
1	1	LS	524126	2-4.1	Bonds (Payment and Performance)	<del>                    </del>	\$38,559 <sup>55</sup>
2	1	LS	541214	3-3.2.2.1	Certified Payroll	<del>                    </del>	\$3,000 <sup>00</sup>
3	1	AL	236220	7-5.3	Building Permits - Type I	<del>                    </del>	\$1,000.00
4	1	LS	541330	7-10.4.2.3	Qualified Safety Representative	<del>                    </del>	\$25,000 <sup>00</sup>
5	1	AL		9-3.5	Field Orders - Type II	<del>                    </del>	\$200,000.00
6	1	LS	237310	M-100-2.2-1	Mobilization/Demobilization	<del>                    </del>	\$20,000 <sup>00</sup>
7	1	LS	541690	M-100-2.2-2	Biological Resources	<del>                    </del>	\$35,000 <sup>00</sup>
8	1	LS	541690	M-100-2.2-3	Historical Resources	<del>                    </del>	\$15,000 <sup>00</sup>
9	1	LS	237310	G-101-3.2-1	Construction Barricades, Fencing, Markers and Signs	<del>                    </del>	\$45,000 <sup>00</sup>
10	1	LS	237310	G-101-3.2-2	Temporary Jet Blast Deflector	<del>                    </del>	\$170,000 <sup>00</sup>
11	1	LS	238210	G-101-3.2-3	Temporary Airfield Lighting and Circuiting	<del>                    </del>	\$125,000 <sup>00</sup>
12	750	LF	237310	P-101-5.1-1	Asphalt Crack Sealing	\$10 <sup>00</sup>	\$7,500 <sup>00</sup>
13	12,620	SY	237310	P-101-5.1-2	Cold Milling of AC Pavement	\$ .80	\$10,096 <sup>00</sup>
14	2,450	SY	237310	P-150-4.1-1	Remove AC Pavement	\$15 <sup>00</sup>	\$36,750 <sup>00</sup>
15	20,257	SY	237310	P-150-4.1-2	Remove 10" PCC Pavement	\$12 <sup>00</sup>	\$243,084 <sup>00</sup>
16	16,076	SF	237310	P-150-4.1-3	Remove Pavement Markings	\$1.50	\$24,114 <sup>00</sup>

**BIDDING DOCUMENTS**

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
17	4,359	CY	237310	P-152-4.1-1	Unclassified Excavation	\$ 15 <sup>00</sup>	\$ 65,385 <sup>00</sup>
18	22,666	SY	237310	P-152-4.1-2	Subgrade Preparation	\$ 1.75	\$ 39,665 <sup>50</sup>
19	6,518	CY	237310	P-154-5.1	Subbase Course	\$ 33 <sup>30</sup>	\$ 217,049 <sup>40</sup>
20	1	LS	237310	P-156-5.1	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	<del>XXXXXX</del>	\$ 40,000 <sup>00</sup>
21	8,327	SY	237310	P-215-5.1	Rubblization	\$ 5 <sup>00</sup>	\$ 41,635 <sup>00</sup>
22	8,458	TON	237310	P-401-8.1-1	Bituminous Surface Course	\$ 150 <sup>00</sup>	\$ 1,268,700 <sup>00</sup>
23	11,258	TON	237310	P-403-8	Bituminous Base Course	\$ 85 <sup>00</sup>	\$ 956,930 <sup>00</sup>
24	29,097	SF	237310	P-620-4.2-1	Runway and Taxiway Markings	\$ .80	\$ 23,277. <sup>60</sup>
25	78,447	SF	237310	P-620-4.2-2	Runway and Taxiway Markings - Temporary	\$ .60	\$ 47,068. <sup>20</sup>
26	22,666	SY	237310	T-920-5.2-1	Subgrade Stabilization Geotextile (Geogrid)	\$ 2.50	\$ 56,665 <sup>00</sup>
27	1	LS	541330	701-13.8.4	Water Pollution Control Program Development	<del>XXXXXX</del>	\$ 10,000 <sup>00</sup>
28	1	LS	237310	701-13.8.4	Water Pollution Control Program Implementation	<del>XXXXXX</del>	\$ 25,000 <sup>00</sup>
29	1	AL	541330	701-13.8.4	Permit Fee - Type I	<del>XXXXXX</del>	\$1,000.00
<b>ESTIMATED TOTAL BASE BID:</b>							\$3,791,479 <sup>25</sup> ✓
<b>ADDITIVE ALTERNATE A</b>							
1	335	SY	237310	P-101-5.1-2	Cold Milling of AC Pavement	\$ 18.25	\$ 6,113. <sup>75</sup>
2	75	TON	237310	P-401-8.1-1	Bituminous Surface Course	\$ 270 <sup>00</sup>	\$ 20,250 <sup>00</sup>
3	21,946	LF	237310	P-600-5.3-1	Concrete Joint Resealing	\$ 3.70	\$ 81,200. <sup>20</sup>
4	5	EA	237310	P-600-5.3-2	Concrete Spall Repair - Small	\$ 550 <sup>00</sup>	\$ 2,750 <sup>00</sup>
5	15	EA	237310	P-600-5.2-3	Concrete Spall Repair - Large	\$ 1,150 <sup>00</sup>	\$ 17,250 <sup>00</sup>
6	19,946	SF	237310	P-620-4.2-1	Runway and Taxiway Markings	\$ .80	\$ 15,956. <sup>80</sup>
<b>ESTIMATED TOTAL ADDITIVE ALTERNATE A:</b>							\$ 143,520. <sup>75</sup> ✓
<b>ESTIMATED TOTAL BASE BID + ADDITIVE ALTERNATE A:</b>							\$3,935,000 <sup>00</sup> MC

BIDDING DOCUMENTS

TOTAL BID PRICE FOR BID (Base Bid, Items 1 through 29, Plus Additive Alternate A, Items 1 through 6, inclusive) amount written in words:

Three million nine hundred thirty-five thousand dollars. and zero cents.

The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid form. If an addendum or addenda has been issued by the City and not noted as being received by the Bidder, this proposal shall be rejected as being non-responsive. The following addenda have been received and are acknowledged in this bid: A,B,C,D,E

The names of all persons interested in the foregoing proposal as principals are as follows:

COLLEEN COFFMAN - PRESIDENT

JIM COFFMAN - SENIOR VICE PRESIDENT

KEVIN COFFMAN - VICE PRESIDENT

CYNTHIA SARGENT - SECRETARY JOHN PALMER - CFO

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

Bidder: COFFMAN SPECIALTIES, INC - COLLEEN COFFMAN

Title: PRESIDENT

Business Address: 9685 VIA EXCELENCIA STE. 200 SAN DIEGO, CALIF. 92126

Place of Business: 9685 VIA EXCELENCIA STE. 200 SAN DIEGO, CALIF. 92126

Place of Residence: SAN DIEGO, CALIF.

Signature: Colleen Coffman

## BIDDING DOCUMENTS

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### NOTES:

- A. The City shall determine the low Bid based on the Base Bid plus Additive Alternate A.
- B. After the low Bid has been determined, the City may award the Contract for the Base Bid alone or if applicable, for the Base Bid plus any combination of alternates selected in the City's sole discretion.
- C. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Bidder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the bid proposal.
- D. Failure to initial all corrections made in the bidding documents may cause the Bid to be rejected as **non-responsive** and ineligible for further consideration.
- E. Blank spaces must be filled in, using figures. Bidder's failure to submit a price for any Bid item that requires the Bidder to submit a price shall render the Bid **non-responsive** and shall be cause for its rejection.
- F. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
- G. All extensions of the unit prices bid will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.
- H. In the case of inconsistency or conflict, between the sums of the Extensions with the estimated total Bid, the sum of the Extensions shall govern.
- I. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
- J. Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder non-responsive.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
Name: PAYCO SPECIALTIES INC. Address: 120 N SECOND AVE City: CHULA VISTA State: CA Zip: 91910 Phone: 619.422.9204 Email: BILL@PAYCO.BIZ	CONSTRUCTOR	298637	PAVEMENT MARKINGS & REMOVAL	110,535.80	DBE	CALTRANS	<input checked="" type="checkbox"/>
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):

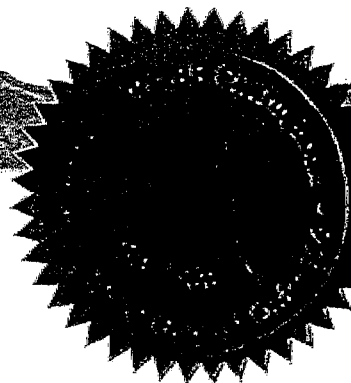
- |                                               |        |                                                |         |
|-----------------------------------------------|--------|------------------------------------------------|---------|
| Certified Minority Business Enterprise        | MBE    | Certified 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.

**SUPPLIER CLEARINGHOUSE  
CERTIFICATE OF ELIGIBILITY**



CERTIFICATE EXPIRATION DATE: 01-15-2017

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

*Payco Specialties Inc.  
of Chula Vista, California as a WBE*

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on-site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above named firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at 800-359-7998 in Los Angeles.

**VON: 13100144**

**Determination Date: 01-15-2014**





THE CITY OF SAN DIEGO

December 13, 2013

Payneco Specialties, Inc. DBA Payco Specialties  
Rebecca Llewellyn  
120 N 2<sup>nd</sup> Avenue  
Chula Vista, CA 91910

**Subject: Small Local Business Enterprise Certification**

Dear Rebecca:

Congratulations! We have reviewed your renewal application and you have been approved for re-certification as a City of San Diego Small Local Business Enterprise (SLBE). Your certification number is 11PS0238 and your classification is Specialty Construction. Please reference this certification number when bidding on City projects.

For the City's SLBE Program, your certification is effective December 4, 2013. This certification expires on December 4, 2015 at which time you will need to reapply in accordance with the SLBE guidelines.

Special Note:

To ensure the correct information is included in our database please go to <https://pro.prismcompliance.com> select City of San Diego under jurisdiction, select go, type in your company name, select go, select your company and review the information. If there is inaccurate/missing information please e-mail [retzel@sanidiego.gov](mailto:retzel@sanidiego.gov).

If you have any questions please call 619-533-4492.

Thank you,

A handwritten signature in black ink, appearing to read "Henry Foster III".

Henry Foster III  
EOC Program Manager

Equal Opportunity Contracting  
Small Local Business Enterprise Program  
202 C Street, 9<sup>th</sup> Floor, MS 9A  
San Diego, CA 92101-4806  
Telephone (619) 533-4492 Fax (619) 236-7344

# CALIFORNIA UNIFIED CERTIFICATION PROGRAM DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

## PAYCO SPECIALTIES, INCORPORATED

120 NORTH SECOND AVE.  
CHULA VISTA, CA 91910

Owner: REBECCA LEWELLYN  
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

**NAICS Code(s) \* Indicates primary NAICS code**

\* 238990 All Other Specialty Trade Contractors

237310 Highway, Street, and Bridge Construction

**Work Category Code(s)**

C1201 TRAFFIC CONTROL SYSTEM  
C5620 ROADSIDE SIGN  
C8405 THERMOPLASTIC TRAFFIC STRIPE & MARK

C5601 SIGN STRUCTURE  
C8201 OBJECT MARKER  
C8406 PAINTED TRAFFIC STRIPE & MARKING

**Licenses**

B General Building Contractor

C32 Parking and Highway Improvement Contractor

UNIFIED CERTIFICATION PROGRAM

**CERTIFYING AGENCY:**

DEPARTMENT OF TRANSPORTATION  
1823 14TH STREET, MS 79  
SACRAMENTO, CA 95811 0000  
(916) 324-1700

UCP Firm Number : 102

*James Davis*  
DIRECTOR

October 31, 2008

It is CUCP's policy and objective to promote and maintain a level playing field for DBEs in California on Federal-aid contracts. We ensure nondiscrimination in the award and administration of U.S. DOT assisted contracts based on the requirements of 49 CFR Parts 21 and 26.

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder non-responsive.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>ⓐ</sup>	WHERE CERTIFIED <sup>ⓑ</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>BLAST DEFLECTORS INC.</u> Address: <u>8620 TECHNOLOY WAY</u> City: <u>RENO</u> State: <u>NV</u> Zip: <u>89521</u> Phone: <u>775.856.1928</u> Email: <u>DBERGIN@BDI.AERO</u>	CONSTRUCTOR	954182	BLAST DEFLECTOR FENCE INSTALL	<i>131,336.00</i>			<input checked="" type="checkbox"/>
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

ⓐ 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 |                                                |         |

ⓑ 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

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Name: PERRY ELECTRIC Address: PO BOX 710130 City: SANTEE State: CA Zip: 92071 Phone: 619.449.0045 Email: DFERGUSON@PERRYELECTICSD.COM	CONSTRUCTOR	747931	ELECTRICAL	91,573.00	SBE	CALTRANS	
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):

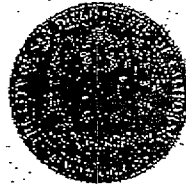
- |                                               |        |                                                |         |
|-----------------------------------------------|--------|------------------------------------------------|---------|
| Certified Minority Business Enterprise        | MBE    | Certified 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

City of San Diego



# Small Local Business Enterprise Certification

T & M Electric, Inc. DBA Perry Electric


*Small Local Business Enterprise (SLBE)*

*Specialty Construction* (NAICS: 335129)

Certification Number: 11TM0131

*Effective Date: 10/29/2014*

Expiration Date: 10/29/2016

  
Henry Foster III  
Equal Opportunity Contracting  
Program Manager

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>ⓐ</sup>	WHERE CERTIFIED <sup>ⓑ</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: ANTIGO CONSTRUCTION INC Address: PO BOX 12 City: ANTIGO State: WISC Zip: 54409 Phone: 715.627.2222 Email: WEST@ANTIGOCONSTRUCTION.COM	CONSTRUCTOR	637303	CONCRETE BREAKING/RUBBLIZING	54,927.00			✓
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

ⓐ 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 |                                                |         |

ⓑ 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder non-responsive.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
Name: ACE FENCE COMPANY Address: 727 GLENDORA AVE City: LA PUENTE State: CA Zip: 91744 Phone: (626) 333-0727 Email: RLAYOS@ACEFENCECOMPANY.COM	CONSTRUCTOR	996577	TEMP FENCE	44,826.00	DBE	CALTRANS	
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):

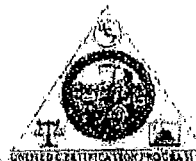
- |                                               |        |                                                |         |
|-----------------------------------------------|--------|------------------------------------------------|---------|
| Certified Minority Business Enterprise        | MBE    | Certified 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

# CALIFORNIA UNIFIED CERTIFICATION PROGRAM (CUCP)



January 28, 2015

Ms. America Tang  
AZ Construction, Inc.,  
DBA Ace Fence Company  
727 N. Glendora Ave.  
La Puente, CA 91744

EX-100-179  
1/28/2015

**RE: DISADVANTAGED BUSINESS ENTERPRISE (DBE) CERTIFICATION APPROVAL**  
CUCP File No. - 34153

Dear Ms. Tang:

We are pleased to advise you that after careful review of your application and supporting documentation, the City of Los Angeles has determined that your firm meets the eligibility standards to be certified as a **Disadvantaged Business Enterprise (DBE)** as required under the U.S. Department of Transportation (U.S. DOT) Regulation 49 CFR Part 26, as amended.

Your firm will be listed in the California Unified Certification Program (CUCP) database of certified DBEs and the City of Los Angeles DBE/MBE/WBE directory under the following specific areas of expertise that you have identified on the business service form for contracting opportunities:

<u>NAICS Codes</u>	<u>Description</u>
238990	All Other Specialty Trade Contractors
237310	Highway, Street, and Bridge Construction
237990	Other Heavy and Civil Engineering Construction

Your DBE certification applies only for the above codes. You may review your firm's information in the CUCP DBE database, which can be accessed at the California Unified Certification Program's website at <http://californiaucp.org> and the City of Los Angeles DBE/MBE/WBE database at <http://bca.lacity.org>. Any additions and revisions must be submitted to the City of Los Angeles for review and approval.

In order to assure continuing DBE status, you must submit annually a No Change Declaration with supporting documentation, which will be sent to you. Based on your annual submission that no change in ownership and control has occurred, or if changes have occurred, they do not affect your firm's DBE standing, the DBE certification of your firm will continue until or unless it is removed by our agency.

Also, should any changes occur that could affect your certification status prior to receipt of the Declaration, such as changes in your firm's name, business/mailling address, ownership, management, or control, or failure to meet the applicable business size standards or personal net worth standard, please notify us immediately. DBE certification is subject to review at any time. Failure to submit forms and/or change of information will be deemed as failure to cooperate under Section 26.109 of the Regulations.



AZ Construction, Inc.,  
DBA Ace Fence Company  
January 28, 2015  
Page 2

Your DBE certification status will be honored by all of the U.S. DOT recipients in California.

For information on City of Los Angeles contracting opportunities, please register at <http://LABAVN.org>.

Should you have any questions, please contact Kelly H. Kim at (213) 847-2644 or e-mail at [kelly.kim@lacity.org](mailto:kelly.kim@lacity.org).

Sincerely,



HELMUT PEINDL, Certification Manager  
Office of Contract Compliance  
Bureau of Contract Administration

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>PENHALL COMPANY</u> Address: <u>5775 EASTGATE DR</u> City: <u>SAN DIEGO</u> State: <u>CA</u> Zip: <u>92121</u> Phone: <u>858.550.1111</u> Email: <u>PMENZIES@PENHALL.COM</u>	CONSTRUCTOR	568673	DEMO SAW	21,060. <sup>00</sup>		Ⓢ	
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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

**BIDDING DOCUMENTS**

**LIST OF SUBCONTRACTORS**

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall 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 that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder non-responsive.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
Name: LINDYS COLD PLANING Address: 625 W MOUNTAIN VIEW City: LA HABRA State: CA Zip: 90631 Phone: 562.697.2286 Email: CINDY@WEGRINDASPHALT.COM	CONSTRUCTOR	754500	AG MILLING & REMOVAL	19,202.50	DBE	CALTRANS	✓
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 |                                                |         |

0.1203  
MC

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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

**SUPPLIER CLEARINGHOUSE  
CERTIFICATE OF ELIGIBILITY**

CERTIFICATE EXPIRATION DATE: 10-22-2016

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

***Cindy Trump, Inc, dba Lindy's Cold Planing  
of La Habra, California as a WBE***

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on- site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above named firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at 800-359-7998 in Los Angeles.

**VON: 5AS00008**

**Determination Date: 09-28-2013**



**THE NETWORK**

Bringing You Government Bids Throughout Southern California

**Certified Small Business Enterprise (SBE)**

5/6/2013

Account #: 14091  
Mrs. Trump  
Cindy Trump Inc dba Lindy's Cold Planing  
P.O. Box 385  
La Habra, CA 90631

Dear Mrs. Trump:

Thank you for submitting your Vendor Application seeking Small Business Enterprise (SBE) recognition with *The Network*. Per our evaluation of the information you provided in your application and the North American Industry Classification System (NAICS) codes you identified, your status as a Small Business Enterprise (SBE) has been approved. This certification is recognized by the following agencies:

*The Port of Long Beach\**

*San Diego County Water Authority\**

*\* There are currently six agencies participating in The Network; however, at the present time, only the Port of Long Beach and San Diego County Water Authority are administering a Small Business Enterprise (SBE) Program.*

The Port of Long Beach is pleased to issue this SBE Certificate subject to the terms and conditions identified below:

**NAICS code(s) for which SBE status is recognized: 237310 237990**

**SBE Certificate Effective Date: 4/29/2013**

**SBE Certificate Expiration Date: 4/29/2016**

Work performed by your firm that falls within the above-mentioned NAICS code(s) will be counted as SBE participation for work performed on contracts procured by the above agencies.

The agencies reserve the right to withdraw this certification if at any time it is determined that certification was knowingly obtained by false, misleading, or incorrect information. The agencies reserve the right to audit all statements. If any firm attempts to falsify or misrepresent information to obtain certification, the firm may be disqualified from participating in any contracts for a period of up to five years.

**SBE Certification is valid for a period of three (3) years. To maintain SBE status, firms must update their existing SBE Vendor Application on or before the expiration date mentioned above. All information is subject to verification.**

If there are any changes in your status that may impact your certification, you are required to update your account information online. You may view your SBE qualifying information at any time, by logging into your main menu and selecting the "Small Business Certification Form" link.

Sincerely,

Sashi Muralidharan  
SBE Administrator, Port of Long Beach

# CALIFORNIA UNIFIED CERTIFICATION PROGRAM DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

CINDY TRUMP INC DBA LINDY'S COLD PLANING

625 S. MOUNTAIN VIEW  
LA HABRA, CA 90631

Owner: CINDY TRUMP  
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) \* Indicates primary NAICS code

\* 237310 Highway, Street, and Bridge Construction  
238910 Site Preparation Contractors

237990 Other Heavy and Civil Engineering Construction

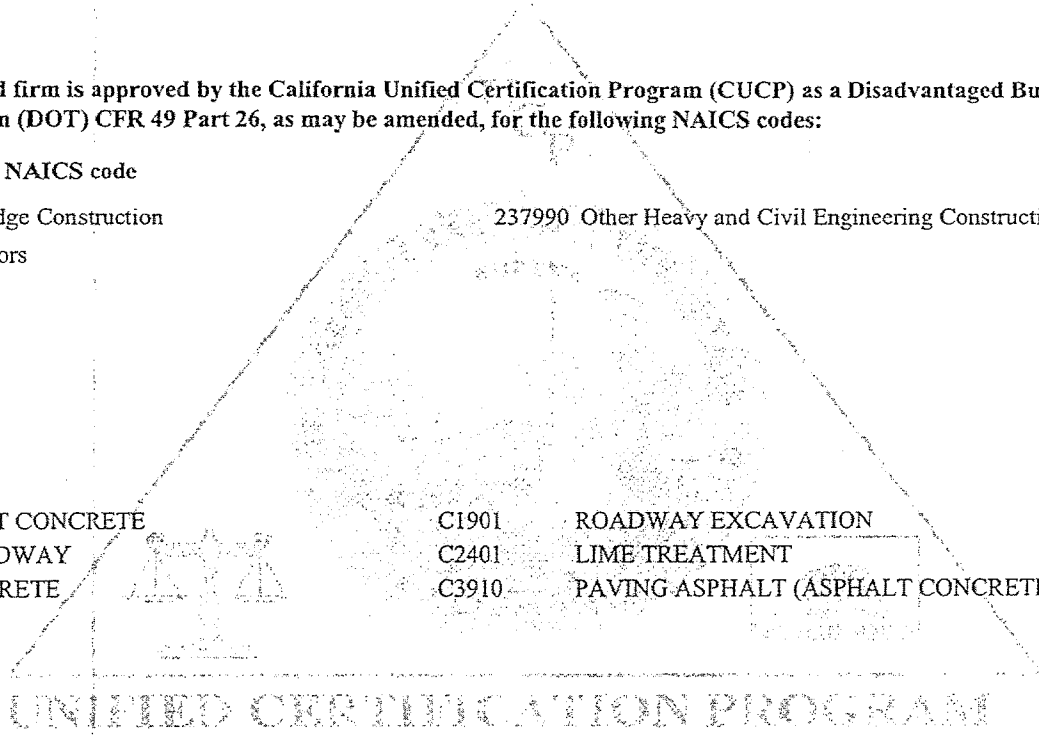
Work Category Code(s)

C1531 PLANE ASPHALT CONCRETE  
C2201 FINISHING ROADWAY  
C3901 ASPHALT CONCRETE

C1901 ROADWAY EXCAVATION  
C2401 LIME TREATMENT  
C3910 PAVING ASPHALT (ASPHALT CONCRETE)

Licenses

A General Engineering Contractor



**CERTIFYING AGENCY:**

LOS ANGELES COUNTY METRO TRANSPORTATION AUTHORITY (MTA)  
ONE GATEWAY PLAZA  
LOS ANGELES, CA 90012 0000  
(213) 922-2600

UCP Firm Number : 40089

CUCP OFFICER

March 6, 2013

**BIDDING DOCUMENTS**

**NAMED EQUIPMENT/MATERIAL SUPPLIER LIST**

The Bidder seeking the recognition of equipment, materials, or supplies obtained from Suppliers towards achieving any mandatory, voluntary, or both subcontracting participation percentages shall list the Supplier(s) on the Named Equipment/Material Supplier List. The Named Equipment/Material Supplier List, at a minimum, shall have the name, locations (City) and the DOLLAR VALUE of the Suppliers. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for such materials and supplies unless vendor manufactures or substantially alters materials and supplies in which case 100% will be credited. The Bidder is to indicate (Yes/No) whether listed firm is a supplier or manufacturer. In calculating the subcontractor participation percentages, vendors/suppliers will receive 60% credit of the listed DOLLAR VALUE, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage, Suppliers will receive 60% credit of the listed DOLLAR VALUE, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed DOLLAR VALUE for purposes of calculating the subcontractor participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES (MUST BE FILLED OUT)	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>ⓐ</sup>	WHERE CERTIFIED <sup>ⓑ</sup>
Name: TRIUMPH GEO-SYNTHETICS INC Address: 1235 N GROVE ST City: ANAHEIM State: CA Zip: 92806 Phone: (714)775-7545 Email: SALES@TRIUMPHGEO.COM	MATERIALS	44,470.72	YES	NO	DBE	CALTRANS
<del>Name: EM OIL TRANSPORT INC Address: 1145 S TAYLOR AVE City: MONTEBELLO State: CA Zip: 90640 Phone: (323) 722-9088 Email: BLBIANA.SAART@EMOILTRANSPORT.COM</del>	<del>MATERIALS</del>	<del></del>	<del>YES</del>	<del>NO</del>	<del>DBE</del>	<del>CALTRANS</del>

ⓐ 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 |                                                |         |

ⓑ 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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.**

# CALIFORNIA UNIFIED CERTIFICATION PROGRAM DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

**TRIUMPH GEO-SYNTHETICS, INC.**

1235 NORTH GROVE ST  
ANAHEIM, CA 92806

Owner: CISSY MC CAA  
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) \* Indicates primary NAICS code

\* 444190 Other Building Material Dealers  
423390 Other Construction Material Merchant Wholesalers

454390 Other Direct Selling Establishments

Work Category Code(s)

C0620 LANDSCAPING & NURSERY SUPPLIER  
C0670 PIPE SUPPLIER  
C0698 BUILDING MATERIAL SUPPLIER

C0621 LANDSCAPING MATERIAL SUPPLIER  
C0680 FENCING SUPPLIER  
F5088 TRANSPORTATION EQUIPMENT & SUPPLIE

Licenses

UNIFIED CERTIFICATION PROGRAM

**CERTIFYING AGENCY:**

DEPARTMENT OF TRANSPORTATION  
1823 14TH STREET  
SACRAMENTO, CA 95811 0000  
(916) 324-1700

UCP Firm Number : 9076

*James Salais*  
UCP OFFICER

April 9, 2013



# BUSINESS ENTERPRISE CERTIFICATE

## TRIUMPH GEO-SYNTHETICS, INC.

1235 NORTH GROVE ST  
ANAHEIM, CA 92806

Owner: CISSY MC CAA

Business Structure: CORPORATION

STATE WOMEN BUSINESS ENTERPRISE

This Certification Not Valid For Federal Aid Contracts

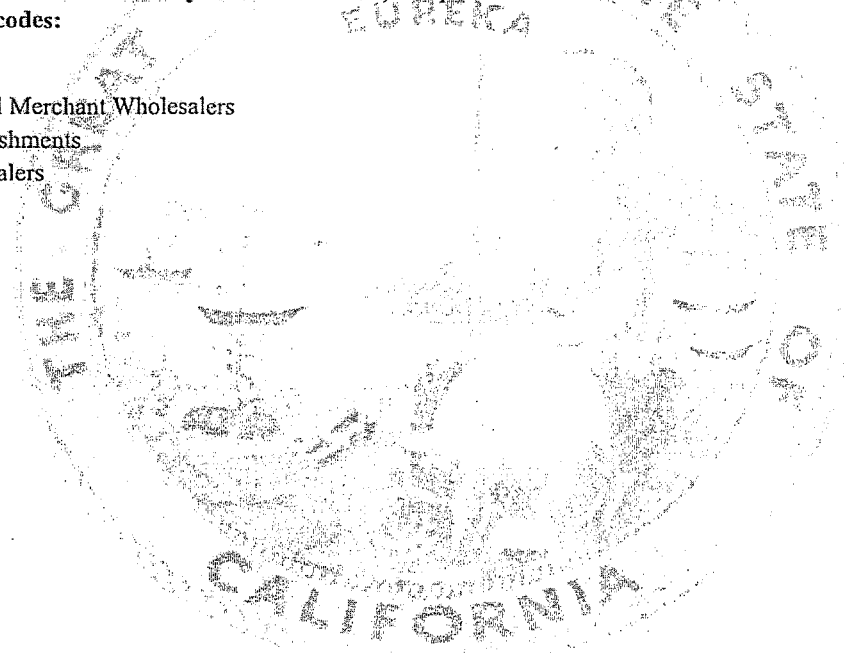

This certificate acknowledges that said firm is approved by the California Department of Transportation as a State Minority Business Enterprise or State Women Business Enterprise (or in some cases both) in accordance with Assembly Bill Number 486, Chapter 1329 and the California Public Code, Chapter 2.5 (commencing with Section 2050), for the following NAICS codes:

423390	Other Construction Material Merchant Wholesalers
454390	Other Direct Selling Establishments
* 444190	Other Building Material Dealers

\* Indicates primary NAICS code

**CERTIFYING AGENCY:**  
DEPARTMENT OF TRANSPORTATION  
1823 14TH STREET, MS 79  
SACRAMENTO, CA 95814 0000  
(916) 324-1700

Firm Number : 9076  
Renewal Date : October 1, 2013

  
  
\_\_\_\_\_  
Janice Salais, CERTIFYING AGENCY REPRESENTATIVE

April 9, 2013



Department of  
**General Services**  
BUILDING GREEN · BUYING GREEN · WORKING GREEN

## TRIUMPH GEO-SYNTHETICS INC - #16084

### Supplier Profile

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Legal Business Name TRIUMPH GEO-SYNTHETICS INC

Doing Business As TRIUMPH GEO-SYNTHETICS INC

Address 1235 North Grove St.  
ANAHEIM, CA 92806

Phone (714) 237-1550

FAX (714) 237-1549

Email [mccaa@triumphgeo.com](mailto:mccaa@triumphgeo.com)

Web Page <http://www.triumphgeo.com>

Business Types Non-Manufacturer

Service Areas Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba,

Keywords GEOTEXTILES, PAVING FABRIC, GEOGRID, SOIL STABILIZATION, EROSION CONTROL MATERIAL AND MATS, WATTLES, SEDIMENT CONTROL, FILTRATION FABRIC, HERCUSHEILD, HDPE LINER, HYDROMULCH, TRM, EROSION CONTROL BLANKET, SWPPP'S, CONSTRUCTION MATERIALS N.E.C. PIPE.

Classifications 301217 - Road and railroad construction materials  
701315 - Land and soil protection

### Active Certifications

TYPE	STATUS	FROM	TO
SB	Approved	Apr 4, 2013	Apr 30, 2016



***SUPPLIER CLEARINGHOUSE  
CERTIFICATE OF ELIGIBILITY***

CERTIFICATE EXPIRATION DATE: 04-13-2018

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

***Triumph Geo-Synthetics, Inc.  
of Anaheim, California as a WBE***

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on-site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above named firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at 800-359-7998 in Los Angeles.

***VON: 12010014***

***Determination Date: 04-13-2015***

**BIDDING DOCUMENTS**

**SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)**

Bidder shall list all Subcontractors described in the Bidder's *Base Bid* whose percentage of work will increase or decrease if alternates are selected for award. Bidder shall also list additional Subcontractors not described in the Bidder's *Base Bid* who, as a result of the alternates, will perform work or labor, or render services, or specially fabricate and install a portion [type] of work or improvements in an amount in excess of 0.5%. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

ADDITIVE/ DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>ⓐ</sup>	WHERE CERTIFIED <sup>ⓑ</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
ADDITIVE	Name: <u>LINDYS COLD-PLANING</u> Address: <u>625 W MOUNTAIN VIEW</u> City: <u>LA HABRA</u> State: <u>CA</u> Zip: <u>90631</u> Phone: <u>562.697.2286</u> Email: <u>CINDY@WEGRINDASPHALT.COM</u>	CONSTRUCTOR	754500	AC MILLING & REMOVAL	3310. <sup>ⓐ</sup>	DBE	CALTRANS	✓
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

ⓐ 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 |                                                |         |

ⓑ 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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 participations percentages if the Bidder fails to submit the required proof of certification.**

**SUPPLIER CLEARINGHOUSE  
CERTIFICATE OF ELIGIBILITY**

CERTIFICATE EXPIRATION DATE: 10-22-2016

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

*Cindy Trump, Inc, dba Lindy's Cold Planing  
of La Habra, California as a WBE*

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on-site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above named firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at 800-359-7998 in Los Angeles.

**VON: 5AS00008**

**Determination Date: 09-28-2013**



Bringing You Government Bids Throughout Southern California

**Certified Small Business Enterprise (SBE)**

5/6/2013

Account #: 14091  
Mrs. Trump  
Cindy Trump Inc dba Lindy's Cold Planing  
P.O. Box 385  
La Habra, CA 90631

Dear Mrs. Trump:

Thank you for submitting your Vendor Application seeking Small Business Enterprise (SBE) recognition with *The Network*. Per our evaluation of the information you provided in your application and the North American Industry Classification System (NAICS) codes you identified, your status as a Small Business Enterprise (SBE) has been approved. This certification is recognized by the following agencies:

*The Port of Long Beach\**

*San Diego County Water Authority\**

*\* There are currently six agencies participating in The Network; however, at the present time, only the Port of Long Beach and San Diego County Water Authority are administering a Small Business Enterprise (SBE) Program.*

The Port of Long Beach is pleased to issue this SBE Certificate subject to the terms and conditions identified below:

**NAICS code(s) for which SBE status is recognized: 237310 237990**

**SBE Certificate Effective Date: 4/29/2013**

**SBE Certificate Expiration Date: 4/29/2016**

Work performed by your firm that falls within the above-mentioned NAICS code(s) will be counted as SBE participation for work performed on contracts procured by the above agencies.

The agencies reserve the right to withdraw this certification if at any time it is determined that certification was knowingly obtained by false, misleading, or incorrect information. The agencies reserve the right to audit all statements. If any firm attempts to falsify or misrepresent information to obtain certification, the firm may be disqualified from participating in any contracts for a period of up to five years.

**SBE Certification is valid for a period of three (3) years. To maintain SBE status, firms must update their existing SBE Vendor Application on or before the expiration date mentioned above. All information is subject to verification.**

If there are any changes in your status that may impact your certification, you are required to update your account information online. You may view your SBE qualifying information at any time, by logging into your main menu and selecting the "Small Business Certification Form" link.

Sincerely,

Sashi Muralidharan  
SBE Administrator, Port of Long Beach

# CALIFORNIA UNIFIED CERTIFICATION PROGRAM DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

CINDY TRUMP INC DBA LINDY'S COLD PLANING

625 S. MOUNTAIN VIEW  
LA HABRA, CA 90631

Owner: CINDY TRUMP  
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) \* Indicates primary NAICS code

- \* 237310 Highway, Street, and Bridge Construction
- 238910 Site Preparation Contractors

Work Category Code(s)

- C1531 PLANE ASPHALT CONCRETE
- C2201 FINISHING ROADWAY
- C3901 ASPHALT CONCRETE



- G600 ROADWAY EXCAVATION
- C3400 SLURRY TREATMENT
- C3900 PAVING ASPHALT (ASPHALT CONCRETE)

Licenses

- A General Engineering Contractor

UNIFIED CERTIFICATION PROGRAM

**CERTIFYING AGENCY:**

LOS ANGELES COUNTY METRO TRANSPORTATION AUTHORITY (MTA)  
ONE GATEWAY PLAZA  
LOS ANGELES, CA 90012 0900

(213) 922-2600

UCP Firm Number: 40089

CUCP OFFICER

March 6, 2013

## BIDDING DOCUMENTS

### SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

Bidder shall list all Subcontractors described in the Bidder's *Base Bid* whose percentage of work will increase or decrease if alternates are selected for award. Bidder shall also list additional Subcontractors not described in the Bidder's *Base Bid* who, as a result of the alternates, will perform work or labor, or render services, or specially fabricate and install a portion [type] of work or improvements in an amount in excess of 0.5%. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

ADDITIVE/DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED <sup>Ⓢ</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
ADDITIVE	Name: <u>PAYCO SPECIALTIES INC</u> Address: <u>120 N SECOND AVE</u> City: <u>CHULA VISTA</u> State: <u>CA</u> Zip: <u>91910</u> Phone: <u>619.422.9204</u> Email: <u>BILL@PAYCO.BIZ</u>	CONSTRUCTOR	298637	PAVMNT MARKINGS & REMOVAL	<u>15,956.80</u>	DBE	CALTRANS	<input checked="" type="checkbox"/>
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

Ⓢ 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 |                                                |         |

Ⓢ 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   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| 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 participations percentages if the Bidder fails to submit the required proof of certification.**



# CALIFORNIA UNIFIED CERTIFICATION PROGRAM DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

## PAYCO SPECIALTIES, INCORPORATED

120 NORTH SECOND AVE.  
CHULA VISTA, CA 91910

Owner: REBECCA LLEWELLYN  
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) \* Indicates primary NAICS code

\* 238990 All Other Specialty Trade Contractors

237310 Highway, Street, and Bridge Construction

### Work Category Code(s)

C1201 TRAFFIC CONTROL SYSTEM  
C5620 ROADSIDE SIGN  
C8405 THERMOPLASTIC TRAFFIC STRIPE & MARK

C5601 SIGN STRUCTURE  
C8201 OBJECT MARKER  
C8406 PAINTED TRAFFIC STRIPE & MARKING

### Licenses

B General Building Contractor

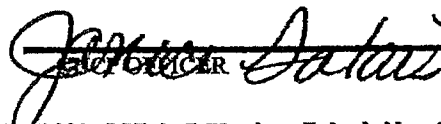
C32 Parking and Highway Improvement Contractor

UNIFIED CERTIFICATION PROGRAM

### CERTIFYING AGENCY:

DEPARTMENT OF TRANSPORTATION  
1823 14TH STREET, MS 79  
SACRAMENTO, CA 95811 0000  
(916) 324-1700

UCP Firm Number : 102

  
DIRECTOR

October 31, 2008

It is CUCP's policy and objective to promote and maintain a level playing field for DBEs in California on Federal-aid contracts. We ensure nondiscrimination in the award and administration of U.S. DOT assisted contracts based on the requirements of 49 CFR Parts 21 and 26.



THE CITY OF SAN DIEGO

December 13, 2013

Payneco Specialties, Inc. DBA Payco Specialties  
Rebecca Llewellyn  
120 N 2<sup>nd</sup> Avenue  
Chula Vista, CA 91910

**Subject: Small Local Business Enterprise Certification**

Dear Rebecca:

Congratulations! We have reviewed your **renewal application** and you have been approved for re-certification as a City of San Diego Small Local Business Enterprise (SLBE). Your certification number is 11PS0238 and your classification is Specialty Construction. Please reference this certification number when bidding on City projects.

For the City's SLBE Program, your certification is effective December 4, 2013. This certification expires on December 4, 2015 at which time you will need to reapply in accordance with the SLBE guidelines.

Special Note:

To ensure the correct information is included in our database please go to <https://pro.prismcompliance.com> select City of San Diego under jurisdiction, select go, type in your company name, select go, select your company and review the information. If there is inaccurate/missing information please e-mail [retzel@sandiego.gov](mailto:retzel@sandiego.gov).

If you have any questions please call 619-533-4492.

Thank you,

A handwritten signature in black ink, appearing to read 'Henry Foster III'.

Henry Foster III  
EOC Program Manager

Equal Opportunity Contracting  
Small Local Business Enterprise Program  
202 C Street, 9<sup>th</sup> Floor, MS 9A  
San Diego, CA 92101-4806  
Telephone (619) 533-4492 Fax (619) 236-7344

**SUPPLIER CLEARINGHOUSE  
CERTIFICATE OF ELIGIBILITY**

CERTIFICATE EXPIRATION DATE: 01-15-2017

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

***Payco Specialties Inc.  
of Chula Vista, California as a WBE***

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on-site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above named firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at 800-359-7998 in Los Angeles.

***VON: 13100144***

***Determination Date: 01-15-2014***

## BIDDING DOCUMENTS

### SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

Bidder shall list all Subcontractors described in the Bidder's *Base Bid* whose percentage of work will increase or decrease if alternates are selected for award. Bidder shall also list additional Subcontractors not described in the Bidder's *Base Bid* who, as a result of the alternates, will perform work or labor, or render services, or specially fabricate and install a portion [type] of work or improvements in an amount in excess of 0.5%. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

Subcontractors' License Number must be filled in. Failure to provide the information specified may deem the bidder non-responsive.

ADDITIVE/ DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB®	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
ADDITIVE	Name: <u>PENHALL COMPANY</u> Address: <u>5775 EASTGATE DR.</u> City: <u>SAN DIEGO</u> State: <u>CA</u> Zip: <u>92121</u> Phone: <u>858.550.1111</u> Email: <u>PMENZIES@PENHALL.COM</u>	CONSTRUCTOR	568673	SPALL & JOINT REPAIR	<u>110,200.<sup>00</sup></u>			✓
	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	San Diego Regional Minority Supplier Diversity Council	SRMSDC
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 participations percentages if the Bidder fails to submit the required proof of certification.**

City of San Diego

- [Company Search](#)
- [Labor Compliance](#)
- [Administration](#)
- [City\\_of\\_San\\_Diego News & Events](#)
- [City\\_of\\_San\\_Diego Workshops](#)

Administration menu >> User Administration

**Contractor Users**

User ID	User Name	Role	Unlock	Reset Password	Edit	Delete
330483378	Christina Antonuccio	Contractor	Default Vendor User	<a href="#">Reset Password</a> <a href="#">Generate New Digital Signature</a>	<a href="#">Edit User</a>	Default Vendor User

[Add New User](#)

[<< Back to Administration Menu](#)



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City\_of\_San\_Diego  
Coffman Specialties, Inc - Company Profile

Company Information			
Company Name:	<u>Coffman Specialties, Inc</u>	TaxID/EIN:	<u>****3378</u>
Doing Business As:	_____		_____
Legal Form of the Business:	<u>Corporation</u>	Date Established:	<u>11/21/1990</u>
Ethnicity:	_____	Gender:	_____
Main Area in which the business provides materials or services:	<u>Construction</u>		_____
Business Description:	<div style="border: 1px solid black; height: 40px;"></div>		

Company Address
: _____

Contact Information				
Business Phone:	<u>8585363100</u>	Business Fax:	<u>8585363131</u>	
Website:	<u>www.coffmanspecialties.com</u>		_____	
Primary Contact	Name:	<u>Christina Antonuccio</u>	Title:	_____
	Email:	<u>christina@coffmanspecialties.com</u>	Phone:	_____
			Cell Phone:	_____
Secondary Contact	Name:	<u>Colleen Coffman</u>	Title:	_____
	Email:	<u>colleen@coffmanspecialties.com</u>	Phone:	_____
			Cell Phone:	_____

Other Information			
Insurance Company:	_____	DUNS:	<u>797380771</u>
Insurance Number:	_____	CAGE Code:	_____
Insurance Exp. Date:	_____	Geographic Market:	<u>Local</u>
Major Customers:	<div style="border: 1px solid black; height: 40px;"></div>		

**Company Certification**

Certifying Agency	Certificate Type	Certificate Number	Date of Issue	Expiration Date

**Company Industries**

Industry Code	Description

**Business Size Information**

Total Number of Employees:		Gross receipts of the firm:		
Number of Minority Employees:		Year	Total Receipts	
		Average Gross Receipts:		

Additional Information

: