



NOTICE INVITING BIDS,

SPECIAL PROVISIONS

AND

SAMPLE AGREEMENT

FOR

PROJECT ID NO. FCC0001207

PACOIMA SPREADING GROUNDS
BASIN ENHANCEMENT PROJECT

Approved, MARK PESTRELLA, Director of Public Works

By

A handwritten signature in black ink, appearing to read 'D. Bob', written over a horizontal line.

Assistant Deputy Director

02/25/2021

Date

Pre-Bid inquiries regarding the following shall be directed to
Ms. Laura Smith, lsmith@pw.lacounty.gov
Include “Pre-Bid Questions for FCC0001207” in the subject line of the email.

A. NOTICE INVITING BIDS

B. SPECIAL PROVISIONS

- SECTION G - GENERAL PROVISIONS
- SECTION EC - ENVIRONMENTAL COMPLIANCE
- SECTION EW - EARTHWORK
- SECTION D - DRAINAGE STRUCTURES AND UNDERGROUND CONDUIT CONSTRUCTION
- SECTION W - WATER SYSTEMS
- SECTION TC - TEMPORARY TRAFFIC CONTROL
- SECTION E - ELECTRICAL
- SECTION M - MECHANICAL

C. SAMPLE AGREEMENT

The following Contract Documents are separate:

1. BID PROPOSAL
2. PLANS
3. INSTRUCTIONS TO BIDDERS



Individuals requiring reasonable accessibility accommodations may request written materials in alternate formats, physical accessibility accommodations, sign language interpreters or other reasonable accommodations by contacting our Departmental Americans with Disabilities Act Coordinator at (626) 458 4081, from 7:30 a.m. to 5:00 p.m., Monday through Thursday (excluding holidays). Persons who are deaf or hard of hearing may make contact by first dialing the California Relay Service at 7-1-1. Requests should be made at least one week in advance to ensure availability. When making a reasonable accommodation request, please reference CON.

NOTICE INVITING BIDS

Sealed bids will be accepted by Los Angeles County Public Works, Project Management Division III, for the spreading grounds improvement and the performance of other appurtenant work under Project ID No. FCC0001207, Pacoima Spreading Grounds Basin Enhancement Project, in the City of Los Angeles.

The bids must be submitted on the proposal forms included in the bidder's package of the contract documents. The contract documents for this project may be downloaded free of charge by visiting the Los Angeles County Public Works Business Opportunities website:

<http://pw.lacounty.gov/general/contracts/opportunities>

The bids must be submitted electronically using Bid Express, www.BidExpress.com, before 11 a.m. on Tuesday, April 20, 2021, and no bids may be submitted after that date and time. Registration instructions and the fee schedule for Bid Express are included in the Instructions to Bidders. **Paper bids will not be accepted.** The bids will be opened through a webcast immediately after the specified closing time. Bidders may participate in the public bid opening by visiting the Los Angeles County Public Works Business Opportunities website, selecting the project and clicking on the Microsoft Teams Online Bid Opening Webcast.

The work shall be done in accordance with the Plans and Specifications on file and open for inspection at Public Works. The work is estimated to cost between \$66,000,000 and \$99,000,000 and shall be completed in 690 working days. The prime contractor shall possess a valid California Class A contractor's license. Prebid questions regarding the Plans and Specifications shall be submitted via email only to: Ms. Laura Smith at lsmith@pw.lacounty.gov. **Prebid questions will not be accepted after 5 p.m. on Wednesday, April 7, 2021.**

The project site will be made available for inspection between 8 a.m. and 11 a.m. on Wednesday, March 31, 2021, and between 1 p.m. and 4 p.m. Thursday, April 1, 2021. Parking is available at the intersection of Arleta Avenue and Paxton Street in Los Angeles (Arleta), 91331 (34.26010° N, 118.44512° W). Attendance at one of these site visits is strongly recommended, but is not mandatory for award of the Contract. All participants must wear appropriate personal protective equipment including a cloth face covering at all times while at the project site.

Each bid must be accompanied by a surety bond payable to County of Los Angeles in an amount equal to at least 10 percent of the bid to guarantee that the bidder will enter into the contract if it is so awarded.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1 (a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

All persons performing the work shall be paid not less than the General Prevailing Wage Determination prepared by the Director of Industrial Relations pursuant to the State Labor Code. Copies of these wage rates are available at Public Works.

The successful bidder must provide full disclosure of False Claims Act violations, labor law/payroll violations, debarments, and civil/criminal legal actions as provided in the Instructions to Bidders. Failure to complete these forms may result in a determination that the bidder is nonresponsive and/or not responsible.

The contract, if awarded, will be awarded to a responsible contractor with the lowest responsive bid; however, the Board of Supervisors reserves the right to reject any and all bids.

A responsible contractor is one who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity, and experience to satisfactorily perform the contract. It is the County's policy to conduct business only with responsible contractors.

The County maintains the Contractor Alert Reporting Database (CARD), which is used to track/monitor poorly performing contractors. When a County department identifies a significant performance/non-compliance issue(s) with a contractor, the department will provide notice to the contractor and will give the contractor an opportunity to correct the issue(s). If the contractor does not take any appropriate steps to correct the issue(s), the County department will enter the contractor, along with any other relevant information pertaining to the contractor's performance issue(s), into CARD.

The information entered into CARD can be accessed by all County departments, and will be used, along with any other relevant information not included in CARD, in determining bidder responsibility. If a department reviews this information and determines that a finding of non-responsibility should be pursued, the department will adhere to the guidelines specified in the Los Angeles County Code, Chapter 2.202 and the County's Implementation Procedures for Determinations of Contractor Non-Responsibility and Contractor Debarment.

The County encourages the participation of Community Business Enterprises (CBE) in the project and has established a goal of twenty-five percent CBE participation which all bidders shall aspire to meet. Bidders shall document their good faith efforts to utilize CBEs in accordance with the Special Provisions.

The successful bidder will be required to fully comply with all applicable State and Federal reporting requirements relating to employment reporting for its employees and comply with all lawfully served Wage and Earnings Assignment Orders and Notice of Assignment and continue to maintain compliance throughout the duration of the contract. Failure to comply may be cause for termination of the contract or initiation of debarment proceedings.

The contract is subject to the requirements of the County of Los Angeles' Defaulted Property Tax Reduction Program (Defaulted Tax Program), Los Angeles County Code, Chapter 2.206. Bidders should carefully read the Defaulted Tax Program. The Defaulted Tax Program applies to both contractors and their subcontractors.

Bidders will be required to certify that they are in full compliance with the provisions of the Defaulted Tax Program and shall maintain compliance during the term of the contract, or shall certify that they are exempt from the Defaulted Tax Program by completing a certification of compliance with the County's Defaulted Property Tax Reduction Program. In accordance with Los Angeles County Code, Chapter 2.202, failure to maintain compliance with the Defaulted Tax Program or to cure defects within the time specified may be cause for termination of the contract and/or initiation of debarment proceedings against the noncompliant contractor.

Bids that fail to comply with the certification requirements of the Defaulted Tax Program will be considered nonresponsive and excluded from further consideration.

The successful bidder will be required to submit a faithful performance bond, payment bond, and liability and workers' compensation insurance with the contract.

As provided for in Section 22300 of the State Public Contract Code, the contractor may substitute securities for any monies withheld by Public Works to ensure performance under the contract, or enter into an escrow agreement for payment of such monies to an escrow agent.

Each person by submitting a response to this Notice Inviting Bids certifies that such bidder and each County lobbyist and County lobbying firm, as defined by Los Angeles County Code, Section 2.160.010, retained by the bidder, is in full compliance with Chapter 2.160 of the Los Angeles County Code.

Para mas informacion con relacion a esta noticia, por favor llame a este numero (626) 458-3118. Nuestras horas de oficina son de 7 a.m. a 5:30 p.m. de Lunes a Jueves.

The County supports and encourages equal opportunity contracting.

By order of the Board of Supervisors of the County of Los Angeles, State of California.

Dated March 9, 2021.

Celia Zavala
Executive Officer of the
Board of Supervisors

LS: ____

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PUBLIC WORKS

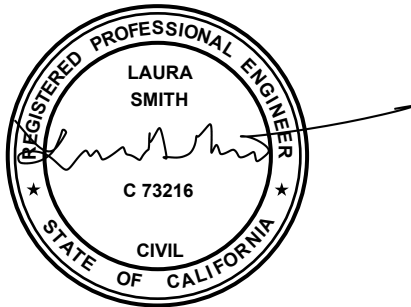
LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION G - GENERAL PROVISIONS

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.



Prepared By:

Laura Smith

2/24/21

Date

Reviewed By:

Harry H Ong

2/24/2021

Date

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PART 1 GENERAL PROVISIONS

SECTION 1 - GENERAL

1-2 TERMS AND DEFINITIONS. (Page 1 of the SSPWC)

Agency –

Add the following to the definition in the Standard Specifications:

The Agency is the Los Angeles County Flood Control District.

Board –

Replace the definition in the Standard Specifications with the following:

The Board of Supervisors of the County of Los Angeles.

Engineer –

Replace the definition in the Standard Specifications with the following:

The Director of Public Works of the County of Los Angeles acting either directly or through authorized agents. Pursuant to the authority of the Los Angeles County Code, the term "Director of Public Works" shall mean the Road Commissioner or County Engineer, County of Los Angeles; or Chief Engineer, Los Angeles County Flood Control District; as appropriate.

Working Day –

Replace subparagraphs “e” and “f” with the following:

- e) any day the Contractor is prevented from working at the beginning of the workday for cause as specified in 6-4.1 and the following:
 - 1) Inclement weather or conditions resulting immediately therefrom.
 - 2) Installation, relocation and/or alteration of public and/or private utilities by others.

or,

- f) any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as specified in 6-4.1 and the following:
 - 1) Inclement weather or conditions resulting immediately therefrom.
 - 2) Installation, relocation and/or alteration of public and/or private utilities by others.

Add the following:

Allowance – An amount established in the Bid by the Agency for the purpose of reimbursing the Contractor for its actual expenses plus the specified markup for an item of work.

Bid Guaranty – The cash, certified check or Bidder's surety bond accompanying the Bid as a guaranty that the Bidder will enter into a Contract with the Board for the performance of the Work.

Board Acceptance – The determination by the Board that all of the requirements contained in the Contract Documents have been fulfilled as specified in 3-13.2 of the SSPWC.

Claim – A separate demand by the Contractor for:

- a) a time extension,
- b) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for, or the claimant is not otherwise entitled to, or
- c) an amount, the payment of which is disputed by the Agency.

County – The County of Los Angeles.

Department – Los Angeles County Public Works.

Field Acceptance – The determination by the Engineer that the Work has been completed in conformance with the Contract Documents as specified in 3-13.1 of the SSPWC.

Project – See Work.

Quality Assurance – Those standards, systems, processes, procedures and activities exercised by the Agency and the Engineer to ensure that the Work is constructed by the Contractor in accordance with the Contract Documents.

Quality Control – Those standards, systems, processes, procedures and activities exercised by the Contractor to ensure that the Work is constructed in accordance with the Contract Documents.

1-3 ABBREVIATIONS.

1-3.2 Common Usage. (Page 5 of the SSPWC)

Add the following abbreviations:

<u>Abbreviation</u>	<u>Word or Words</u>
NTP	Notice to Proceed

1-6 BIDDING AND SUBMISSION OF THE BID.

1.6-1 General. (Page 10 of the SSPWC)

Replace the entire paragraph with the following:

Bidding and submission of the Bid shall conform to the requirements specified in the Instructions to Bidders and Notice Inviting Bids.

1-6.2 Subcontractor Listing. (Page 10 of the SSPWC)

Replace subheading a) with the following:

- a) The name, the location of the place of business, the California contractor license number, and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under

subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.

1-7 AWARD AND EXECUTION OF THE CONTRACT. (Page 10 of the SSPWC)

Replace the entire subsection with the following.

1-7.1 General. No Contractor or Subcontractor may be listed on a Bid Proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for Bid purposes only under Labor Code section 1771.1(a)). No Contractor or Subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

Upon determination of the lowest responsive and responsible Bidder, the Agency will recommend to the Board award of the Contract to that Bidder. Upon award of the Contract by the Board, the Agency will issue a Notice of Award to the Contractor.

Various documents and instructions for their completion will be mailed to the Contractor prior to issuance of the Notice of Award. The Contractor shall submit the completed documents to the Agency within the time specified.

The Notice to Proceed will be issued per 6-1.2.

1-7.2 Contract Bonds. (Page 11 of the SSPWC)

Replace the second and third sentences of the first paragraph with the following:

Bonds shall be duly executed by a solvent surety company that is authorized by the State of California, is listed in the United States Department of the Treasury's Listing of Approved Sureties (Treasury Circular 570) (www.fms.treas.gov/c570/) and is satisfactory to the Agency.

Replace the fourth paragraph with the following:

The “Performance Bond” shall be for \$20,000,000 to guaranty faithful performance of all work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and workmanship will be free from original or developed defects. The Bond must remain in effect until the end of all warranty periods set forth in the Contract Documents.

SECTION 2 - SCOPE OF THE WORK

2-1 WORK TO BE DONE. (Page 11 of the SSPWC)

Add the following:

The estimated quantities of work and materials to be performed, constructed or furnished by the Contractor under this Contract are as shown on the Schedule of Prices in the Bid Proposal. Prior to submitting a Bid, the Bidder shall visit the Work Site, analyze the Plans, read the Specifications and the other Contract Documents, and satisfy itself that it has the abilities and resources to complete the Work.

2-2 PERMITS. (Page 11 of the SSPWC)

Add the following before the first paragraph:

2-2.1 General.

Add the following subsection:

2-2.2 City Construction Permits. The Contractor shall obtain the following construction permits directly from the City of Los Angeles for work within the City’s jurisdiction prior to the issuance of the Part 2 NTP. The Agency has previously applied for an A-Permit and U-Permit as noted. A copy of each of these (now-expired) construction permits are included herein at the end of this Section G for reference. Contact information for City representatives previously assisting with these permits is provided for reference in the table below. The Contractor shall comply with the requirements specified in the permits.

<u>City of Los Angeles Bureau of Engineering Permit</u>	<u>Previous Permit Number / Reference Number</u>	<u>City Contact</u>
A-Permit for new apron on Filmore Street	A2017-002467 V (Reference Number 61261.)	Julius Frank Garcia (818) 374-5090 J.Frank.Garcia@lacity.org
U-Permit for installation of 2” PVC conduit on Arleta Avenue	U-1881-0353 (Reference Number 2017006218.)	Carlos Chidez (818) 374-4636 carlos.chaidez@lacity.org
U-Permit for jacking operation on Devonshire Street	Reference Number 2016014384.	Carlos Chaidez (818) 374-4636 carlos.chaidez@lacity.org

The Contractor shall pay for the permit fees including inspection fees charged by the City. Payment for the permit fees including inspection fees charged by the City will be made under the Allowance in the Bid for “CITY PERMIT AND INSPECTION FEES (ALLOWANCE OF \$10,000)” upon presentation of the original fee receipts to the Engineer. Full compensation for complying with the permit requirements and provisions shall be considered as included in the various items in the Bid.

2-3 RIGHT-OF-WAY. (Page 11 of the SSPWC)

Delete the last sentence.

Add the following:

The Contractor shall conduct all of its activities and operations within the rights of way provided by the Agency or within the confines of public thoroughfares. The Contractor shall not allow its employees to use private property for any reason or to use water or electricity from such property without written permission from the owner.

If, for any reason, the Contractor elects to encroach upon other lands, it shall first obtain written permission from the owner and provide evidence of such permission in writing to

the Engineer prior to entering upon such lands. In performing any work or doing any activity on lands outside of public rights of way, the Contractor shall comply with all applicable Federal, State and local laws, ordinances, and regulations. The Contractor shall indemnify and hold the Agency harmless from all claims or suits for damages occasioned by such work or activity, whether done in compliance with this subsection and with permission from the owner or in violation of this subsection without permission from the owner.

2-4 COOPERATION AND COLLATERAL WORK. (Page 12 of the SSPWC)

Add the following after the last paragraph:

When the Plans indicate that a portion or all of the above work is to be performed by others, the Contractor shall notify the Engineer a sufficient amount of time in advance of construction to enable the Engineer to give the affected agency 72 hours notice to perform the work. This shall also apply to all other facilities of a similar nature which are located in public streets over which another agency has jurisdiction or control, and which must be relocated, reconstructed, or modified to permit or facilitate the construction of the Project. Such relocation, reconstruction, or modification will be requested when, in the opinion of the Engineer, such work is necessary for construction of the Project. This work will be performed at no cost to the Contractor. However, relocation, reconstruction, or modification of the above-mentioned facilities performed for the convenience of the Contractor, or because of damage caused by the Contractor's operations, shall be at the Contractor's expense.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

2-5.1 General. (Page 12 of the SSPWC)

Add the following:

The Agency will not provide temporary utility services. All generators used by the Contractor shall comply with the United States Environmental Protection Agency's Tier 4 emission standard.

2-5.2.1 Los Angeles Department of Water and Power (LADWP). The Contractor may obtain water for its use on the Project from LADWP. Refer to the following:

- a) Establish an Account and Service Agreement with LADWP Customer Service by calling 1-800-DIAL-DWP (1-800-342-5397). Once the account is established, the contractor may call the East Valley District at 818-771-4307 or 213-367-5459 to turn on the water service.

- b) The fee schedule can be found by navigating through the LADWP website: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-fr-schedul-c-comm-ind-gov?_adf.ctrl-state=p0olrlpc2_4&_afLoop=271659224653063

2-5.2.2 Payment. Payment for temporary electrical service and temporary water service shall be included in the various items in the Bid.

2-7 CHANGES INITIATED BY THE AGENCY.

2-7.1 General. (Page 12 of the SSPWC)

Add the following after the first paragraph:

A Change Order will require the prior approval of the Board, which will be obtained by the Engineer, when the dollar value exceeds:

- a) \$5,000 when the Contract Price does not exceed \$50,000;
- b) 10 percent of the Contract Price when the Contract Price exceeds \$50,000, but does not exceed \$250,000; or
- c) \$25,000 plus 5 percent of the Contract Price in excess of \$250,000 up to a not to exceed total of \$210,000.

Add the following subsection(s):

2-11 MEETINGS. The Contractor shall attend and participate in all meetings scheduled by, or at the request of, the Engineer. These include, but are not limited to, a regularly scheduled weekly on-site meeting for the purposes of the management of the construction and Project site operations. The Contractor shall make available those resources, reports and records necessary to effectuate timely and productive management meetings.

SECTION 3 - CONTROL OF THE WORK

3-2 SELF-PERFORMANCE. (Page 14 of the SSPWC)

Replace the entire subsection with the following:

The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price. Where an entire Bid item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of a Bid item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

3-5 INSPECTION. (Page 14 of the SSPWC)

Add the following:

As part of the administration of the Contract and the inspection process, the Agency will perform Quality Assurance compaction testing as required. For unclassified fill, structure backfill, roadway subgrade, base material, trench backfill, and other compacted fills of any nature, the first Quality Assurance compaction test will be performed at no cost to the Contractor. In the event that additional Quality Assurance compaction tests are required due to the failure of the Contractor to construct to the required density, the sum of \$250 for each such additional test will be deducted from any monies due the Contractor.

3-6 THE CONTRACTOR'S REPRESENTATIVE. (Page 14 of the SSPWC)

Add the following as the last paragraph:

The failure of the designated representative(s) to faithfully prosecute the Work, including, but not limited to, failure to adhere to the Contractor's construction schedule shall be deemed grounds for removal from the Work per 5-3.1.

3-7 CONTRACT DOCUMENTS.

3-7.1 General. (Page 15 of the SSPWC)

Add the following:

The Standard Specifications for Public Works Construction and the Standard Plans for Public Works Construction are both promulgated by Public Works Standards, Inc. These publications are available for purchase from BNi Building News, Inc., 1612 South Clementine Street, Anaheim, California 92802, (800) 873-6397, www.bnibooks.com. **These publications are copyrighted and the Agency will not provide copies.**

Standard Plans of the Los Angeles County Department of Public Works are available for purchase in the Agency’s Cashier's Office located at 900 South Fremont Avenue, Alhambra, California 91803-1331, (626) 458-6959, or for downloading on the internet, www.ladpw.org/des/Design_Manuals/StandardPlan.pdf.

Add the following subsections:

3-7.1.1 Plans. Included as part of the Contract Documents are the following which show the location, character, dimensions or details of the Work:

a) Project Plans

- 1) Project Plans – 81 sheets
- 2) Traffic Control Plans (Plan TC) – 4 sheets

b) Standard Plans

- 1) Standard Plans for Public Works Construction 2012 Edition, promulgated by Public Works Standards, Inc. (included by reference only):

121-2	224-4	320-2	323-2	326-2	332-2	380-4
520-4	600-3	606-3	610-3	633-4	635-3	640-4

- 2) Standard Plans of the Los Angeles County Department of Public Works, 2000 Edition (included at the end of Section D):

3080-3	3090-1	3091-1	3093-1	6008-1
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- 3) Caltrans Standard Plans, 2018 edition (included at the end of Section D):

A73A

4) Standard Plans of the City of Los Angeles (included at the end of Section D):

S-440-4 S-477-2

5) Standard Plans of the Los Angeles County Waterworks Districts, Department of Public Works (included at the end of Section W).

W-6 W-15 W-17 W-21 W-35

3-7.1.2 Specifications. The Work shall be constructed or done in accordance with these Special Provisions and the following:

The "Standard Specifications for Public Works Construction 2018 Edition," hereinafter referred to as the "Standard Specifications."

3-7.2 Precedence of the Contract Documents. (Page 15 of the SSPWC)

Replace the order of precedence under the first paragraph with the following:

- a) Permits issued by jurisdictional regulatory agencies.
- b) Change Orders and/or Supplemental Agreements; whichever occurs last.
- c) Contract/Agreement.
- d) Addenda.
- e) Bid/Proposal.
- f) Special Provisions.
- g) Plans.
- h) Agency Standard Plans.
- i) Other Standard Plans.
- j) Notice Inviting Bids.
- k) Instructions to Bidders.
- l) Standard Specifications for Public Works Construction.
- m) Reference Specifications.

Detail drawings shall take precedence over general drawings.

3-8 SUBMITTALS.**3-8.1 General.** (Page 15 of the SSPWC)

Replace the second paragraph with the following:

The Contractor shall allow a minimum of 20 Working Days for each review, unless otherwise approved by the Engineer. Review periods are not cumulative. The aforementioned time frames begin anew upon each submission whether the initial submission or a resubmission after a prior review by the Agency. Each set of submittals shall be accompanied by a letter of transmittal describing exactly what is being transmitted.

Add the following:

Submittals shall be submitted to:

Ms. Chandra McLoud
Los Angeles County Public Works
Project Management Division III, 8th Floor
900 South Fremont Avenue
Alhambra, CA 91803
Business hours: 7:00 a.m. - 5:00 p.m. Monday through Thursday
Telephone No. (626) 458-3165
FAX No. (626) 458-2197
Email Address: CMCLOUD@dpw.lacounty.gov

Mailing Address:

P.O. Box 1460
Alhambra, CA 91802-1460

All submittals shall be submitted and approved prior to issuance of the Part 2 NTP unless otherwise specified herein or approved by the Engineer.

No work shall begin on the respective items of work which require a submittal until the submittals for those items of work have been approved in writing by the Agency and, for those requiring their approval, the LADWP. The Agency will receive, forward and coordinate the review of submittals with the LADWP.

3-8.2 Working Drawings. (Page 16 of the SSPWC)

Add the following to Table 3-8.2:

Item	Subsection Number	Title	Subject
15	5-2	Protection	Utility Supports
16	7-10.5.5	Temporary Bridges	
17		Scaffolding	
18	200-1	Riprap Rock	Certification
19	201-1	Portland Cement Concrete	Concrete mix design, certificate of compliance
20	201-2	Steel Reinforcement	Reinforcing steel size/grade, quantities, and weights, Mill certification
21	209-2.2.1 & LACWD W-35	Exterior Cement Mortar	
22	209-2.2.1 & LACWD W-35	Interior Cement Mortar	
23	217-2	Trench Backfill Slurry	
24	300-12	Sediment Transportation Plan	Details, methods and procedures
25	300-12.6	Quality Control Program for Moisture Content	Plan and Certifications
26	301-2	Crushed Miscellaneous Base	
27	302-5	Asphalt Concrete Pavement	Licensed weighmaster's certificate
28	303-2	Air-Placed Concrete	Concrete mix design, certificate of compliance
29	304-1.9,306-8.3.2.4	Welding Certificates	
30	306-4.1	Shoring and Bracing for RC Overflow Structures and Outlet Structures	Shoring plans, limits of applications and supporting calculations
31	306-4.1	Shoring and Bracing for Jacking and Receiving Pits	Shoring plans, limits of applications and supporting calculations (if not using plans provided in plan set)
32	306-7.1.2	Direct Jacking of the 72" RCP	Requires U-Permit and City of LA BOE Approval. Shoring Plans and calculations provided.
33	306-7.3	Reinforced Concrete Pipe	Layout sheets, certificate of compliance
34	E-1.3.3	Structural Strut Support Channel	

35	E-1.3.4	Structural Anchors	
36	LACWD W-17	Adjustable Pipe Support	
37	M-1.1.1	Fabricated Stainless Steel Gate Assemblies and Appurtenances	
38	Plan Sheet 7	Temporary Support for 72" LADWP Trunkline	Plans and Calculations. Requires LADWP Approval.
39	Plan Sheet 34	Expanded Metal Cage Enclosure	Steel design, certificate of compliance
40	Plan Sheet 35	Gauge Boards	Number Plates

Scaffolding shall be designed in accordance with the Construction Safety Orders issued by the California State Division of Occupational Safety and Health.

Falsework shall be designed in accordance with Section 51-1.06, 55-1.05, and 86-6.11 of the State of California Department of Transportation (Caltrans) Standard Specifications, 2015 edition.

Working Drawings listed as Items 7, 8, 9, and 10 in Table 3-8.2 shall be prepared on 2-foot x 3-foot sheets.

Replace the fourth paragraph with the following:

Working Drawings listed as Items 2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15, 16, 17, 30, 31, and 38 in Table 3-8.2 shall be prepared, wet stamped, and signed by a Civil or Structural Engineer registered by the State of California.

3-8.3 Shop Drawings. (Page 16 of the SSPWC)

Add the following to Table 3-8.3:

Item	Subsection Number	Title	Subject
7	206-7	Security Gate and Fence	Steel Security Fence, Slide Gate, Lock-box and Keypad, Electromagnetic Gate Lock
8	209-2.2	4" Steel Pipe, .14" min, CML & CMC	
9	212-4, LACWD W-15	Valve Box Cap	
10	212-5	4" Gate Valve w/ Handwheel	
11	212-5.1	4" Gate Valve	
12	212-7.3	Steel Enclosure	

13	212-7.3 & LACWD W-6	4" Reduced Pressure Principle Assembly	
14	303-1.12.4	Metal Hand Railing	
15	304-3	Chain Link Fence	
16	M-1.1.2	Cast-Iron Gate Assemblies and Appurtenances	
17	M-1.1.2	Electric motor operators mounting pedestals and appurtenances	
18	M-1.1.2	Discharge Pipeline	
19	M-1.1.2	Air vent stacks	
20	Plan Sheet 66 (W-5)	Barricade Posts	
21	Plan Sheet 66 (W-5)	2.5" Flushout Head	
22	Plan Sheet 66 (W-5)	Steel Air Gap Adaptor	
23	Plan Sheet 66 (W-5)	4" Flexible Hose	
24	Plan Sheet 66 (W-5)	4" Steel Pipe Support	
25	Plan Sheet 66 (W-5)	OSHA Safety HDPE Sign	
26	Plan Sheet 66 (W-5)	4" 2 Bolt Steel Pipe Clamps	

3-8.4 Supporting Information. (Page 16 of the SSPWC)

Add the following:

- n) Detailed schedule for "IMPLEMENTATION OF THE SWPPP" per Section EC 3-12.6.3 and 7-2.
- o) Paint, manufacturer's information per 310
- p) Exterior coating, manufacturer's information per 212-12
- q) Portable scales, manufacturer's information per 300-12.10
- r) Name of "Competent Person" per 5-7.2.1
- s) Permit from the State Division of Industrial Safety per 5-7.2.2
- t) Interconnection wiring diagrams (control system) per E-1.1.2C.3
- u) Internal and external equipment elevations per E-1.1.2C.4
- v) Manuals for start-up testing procedures per E-1.1.2C.5
- w) Maintenance schedule for all equipment per E-1.1.2C.6

- x) Cables, manufacturer's information per E-2
- y) Conduit systems, boxes, wiring devices, manufacturer's information per E-3
- z) Grounding, manufacturer's information per E-4
- aa) Controls and instrumentation, manufacturer's information per E-6
- bb) Submersible Level Transmitter, manufacturer's information per M-1.1.3
- cc) Electric motor operators and controllers, manufacturer's information per M-1.2.3
- dd) Meter main combination socket, manufacturer's information per Plan Sheet 57 (E-7)
- ee) Panelboards, manufacturer's information per Plan Sheet 57 (E-7)
- ff) Flood light fixtures and poles, manufacturer's information per Plan Sheet 57 (E-7)
- gg) Enclosures per Plan Sheet 57 (E-7)

Add the following subsection:

3-14 NONCOMPLIANCE WITH THE PLANS AND SPECIFICATIONS. Failure of the Contractor to comply with any requirement of the Plans and Specifications, and to immediately remedy any such noncompliance upon notice from the Engineer, may result in suspension of Contract progress payments on all items of work. Any progress payments so suspended shall remain in suspension until the Contractor's operations are brought into compliance to the satisfaction of the Engineer. Upon determination by the Engineer that the Contractor is in compliance, progress payments will resume for those items of work which have been constructed in conformance with the Plans and the Specifications. No additional compensation shall be due the Contractor as a result of the suspension of progress payments due to noncompliance with the Plans and Specifications.

SECTION 4 - CONTROL OF MATERIALS

4-2 PROTECTION. (Page 22 of the SSPWC)

Add the following:

The Contractor shall assume all risks and expenses, including the costs of any interferences, delays to its operations and the protection from, or the repair of, damage to improvements being constructed under the Contract, as may be caused by water of whatever quantity from floods, storms, industrial waste, irrigation, underground or other sources. However, the Contractor shall be entitled to an extension of time per 6-6. The Contractor shall also assume full responsibility for, and the expense of, protecting or removing and returning to the Work site, all equipment or materials under its care endangered by any action of the elements.

The Contractor shall provide the Agency with emergency callback information for the Project. The callback information shall include current names, titles, and telephone numbers for both primary and secondary response personnel.

When rain or severe weather is forecast the following procedures shall be implemented:

- a) To ensure a timely and proper response, the Contractor shall designate primary and secondary responders. Responders shall be trained personnel such as field superintendents or foremen who are properly equipped with communication devices, tools, and equipment, and who have the authority and ability to make critical on-site decisions and commit the Contractor's resources.
- b) Contractor responders and the Engineer will patrol the Work site and identify potential hazards or problems. Should a potential hazard or problem be identified in the absence of a Contractor responder, the Engineer will notify and request a Contractor-designated emergency responder report to the Work site immediately.
- c) If notified, the Contractor's responder shall report immediately, irrespective of the day or time, to the Work site and take necessary corrective actions including emergency and/or temporary repairs.
- d) If the Contractor fails to respond, the Engineer will arrange for Agency forces to perform the necessary work. The cost to perform this work and related expenses will be deducted from any monies due the Contractor.

4-4 TESTING. (Page 22 of the SSPWC)

Add the following after the first paragraph:

Unless otherwise specified, initial review of mix design submittals and acceptance testing of a material proposed for use on the Project from up to two sources will be performed by the Agency at no cost to the Contractor. Any additional tests from another source or retest beyond the allowable shall be at the Contractor's expense. The Agency will deduct from any monies due the Contractor the amount of \$250 per each additional test.

The Agency's materials testing laboratory is located at:

1537 Alcazar Street,
Los Angeles, California 90033, (626) 458-1707.

The Contractor shall notify the Engineer 24 hours in advance of its request for inspection and testing laboratory services for each specific operation. The Engineer will make arrangements for such services which require the presence of Agency personnel not assigned to the Project.

Should the Contractor's operations or a change in schedule result in Agency personnel being delayed in performing the requested services, the Agency will deduct from any monies due the Contractor the amount of \$100 per hour of delay or portion thereof.

4-6 TRADE NAMES. (Page 23 of the SSPWC)

Replace the entire subsection with the following:

Pursuant to the Public Contract Code, Section 3400, the Contractor may supply any of the products or materials specified or offer an equivalent.

A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material or product it considers to be an equivalent to that specified.

If the Contractor wishes to request consideration of a proposed "equal" product or material, it shall submit such request in writing to the Agency within 2 Working Days after the date of the Bid opening on the Submissions of Equals form available at the following website address:

http://dpw.lacounty.gov/contracts/resources/doc/Submission_of_Equals.pdf

Requests received after that time period will not be considered.

The Contractor shall, at its expense, furnish information supporting the proposed “equal” product or material offered within 10 Working Days after the date of the Bid opening.

The Contractor shall have the material tested as required by the Engineer to determine if the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the proposed “equal” will fulfill the intended function. Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results.

The Agency will review the supporting information within 5 Working Days from the date of submission. The findings of the Agency shall be final.

If the proposed “equal” product or material is determined by the Agency to not be equivalent to the specified product or material, the Contractor shall furnish and install the specified product or material.

Agency-approved "equal" products or materials shall not be installed nor put into usage without the prior approval of the Engineer.

The Contract time of completion specified in 6-3 shall not be affected by any circumstance arising from the provisions of this subsection.

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES

5-1 LAWS AND REGULATIONS. (Page 24 of the SSPWC)

Add the following:

When required by City ordinance, the Contractor shall obtain and pay for a City business license.

5-3 LABOR.

5-3.1 General. (Page 24 of the SSPWC)

Add the following:

This Project is subject to compliance monitoring and enforcement by the State of California Department of Industrial Relations.

5-3.2 Prevailing Wages. (Page 25 of the SSPWC)

Add the following after the second sentence:

The Agency will furnish copies of said wage rates for the Contractor's use.

Add the following:

The General Prevailing Wage Rate Determinations are available at www.dir.ca.gov/DLSR/PWD/index.htm. Copies of the General Prevailing Wage Determinations are on file at the Los Angeles County Public Works, Project Management Division III, 8th Floor, 900 South Fremont Avenue, Alhambra, CA 91803-1331, telephone (626) 458-3104. Copies will be made available to any interested party upon request. Future effective wage rates will be on file with the Department of Industrial Relations, and are referenced but not printed in said publication. The new wage rates shall become effective on the day following the expiration date of the current determinations and apply to the Contract in the same manner as if they had been included or referenced in the Contract.

5-3.3 Payroll Records. (Page 25 of the SSPWC)

Replace the entire subsection with the following:

Pursuant to Section 1776 of the California Labor Code, the Contractor shall keep accurate payroll records (“certified payroll records”) showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee the Contractor employs in connection with the Work.

Whenever so requested by the Engineer, the Contractor shall submit to the Engineer a certified copy of each such employee’s payroll record (“certified payrolls”) at the end of each week for the period ending the previous week. Failure to submit such payroll records will result in the Agency withholding from any monies due the Contractor the amount of \$250 for each week in which certified payrolls have not been submitted.

Add the following subsections:

5-3.6 Work Records. Pursuant to Section 1812 of the California Labor Code, and in addition to certified payroll records, the Contractor shall maintain an accurate written record of all employees working on the Project each calendar day. The Agency will provide the work record form to the Contractor. The work record shall include each employee's name,

Social Security number, job classification and the actual number of hours worked. The work record shall be completed by the Contractor's representative in the field daily. The Contractor shall submit a signed copy of this record to the Engineer no later than Monday for the preceding week's work.

5-3.7 County Equal Employment Opportunity (EEO) Provisions. The Agreement will contain a section of the same title (refer to the "Sample Agreement"). The Contractor shall submit the forms referred in the Agreement and the EEO Requirements included at the end of this Section G to the Labor Compliance Officer designated by the Agency. Failure to so submit will result in the deduction prescribed.

5-3.8 Local and Targeted Worker Hire Policy.

5-3.8.1 Mandatory Hiring Goals.

The County of Los Angeles has implemented a Local and Targeted Worker Hire Policy (LTWHP) to facilitate the hiring of Local and Targeted workers. Pursuant to this policy, this Project has a *mandatory goal* of at least 30 percent of total California Construction Labor Hours worked be performed by a qualified Local Resident and at least 10 percent of total California Construction Labor Hours worked on this Project shall be performed by County residents classified as a Targeted Worker. Hours worked by a Targeted Worker who is also a Local Resident may be applied towards both the mandatory 30 percent Local Hire and 10 percent Targeted Worker Hire goals.

In addition, there shall be a **mandatory** requirement to use a Jobs Coordinator to be hired directly by the Contractor, prior to the start of Work on the Project. The Jobs Coordinator is an independent third-party individual, entity, or employee with whom the Contractor enters into a Contract or employs to facilitate the implementation of the Local and Targeted Worker Hiring Requirements of this Agreement. The Jobs Coordinator may be selected from the approved Jobs Coordinators list available as Form 00 09 12-5. If the Contractor utilizes an employee as a Jobs Coordinator, the Jobs Coordinator must be able to demonstrate or document to the Agency the minimum qualifications and/or experience to fulfill the duties and responsibilities as outlined in 5-3.8.7.

Per State Labor Code, a minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, and Contractors shall strive to obtain half of all apprentice hours on the Project be performed by Local and Targeted Workers. Hours worked by an apprentice who is also a Targeted Worker or a Local Resident may be applied towards the 30 percent Local Resident and/or the 10 percent Targeted Worker hire goals.

5-3.8.2 Definitions. Terms used in the implementation of the LTWHP shall be defined as follows:

California Construction Labor Hours – Includes all craft worker hours performed on the Project by California residents, excluding the hours performed by off-site material fabricators, designers, Project office staff, or vendors.

Certified Payroll Reports – The Contractor shall comply with the requirements of Section 1776 of the Labor Code, State of California for the submission of Certified Payroll Reports (CPR).

Community Service Providers – A network of public and private partners working to support workers and businesses by serving their employment and training needs. These providers include local one-stop job/career centers funded by the Federal Workforce Innovation and Opportunities Act (WIOA). These centers help businesses find skilled workers and connect customers to work related training and education; most services are available at no cost. Examples of Community Service Providers are listed in 5-3.8.5.

Craft Employee Request Form – The form used by the Contractor and its Subcontractors to request dispatch of craft workers (including, but not limited to, apprentices and journeymen), who are Local Residents or Targeted Workers, from a Community Service Provider or union hiring hall in the event that assistance in obtaining such workers is needed. The request form is submitted by the Contractor/Subcontractor, completed and executed by the Community Service Provider or union hiring hall, and a copy retained by the General Contractor for auditing purposes.

Jobs Coordinator – An individual or firm that facilitates implementation of the Targeted Worker hiring requirements of the County of Los Angeles for the Contractors/Subcontractors. The Jobs Coordinator must be able to demonstrate or document to the Agency the requisite qualifications and/or experience to fulfill the duties and responsibilities as outlined in 5-3.8.7.

Local and Targeted Hire Status Report – A monthly report required to be submitted to the County as listed on Form 00 09 12-4.

Local Resident – A Local Resident is defined as an individual whose primary place of residence is within the Tier 1 or Tier 2 ZIP Codes of the County, as listed in Forms 00 09 12-1 and 00 09 12-3.

Targeted Worker – An individual who is a County resident and faces one or more of the following barriers to employment:

- Has a documented annual income at or below 100 percent of the Federal Poverty Level;
- No high school diploma or GED;
- A history of involvement with the criminal justice system;
- Protracted unemployment (receiving unemployment benefits for at least 6 months);
- Is a current recipient of government cash or food assistance benefits;
- Is homeless or has been homeless within the last year;
- Is a custodial single parent;
- Is a former foster youth;
- Is a veteran, or is the eligible spouse of a veteran of the United States armed forces, under Section 2(a) of the Jobs for Veterans Act (38 U.S.C.4215[a]);
- Eligible Migrant and seasonal farmworkers;
- Currently an English language learner;
- Older Individuals (55+);
- Disabled; or
- Individuals with low levels of literacy.

Tier 1 Zip Codes – Tier 1 Zip Codes are those zip codes listed in Form 00 09 12-1.

Tier 2 Zip Codes – Tier 2 Zip Codes are those zip codes listed in Form 00 09 12-3.

Workforce Utilization Plan – Form 00 09 12-2 submitted by the Contractor on behalf of itself and its Subcontractors prior to commencing Work, specifying a Workforce Utilization Plan, which contains the workforce plan and schedule for the hiring of qualified Local Residents and Targeted Workers, including the use of the Subcontractors' workforce to meet the LTWHP hiring goal. The Contractor shall submit updates of the Workforce Utilization Plan to reflect changes in Project conditions, schedules, or Subcontractors.

Form 00 09 12-1 is included at the end of this Section G.

Forms 00 09 12-2 through 00 09 12-5 are available for download at the following web address:

<ftp://dpwftp.co.la.ca.us/pub/CND/LTWHP/>

5-3.8.3 Local and Targeted Worker Hire Program.

- a) The Contractor and its Subcontractors shall meet the following minimum mandatory Local Resident and Target Worker hiring requirements:
1. At least 30 percent of total California Construction Labor Hours worked on the Project must be performed by a qualified Local Resident;
 2. And at least 10 percent of total California Construction Labor Hours worked on the Project shall be performed by a Targeted Worker. The hours worked by a Targeted Worker who is also a Local Resident may also be applied towards the 30 percent Local Resident hiring goal.
 3. In addition, there shall be a mandatory requirement to use a Jobs Coordinator, as that term is defined in Section 1.02, to facilitate implementation of the Targeted hiring requirements of this Policy; and the Contractor shall ensure the mandatory hiring requirements provided for Local and Targeted Workers are met in accordance with this Policy.
- b) The available pool of Local Residents whose primary place of residence is within Tier 1 ZIP Codes (listed under Form 00 09 12-1), must first be exhausted in the manner specified in Section 2.01E before employing worker(s) from Tier 2 ZIP Codes (listed under Form 00 09 12-3).
- c) All California Construction Labor Hours shall be included in the calculation for the percentage requirements set forth in Section 1.03 A.
- d) The General Contractor and its Subcontractors shall not discriminate against or give preference to any particular individual or group based on race, color, gender, sexual orientation, age or disability.

5-3.8.4 Administration and Compliance.

- a) Prior to issuance of the Part 2 NTP, the Contractor shall retain the services of a Jobs Coordinator in accordance with 5-3.8.7. The Jobs Coordinator shall be retained for the duration of the Contract.

- b) Prior to issuance of the Part 2 NTP, the Contractor, and all Subcontractors of every tier shall coordinate with the Jobs Coordinator for services to support their efforts in meeting the targeted hiring percentages as described in 5-3.8.1.
- c) Prior to issuance of the Part 2 NTP, the Contractor, on behalf of itself and its Subcontractors, shall conduct at least 1 community outreach meeting to target Local Residents and Targeted Workers for potential employment. The meeting shall be in a facility located within 5 miles of the Project site at a location approved by the Agency.
- d) Prior to issuance of the Part 2 NTP, the Contractor, on behalf of itself and its Subcontractors, shall submit a Workforce Utilization Plan to the Office Engineer named in 3-8 that contains the plan and schedule for the hiring of qualified Local and Targeted Workers and the assignment and use of the Subcontractors' workforce to meet the Local Worker Hire requirement. The Contractor, thereafter, shall submit updates of the Workforce Utilization Plan to reflect changes in Project conditions, schedule, or Subcontractors.
- e) The Contractor and its Subcontractors shall submit certified payroll reports on a monthly basis, but no later than on the 1st Monday of the subsequent month. Certified payroll reports shall be submitted electronically if an online system is designated by the Agency.
- f) ***The Contractor and its Subcontractors shall first meet the Local and Targeted Worker Hire participation requirement by employing qualified workers from the Tier 1 Preference Area.*** If the Contractor is unable to meet their entire Local and Targeted Worker Hire need from this area, it must submit a statement on company letterhead certifying that it has exhausted all available qualified Local and Targeted Workers from this area during a 48-hour period before pursuing workforce from the Tier 2 Preference Area.
- g) The Contractor and its Subcontractors shall use the Craft Employee Request Form (00 09 12-1) for all requests for dispatch of qualified Local Resident and Targeted Worker craft workers (including apprentices and journeymen) in the event that assistance in obtaining such workers is needed from a Community Service Provider, union hiring hall, or other source.
- h) No later than the 15th Day of each month for the duration of the Project, the Contractor shall submit a completed Local and Targeted Hire Status Report containing the relevant information for the preceding month to demonstrate progress in meeting the Workforce Utilization Plan. The Local and Targeted Hire Status

Report shall contain, at a minimum the information specified below for the Contractor and each Subcontractor:

- 1) For each California Project Craft Worker (apprentices and journeymen): (a) the total labor hours, total number of all workers (apprentices and journeymen), and hours worked on the Project; and (b) the wages earned on the Project.
 - 2) Total number of Local Residents (apprentices and journeymen), hours worked (apprentices and journeymen), segregated by Tier 1 and Tier 2 Residency Preference Areas, and wages earned by each Local Resident.
 - 3) Total number of Targeted Worker hours worked (apprentices and journeymen) (by Primary and Secondary Residency Preference Areas).
 - 4) Total number of hours worked by Local Residents by Subcontractors.
- i) The Agency may, in its sole discretion, elect to provide an online system for the Contractor and its Subcontractors to input the data required in the Local and Targeted Hire Status Report. If the Agency so elects, the Contractor and its Subcontractors shall utilize that online system in lieu of completing and submitting the Local and Targeted Worker Hire Status Report.
 - j) No later than the 15th calendar day of each month, the Contractor and all its Subcontractors shall submit the Local and Targeted Hire Status Report to the designated Agency representative (or submit the data online if the Agency elects to provide an online system), to demonstrate progress in meeting the Workforce Utilization Plan. Failure to submit the Local and Targeted Worker Hire Status Report to the designated Agency representative shall be deemed to constitute zero percent local hire participation for the month and the Agency may retain the maximum for the duration of the Project of one percent (1%) of the total construction Contract amount, but not to exceed \$500,000, comprised of 0.75% for Local Worker goal compliance, and 0.25% for Targeted Worker goal compliance. This amount is called the Mandatory Compliance Withholding (MCW) amount.
 - k) The Contractor's compliance with the approved Workforce Utilization Plan will be evaluated monthly using the Local and Targeted Worker Hire Status Report. The MCW will be divided by the number of construction months in the baseline

construction schedule to determine the Monthly Mandatory Withholding (MMCW) amount for non-compliance.

Should the Contractor fail to comply with the mandatory goals, in any month, the Agency will withhold up to the Monthly Mandatory Compliance Withholding (MMCW).

The actual Monthly Withholding Amount (MWA), if any, will be determined by the following method:

- 1) Calculate Actual Hire Percentage (AHP) for Local/Targeted Hire Workers:

$$AHP_L = \frac{\text{Actual Local Hire Worker Hours Worked}}{\text{Actual California Construction Labor Hours Worked}}$$

$$AHP_T = \frac{\text{Actual Targeted Hire Worker Hours Worked}}{\text{Actual California Construction Labor Hours Worked}}$$

- 2) Calculate the Utilization Percentage (UT):

$$UT_L = AHP_L \div 30\% \quad UT_T = AHP_T \div 10\%$$

- 3) Calculate the Unmet Percentage of Compliance (UPC):

$$UPC_L = 100\% - UT_L \quad UPC_T = 100\% - UT_T$$

- 4) Calculate the Mandatory Compliance Withholding (MCW):

$$MCW = \text{Contract Price} \times 1.0\% \quad (\text{not to exceed } \$500,000)$$

- 5) Calculate the Monthly Mandatory Compliance Withholding (MMCW):

$$MMCW = MCW \div \text{Contract Duration (in months)}$$

- 6) Calculate the Monthly Withholding Amount (MWA):

$$MWA_L = MMCW \times 75\% \times UPC_L \quad MWA_T = MMCW \times 25\% \times UPC_T$$

$$MWA = MWA_L + MWA_T$$

Should the Actual Hire Percentage of Local or Targeted Hire Workers meet or exceed the mandatory goals of 5-3.8.1, the Monthly Withholding Amount for that portion will be zero.

Sample calculations of the MWA are shown in the enclosure labeled LTWHP SAMPLE CALCULATIONS (included at the end of this Section G).

- 1) If, at the completion of a Project, the Agency has withheld funds due to the MMCW calculations, a final reconciliation will be performed to determine the Contractor's ultimate compliance with the Local and Targeted Work Hiring **mandatory** requirements based on the total actual Local and Targeted Worker hours incurred on the Project. This reconciliation will be based on the same formulae specified above for the monthly withholding calculations, except that: (1) the Actual Local and Targeted Worker Hire percentages shall be calculated based on the total project hours instead of the monthly hours; and (2) the MCW shall be used instead of the MMCW.

If, after taking into account all hours of Project Work performed, the Local and Targeted Worker Hiring **mandatory** requirements of the Policy have been satisfied for a Project, then the Contractor and its Subcontractors working on that Project shall be deemed to be in compliance, and all withheld funds shall be paid to the Contractor. The Agency will not be required to pay interest on any amounts withheld during the term of the Contract.

If, after taking into account all hours of Project Work performed, the Local and Targeted Worker Hiring **mandatory** requirements of the Policy have not been satisfied for a Project, then the Contractor and its Subcontractors working on that Project shall be deemed to not be in compliance, and the final calculated withholding amount shall be retained by the Agency as liquidated damages for the Contractor's failure of compliance.

The Agency and Contractor specifically agree that the Local and Targeted Hire Participation MCW Amount, minus the total value of previous releases, in direct proportion to the actual Local and Targeted hire participation levels achieved by the Contractor consistent with the Workforce Utilization Plan, shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained due to the Contractor's inability to achieve the Local and Targeted Worker Hiring Requirement in 5-3.8.1.

The Final Withholding Amount (FWA), if any, will be determined by the following method:

- 1) Calculate Final Actual Hire Percentage (FAHP) for Local/Targeted Hire Workers for the entire Project:

$$FAHP_L = \frac{\text{Actual Local Hire Worker Hours Worked}}{\text{Actual California Construction Labor Hours Worked}}$$

$$FAHP_T = \frac{\text{Actual Targeted Hire Worker Hours Worked}}{\text{Actual California Construction Labor Hours Worked}}$$

- 2) Calculate the Final Utilization Percentage (FUT):

$$FUT_L = FAHP_L \div 30\% \quad FUT_T = FAHP_T \div 10\%$$

- 3) Calculate the Final Unmet Percentage of Compliance (FUPC):

$$FUPC_L = 100\% - FUT_L \quad FUPC_T = 100\% - FUT_T$$

- 4) Calculate the Mandatory Compliance Withholding (MCW):

$$MCW = \text{Contract Price} \times 1.0\% \quad (\text{not to exceed } \$500,000)$$

- 5) Calculate the Final Withholding Amount (FWA):

$$FWA_L = MCW \times 75\% \times FUPC_L \quad FWA_T = MCW \times 25\% \times FUPC_T$$

$$FWA = FWA_L + FWA_T$$

Should the Actual Hire Percentage of Local or Targeted Hire Workers meet or exceed the mandatory goals of 5-3.8.1, the Final Withholding Amount for the Project will be zero.

Sample calculations of the FWA are shown in the enclosure labeled LTWHP SAMPLE CALCULATIONS (included at the end of this Section G).

- m) The Agency and the Contractor specifically agree that the final withholding, minus the total value of previous releases, in direct proportion to the actual Local and Targeted Hire participation levels achieved by the Contractor consistent with the Workforce Utilization Plan, shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained due to the Contractor's inability to achieve the mandatory goals specified in 5-3.8.1.

5-3.8.5 Exception to Full Compliance With Targeted Worker Hiring Mandatory Requirements. If the Targeted Worker Hiring mandatory requirements of the Policy have not been satisfied as required for a Project, the Contractor nonetheless may be deemed to be in compliance if the Contractor demonstrates both (a) that the Contractor and each of its Subcontractors have complied with all other requirements of the Policy, and (b) that the Contractor and each of its Subcontractors have satisfactorily demonstrated the following:

- Documented contact with the union, Department of Workforce Development, Aging and Community Services, America Job Centers or with an agency that supports and provides employment and training services for Targeted Workers in construction employment, and in which instance the agency did not refer a qualified Targeted Worker to the Contractor or Subcontractor within 48 hours of the job request for fair consideration of the Targeted Worker.

5-3.8.6 Community Service Providers. Community Service Providers include local one-stop job/career centers funded by the Federal Workforce Innovation and Opportunities Act (WIOA). These centers help businesses find skilled workers and connect customers to work related training and education; most services are available at no cost. Examples of Community Service Providers that may be used by the Contractor and its Subcontractors to identify Local Residents and Targeted Workers include:

- America's Job Center of California:

<http://www.americasjobcenter.ca.gov/>

- Cal Jobs:

<http://www.caljobs.ca.gov/vosnet/Default.aspx>

- Helmets to Hardhats:

<https://www.helmetstohardhats.org>

- LA Jobs:

<https://www.jobsla.org/vosnet/Default.aspx>

- Los Angeles County America's Job Centers of California:

<http://workforce.lacounty.gov/>

- Los Angeles County Workforce Development, Aging, and Community Services:

<http://wdacs.lacounty.gov/>

5-3.8.7 Jobs Coordinator. The Contractor shall submit, in accordance with 3-8, the name of the individual or firm that will serve as the Jobs Coordinator for the duration of the Contract.

5-3.8.7.1 Responsibilities of the Jobs Coordinator. The Contractor shall ensure that the selected Jobs Coordinator effectively performs the following duties:

- a) Develop, create, design and market specific programs to attract Targeted Workers for construction opportunities (e.g. handouts and fliers for “walk-ins” demonstrating program entrance procedures).
- b) Coordinate services for Contractors to use in the recruitment of Targeted Workers.
- c) Educate and assist Contractors on incentives provided by state or federal programs for on-the-job training and employer tax credits.
- d) Conduct orientations, job fairs and community outreach meetings in the local community.
- e) Screen and certify the Targeted Workers status.
- f) Establish a referral and retention tracking mechanism for placed Targeted Workers and apprentices.
- g) Network with the various work source centers, community and faith-based organizations and other non-profit entities that provide qualified Local and/or Targeted Workers.
- h) Coordinate with the various building trades crafts for referral and placement of Targeted Workers.
- i) Maintain a database of pre-qualified Targeted Workers for referral.
- j) Be the point of contact to provide information about available job opportunities on projects.

- k) Assist the Subcontractors with their documentation effort and other reports as it relates to their Targeted Worker hiring requirements.
- l) Work closely with Agency staff, the building trades and Subcontractors in achieving the Targeted hiring goals.

5-3.8.7.2 Minimum Qualifications of the Jobs Coordinator. If the Jobs Coordinator is selected from the approved list provided on Form 00 09 12-5, that Jobs Coordinator shall be deemed to meet the minimum qualifications. No additional qualification information need be provided.

If the Prime Contractor desires to utilize a Jobs Coordinator not listed on Form 00 09 12-5 (i.e., a Contractor employee or other non-listed firm), the Contractor must be able to demonstrate that the selected Jobs Coordinator meets the minimum qualifications listed in this section. When requested by the Agency, the Contractor shall provide documentation sufficient to satisfy the Agency, in the Agency's sole discretion, that the selected Jobs Coordinator meets the following minimum qualifications:

- a) A minimum of 3 years' experience as providing Jobs Coordinator services. Successful candidates for Jobs Coordinators must be able to demonstrate the in-depth ability, experience, and possess the necessary staff capable of providing required services.
- b) Possess working relationships with the Building Trades, Targeted Workers and signatory craft councils and unions operating within County of Los Angeles' jurisdiction by describing previous interactions, relationships, and partnerships with these party's/groups.
- c) Possess experience on projects similar in scale to the current Project.
- d) Possess experience with Targeted Worker populations.
- e) Possess experience in working with work-source centers, faith-based organizations and other Community Based Organizations (CBOs).
- f) Be familiar with incentive programs and tax credit subsidies provided by the State and Federal government to hire workers that fit the corresponding category. Jobs Coordinator to describe their experience in working with these programs.

5-3.8.7.3 Payment. Full compensation for all Work described in 5-3.8, including the services provided by the Jobs Coordinator, shall be considered as included in the lump sum price in the Bid for “IMPLEMENTATION OF THE LTWHP.”

Payment will be prorated on a monthly basis over the duration of the Contract.

5-3.9 Community Business Enterprise (CBE) Participation.

- a) The County encourages the participation of Community Business Enterprises (CBE) in the Contract and has established a goal of twenty-five percent (25%) CBE participation which all Bidders must aspire to meet. Participation in the Work is based on total monetary value of the Contract. CBEs are defined as Minority/Women/Disadvantaged/Disabled Veteran owned Business Enterprises (M/W/D/DVBE).
- b) Bidders shall meet the established goal as indicated above. If the Bidder does not meet this established goal, Bidder shall document their good faith efforts to utilize CBEs.
- c) The apparent responsible Bidder with the lowest responsive Bid is required to submit documentation which describes the Bidder's good faith efforts to utilize CBEs within 24 hours of the Bid opening. Other Bidders shall so submit within 24 hours if so requested by the Agency.
- d) The Agency will evaluate the Bidder's good faith efforts to meet the CBE participation goal by the following criteria:
 - 1) Bidder identified and selected specific items of the Project for which the Contract will be awarded to be performed by CBEs to provide an opportunity for participation by those enterprises.
 - 2) Bidder advertised, not less than ten (10) Days before the date the Bids are opened, in one or more daily or weekly newspaper trade association publications, minority-or trade-oriented publications, trade journals, or other media, specified by the local agency for CBEs that are interested in participating in the Work.
 - 3) Bidder provided written notice of their interest in bidding on the Contract to the CBEs required to be notified by the Specifications not less than ten (10) Days prior to the opening of Bids.

- 4) Bidder followed up initial solicitations of interest by contacting the enterprises to determine with certainty whether the enterprises were interested in performing specific items of Work.
 - 5) Bidder provided interested CBEs with information about the Plans, Specifications, and requirements for selected subcontracting or material supply Work.
 - 6) Bidder requested assistance from minority and women community organizations; minority and women contractor groups; local, state, or federal minority and women business assistance offices; or other organizations that provide assistance in the recruitment and placement of minority or women business enterprises, if any are available.
 - 7) Bidder negotiated in good faith with the CBEs and did not unjustifiably reject as unsatisfactory bids prepared by any CBE.
 - 8) Where applicable, the Bidder advised and made efforts to assist interested CBEs in obtaining bonds, lines of credit, or insurance required by these Contract Documents.
 - 9) Bidder's efforts to obtain CBE participation could reasonably be expected by the Agency to produce a level of participation sufficient to meet the goals and requirements of the Agency.
- e) Bidder may request a certified CBE listing via email or phone by contacting the County of Los Angeles Office of Small Business at:
- OSB@dcba.lacounty.gov or (323) 881-3964
- f) Contractors, material, and services and supplies vendors interested in becoming registered as certified minority or women business enterprises may contact the County of Los Angeles Countywide Contract Compliance Section, at (626) 943-5619.

5-4 INSURANCE.

5-4.1 General. (Page 25 of the SSPWC)

Add the following as the second sentence of the first paragraph:

Such insurance shall be primary to and not contributing with any other insurance or self-insurance programs maintained by the Agency.

Add the following to the third paragraph:

The Contractor shall provide renewal certificates to the Agency not less than 10 Days prior to the Contractor’s policy expiration date(s). The Agency reserves the right to obtain complete, certified copies of any required Contractor and/or Subcontractor policies at any time.

Add the following after the fifth paragraph:

The Contractor may use a combination of primary and excess insurance policies, which provide coverage as broad as the underlying primary policy(ies), to satisfy the insurance requirements.

5-4.2 General Liability Insurance. (Page 26 of the SSPWC)

Replace the first paragraph with the following:

The policy shall insure the Agency, its officers, employees, and agents while acting within the scope of their duties on the Work, against all claims arising out of or in connection with the Work, except as otherwise specified in 6-5. Notwithstanding any inconsistent statement in the policy or any subsequent endorsement, the Agency shall be the insured or named as an additional insured with respect to liability arising out of the Contractor's ongoing and completed operations. The certificate of insurance submitted to the Agency shall state that the Contractor’s insurance is primary and that any other insurance held by the Agency is non-contributory. The endorsement shall contain the language provided in the sample included at the end of this Section G.

Replace the second paragraph with the following:

The Contractor’s general liability insurance may cover more than one contract, but must be acceptable to the Agency. General liability insurance shall be written on ISO policy form CG 00 01 or its equivalent with limits of not less than the following:

Personal and Advertising Injury	\$7,500,000
Each Occurrence.....	\$7,500,000
Products/Completed Operations Aggregate	\$7,500,000
General Aggregate.....	\$15,000,000

Add the following:

To the fullest extent permitted by law, the Contractor waives its and its insurer(s) rights of recovery against the Agency under all required insurance policies for any loss arising from or related to the Contract. The Contractor shall require its insurers to execute any waiver of subrogation endorsements which may be necessary to affect such waiver.

The Contractor shall provide the Agency with evidence of the required insurance coverage satisfactory to the Agency, including certificate(s) of insurance coverage and copies of applicable additional insured endorsements.

The County of Los Angeles, Los Angeles County Flood Control District, Los Angeles Department of Water and Power, California Department of Water Resources, and the City of Los Angeles, along with their Special Districts, elected officials, officers, employees, and agents shall be named under the policy as an insureds or additional insureds covering the Work, including the Contractor's ongoing and completed operations. Such coverage for additional insureds shall apply with respect to liability and defense of suits or claims arising out of the Contractor's acts or omissions, whether such liability is attributable to the Contractor or the Agency. The full policy limits and scope of protection shall apply to the aforementioned additional insureds even if they exceed the minimum insurance requirements specified in the Specifications.

In the event the Contractor's policy contains a deductible or self-insured retention, and in the event that any of the additional insureds specified above seeks coverage under such policy, the Contractor shall satisfy such deductible or self-insured retention to the extent of loss covered by such policy, even if the Contractor is not a named defendant. Notwithstanding the foregoing, if, for any reason, one of the additional insureds listed herein pays any such deductible or self-insured retention, the Agency has the right to withhold the amount of such payment from any monies owed to the Contractor.

The Contractor shall include all Subcontractors as insureds under the Contractor's own policies or shall provide the Agency with each Subcontractor's separate evidence of insurance coverage. The Contractor shall be responsible for verifying each Subcontractor complies with the insurance requirements specified in the Specifications and the Agreement and shall require that each Subcontractor name the Agency and each additional insured, and the Contractor as additional insureds on the Subcontractors general liability policy. The

Contractor shall obtain the Agency's prior review and approval of any Subcontractor request for modification of the insurance requirements.

The policy shall not contain a deductible or self-insured retention in excess of \$25,000. The Agency retains the right to require the Contractor to provide a bond or other financial agreement guaranteeing payment of all such retained losses and costs attributable to the Contractor's retention, or, withhold payment to the Contractor in the amount of all or any deductibles/retentions as the Agency deems appropriate. The Contractor's policies shall not obligate the Agency to pay any portion of the Contractor's deductible or self-insured retention.

5-4.3 Workers' Compensation Insurance. (Page 26 of the SSPWC)

Add the following:

Should evidence of the renewal or replacement of the policy not be filed with the Agency prior to the expiration or cancellation date, the Agency will stop all work on the Project and no further work shall be performed until new insurance coverage has been obtained by the Contractor. Such stop order shall not be a cause for a time extension to the Contract duration.

Such policy shall be endorsed to waive subrogation against the Agency for injury to the Contractor's employees. If the Contractor's employees will be engaged in maritime employment, the coverage shall provide the benefits required by the U.S. Longshore and Harbor Workers Compensation Act, Jones Act or any other Federal law to which the Contractor is subject. If the Contractor will provide leased employees, coverage shall also include an Alternate Employer Endorsement (providing scope of coverage equivalent to ISO policy form WC 00 03 01 A) naming the Agency as the Alternate Employer and the endorsement form shall be modified to provide that the Agency will receive not less than 30 Days advance written notice of cancellation of this coverage provision.

In all cases, the above insurance shall include employer's liability coverage with limits not less than:

Each Accident: \$1,000,000

5-4.4 Automobile Liability Insurance. (Page 26 of the SSPWC)

Replace the entire paragraph with the following:

The Contractor shall provide evidence of and maintain automobile liability insurance. Such insurance shall be written on ISO policy form CA 00 01 or its equivalent with a limit

of liability of not less than \$6,000,000 for bodily injury and property damage, in combined or equivalent split limits, for each single accident. Such insurance shall cover liability arising out of the Contractor's use of autos in performing the Work, including owned, leased, hired, and/or non-owned autos, as each may be applicable.

5-7 SAFETY.

5-7.1 Work Site Safety. (Page 27 of the SSPWC)

5-7.1.1 General.

Add the following:

The Contractor shall be solely responsible for ensuring that all work performed under the Contract is performed in strict compliance with all applicable Federal, State and local occupational safety regulations. The Contractor shall provide at its expense all safeguards, safety devices and protective equipment, and shall take any and all actions appropriate to providing a safe Project site.

5-7.1.2 Work Site Safety Official.

Add the following:

Failure by the Contractor to provide the required Project Safety Official shall be grounds for the Agency to direct the cessation of all work activities and operations at no cost to the Agency until such time as the Contractor is in compliance.

Add the following subsection(s):

5-7.1.3 Safety Indemnification. To the extent allowed by law, the Contractor agrees to defend, indemnify and hold harmless the Agency and its officers, employees and agents from and against any and all investigations, complaints, citations, liability, expense (including defense costs and legal fees), claims and/or causes of action for damages of any nature whatsoever, including but not limited to injury or death to employees of the Contractor, its subcontractors or Agency, attributable to any alleged act or omission of the Contractor or its subcontractors which is in violation of any Cal/OSHA regulation. The obligation to defend, indemnify and hold harmless includes all investigations and proceedings associated with purported violations of Section 336.10 of Title 8 of the California Code of Regulations pertaining to multi-employer work sites. The Agency may deduct from any payment otherwise due the Contractor any costs incurred or anticipated to

be incurred by the Agency, including legal fees and staff costs, associated with any investigation or enforcement proceeding brought by Cal/OSHA arising out of the Project.

5-7.1.4 Mental Health Services for Critical Incidents. In the event of a serious accident on the Project site, the Los Angeles County Department of Mental Health (DMH) will, if requested, respond. The response may be within a few hours or as long as a few Days after the incident, depending on when the request was made. The services DMH will provide include crisis intervention, normalization of the stress response that survivors may be experiencing, stress management techniques and resources if the stress reactions increase in frequency or intensity.

Requests for services may be made by calling the DMH Emergency Outreach Bureau Deputy Director, (213) 738-4924, during normal business hours or the ACCESS Center, (800) 854-7771, evenings, holidays, and weekends.

5-7.7 Security and Protective Devices. (Page 29 of the SSPWC)

5-7.7.2 Security Fencing.

Replace the entire subsection with the following:

Fencing or steel plate covers shall be installed in advance of or concurrently with excavation operations in accordance with LACDPW Standard Plan 6008. Fencing shall completely enclose all open excavations and shall remain in place until backfill has been placed to approximately adjacent ground level. Fencing may be removed during working hours as necessary to provide access and working room for construction operations. It shall be the Contractor's responsibility to provide equivalent security during these periods. Fencing shall be of either Type 1 or 2 as defined below or a combination thereof as approved by the Engineer and shall be securely fastened together. However, adjacent to any school or park, fencing shall be Type 2.

Type 1 fencing shall be in accordance with LACDPW Standard Plan 6002. Type 2 fencing shall be 11 gage, 2-inch mesh, 5-foot chain link fabric securely fastened to metal posts driven in place at 10 foot maximum spacing and extending at least 5 feet above ground, or securely fastened to the shoring system if in the opinion of the Engineer this method will provide equivalent security to the method of driven posts.

Payment for temporary fencing and/or plating shall be considered as included in the prices in the Bid for the various items of work.

Add the following subsection(s):

5-7.7.3 Temporary Manhole Shaft Covers. The Contractor shall protect the public at all times from accidental entry into manhole or manhole shaft openings. Any such opening shall be covered with an entry proof cover approved by the Engineer.

Payment for temporary manhole shaft covers shall be considered as included in the Contract Unit Price for the Bid items for or affecting manholes.

5-7.13 Use of Herbicides. Pursuant to policies adopted by the Board, the use of herbicides shall be banned within the limits of Work, including any temporary sites secured by the Contractor for its use during the Contract.

Add the following:

5-8 NOT USED.

5-9 RELATIONS WITH SOUTHERN CALIFORNIA EDISON (SCE). The Agency has obtained a letter of consent from SCE. The Contractor shall comply with all provisions included with the letter included at the end of this Section G. Full compensation for complying with the requirements shall be considered as included in the various items in the Bid.

5-10 RELATIONS WITH LOS ANGELES DEPARTMENT OF WATER & POWER (LADWP). The Agency has obtained a letter of non-objection from LADWP. The Contractor shall comply with all provisions included with the letter included at the end of this Section G. Full compensation for complying with the requirements shall be considered as included in the various items in the Bid.

SECTION 6 - PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK.
(Page 30 of the SSPWC)

Replace the entire subsection with the following:

6-1.1 Construction Schedule.

6-1.1.1 Terms and Definitions. The following terms and their respective definitions are in addition to those specified in 1-2.

As-Built Schedule – The final updated Construction Schedule that reflects actual construction progress throughout the entire duration of the Project.

Baseline Schedule – The original Construction Schedule used as the basis for measuring construction progress and Contract performance.

Constraint – A requirement that restricts or dictates the Construction Schedule.

Construction Schedule – The schedule of construction activities that reflects the means and methods, planned sequencing, duration, and Milestone dates for the completion and acceptance of the Work. Types include the Baseline Schedule, Weekly Schedule Update, Monthly Schedule Update, and the As-Built Schedule.

Critical Path – The sequence of activities shown on the Construction Schedule which adds up to the longest overall duration.

Data Date – The latest date through which the activities shown on the Construction Schedule have been updated.

Milestone – A schedule activity that has zero duration and which graphically represents the start or finish of a portion of the Work.

Monthly Schedule Update – An updated Construction Schedule submitted every month that compares actual construction progress versus the progress planned on the Baseline Schedule.

Project Float – The difference between the Scheduled Completion Date and Required Completion Date. Float shall be an expiring resource available to both the Contractor and the Agency. Float shall not be for the exclusive use or benefit of either the Agency or the Contractor.

Required Completion Date – The required date for completion of the Work as specified in 6-3.1 of the SSPWC.

Scheduled Completion Date – The planned date for completion of the Work shown on the Construction Schedule as specified in 6-3.1 of the SSPWC.

Total Float – the maximum amount of time an activity can be delayed from its early start without delaying the completion of the Work. Float shall be an expiring resource available to both the Contractor and the Agency. Float shall not be for the exclusive use or benefit of either the Agency or the Contractor.

Weekly Schedule Update – An updated Construction Schedule submitted every 7 Days that reflects the status of construction activities from the past 7 Days and also includes construction activities scheduled in detail for the following 14 Days.

6-1.1.2 General. Construction schedules shall conform to the following requirements:

- a) The Construction Schedule shall be prepared using the latest version of Primavera P6.
- b) The Construction Schedule shall be prepared using the Critical Path Method (CPM) illustrating the chronological relationship and sequence of work activities. Activities on the Critical Path shall be clearly delineated.
- c) Work activities shall be based on the Bid items listed in the Schedule of Prices in the Bid Proposal and the following:
 - 1) Bid Items shall be subdivided into those portions to be constructed during each stage or phase of construction, or portions which do not exceed 20 Working Days, whichever is less.
 - 2) Each submittal, and the corresponding Agency review period, shall be shown as an individual activity.
 - 3) The procurement of construction materials and equipment shall be identified and shown as individual activities.
 - 4) Part 1 NTP requirements shall be shown as individual activities.
- d) The Construction Schedule shall commence on the Part 1 NTP Issuance Date and end on the Required Completion Date milestone, or Scheduled Completion Date milestone, whichever date is later.
- e) Change Orders, including number, description, and duration shall be shown as individual activities.
- f) Each activity must have at least one predecessor and one successor with the exception the of the Project start and finish milestones.
- g) Schedule options within the program file shall be as follows:
 - 1) Use retained logic when scheduling progressed activities.

- 2) Define critical activities as Longest Path.
 - 3) Compute Total Float as the difference between late finish and early finish.
 - 4) Use predecessor activity calendar for scheduling relationship lag.
 - 5) Use of “Must Finish By” date in the project settings shall not be used.
- h) Calendars, codes, and other information shall be on a project-level basis within the schedule software, as opposed to global, so that any changes to subsequent schedules are independent of past schedule submittals.
- i) A level-of-effort type activity shall be included named “Project Float,” with the Scheduled Completion Date milestone as a predecessor and the Required Completion Date milestone as a successor.
- j) Date and time constraints and lags, other than those specified in this subsection, are not allowed unless otherwise accepted by the Engineer. The use of negative lags is not allowed.
- k) Notification activities shall be milestones linked as predecessors to the related work. These milestones shall contain “As Late As Possible” constraints with lags equal to the notice duration specified.
- l) The schedule shall reflect the following Constraints:
- 1) The Sequence of Work per 6-2.3.
 - 2) All work shall only be performed on the allowed days as shown on the Project Calendar, at the end of this Section G, between the hours of 9:00 a.m. and 5:30 p.m., unless otherwise approved by the Engineer.
 - 3) Temporary traffic control requirements per Section TC of the Special Provisions.
 - 4) The Time of Completion per 6-3. A Baseline Schedule submitted showing completion earlier or later than the time of completion specified will not be accepted.
- m) The schedule shall include the following Milestones:

Activity ID	Activity Name	Constraint Type
NTP1	Part 1 NTP Issuance Date	Start On
NTP2	Part 2 NTP Issuance Date	Start On
REQS	Required Start Date	Start On
REQC	Required Completion Date	Finish On
COMP	Scheduled Completion Date	Finish On or Before

n) The Contractor shall use the project-specific activity codes loaded in the Project Template provided by the Agency including, but not limited to, the following:

1) Work Type (TYPE):

Code Value	Description
ADM	Administrative activities such as contract Milestones, meetings, permits, etc.
SUB	Submittals by the Contractor
REV	Submittal Reviews by the Agency
PRO	Procurement of Materials or Equipment
NOT	Notification Activities
CON	Construction Activities
UFE	Unforeseen Events
OTH	Other Activities

2) Responsibility (RESP).

Code Value	Description
PRI	Prime Contractor Activities
SUB	Subcontractor Activities
AGE	Agency Activities
UTI	Utility Company Activities
OTH	Other Entity Activities

3) Item No. (ITEM) - Each activity shall be identified using an activity code with its corresponding Bid item number(s) or Change Order item number(s) listed in the Engineer's Monthly Estimate.

6-1.1.3 Submittals.

a) **General.** Construction Schedule submittals shall include a portable document file (pdf) and a program file (.xml), accessible using the latest version of Primavera P6. The submittal shall be emailed to the Engineer or submitted on a compact disc (CD) along with 2 printed color copies on 11-inch x 17-inch sheets.

b) **Baseline Schedule.**

Within 10 Days of issuance of the Part 1 NTP, the Contractor shall submit a Baseline Schedule for review and acceptance by the Engineer.

The Engineer will provide the Contractor with an electronic Primavera P6 Project Template (Project Template) that shall be used as a basis for developing the Baseline Schedule, and the schedule updates. The Project Template includes the required formatting and settings for items including, but not limited to: Project- specific activity codes and WBS structure; calendars; schedule options; milestones; constraints; and other items. The Project Template may also include some basic activities that should be included in the schedule. The schedule developed by the Contractor shall then be submitted.

- c) **Weekly Schedule Updates.** During the weekly on-site management meetings, the Contractor shall submit Weekly Schedule Updates which will be used to manage, coordinate, and schedule all upcoming Contract activities. These detailed schedules may be submitted in bar chart format and shall reflect the logic and sequence used for the accepted Baseline Schedule. The Weekly Schedule Update shall include the following:
- 1) Status of the construction activities of the past 7 Days, scheduled vs. actual.
 - 2) An explanation for deviations from planned activities, together with actions taken or planned to recover lost time, if applicable.
 - 3) Two-week "look-ahead" Schedule detailing all work activities planned for the next 14 Days, including all work to be performed by others. Activities included in the Baseline Schedule shall be further broken down into detailed activities, by specific task, by specific area, at the crew level or lower.
- d) **Monthly Schedule Updates.** On the 15th day of each month, the Contractor shall submit a Monthly Schedule Update using the same software used to prepare the Baseline Schedule. The Engineer will not submit the Engineer's Monthly Estimate specified in 7-3.2 for processing until the Monthly Schedule Update has been submitted. The schedule may be emailed to the Engineer or submitted on a CD with 2 printed color copies on 11-inch x 17-inch sheets. Should the update not reflect the actual progress of the Work, the update will be returned to the Contractor for inclusion of the changes on the next update. Updates shall conform to 6-1.1.2 and the following:
- 1) Actual start and completion dates versus the original accepted Baseline Schedule shall be illustrated.

- 2) Deviations in the progress and sequence of the Work shall be identified and supported by a detailed narrative justification. The updates shall include necessary remedies and revisions to recover delays to the schedule to meet the original Contract milestones.
 - 3) The data date shall be the 15th day of each month.
 - 4) Change Order work scheduled after the Data Date that includes an approved time extension shall be shown as a Critical Path activity. Change Order work scheduled after the Data Date without an approved time extension shall be shown as a non-Critical Path activity. Change Order work performed prior to the Data Date shall be shown as an as-built activity.
 - 5) The Required Completion Date milestone constraint date shall be adjusted to account for time extensions approved as of the Data Date.
 - 6) The Scheduled Completion Date milestone constraint date shall be adjusted to match the Required Completion Date as of the Data Date.
 - 7) Schedule updates shall only include changes related to a Time Impact Analysis (TIA) that has been accepted by the Engineer. Schedule updates shall not include changes related to a rejected TIA, or a TIA that is pending.
- e) **As-Built Schedule.** Within 7 Days after completion of the Work per 3-13.1, the Contractor shall prepare and submit an As-Built Construction Schedule using the same software used to prepare the Baseline Schedule. The Engineer will not submit the final monthly progress payment for processing until the schedule has been submitted. The schedule may be emailed to the Engineer or submitted on a CD with 2 printed color copies on 11-inch x 17-inch sheets.

The As-Built Schedule shall reflect the actual progress of the Work from the date of issuance of the Part 1 NTP through the date of completion. Should the As-Built Schedule not reflect the actual start and finish dates of all work activities, the schedule will be returned to the Contractor for revision and re submittal.

The schedule shall be submitted with a written certificate signed by the Contractor's Authorized Representative stating:

“To my knowledge and belief, the enclosed As-Built Schedule reflects the actual start and finish dates of the actual work activities for the Contract contained herein.”

6-1.1.4 Time Impact Analysis (TIA).

6-1.1.4.1 General. Time Impact Analysis (TIA) is a scheduling technique and analysis report used to assess and quantify the effects of one or more of the following occurrences:

- a) an unforeseen event,
- b) an approved Change Order,
- c) a proposed Change Order, or
- d) a changed condition.

6-1.1.4.2 Submittals. A TIA submittal shall be submitted when the Contractor or Engineer identifies an occurrence that potentially impacts the Critical Path and delays progress of the Work. The TIA submittal shall be submitted in accordance with 3-8 and shall include the following:

- a) **Narrative Report.** A report that defines the scope and conditions of an occurrence specified in 6-1.1.4.1; type of delay as defined in 6-1.1.4.3; provides start and finish dates of impact; provides predecessor and successor activities to the impact period; identifies the party responsible for the occurrence; and describes how the occurrence originated and how it impacts the schedule.
- b) **Schedules.** A schedule submission that consists of the following two electronic Primavera P6 schedule files in accordance with 6-1.1.3:
 - 1) Unimpacted Schedule – The Monthly Schedule Update that has a Data Date closest to and prior to the occurrence. If the Engineer determines that the schedule update submitted does not appropriately represent the conditions prior to the occurrence, the schedule update shall be updated to the day before the occurrence being analyzed. Schedule updates, modifications, and changes shall be listed in the narrative report.
 - 2) Impacted Schedule – The schedule developed from incorporating the occurrence into the unimpacted schedule by adding or deleting activities, or by changing durations or logic of existing activities. Schedule updates, modifications, and changes shall be listed in the narrative report.
- c) The Contractor shall submit a TIA within 10 Working Days of receiving a written request for a TIA from the Engineer.

- d) For a claimed delay in completion of the Work, the unimpacted and impacted schedules shall be modified to account for as-built events known to occur after the Data Date.
- e) If the impacted schedule shows that the Critical Path and Scheduled Completion Date are affected by the occurrence, the difference between Scheduled Completion Dates of the unimpacted and impacted schedules, minus any remaining Project Float, must be equal to the request for adjustment of the Contract time of completion. No time of completion extensions will be granted unless a delay occurs which first consumes all available Project Float and extends the Scheduled Completion Date beyond the Required Completion Date.
- f) All TIAs must include mitigation measures and must apportion the overall delay assignable to any individual delays. The associated narrative report must clearly describe findings in chronological order.
- g) Subsequent Monthly Schedule Updates shall include changes related to a TIA that has been accepted by the Engineer. Schedule updates shall not include changes related to a rejected TIA, or a TIA that is pending review.

6-1.1.4.3 Types of Delay. The TIA shall identify the type of delay as follows:

- a) Excusable and Compensable Delay - Delay for which the Agency is the sole proximate cause. The Contractor must not have been delayed for any other reason during that time period.
- b) Excusable and Noncompensable Delay - Delay caused from unforeseen events as defined in 6-4.1.
- c) Inexcusable and Noncompensable Delay - Delay caused by the fault or negligence of the Contractor.
- d) Concurrent Delay - Combination of the types outlined above occurring during the same time period.

6-1.1.4.4 Acceptance. Acceptance of a TIA will be determined in accordance with the following:

- a) Upon submittal of a TIA by the Contractor, an analysis of the facts will be performed by the Engineer to determine compensability and entitlement to any time extension under the applicable contract clauses.

- b) Acceptance of a TIA is at the sole discretion of the Engineer.
- c) The Engineer will construct its own TIA or utilize another method to determine adjustments in the Contract time of completion if the Contractor fails to submit a TIA.

6-1.1.5 Payment. Payment for preparation of the Baseline Schedule will be made at the Stipulated Unit Price for “CONSTRUCTION SCHEDULE (BASELINE).” No payment will be made until the Baseline Schedule has been accepted by the Engineer.

No separate or additional payment will be made for preparation of each Weekly Schedule Update or Time Impact Analysis.

Payment for preparation of each Monthly Schedule Update will be made at the Stipulated Unit Price per month for “CONSTRUCTION SCHEDULE (UPDATE).” No payment will be made for monthly updates submitted after the due date.

Payment for preparation of the As-Built Schedule will be made at the Stipulated Unit Price for “CONSTRUCTION SCHEDULE (AS-BUILT).” No payment will be made until the As-Built Schedule has been accepted by the Engineer.

6-1.2 Commencement of the Work. The Notice to Proceed (NTP) for this Contract will be issued in 2 separate parts. The Agency will issue the Part 1 NTP after the Contractor satisfactorily submits all of the documentation required in the Instructions to Bidders and the Agency has executed the Contract.

The Part 1 NTP shall be for the Contractor to perform the following:

- a) Submit all required Submittals per 3-8 and receive Agency approval for such submittals unless otherwise specified.
- b) Ensure that all labor, equipment, and materials required for the Contract will be available when required by the Construction Schedule per 6-1.1.
- c) Mobilization, including the physical and operational establishment of the Class “A” Field Office per 8-2.
- d) Attend preconstruction meetings with the Agency.
- e) Submit a Baseline Schedule per 6-1.1.3 and receive Agency acceptance.

- f) Submit subsurface installation location data to the Engineer per 402-1.1.
- g) Apply for and obtain all permits and insurance required per 2-2 and 5-12.

The Contractor shall complete all of the above stated-activities within 45 Working Days of the Part 1 NTP. Each additional Working Day in which the Contractor is not in compliance with this requirement will be subtracted from the number of Working Days allowed for the Time of Completion per 6-3. When the number of Working Days specified in 6-3.1 is exhausted, the Contractor will be subject to liquidated damages. The counting of Working Days for the completion of Part 1 NTP activities will stop upon the receipt of all required Submittals and resume upon the return of any required submittal to the Contractor per 3-8.

The Part 2 NTP shall be for the start of the Work. The Part 2 NTP will not be issued until all Part 1 NTP activities have been completed.

Payment for compliance with Part 1 and Part 2 NTP requirements, except for preparation of the Baseline Construction Schedule, shall be considered as included in the lump sum Bid price for "MOBILIZATION".

6-1.3 Management Meetings. The Agency will schedule and conduct weekly on-site meetings for the purposes of construction management as well as assessing the status of the informal partnership. The weekly meetings will have a set agenda, including, but not limited to, a report and discussion of the status of the following:

- a) Weekly Detailed Schedule per 6-1.1.3(c).
- b) Quality assurance/quality control
- c) BMPs/SWPPP Compliance
- d) Site operations, including coordination of work by others
- e) Community/public relations
- f) Change Orders
- g) Submittals
- h) RFI's

The fourth weekly meeting of each month will include an executive review of the Project to be attended by Agency and Contractor executives.

6-2 PROSECUTION OF THE WORK. (Page 30 of the SSPWC)

Add the following before the first paragraph:

6-2.1 General.

Add the following subsections after the last paragraph:

6-2.2 Work by Others Due to Unsatisfactory Work Prosecution. If, as determined by the Engineer, the Contractor is not prosecuting the Work in a satisfactory manner or is not providing for public safety, traffic and protection of the Work, the Engineer will notify the Contractor of such unsatisfactory conditions and will indicate the date and time when corrective work must be completed. If the Contractor fails to comply, the Agency may elect to do the Work or have the Work performed by others and deduct the cost thereof from any monies due the Contractor. Such action shall not relieve the Contractor from liability.

6-2.3 Sequence of Work. The Contractor's construction schedule and sequence of work shall conform to the "Pacoima Spreading Grounds Basin Enhancement Project Construction Phasing" document included at the end of this Section G.

6-3 TIME OF COMPLETION.**6-3.1 General.** (Page 31 of the SSPWC)

Replace the first sentence with the following:

The Contractor shall complete the Work within 690 Working Days.

6-4 DELAYS AND EXTENSIONS OF TIME.**6-4.1 General.** (Page 31 of the SSPWC)

Replace the second paragraph with the following:

No extension of time will be granted for a delay caused by the inability to obtain materials unless the Contractor obtains from the supplier and furnishes to the Engineer documentary proof that such materials could not be obtained due to war, government regulations, labor disputes, strikes, fires, floods, adverse weather necessitating the cessation of work, or other similar action of the elements.

6-4.2 Extensions of Time. (Page 31 of the SSPWC)

Add the following:

Extensions of time will be reflected as non-Working Days on the Statement of Working Days except when such extensions are a result of Extra Work.

6-5 USE OF IMPROVEMENT DURING CONSTRUCTION. (Page 32 of the SSPWC)

Add the following after the first paragraph:

Action by the Agency to take over and utilize any part of the Project shall become effective only upon issuance of a written notice, signed by the Engineer, setting forth a description of the completed improvements to be taken over, the effective date, location and limits thereof.

6-7 TERMINATION OF THE CONTRACT FOR DEFAULT. (Page 32 of the SSPWC)

Delete the entire subsection. Refer to the Agreement.

6-8 TERMINATION OF THE CONTRACT FOR CONVENIENCE. (Page 33 of the SSPWC)

Delete the entire subsection. Refer to the Agreement.

6-9 LIQUIDATED DAMAGES. (Page 34 of the SSPWC)

Replace the third sentence of the first paragraph with the following:

For each Day in excess of the time specified for the completion of the Work in 6-3.1, as adjusted in accordance with 6-4, the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of \$2,000.

Replace the first sentence of the second paragraph with the following:

Execution of the Contract shall constitute agreement by the Agency and the Contractor that \$2,000 per Day is the minimum value of the costs and actual damage caused by the failure of the Contractor to complete the Work within the allotted time.

SECTION 7 - MEASUREMENT AND PAYMENT

7-3 PAYMENT.

7-3.1 General. (Page 35 of the SSPWC)

Replace the last paragraph with the following:

Following acceptance of the performance of the Contract by the Board, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor, except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be provided under the Contract to be deducted.

7-3.2 Partial and Final Payment. (Page 35 of the SSPWC)

Replace the first sentence of the first paragraph with the following:

The closure date for the purpose of making the monthly progress payment shall be the 20th day of each month. Monthly progress payments will be made only if the number of Working Days for the Project plus any extensions of time granted by the Agency after the Work has started equals 20 or more Working Days and the schedule update requirements specified in 6-1.1.3 have been completed and accepted by the Engineer.

Add the following after the first sentence of the second paragraph:

The Agency will transmit to the Contractor within 10 Days after each established monthly payment closure date a copy of the Engineer's Monthly Estimate showing the amount of work completed as of the closure date.

Add the following after the second paragraph:

In the case of a Bid item where several types of work are included in the item, the Agency may make partial payment for the portions of such work that are completed at the time of making the monthly progress estimates, provided, in the opinion of the Engineer, the work considered for payment has been completed in compliance with the requirements of the Plans and the Specifications.

Payment for a lump sum Bid item will be based upon the lump sum Bid price and the Engineer's estimate as to the percentage of completion.

Add the following after the third paragraph:

Pursuant to Section 7108.5 of the California Business and Professions Code, the Contractor shall pay any subcontractor for work performed no later than 7 Days after receipt of the monthly progress payment unless otherwise agreed to in writing. This provision applies to any lower tier subcontracts of this Contract. Any violation of this provision shall subject the violating party (Contractor or subcontractor) to the penalties, sanctions, and other remedies specified in the aforementioned code.

Replace the last paragraph with the following:

Pursuant to Section 22300 of the California Public Contract Code, the Contractor at its own expense may deposit securities with the Agency or with a State or Federally chartered bank as the escrow agent in lieu of having funds withheld by the Agency to ensure performance under the Contract.

The securities which will be allowed to be substituted are those listed in Section 16430 of the Government Code or bank or savings and loan certificates of deposit.

The amount of securities to be deposited shall be equivalent to the maximum amount permitted to be withheld. The Agency may claim and receive all or a portion of these funds to be used for the same purposes and expenditures as if the funds had been withheld as specified above. Formal acceptance of the Project by the Agency terminates the Agency's interest in the securities.

7-3.3 Delivered Materials. (Page 36 of the SSPWC)

Replace the entire subsection with the following:

When approved by the Engineer, payment may be made for materials and equipment other than reinforced concrete pipe delivered to and stored at the Project site, or other approved location, for use on the Project but not yet incorporated in the Work. Before accounting for these materials and equipment on the monthly estimate, the Contractor shall furnish to the Engineer paid invoices therefor. The payment will be limited to the cost shown on said invoices until incorporated into the Work.

7-3.4 Mobilization. (Page 36 of the SSPWC)

Replace the entire subsection with the following:

When a Bid item is included in the Bid for “MOBILIZATION,” the costs of work in advance of construction operations and not directly attributable to any specific Bid item will be included in the progress estimate.

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the Project site and for all other work and operations which must be performed, or costs incurred prior to beginning work on the various Contract items on the Project site.

Payments for mobilization will be made as follows:

- a) When the monthly progress payment estimate of the amount earned, not including the amount earned for mobilization, is 5 percent or more of the Contract Price, the total amount earned for mobilization shall be 50 percent of the Contract Unit Price for mobilization or 5 percent of the Contract Price, whichever is less, and said amount will be included in said estimate for payment.
- b) When the monthly progress payment estimate of the amount earned, not including the amount earned for mobilization, is 10 percent or more of the Contract Price, the total amount earned for mobilization shall be 75 percent of the Contract Unit Price for mobilization or 7.5 percent of the Contract Price, whichever is less, and said amount will be included in said estimate for payment.
- c) When the monthly progress payment estimate of the amount earned, not including the amount earned for mobilization, is 20 percent or more of the Contract Price, the total amount earned for mobilization shall be 95 percent of the Contract Unit Price for mobilization or 9.5 percent of the Contract Price, whichever is less, and said amount will be included in said estimate for payment.
- d) When the monthly progress payment estimate of the amount earned, not including the amount earned for mobilization, is 50 percent or more of the Contract Price, the total amount earned for mobilization shall be 100 percent of the Contract Unit Price for mobilization or 10 percent of the Contract Price, whichever is less, and said amount will be included in said estimate for payment.
- e) After completion of the Contract Work, the amount, if any, of the Contract Unit Price for mobilization in excess of 10 percent of the Contract Price will be included in the final progress payment.

7-3.5 Contract Unit Prices. (Page 36 of the SSPWC)**7-3.5.2 Increases of More Than 25 Percent.**

Add the following:

The provisions of this subsection will not be applicable to the following Bid items:

- a) Item 49 – EXCAVATION, TRANSPORTATION AND DISPOSAL OF EXCESS BASIN MATERIAL
- b) Item 50 – EXCAVATION, TRANSPORTATION AND DISPOSAL OF DELINEATED SOIL

7-3.5.3 Decreases of More Than 25 Percent.

Add the following:

The provisions of this subsection will not be applicable to the following Bid items:

- a) Item 49 – EXCAVATION, TRANSPORTATION AND DISPOSAL OF EXCESS BASIN MATERIAL
- b) Item 50 – EXCAVATION, TRANSPORTATION AND DISPOSAL OF DELINEATED SOIL

Add the following subsection:

7-3.9 Allowance Items. The Agency may establish an Allowance in the Bid for items in which there is insufficient information for the Contractor to submit a Contract Unit Price or for which a basis of bidding may not be established for any reason.

The Contractor shall submit to the Engineer an estimate for each element to be furnished or provided under the Bid item for which an Allowance has been established.

Upon approval of the estimate, the Contractor will be reimbursed for its actual costs plus the specified markup, if any, upon presentation to the Engineer of original, itemized, paid invoices. The Contractor shall not be entitled to full payment for the amount of the Allowance should it not be utilized. Should the Contractor's actual costs exceed the Allowance, the difference will be considered as Extra Work.

7-4 PAYMENT FOR EXTRA WORK.

7-4.2 Basis for Establishing Costs. (Page 37 of the SSPWC)

7-4.2.1 Labor.

Replace the first paragraph with the following:

The cost of labor shall be the cost of wages (basic hourly rate) plus the cost of employer payments (health and welfare, pension, vacation/holiday, training, and other payments for assessments or benefits required by lawful collective bargaining agreements) as listed on the General Prevailing Wage Determination made by the Director of Industrial Relations in effect at the time the Extra Work is performed. ***To the total of these costs, a labor surcharge of 15 percent shall be applied for statutory payroll items stipulated by various governmental agencies.*** The statutory payroll items included are worker's compensation insurance, Social Security, Medicare, Federal unemployment insurance, State unemployment insurance, and State training taxes.

7-4.2.3 Tool and Equipment Rental.

Replace the second paragraph with the following:

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed those listed in the current edition of the "Labor Surcharge and Equipment Rental Rates" of the State of California Department of Transportation (Caltrans) (www.dot.ca.gov/hq/construc/equipmnt.html) at the time the work is performed. Standby rates shall be 50 percent of the hourly rate. Payment for standby shall not exceed 8 hours per day, 40 hours per week and 176 hours per month. If the equipment is not listed, the rate allowed shall be that calculated for a comparable item.

7-4.3 Markup. (Page 38 of the SSPWC)

7-4.3.1 Work by Contractor.

Replace the entire paragraph with the following:

The following percentages shall be added to the Contractor’s costs and shall constitute the markup for overhead and profit, and all other costs not specifically provided for on work performed by the Contractor:

Labor	20%
Materials.....	15%
Equipment Rental.....	15%
Other Items and Expenditures.....	15%

The Labor markup shall be applied to the total costs established in 7-4.2.1.

To the sum of the costs and markups provided for in this subsection, 1 percent shall be added as compensation for bonding.

7-4.3.2 Work by Subcontractor.

Replace the entire paragraph with the following:

When all or any part of the Extra Work is performed by a Subcontractor, the markup established in 7-4.3.1 shall be applied to the Subcontractor’s actual cost of such work. A markup of 5 percent on the total costs established in 7-4.3.1 of the subcontracted portion of the Extra Work may be added by the Contractor. This markup shall constitute the Contractor’s markup for overhead and profit on work performed by the Subcontractor.

Add the following:

7-4.3.3 General. The markups specified in 7-4.3.1 and 7-4.3.2 above shall be considered as including, but not be limited to, the Contractor's labor costs for personnel not working directly on the Extra Work, including the cost of any tools and equipment which they may use. Such costs shall not be reported as labor or equipment costs elsewhere except when they are actually used in the performance of the Extra Work. Labor costs shall in that case be reported for the labor classification corresponding to the type and nature of Extra Work performed.

Add the following:

7-4.3.4 Allowance Items. The following percentage shall be added to the Contractor's actual costs unless otherwise specified: 15 percent.

Add the following subsection:

7-6 CLAIMS. Notwithstanding Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, Section 9204 of the Public Contract Code shall apply to any claim by the Contractor in connection with the Project.

- a) Upon receipt of a claim pursuant to Section 9204 of the Public Contract Code, the Agency will conduct a reasonable review of the claim and, within a period not to exceed 45 Days, provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, the Contractor and the Agency may, by mutual agreement, extend the aforementioned time period.
- b) The Contractor shall furnish reasonable documentation to support the claim.
- c) If Board approval is needed to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the Agency will have up to 3 Days following the next duly publicly noticed meeting of the Board after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.
- d) Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the Agency issues its written statement. If the Agency fails to issue a written statement, paragraph (j) shall apply.
- e) If the Contractor disputes the Agency's written response, or if the Agency fails to respond to a claim issued pursuant to Section 9204 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the Agency will schedule a meet and confer conference within 30 Days for settlement of the dispute.
- f) Within 10 business days (Monday-Thursday) following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the

Agency will provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the Agency issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the Agency and the Contractor sharing the associated costs equally. The Agency and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside those established in Section 9204.

- g) Mediation shall include any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in Section 9204.
- h) Unless otherwise agreed to by the Agency and the Contractor in writing, the mediation conducted pursuant to Section 9204 shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
- i) Section 9204 does not preclude the Agency from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under Section 9204 does not resolve the parties' dispute.
- j) Failure by the Agency to respond to a claim from the Contractor within the time periods described in Section 9204 or to otherwise meet the time requirements of Section 9204 shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the Agency's failure to have responded to a claim, or its failure to otherwise meet the time requirements of Section 9204, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
- k) Amounts not paid in a timely manner as required by Section 9204 will bear interest at 7 percent per annum.
- l) If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a claim against the Agency because privity of the Contract does not exist, the Contractor may

present to the Agency a claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be presented to the Agency shall furnish reasonable documentation to support the claim. Within 45 Days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the Agency and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.

- m) A waiver of the rights granted by Section 9204 is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the Contractor and the Agency may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the Agency may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of Section 9204, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in Section 9204.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-1 GENERAL. (Page 39 of the SSPWC)

Add the following:

The Contractor shall furnish and place in operation a Class "A" field office for the Project if a Bid item for "OFFICE FACILITIES" is included in the Bid.

Replace the first sentence of the fifth paragraph with the following:

The Contractor shall provide, at least once per 7 Days, janitorial and other maintenance services in all types of facilities provided. All types of facilities provided shall have all surfaces disinfected at least twice per 7 Days including, but not limited to, door handles, railings, chairs, tables, and desks.

8-2 FIELD OFFICE FACILITIES.**8-2.1 Class "A" Field Office.** (Page 39 of the SSPWC)

Replace the first sentence with the following:

The office shall have a minimum combined floor space of 658 square feet and contain two separate offices, an integral restroom, a common area for meetings, at least two doors and window area of not less than 44 square feet. The office shall have a manufacturing date of not more than 10 years.

Add the following to the end of the first paragraph:

All exterior doors shall have a locking device consisting of either a padlock hasp or a double cylinder deadbolt lock in which case 4 keys for the lock shall be provided. Provisions shall be made for the locking of windows from the inside and all windows shall have security bars. The field office, if portable, shall be enclosed with a 6 foot high security fence equipped with a suitable lockable gate. Adequate parking shall be provided for the Engineer and other such Agency representatives as are assigned to the Project.

Replace the second, fourth and fifth paragraphs with the following:

The office shall be equipped with:

- a) fully operational heating and air conditioning systems of sufficient capacity,
- b) an internal restroom, equipped with a toilet and a sink with hot and cold running water, for the sole use of the Engineer,
- c) a water cooler with drinking water provided by the Contractor,
- d) two standard 5-foot (1.5 m) long double-pedestal desk with a drawer suitable for holding files and two desk chairs,
- e) one 6-foot long, 30-inch wide, 30-inch tall table and 8 chairs,
- f) one plan table and one drafting stool,
- g) a photocopier/scanner/fax (“all in one”) machine with wi-fi capability for the sole use of the Engineer,

- h) broadband internet service with wi-fi capability,
- i) a desktop computer with Microsoft Office Suite, all necessary input and output accessories and a 17" monitor, having a manufacturing date of not more than 1 year,
- j) one plan rack,
- k) one mounted functional fire extinguisher with a minimum UL rating of 2A:10B:C, and contains at least 5 pounds of multipurpose dry chemical extinguishing agent,
- l) "Exit" and "Not an Exit" sign(s),
- m) an evacuation diagram, and
- n) a first aid kit that is ANSI compliant containing all items and quantities shown in Table 8-2.1:

TABLE 8-2.1

Item	Quantity
Adhesive Bandage, 3/8" x 1½"	15
Adhesive Bandage, 1" x 3"	30
Triangular Bandage, 40" x 40" x 56"	1
Adhesive Tape, ½" x 5 yards	1
Cotton Tip Applicators	10
Finger Splints	2
Gauze Pad, 2" x 2"	4
Gauze Pad, 4" x 4"	4
Gauze Pad, 5" x 9"	1
Gauze Roll, 2" x 4 yards	1
Latex Free Exam Gloves	4
Instant Cold Compress	1
Scissors	1
Tweezers	1
Burn Cream Ointments	6
Antibiotic Ointments	6
Alcohol Prep Pads	15
Sting Relief Pads	2
Antiseptic Towelettes	12
First Aid Instructions	1

All equipment/furniture specified in 8-2.1 shall be in good working condition subject to approval by the Engineer and shall be maintained by the Contractor for the duration of the Project.

The all in one machine shall be capable of using standard 8½-inch x 11-inch, 8½-inch x 14-inch, and 11-inch x 17-inch bond paper. The paper necessary for each copy shall be automatically fed. The Agency will furnish paper for its own use. All other materials required for the all in one machine shall be furnished by the Contractor.

The location of the field office shall be approved by the Engineer. The field office shall be located on the Project site or within a 0.5 mile drive of the Project limits. The Contractor will not be compensated for a field office located outside the aforementioned limits.

The field office shall be in-place and fully operational prior to the date of issuance of the Part 2 Notice to Proceed. No payment will be made for each Working Day in which the field office is not in-place and fully operational.

8-6 BASIS OF PAYMENT. (Page 41 of the SSPWC)

Add the following:

Payment for office facilities will be made at the Contract Unit Price per month for "OFFICE FACILITIES."

**PART 4
EXISTING IMPROVEMENTS**

SECTION 400 - PROTECTION AND RESTORATION

400-1 GENERAL. (Page 479 of SSPWC)

Add the following:

All existing permanent traffic and bus stop signs which are removed or altered during construction shall be replaced by the Contractor to a condition equal to or better than, in all respects, the condition which prevailed prior to the start of construction under the Contract. While construction is in progress, any signs which are removed shall be posted by the Contractor in temporary locations as near the original locations as practicable. Signs shall be replaced in their original location as soon as possible. Traffic sign replacement shall be

in conformance with the current requirements of the California Manual on Uniform Traffic Control Devices, <http://www.dot.ca.gov/hq/traffops/engineering/mutcd/>. If any sign is damaged or lost, thus requiring a new sign, the Contractor shall immediately notify the Engineer, and shall immediately replace any traffic sign in accordance with the above-mentioned manual at its own expense. The replacement of traffic signs must be approved by the Engineer in writing.

SECTION 402 - UTILITIES

402-1 LOCATION.

402-1.1 General. (Page 481 of the SSPWC)

Add at the end of the first paragraph the following:

Service connections may not be shown on the Plans.

Replace the last sentence of the third paragraph with the following:

The Contractor shall provide the subsurface installation location data to the Engineer prior to issuance of the Part 2 Notice to Proceed.

The Contractor shall physically locate all utilities, including service connections, which have been marked by the respective utility owners and which may affect or be affected by the Contractor's operations prior to the start of any directional drilling, jacking, mainline trench, or lateral trench construction. The Contractor shall be responsible for locating service connections which may affect or be affected by the Contractor's operations even if they are not marked by the utility owner(s).

Add the following:

"Subsurface installation" shall include service connections. Location of subsurface installations shall be shown as an individual activity on the Baseline Schedule. Refer to 6-1.1.

Where water lines exist, at each angle point, cross connection and "T" connection, the Contractor shall assume the existence of a concrete thrust block located such as to resolve thrust loads.

The Agency may arrange for and conduct a preconstruction meeting between the Contractor, the Engineer, and the utility owners to discuss scheduling, coordination of any

required utility relocations, and the protection of existing utilities. The Contractor shall attend any preconstruction meeting scheduled by the Agency and shall cooperate with all utility owners performing utility relocation or installation work on the Project site.

The utilities which have facilities located within the limits of the Project are as follows:

<u>Utility Owner</u>	<u>Contact</u>	<u>Phone Number/E-Mail</u>
City of Los Angeles Bureau of Sanitation	Chris Demonbrun	(323) 342-1567 chris.demonbrun@lacity.org
City of Los Angeles Bureau of Street Lighting	Daniel Ordonia	(213) 847-1568 daniel.ordonia@lacity.org
Charter Communications	Robert Reihs	(818) 922-6176 robert.reihs@charter.com
ExteNet Systems	Eric Thies	(847) 344-3440 ethies@extenetsystems.com
Los Angeles Department Water and Power	Edgar Perez	(213) 367-1361 edgar.perez@ladwp.com
Los Angeles Department Water and Power	Charles Ngo	(213) 367-0769 charles.ngo@ladwp.com
Southern California Edison Transmission	Bernie Ochoa	(661) 294-1524 bernardo.ochoa@sce.com
Southern California Gas Company Distribution	Paul Havlicek	(818) 700-3613 phavlicek@socalgas.com

The underground utility facilities the Contractor may encounter during the prosecution of the Work are as follows:

- Fuel lines and storage tanks
- Electrical conduits
- Gas lines
- Water lines
- Compressed air lines
- Drain pipes
- Sewer lines

These underground utility facilities will not be marked by the Agency. Existing utility plot plans may be available upon request by the Contractor; however, these plans are essentially schematic and have not been verified.

The Contractor shall make arrangements with the Engineer for any utility service shutdowns.

Any relocation of utilities required for the Contract shall be performed by the Contractor. Any utilities not shown on available utility plot plans encountered by the Contractor shall be relocated as required and be paid for as Extra Work.

The Contractor is hereby notified that, as indicated above, there are underground utilities within the construction area which may be potentially hazardous if damaged. A hazardous substance shall be defined as one having the potential for an immediate disaster such as, but not limited to gasoline, electricity, fuel oil, butane, propane, natural gas, chlorine or other chemicals.

Abandoned or inoperative utilities designed to carry hazardous substances and unidentified or unknown utilities shall be considered hazardous until determined otherwise. During all excavation and trenching operations, the Contractor shall exercise extreme precaution and protect all utilities from damage.

402-1.2 Payment. (Page 481 of the SSPWC)

Replace the entire subsection with the following:

No separate payment will be made for the location of utilities pursuant to Government Code Sections 4215 and 4216, and 402-1.1, or for attendance at the preconstruction meeting. Payment shall be considered as included in the Contract Unit Price for the various Bid items.

Add the following subsection:

402-1.3 Exploratory Excavations. In addition to the requirements of 402-1.1, the various cases under which exploratory excavations will be required and the respective basis of payment shall be as follows:

CASE 1 - Service connections:

Payment for all necessary exploratory excavations on service connections shall be considered as included in the Contract Unit Prices in the Bid for the various items of work.

CASE 2 - Utilities indicated by a triangle symbol:

The Contractor shall perform exploratory excavations on all utilities which are indicated on the Plans by a triangle symbol. The Contractor shall be responsible for determining the horizontal location, vertical location measured to the top and bottom of the conduit, and size of each utility so designated from a survey reference point. Nonhazardous utilities which are found by the Contractor to be within 12 inches vertically of any permanent work shall remain exposed until precisely located by the Agency.

Payment for exploratory excavations which are designated on the Plans by a triangle symbol shall be considered as included in the Contract Unit Prices in the Bid for the various items of work.

CASE 3 - Utilities parallel to trenches:

For all trench excavations, the Contractor shall make exploratory excavations of all utilities, except sanitary sewers, lying wholly or in part within 2 feet of, and which are running approximately parallel to, the Contractor's proposed trench excavation limit. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment of the utility. When such exploratory excavations show the utility location as indicated on the Plans to be in error, the Contractor shall notify the Engineer. Upon completion of the work involved in locating utilities, the Contractor shall immediately backfill and either temporarily or permanently resurface the excavation.

Payment for exploratory excavations required to locate utilities running parallel to trench excavations shall be considered as included in the Contract Unit Prices in the Bid for the various items of work.

CASE 4 -All utilities marked, but not indicated on the Plans which may, as marked, be affected by the Work; and include exploratory excavations ordered by the Engineer and not covered under Cases 1, 2, or 3.

The Engineer may require one or more exploratory excavations to be dug prior to any trenching to be performed, or in advance of other construction operations in order to confirm the location of utilities. Payment for exploratory excavations ordered by the Engineer which are 5 feet or less in depth will be made at the Stipulated Unit Price of \$1,400 for each exploratory excavation, including backfilling and restoration of pavement or concrete. Exploratory excavations which are over 5 feet in depth will be considered as Extra Work.

If interference occurs between a storm drain connector pipe and a utility which was not marked as requiring an exploratory excavation, the Contractor shall be entitled to additional compensation in the Stipulated Unit Price of \$1,400 for the changes resulting from the necessary revisions to the connector pipe. It is mutually agreed by the Contractor and the Agency that the Stipulated Unit Price of \$1,400 shall be the total payment for any and all delays and additional work resulting from the connector pipe grade change (or changes) required by a utility interference. The Stipulated Unit Price of \$1,400 will be paid for each connector pipe grade change (or changes) due to interfering utilities. It is not intended that this subsection preclude payment for items of work associated with grade changes included in the Bid such as concrete collars.

402-2 PROTECTION. (Page 481 of the SSPWC)

Add the following before the first paragraph:

402-2.1 General. When directed by the Engineer, the Contractor shall encase interfering service connections in the slab or walls of poured in place concrete structures. Such encasing will be considered as Extra Work.

Service connections which do not interfere with any permanent work shall be maintained in place by the Contractor.

Add the following after the second paragraph:

When indicated on the Plans, the Contractor shall construct concrete supports for existing water lines, utility lines, and sanitary sewers or house connections which cross over storm drain or connector pipes constructed as part of the Project and shall construct concrete

blankets and encasements for existing sanitary sewers which cross under the storm drain, connector pipes and appurtenances.

The word existing as used herein in reference to sanitary sewer facilities shall refer to those sewer facilities within the immediate area affected by the Work which are existing, and which were not previously constructed as part of the Project.

As required by 3-8, Working Drawings prepared on 2' x 3' sheets for temporary utility supports shall be prepared by a Civil or Structural Engineer registered by the State of California. Working Drawings and complete calculations bearing an original signature of the designer shall be submitted to the Agency and to the utility owner for review and approval.

Unless otherwise noted or specified, the concrete supports shall be constructed in accordance with Standard Plan 224. In the case of sanitary sewer supports per Cases 1, 2, and 4, the sewer shall be encased. The encasement shall be a minimum of 6 inches (150 mm) wider on each side of the sewer (OD plus 12 inches (300 mm)) and a minimum of 6 inches (150 mm) above the top of the sewer. The support beam or support wall shall be widened to the width of the encasement and shall be lengthened to fully support the encasement.

Concrete blankets shall be constructed in accordance with Standard Plan 225, unless otherwise noted on the Plans.

Payment for encasing, thickening and extending sewer supports to fully support the encasements shall be considered as included in the Contract Unit Price for the sewer support if a Bid item is provided therefore. If no specific Bid item is provided, all costs involved shall be considered as included in the Contract Unit Prices in the Bid for the various items of work.

402-5 DELAYS DUE TO UTILITY CONFLICTS. (Page 483 of the SSPWC)

Add the following to the end of the last paragraph:

Payment to the Contractor for actual loss due to a protracted utility delay shall be calculated based on wage increases, price increases of material and equipment, additional insurance costs and actual direct costs of maintaining the Project site incurred as a result of such utility delay.

LS: _____

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LTWHP SAMPLE CALCULATIONS

The following calculations are intended as an example of the formulas shown in 5-3.8.3, and is *not* the actual MWA or FWA amounts for this project.

Contract Price: \$1,200,000

Contract Duration: 3 months

	<i>Actual Local Hire Worker Hours Worked</i>	<i>Actual Targeted Hire Worker Hours Worked</i>	<i>Actual California Construction Labor Hours Worked</i>
<i>First Month</i>	25	2	100
<i>Second Month</i>	25	20	110
<i>Third Month</i>	60	30	120

The MWA for the first month is as follows:

- | | |
|--|---|
| 1) $AHP_L = 25/100 = 25\%$ | $AHP_T = 2/100 = 2\%$ |
| 2) $UT_L = 25\% \div 30\% = 83.33\%$ | $UT_T = 2\% \div 10\% = 20\%$ |
| 3) $UPC_L = 100\% - 83.33\% = 16.67\%$ | $UPC_T = 100\% - 20\% = 80\%$ |
| 4) $MCW = \$1,200,000 \times 1.0\% = \$12,000$ | |
| 5) $MMCW = \$12,000 \div 3 \text{ months} = \$4,000$ | |
| 6) $MWA_L = \$4,000 \times 75\% \times 16.67\% = \500.10 | $MWA_T = \$4,000 \times 25\% \times 80\% = \800 |
- $MWA = \$500.10 + \$800 = \$1,300.10$

The MWA for the second month is as follows:

- | | |
|--|---|
| 1) $AHP_L = 25/110 = 22.72\%$ | $AHP_T = 20/110 = 18.18\%$ |
| 2) $UT_L = 22.72\% \div 30\% = 75.73\%$ | $UT_T = 18.18\% \div 10\% = \text{over } 100\%$ |
| 3) $UPC_L = 100\% - 75.73\% = 24.27\%$ | Targeted Worker utilization
meets/exceeds the mandatory goal
No monthly withholding |
| 4) $MCW = \$1,200,000 \times 1.0\% = \$12,000$ | |
| 5) $MMCW = \$12,000 \div 3 \text{ months} = \$4,000$ | |
| 6) $MWA_L = \$4,000 \times 75\% \times 24.27\% = \728.10 | $MWA_T = \text{zero}$ |
- $MWA = \$728.10 + \text{zero} = \728.10

The MWA for the third month is as follows:

- | | |
|--|--|
| 1) $AHP_L = 60/120 = 50\%$ | $AHP_T = 30/120 = 25\%$ |
| 2) $UT_L = 50\% \div 30\% = \text{over } 100\%$ | $UT_T = 25\% \div 10\% = \text{over } 100\%$ |
| Both Local and Targeted Worker utilization meets/exceeds the mandatory goal. | |
| 3) $MWA_L = \text{zero}$ | $MWA_T = \text{zero}$ |
- $MWA = \text{zero.}$

LTWHP SAMPLE CALCULATIONS

Upon completion of the Work, the Final Withholding Amount (FWA) for the entire project will be calculated based upon accumulation of the total hours worked.

$$1) \text{FAHP}_L = (25 + 25 + 60) / (100 + 110 + 120) = 33.33\%$$

$$\text{FAHP}_T = (2 + 20 + 30) / (100 + 110 + 120) = 15.76\%$$

$$2) \text{FUT}_L = 33.33\% \div 30\% = \text{over } 100\% \qquad \text{FUT}_T = 15.76\% \div 10\% = \text{over } 100\%$$

Both Local and Targeted Worker utilization meets/exceeds the mandatory goal.

$$3) \text{FWA}_L = \text{zero}$$

$$\text{FWA}_T = \text{zero}$$

$$\text{FWA} = \text{zero} + \text{zero}$$

The Final Withholding Amount is zero. The Monthly Withholding Amount withheld the first and second month will be released to the Contractor.

Below is an alternative example where a Final Withholding Amount is withheld. From the example above, assume the third month Local and Targeted Worker Hours worked were 20 and 5, respectively. The Final Withholding Amount would be calculated as follows:

$$1) \text{FAHP}_L = (25 + 25 + 20) / (100 + 110 + 120) = 21.21\%$$

$$\text{FAHP}_T = (2 + 20 + 5) / (100 + 110 + 120) = 8.18\%$$

$$2) \text{FUT}_L = 21.21\% \div 30\% = 70.7\%$$

$$\text{FUT}_T = 8.18\% \div 10\% = 81.8\%$$

$$3) \text{FUPC}_L = 100\% - 70.70\% = 29.3\%$$

$$\text{FUPC}_T = 100\% - 81.8\% = 18.2\%$$

$$4) \text{FWA}_L = \$12,000 \times 75\% \times 29.3\% = \$2,637.00$$

$$\text{FWA}_T = \$12,000 \times 25\% \times 18.2\% = \$546.00$$

$$\text{FWA} = \$2,637.00 + \$546.00 = \$3,183.00$$

The Final Withholding Amount is \$3,183.00.

In addition to the amount withheld the first and second month, \$1,154.80 will be withheld from the Contractor for not meeting the mandatory goals.



DISPATCH REQUESTOR: _____
(Contractor and Subcontractor Name)

DATE: _____

**LOCAL AND TARGETED WORKER HIRE PROGRAM
00 09 12-A CRAFT EMPLOYEE REQUEST FORM – MANDATORY
FCC0001207 - Pacoima Spreading Grounds Basin Enhancement Project**

County of Los Angeles requires that at least 30 percent of total California Construction Labor Hours worked on the project must be performed by a qualified Local Resident. Additionally, at least 10 percent of total California Construction Labor Hours worked on the project shall be performed by a Targeted Worker. The hours worked by a Targeted Worker who is also a Local Resident may also be applied towards the 30 percent Local Resident hiring goal. The available pool of Local Residents whose primary place of residence is within Tier 1 ZIP Codes, listed below, must first be exhausted in the manner specified in Section 2.01G before employing worker(s) from Tier 2 ZIP Codes (listed under Form 00 09 12-C).

EMAIL FORM TO:

Community Organization	Name: _____	Tel: _____	Email: _____
Local Union	Name: _____	Tel: _____	Email: _____
GC or Sub Compliance Office:	Name: _____	Tel: _____	Email: _____
LTWHP Coordinator	Name: _____	Tel: _____	Email: _____
Project Manager	Name: _____	Tel: _____	Email: _____

TIER 1 RESIDENCY AREA ZIP CODES: Local and Targeted Workers in these zip codes shall be first dispatched to FCC0001207 - Pacoima Spreading Grounds Basin Enhancement Project.

91331	91340	91342	91343	91352	91402	91405	91406	91605	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TIER 2 RESIDENCY AREA ZIP CODES: Local and Targeted Workers from these zip codes shall be referred for project work after all available qualified workers in the Tier 1 Residency Preference area have been exhausted to FCC0001207 - Pacoima Spreading Grounds Basin Enhancement Project. See Form 00 09 12-C.

CRAFT WORKER REQUEST:

CITY	CRAFT POSITION	JOURNEYMAN OR APPRENTICE LEVEL	LOCAL and TARGETED WORKER (TIER 1 RESIDENCY AREA REQUIRED)	LOCAL and TARGETED WORKER (TIER 2 RESIDENCY AREA)	TARGETED WORKER	DATE	TIME

Please have the worker(s) report to the following project site address indicated below:

Project Name: _____
 Site Address: _____ Report to: _____
 On-site Tel #: _____ On-site Fax: _____
 Comment or special instructions: _____

Completed by Community Service Provider Organization or Union		
Received By: _____	Date Received: _____	Dispatch Date: _____
<u>Requested Dispatch</u>	<u>Available for Dispatch</u>	<u>Unavailable for Dispatch</u>
Tier 1 Residency Worker <input type="checkbox"/>	Tier 2 Residency Worker <input type="checkbox"/>	<input type="checkbox"/> *See instruction below. <input type="checkbox"/> Qualified Targeted Worker
*Attach letter stating reason for not dispatching local and targeted worker(s) who reside in the Tier 1 and Tier 2 Area zip codes.		
Print Dispatcher Name: _____	Phone: _____	

**Equal Employment Opportunity (EEO) Compliance Requirements
For Non-Federally Funded Contracts**



Requirements	Prime Contractor's Obligation	Subcontractor's Obligation	Response Period
1 Contractors and subs with aggregate construction contracts in excess of \$10,000 in one year are subject to EEO requirements as defined under the authority of your contract	<ul style="list-style-type: none"> Follow EEO requirements and bind Subcontractor(s) to same requirements 	<ul style="list-style-type: none"> Follow EEO requirements 	Duration of contract
2 Certification of Non-Segregated Facilities	<ul style="list-style-type: none"> Submit Certification to ISD Submit Subcontractor(s) Certification to ISD 	<ul style="list-style-type: none"> Submit Certification to Prime Contractor 	If not on file, submit before construction start and annually by March 10
3 Contractor Notification of Subcontracts Awarded	<ul style="list-style-type: none"> Submit Notification to ISD Submit Subcontractor(s) Notification to ISD 	<ul style="list-style-type: none"> Submit Notification to Prime Contractor 	Submit within 10-business days of contract award
4 Notice of Equal Employment Opportunity	<ul style="list-style-type: none"> Submit Notice(s) to Unions or Worker's Representative and ISD Submit Subcontractor(s) Notice(s) to ISD 	<ul style="list-style-type: none"> Submit Notice(s) to Unions or Worker's Representative and Prime Contractor 	Submit before start of construction
5 Contractor Good Faith Efforts	<ul style="list-style-type: none"> Submit to ISD Submit Subcontractor(s) to ISD 	<ul style="list-style-type: none"> Submit to Prime Contractor 	If not on file, submit before construction start and annually by March 10
6 EEO Posters	<ul style="list-style-type: none"> Post EEO Posters at construction site in conspicuous location 		Post before start of construction and for duration of contract
7 Employment Utilization Report (EUR)	<ul style="list-style-type: none"> Submit EUR to ISD. Submit Subcontractor(s) EUR to ISD 	<ul style="list-style-type: none"> Submit EUR to Prime Contractor 	If not on file, submit before construction start and on March 10 and September 10 of each year. Each report must cover the preceding month. Requirement is in effect for contract duration- no missing reports allowed.
8 Contractor's List of Federal & Non-Federal Work in Bid Condition Area	<ul style="list-style-type: none"> Attach Contractor's List to first EUR and submit to ISD Submit Subcontractor(s) Contractor's List to ISD 	<ul style="list-style-type: none"> Attach Contractor's List to first EUR and submit to Prime Contractor. 	Submit with first EUR-and any subsequent reports when changes in construction work occur

Send required documents to: County of Los Angeles
Internal Services Department, Countywide Contract Compliance Section

EEO Requirements—Nonfederal 10/20/2014

Number:

Effective Date:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

Project Name: Pacoima Spreading Grounds Basin Enhancement Project

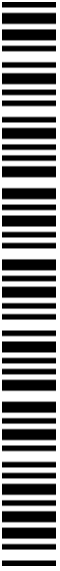
Project ID No.: FCC0001207

**County of Los Angeles,
Los Angeles County Flood Control District,
Los Angeles Department of Water and Power,
California Department of Water Resources, and the
City of Los Angeles**

Shall be named under the policy as insureds or additional insureds with respect to liability arising out of the Contractor's ongoing and completed operations.

This Endorsement shall apply to claims arising from occurrences during the time period from the commencement of work until the completion of the work to be performed and the acceptance of the work by the Los Angeles County Flood Control District.

In the event of expiration, proposed cancellation, or any change in the insurance required in the Specifications, including insurer, limits of coverage, term of coverage or period of this policy for any reason whatsoever, the insurer shall notify the Los Angeles County Flood Control District by registered mail, return receipt requested, sent to the Los Angeles County Flood Control District c/o County of Los Angeles, Public Works, Project Management Division III, 8th Floor, Attention Irma Vasquez, 900 South Fremont Avenue, Alhambra, CA 91802-1460, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than 10 days in advance of the effective date of proposed cancellation due to non-payment of premium, and not less than 30 days in advance of the effective date of expiration, proposed cancellation for any other reason, or for a policy change.



CLASS "A" PERMIT



City of Los Angeles
Department of Public Works
Bureau of Engineering

Job Location: 10500 N ARLETA AVE
Contact: JOHN BODENCHAK
Contact Phone: 6264586156
Permittee: LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
Permittee Address: 900 South Fremont Avenue
Alhambra, CA 91803
Permittee Phone: 6264586156
Description of Work: New
APN: 2617-013-031

Permit No. A2017-002467 V
Reference No. 61261
Date Issued: 10/04/2017
Expiration Date: 04/02/2018
Engineering District: Valley
Thomas Guide (Page/Grid): 502 A3
Issued by: Eduardo Pedroza
Issuing District: Valley

For questions regarding this permit call: (818) 374-5090

**CALL BUREAU OF CONTRACT ADMINISTRATION
FOR INSPECTION PRIOR TO COMMENCING WORK: (213) 485-5080**

I hereby agree to observe all requirements of the Los Angeles Municipal Code, the Standard Specifications, and any special requirements made part of this permit.

X _____ Date: _____ Inspector: _____ Date: _____

FIELD NOTES:

REMARKS: NEW APRON ON N/S OF FILMORE, N/E OF WOODDALE FOR BIKE PATH.

Driveway No.	Case No.	(A)	(X)	(Y)	(W)	(T)	(GW)	Intersection	
								Frontage	Intersection
Curb Face to Edge of Sidewalk:		Width of Sidewalk:		Curb Face to Property Line:		Inspection Results			
Height of Curb:		Net Amt.		Discount		7.00% Sur.(2)		Qty	Initial
1	2	12' 0"	3' 0"	6' 0"	10' 0"	6"	24"		
Fees:		Qty	Unit	Rate	Subtotal	Discount	Net Amt.	3.00% Sur.(1)	Total
A-Permit Basic Fee		1	each	\$273.00	\$273.00	\$0.00	\$273.00	\$8.19	\$300.30
Concrete Pymt Insp-Driveway No. 1		224.00	Sq. Ft.	\$0.85	\$190.40	\$0.00	\$190.40	\$5.71	\$209.44
Compaction Test per 50'		1	Each	\$115.00	\$115.00	\$0.00	\$115.00	\$3.45	\$126.50
Totals					\$578.40	\$0.00	\$578.40	\$17.35	\$636.24



Job Location: 10500 N ARLETA AVE

Permit No. A2017-002467

General Notes

Initials: _____

1. A copy of this permit must be at the jobsite at all times.
 2. All changes in sketches and permit limits must have prior approval.
 3. Call for inspection before noon on the workday prior to doing any work.
 4. All work shall comply with the latest edition of the "Greenbook", Standard Specifications for Public Works Construction.
 5. Jobsite conditions must comply with the latest edition of the "Work Area Traffic Control Handbook" (W.A.T.C.H.)
 6. Pedestrian and vehicular access must be maintained at all times. Barricades and lights must be in use at the jobsite from the start of removals to the completion of the work.
 7. If the contractor does not furnish barricades and protective devices, as required, the City of Los Angeles may, at its option, provide them for a fee to the contractor.
 8. **All traffic lanes (including: Through, Turning, and Peak Hour lanes) shall be unobstructed from 3:30PM to 7:00 PM and 6:00 AM to 9:00 AM. One traffic lane may be closed at all other times.**
 9. The jobsite, including temporary resurfacing, must be maintained by the permittee until all permanent resurfacing is completed.
 10. No driveway apron shall be permitted for front yard parking per LAMC Sec 12.21 C (g).
 11. Sawcut all removals. No backfill or concrete shall be placed without approval of the inspector.
 12. Slurry cement backfill is required in all public streets and alleys. Laterals require inspection before the backfill is placed.
 13. Only Bonded Sewer Contractors are permitted to make sewer connections in the public right of way.
 14. Property line connections must be completed prior to calling for inspection.
 15. All permanent resurfacing must be completed within 3 weeks of the temporary resurfacing or the completion of the job.
 16. All permanent resurfacing must be identified by an approved marker/tag identifying the permittee and the year the work was completed. Tags are to be placed as close to the curb as possible. For excavations less than 50 feet long, only one tag should be placed in the middle. For longer excavations, tags should be placed at 50 feet intervals and at both ends.
 17. The permittee is required to contact any other agencies impacted by their work.
 18. **PERMITTEE SHALL STOP WORK AND CONTACT THE PERMITTING AGENCY PRIOR TO CUTTING OR EXCAVATING ANY DECORATIVE SIDEWALK, PAVEMENT, OR CROSSWALK.**
 19. **ANY DAMAGE TO DECORATIVE SIDEWALK, PAVEMENT, OR CROSSWALK MUST BE REPAIRED IN KIND OR RECONSTRUCTED IN KIND BY THE PERMITTEE, AS DIRECTED BY THE PERMITTING AGENCY, IN A MANNER SATISFACTORY TO THE CITY ENGINEER AND THE INSPECTOR OF PUBLIC WORKS.**
 20. **NO CONSTRUCTION TO BE DONE ON WEEKDAYS OR WEEKENDS DURING THE HOLIDAY SEASON. CONSTRUCTION MORATORIUM BEGINS MONDAY, NOVEMBER 20, 2017 AND ENDS ON TUESDAY, JANUARY 2, 2018.**
 21. See LAMC Sec 62.115 regarding refunds of this permit
 22. This permit does not allow occupying/fencing-off/separating and utilizing the public right-of-way permitted work area prior to the start of work or after the work is completed. Furthermore, the work area shall not be used for storage, parking, or staging of the construction activities on the private property
 23. The drain shall be 3" diameter pipe for a 6" curb face and a 4" diameter pipe for an 8" curb face or greater. The invert of the drain shall be located 1/2" above the gutter flowline. The drainpipe shall have a minimum 2" clearance from top of curb and be laid on a straight grade with a minimum slope of 1/8" per foot and terminate 1" back of the curb face.
- (1) The 3% surcharge funds improvements for the Development Services Trust Fund (LAMC 57.118.4 and 61.17).
(2) The 7% surcharge funds the Public Works Engineering Equipment and Training Trust Fund (LAMC 61.03).
- Minimum Inspection Charges: a 10 sq. ft. applies to driveways, sidewalks, access ramps, alley intersections, street resurfacing, and gutters. A 3 in. ft. applies to curbs and curb cuts.**

Underground Service Alert

Bureau of Street Lighting

Street Light Relocation

Dept. of Transportation

Traffic Signal Relocation

Parking Meter Removal/Relocation

Department of Water and Power

Water Meter Removal/Relocation

Bureau of Street Services

Street Tree Removal/Trimming

Barricades/Street Closure

(800) 422-4133

Call 48 hours prior to work

(213) 847-1551

Call 48 hours prior to work

(213) 485-2261

Call 48 hours prior to work

(213) 485-2273

(800) 342-5397

(213) 847-3077

(213) 485-5691



INFORMATIONAL ONLY

Contractor shall prepare the submittal using the approved plans and should not use the old attachment. Approved TCE may be used for the submittal.

**GENERAL DEPOSIT
EXCAVATION AND CLASS "A" PERMANENT
RESURFACING APPLICATION / PERMIT**

APPLICANT

Los Angeles County Flood Control District,

ADDRESS

900 South Fremont Avenue

CITY ZIP

Alhambra 91803

TELEPHONE

(626) 458-6156

REQUEST PREPARED BY

TELEPHONE

John Bodenchak

(626) 458-6156

ALL WORK MUST BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION & SUPPLEMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE LATEST REVISION OF THE BROWN BOOK, AND THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL).

JOB ADDRESS

**10500 Arleta Avenue Paxton St
Los Angeles, CA 91331**

JOB DESCRIPTION:

Install two 2" diameter PVC conduits for power and communication lines in a 2.5' deep and 2' wide trench across Arleta Avenue. Trenching, backfill, and paving in asphalt pavement to be performed per Standard Plan S-477.

FOR THE PURPOSE OF:**Street Cuts**

	Concrete	A.C.	Dirt
No. of Cuts	0	1	0
Total Sq. FT.	0.00	132.00	0.00

Parkway Cuts

	Concrete	A.C.	Dirt
No. of Cuts	2	0	2
Total Sq. Ft.	28.00	0.00	20.00

BACKFILL:

SLURRY	Native Soil	IMPORTED	SOIL CEMENT	OTHER
Yes	No	No	No	No

BACKFILL REMARKS

Trenching, backfill, and paving in asphalt pavement to be performed per Standard Plan S-477.

IS THIS WORK RELATED TO A CITY NOTICE OF PROPOSED IMPROVEMENT? **No**

IS STREET NOW UNDER CONSTRUCTION? **No**

Greater than or equal to 100 and Less than or equal to 1000 sq. ft.

ISSUED BY: **A Gadbury**

Reference Number 2017006218

Permit Number U-1881-0353

W.O. NO.

Date Issued 02/06/2018

Date Expires 08/06/2018

Work to be Completed by: 01/31/2020

JOB Sq. Ft.	180.00			
ITEM	QUANTITY	UNIT	RATE	FEE \$
U-Permit Excavation	1	EA	\$191.00	\$191.00
U-Permit Special Eng Fee	0.00	Hrs	\$149.00	\$0.00
Special Inspection Fee	0.00	Hrs	\$95.00	\$0.00
Inspection	180.00	SQ FT	\$2.20	\$396.00
BSS Peak Hr. Comp. Fee	Secondary Highway	EA	\$257.00	\$257.00
LADOT Peak Hr. Comp. Fee	Secondary Highway	EA	\$0.00	\$0.00
Street Damage	132.00	Sq. Ft.		\$0.00
Slurry Seal Damage	0.00	Sq. Ft.		\$0.00
SDRF Admin. Fee	0	EA	\$18.50	\$0.00
CONST MGMT TRAFFIC FEE	0 Lanes	0 Days		\$0.00
Dev Svc Sur (3%)-Min \$1			3%	\$17.61
Equip & Training Sur (7%)-Min \$1			7%	\$59.08
TOTAL FEE				\$920.69

JOB NO.	
DRAWING NO.	
ACCOUNT NO.	
U.S.A. NO.	
LOCATOR CODE	
THOMAS GUIDE PAGE	

INSPECTION REPORT

Contractor	
Actual Job Start	
Temporary Resurfacing Completed	
Actual Job Completion	
Approved by Inspector	
Date Approved	

INSPECTION REMARKS:

MUST CALL FOR INSPECTION : (213)485-5080 BEFORE, DURING, AND AFTER CONSTRUCTION

GENERAL CONDITIONS:

- 1. IMPORTANT NOTICE: THE PERMITTEE SHALL CONTACT THE BUREAU OF CONTRACT ADMINISTRATION - INSPECTION AT (213) 485-5080 FOR A PRE-INSPECTION PRIOR TO THE START OF WORK. THE ISSUANCE OF THIS PERMIT DOES NOT GRANT THE PERMITTEE PERMISSION TO PROCEED TO CUT, EXCAVATE OR DAMAGE A STREET PAVEMENT WHEN THE STREET, THROUGH SITE OBSERVATION, APPEARS TO BE RECENTLY RESURFACED. IN SUCH CASE, THE PERMITTEE SHALL NOT PROCEED WITH ANY OF THE PERMITTED WORK AND MUST IMMEDIATELY CONTACT THE BUREAU OF ENGINEERING DISTRICT OFFICE THAT ISSUED THE PERMIT. IF THE PERMITTEE PROCEEDS TO WORK WITHOUT CONTACTING THE BUREAU OF ENGINEERING DISTRICT OFFICE, ANY DAMAGE TO A STREET RESURFACED WITHIN ONE YEAR WILL REQUIRE THE PERMITTEE TO REPAVE THE ENTIRE STREET WIDTH FROM BLOCK TO BLOCK.**
2. A COPY OF THIS PERMIT MUST BE ON THE JOB SITE AT ALL TIMES.
3. CALL UNDERGROUND SERVICE ALERT (U.S.A.) AT LEAST 48 HOURS PRIOR TO START OF WORK: 1-800-277-2600.
4. CALL THE FOLLOWING AT LEAST 48 HOURS PRIOR TO THE START OF WORK: BUREAU OF STREET LIGHTING: (213) 485-5924, DEPT. OF TRANSPORTATION, TRAFFIC SIGNAL CONSTRUCTION: (213) 847-2944
5. THE PERMITTEE WILL HOLD THE CITY OF LOS ANGELES HARMLESS FOR ANY INJURY OR HARM CAUSED BY THE PERMITTEE'S WORK PERFORMED BY THIS PERMIT.
6. TRENCH BACKFILL AND A/C PAVEMENT RESURFACING SHALL FOLLOW THE LATEST VERSION OF LA CITY STANDARD PLAN S477.

INSPECTION

- **BUREAU OF CONTRACT ADMINISTRATION INSPECTION WORK MUST BE REQUESTED NO LATER THAN NOON OF PRECEDING WORK DAY. FOR INSPECTION, PLEASE CALL DISPATCH AT: (213) 485-5080. DISPATCH HOURS ARE 7:00 A.M. TO 3:30 P.M.**
- **CALL FOR INSPECTION OF PERMANENT RESURFACING NO LATER THAN NOON OF THE PRECEDING WORK DAY.**
- ALL CHANGES IN SKETCHES AND PERMIT LIMITS MUST HAVE PRIOR APPROVAL BY THE CITY'S BUREAU OF ENGINEERING.
- PEDESTRIAN AND VEHICULAR ACCESS MUST BE MAINTAINED AT ALL TIMES.
- IF BARRICADES AND PROTECTIVE DEVICES ARE NOT FURNISHED BY THE CONTRACTOR AS REQUIRED, THE CITY OF LOS ANGELES MAY, AT ITS OPTION, PROVIDE THEM FOR A FEE TO THE CONTRACTOR.
- TRAFFIC REQUIREMENTS: ALL TRAFFIC LANES IN MAJOR, SECONDARY, AND COLLECTOR DESIGNATED STREETS SHALL BE UNOBSTRUCTED FROM 6 AM TO 9 AM AND 3:30 PM TO 7 PM. ADDITIONAL TRAFFIC LANES MAY BE CLOSED AT ALL OTHER TIMES WITH A LADOT APPROVED TRAFFIC CONTROL PLAN FOR THIS PERMIT. ADDITIONAL LANE CLOSURES FOR A COLLECTOR OR LOCAL STREET MAY BE CLOSED PER THE W.A.T.C.H. MANUAL OR AN APPROVED TRAFFIC CONTROL PLAN AT THE DISCRETION OF THE PERMITTING ENGINEER.
- THE JOB SITE, INCLUDING TEMPORARY RESURFACING, MUST BE MAINTAINED BY THE PERMITTEE UNTIL PERMANENT RESURFACING IS COMPLETED.
- **ALL PERMANENT RESURFACING MUST BE COMPLETED WITHIN 3 WEEKS OF THE TEMPORARY RESURFACING.**
- ALL PERMANENT RESURFACING MUST BE IDENTIFIED BY AN APPROVED MARKER/TAG IDENTIFYING PERMITTEE AND THE YEAR THE WORK WAS COMPLETED. TAGS ARE TO BE PLACED AS CLOSE TO THE CURB AS POSSIBLE. FOR EXCAVATIONS LESS THAN 50' LONG, ONLY ONE TAG SHOULD BE PLACED IN THE MIDDLE. FOR LONGER EXCAVATIONS, TAGS SHOULD BE PLACED AT 50' INTERVALS AND AT BOTH ENDS.
- **ONCE PERMITTED EXCAVATION WORK HAS BEGUN, IT MUST BE DILIGENTLY PROSECUTED TO COMPLETION, AND MUST BE COMPLETED BY THE COMPLETION DATE LISTED ON THE PERMIT.**
- **IF WORK HAS NOT BEGUN WITHIN 6 MONTHS FROM DATE OF ISSUANCE, THE PERMIT WILL BE CANCELLED. (LAMC 62.02)**
- **FOR PERMITS WHERE WORK IS ALLOWED ONLY ON SATURDAY, TRENCHES AND/OR EXCAVATIONS THAT CANNOT BE COMPLETELY BACK-FILLED AND RESURFACED IN THE SAME DAY, MUST BE COVERED WITH STEEL PLATES WHICH SHALL BE RECESSED TO FINISHED SURFACE GRADE BY COLD MILLING TO PREVENT MOVEMENT, NOISE OR VIBRATION.**
- PERMITTEE SHALL STOP WORK AND CONTACT THE PERMITTING AGENCY PRIOR TO CUTTING OR EXCAVATING ANY DECORATIVE SIDEWALK, PAVEMENT, OR CROSSWALK.
- ANY DAMAGE TO DECORATIVE SIDEWALK, PAVEMENT, OR CROSSWALK MUST BE REPAIRED IN KIND OR RECONSTRUCTED IN KIND BY THE PERMITTEE, AS DIRECTED BY THE PERMITTING AGENCY, IN A MANNER SATISFACTORY TO THE CITY ENGINEER AND THE INSPECTOR OF PUBLIC WORKS.
- ISSUANCE OF A PERMIT DOES NOT INVALIDATE THE NEED TO GET APPROVALS OR PERMITS FROM OTHER GOVERNMENTAL AGENCIES THAT MAY HAVE JURISDICTION OVER A SPECIFIC LOCATION SUCH AS THE CALIFORNIA COASTAL COMMISSION

Traffic Control Conditions

1. WATCH Manual Conditions (2006 Edition).
2. Traffic control setup per the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD 2006) and the Work Area Traffic Control Handbook (WATCH Manual), 2006 Edition.
3. LADOT has implemented a new stand-alone system for Worksite Traffic Control Plan (WTCP) review. To obtain worksite traffic control plan approval please visit <http://ladot.lacity.org>

CLICK CTTC (CITYWIDE TEMPORARY TRAFFIC CONTROL PLAN REVIEW)

4. Work hours: 9:00am to 3:00pm weekdays only .
5. Post tow-away no stopping signs adjacent to work area for hours from to only, as required by The Worksite Traffic Control Plan(s). Call 213-485-2298 for posting at least 4 days prior to start of any work.
6. Steel Plate excavation(s) for pedestrians and vehicles when not on site. Steel plates shall be coated with anti-skid material, pinned down and all edges feathered.
7. Provide flaggers to control pedestrians on sidewalks.
8. Maintain local and emergency access on **Arleta Ave.**
9. Provide flaggers to control pedestrians and vehicular traffic.
10. Steel plate shall be used as base for outriggers on sidewalk.
11. Sweep sidewalk after the job is completed.

PERMIT REQUIREMENTS:

1. **"SDRF" TO BE BILLED**
 TOTAL SQ. FT. = 132.00 SQ. FT.
 TOTAL SDRF FEE = = \$0.00

2. **"SSDRF" TO BE BILLED**
 TOTAL SSDRF SQ. FT. = 0
 SQ. FT.
 TOTAL SSDRF FEE = =

\$0.00

• **"SDRF/SSDRF Administration Fee" TO BE BILLED**
 TOTAL SDRF ADMINISTRATION FEE = = \$0.00

• **MUST CALL FOR INSPECTION 213-485-5080 24 HOURS BEFORE START OF WORK.**

• **THIS PERMIT GRANTS NO AUTHORITY FOR THE PERMANENT OCCUPATION OF THE PUBLIC RIGHT-OF-WAY BY ANY CONDUITS, PIPES, CABLES, WIRES, OR EQUIPMENT OF ANY SORT WHATSOEVER. SEE MUNICIPAL CODE SECTION 62.02(a). BY ISSUING THIS PERMIT THE CITY OF LOS ANGELES MAKES NO REPRESENTATION THAT ANY STATE STATUTE CREATES SUCH AUTHORITY. THE CITY OF LOS ANGELES RESERVES THE RIGHT TO REQUIRE THE OWNER OF THE FACILITIES INSTALLED UNDER THIS PERMIT TO DEMONSTRATE OR OBTAIN SUCH AUTHORITY, SUCH AS, BUT NOT LIMITED TO, A FRANCHISE FOR VIDEO SERVICES, OR REMOVE SAID FACILITIES FROM THE PUBLIC RIGHT-OF-WAY.**

• **NOTES TO CONSTRUCTION CREW:
 TUNNEL UNDER CURB AND GUTTER FOR CONDUIT CONSTRUCTION .
 IF CURB AND GUTTER ARE BROKEN DURING CONSTRUCTION, CONSTRUCT HANDICAP RAMP IN ACCORDANCE WITH L.A. CITY STANDARD PLAN NO. S-442-2M.**

• **PERMIT ISSUED ONLY FOR L.A. CITY PORTION OF JOB.**

• **BACKFILL REQUIREMENTS:
 CURB TO CURB -- COMPACT EXISTING SOIL WITH MINIMUM 90% COMPACTION AND 95% FOR TOP 6 INCHES OR BACKFILL WITH SLURRY.
 PARKWAY -- COMPACT EXISTING SOIL WITH MINIMUM 90% COMPACTION AND 95% FOR TOP 6 INCHES.**

• **IMPORTANT NOTICE:
 SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIGALERT I.D. NUMBER, CALL UNDERGROUND SERVICE ALERT AT TOLL FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG.**



December 12, 2018

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 South Fremont Avenue, 6th Floor
Alhambra, CA 91803-1331
Attention: Rafael Piamonte

Subject: Pacoima Spreading Grounds Enhancement Project # FCC0001207
County of Los Angeles Department of Public Works (LADPW)
SCE Transmission Line: Macneil-Newhall-San Fernando 66kV
SCE File No. CON203591849-801748123

Southern California Edison (SCE), has reviewed and approved your request for Sediment removal, Grading, and deepening of the existing basins to increase the storage capacity for storm water, and for upgrading the existing overflow structures as shown on the attached plans entitled "County Of Los Angeles Department of Public Works (LADPW) Pacoima Spreading Grounds Enhancement Project –Plans for Final Utility Notice Title Sheet 1, DWG Sheet (s) 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 34, 39 and Reviewed and Stamped by Joseph Li – March 1, 2018, date stamped approved by SCE Real Properties (RP) on December 11, 2018.

As a utility operating high voltage electric lines which serve a major portion of Southern California, SCE's approval is granted subject to the conditions listed below to provide for the safety of others, to protect the electric system from damage and to prevent service interruptions.

This agreement is personal to LADPW and is not transferable without SCE's prior written consent. Please be advised, you have one year (12 months) from the date of this Consent Letter in order to commence with construction of this project. If construction has not begun by that time, all plans must be re-evaluated to ensure compliance with the then current SCE Policies and Guidelines. This is necessary to verify no changes to the plans or scope of work were made that affect the consent conditions agreed upon. If during the time of the delay in commencement of work there were no changes made to SCE's "Policies and

Guidelines”, and no changes were made to the final plans, a simple refresh of the start date listed in the existing consent agreement may be negotiated.

1. Adequate access to all structures must be provided and at no time is there to be any interference with the free movement of SCE’s equipment and materials. (See Addendum 1 Table 1 - Standard Clearances)
2. At no time shall access to any SCE’s facility be cut off or impeded in any way during any temporary grading operation.
3. All equipment working on the right of way must maintain a minimum clearance of 25-feet from all SCE structures in conjunction with the minimum clearances set forth in the California Code of Regulations, Title 8 Section 2946, Article 37 “Provisions for Preventing Accidents Due to Proximity to Overhead Lines” The minimum required equipment clearances also include SCE’s Operating Conditions in which a minimum distance shall be maintained from all overhead conductors. (See Addendum 2 Table 2) If this minimum clearance cannot be maintained for any reason, LADPW will notify SCE and SCE may (at their own discretion), order an outage at the sole expense of the LADPW.
4. Existing SCE facilities shall be protected in place. Prior to starting work, the SCE Real Properties Agent assigned to this project, shall be notified of the intended method of protection.
5. It must be emphasized that these conditions are given from a review of conceptual/ proposed plans, dated as shown, and submitted by LADPW. Any changes in the final plans may impose further review and further conditions to this agreement.
6. Any modifications of or changes in approved plans must be approved, in writing, by SCE Real Properties Agent, prior to commencement of development.
7. Construction areas must be watered down periodically to prevent dust contamination of SCE’s insulators. Any maintenance required by SCE on its facilities over and above normal, resulting from this operation, shall be paid for by LADPW.
8. The SCE right of way shall be left in a condition satisfactory to SCE. The cost to repair any damage caused by LADPW to the access roads, slopes, turnaround area, underground or overhead facilities, or any SCE facilities shall be paid for by LADPW.
9. LADPW agrees that all construction equipment, when not in use, shall be parked clear of SCE’s right of way and rendered immobile.
10. Fill shall be compacted throughout their full extent to a minimum of 90 percent of maximum dry density as determined by A.S.T.M. Soil Compaction Test D-1557-78 and inspected and approved by the LADPW’s Geotechnical Engineer.

11. LADPW understands that SCE will be maintaining its facilities, which includes washing of insulators.
12. Flammable or toxic materials must not be stored on the right of way.
13. Servicing, refueling, maintenance and/or repair of equipment on SCE's right of way are strictly prohibited.
14. Underground facilities installed on the right of way shall have a minimum cover of Three feet (up to Seven feet depending on facility type and location). The ground cover shall be a minimum of Five feet where the underground facility crosses access roads that are earthen. All underground facilities shall be capable of withstanding a gross load of 40 tons on a three-axle truck. All pipelines and underground facilities must conform to ASTM standards as well as any State and Local agency requirements and specifications.
15. Horizontal underground clearances from SCE structures or facilities must be a minimum of Ten feet. Vertical underground facilities clearances from SCE structures or facilities must be a minimum of Three feet, and possibly up to seven feet (depending on type of crossing and voltage). If underground crossings to SCE facilities are made by water lines, LADPW shall be responsible for potential underground installations that result in induced voltages (i.e. Cathodic Protection)
16. No additional structures or other development shall be permitted within the SCE right of way, other than those approved herein.
17. This Agreement must be in the possession of LADPW's employees or its contractors, while on SCE's right of way, as a condition for issuance of the Agreement.
18. SCE shall be held harmless from any damage on or off the right of way resulting from the work being performed as described herein. In addition, approval of these drawings by SCE does not relieve the LADPW, or its engineers from any liability arising out of their design or construction of the project. SCE reviews of project plans shall not replace permitting agency plan check.
19. Staging of equipment or materials shall not be permitted within the SCE right of way.
20. LADPW shall adequately account for existing hydrological patterns in proposed design such that storm water runoff and potential debris flows are adequately incorporated into the design. LADPW shall assume all liability for any damage on or off the right of way resulting from any grading on the right of way and/or change in water flow.
21. Cribbing and safety measures shall be installed if the ditch is to be left open or endangers SCE facilities.

22. The straight portions of transmission (Through and Stub) SCE access roads over level terrain should be designed to provide a minimum drivable width of 14 feet, with an additional width of 2 feet on each side for a swale or berm. Additionally, these roads should not have a longitudinal gradient exceeding 5%, should have a minimum longitudinal grade of 0.5% (unless specific drainage provisions are provided or the roadway is paved), and should have a transverse (cross-slope) grade of 2% and be capable of supporting 40-tons on a three-axle truck. Access roads meeting these specifications must be provided at locations as indicated on the attached print, exhibit or plan. If access roads are to be joint use with a third party, other specifications or requirements may apply.
23. The following specifications shall apply to access roads installed, reconstructed, relocated, or modified:
- A. The roads gradients shall be leveled by cut and fill operations such that any sustained grade does not exceed 12%. If it exceeds 12% the road shall be paved and capable of supporting 40-tons on a three axle truck.
 - B. All curves shall have a radius of not less than 50-feet measured at the inside edge of the usable road surface.
 - C. The minimum usable road width for SCE use shall be 14-feet with an additional width of 2 feet on each side for a swale or berm and shall be capable of supporting 40-tons on a three-axle truck. The minimum width of all roads shall be increased on curves by a distance equal to $400/\text{inside radius of curvature}$.
 - D. The cross-slope for all access roads shall not exceed 2% and shall slope to the inside.
 - E. Water bars shall be constructed to divert the water across the road to drain away on the down-slope side. The water bars and drains shall be spaced as follows:
 - F.

Average Grade	Maximum Spacing
1) 0-5%	600 feet
2) 5-10%	400 feet
3) 10-15%	100 feet
 - G. All paved roads shall be constructed to Bridge Standard HS-20.
 - H. Over-side drains shall be supplied to channel the water from the water bars to other drainage off the right of way. Energy dissipation shall be provided when out letting to natural terrain
24. All public or private streets, drives or driveways that SCE will be using for access must be capable of supporting a gross load of 40-tons on a three-axle truck.

25. The road area shall be surfaced and shall be capable of supporting forty (40) tons on a three axle truck.
26. Commercial-type driveways a minimum of 20 feet wide with curb depressions capable of supporting 40-tons on a three-axle truck shall be installed as shown on the attached print.
27. LADPW is required to supply SCE with an access road easement for all new access roads being supplied by the LADPW that are located outside the subject right of way. These easements shall incorporate sufficient restrictions to prohibit any development within the easement without SCE's written consent.
28. A 6-inch concrete curb (or rolled curb) is required at all locations where asphalt is being installed to abut the natural dirt access road, and must be capable of supporting 40-tons on a three-axle truck.
29. Double drive gates, a minimum of 20 feet wide, must be installed at locations as shown on the attached print and must be capable of interlocking with SCE locks.
30. The maintenance of all landscaping, drainage structures, and slopes within the subject SCE right of way and reconstructed access road slopes shall be maintained by the LADPW.
31. Any irrigation or landscaping damaged by, or requiring relocation for SCE in the future, shall be repaired or relocated by LADPW at no cost to SCE.
32. No valves or controllers of any type are allowed on the subject SCE right of way.
33. All slopes within or adjacent to the subject right of way shall be a maximum slope of 2:1 (2 horizontal to 1 vertical).
34. All runoff is to be channeled away from the subject right of way unless proper drainage facilities are provided. Drainage plans, which are to include all access roads, must be approved in writing by the SCE Real Properties Department prior to construction.
35. Sufficient tests of the fill soils shall be made to determine the density thereof. The minimum number of tests shall be as follows:
 - A. One test for each two foot vertical lift.
 - B. One test for each 500 cubic yards of material placed.
 - C. One test in the vicinity of each SCE structure for each two foot vertical lift or portion thereof.
36. All mechanical equipment, including trenchers, working on the right of way must maintain a minimum clearance of two (2) feet from all underground structures. Prior to excavation, Underground Service Alert (1-800-227-2600 or 811) shall be notified of the proposed work. All excavation within two (2) feet of SCE's substructure shall be made with hand tools.
37. Construction of crossing (cut or fill) must be adequately sloped (2:1) to enable access of equipment onto access roads.

38. Fill materials shall be placed in maximum 8 inch loose lifts. Each layer shall be evenly spread and moistened or aerated, as necessary. Fill material shall be moisture conditioned to -2% to +2% of soil optimum moisture for sandy soils, and to +3% for fine grain, silty and clayey soils. Fill material shall be compacted to a minimum 90% relative compaction. Unless otherwise approved, fill material shall not contain rocks larger than 6 inches maximum size. The upper 2 feet of fill shall not contain rocks larger than 3 inches in diameter.
39. The gradient of the proposed access road between SCE Facilities and street at location of proposed consent shall not exceed twelve percent (12%). Any radius shall be constructed at a minimum of fifty (50) feet to the inside curve.
40. The SCE right of way shall be graded to provide positive drainage from all areas and have adequate channelization to prevent erosion of slopes and access roads.
41. LADPW agrees that the approved parking is temporary and could be canceled due to the addition, improvement, expansion or repair of SCE's Communication, Distribution, and Transmission systems or any other use deemed necessary by SCE.
42. No parking is allowed within SCE's right of way.
43. SCE reserves the right to terminate this agreement for the purpose of construction, alteration, addition to, and replacement of communication, distribution, and transmission facilities or any other use deemed necessary by SCE (based on easement rights), after written notice to LADPW. In the event of such termination, SCE reserves the right to claim that the current use of the right of way (including parking) unreasonably interferes with or burdens SCE's use of the right of way based on rights granted to SCE. All costs incurred for restoring the right of way to its previous condition (including substitute parking) shall be borne by LADPW.
44. No fill shall be placed until stripping of vegetation, removal of unsuitable soils, and installation of sub-drains have been inspected and approved by LADPW's Geotechnical Engineer. Inspection reports shall be made available to SCE upon request.
45. Kite flying, metallic balloons, and model airplane activities are prohibited on the SCE right of way.
46. Adequate grounding must be provided on all fencing and metallic structures. All grounding shall be engineered by a licensed Electrical Engineer in the state in which the work will be performed. A copy of grounding plans developed by the engineer, and used for the project, shall be provided to SCE for record.
47. No fencing is allowed on the subject right of way.
48. Suitable identification markers shall be installed indicating the location and depth of any underground lines, pipelines and/or facilities.
49. The LADPW and SCE Real Properties Agent shall meet prior to occupancy of easement and commencement of work for inspection of all involved structures to determine existing conditions. This inspection will include photographs of all damage (if any) and will be documented and signed by the above representatives.

<u>(Nominal, kV, alternating current)</u>	<u>(Feet)</u>
Up to 50	10
Over 50 to 175	15
Over 175 to 350	21
Over 350 to 550	27
Over 550 to 1,000	45

Over 1,000 As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution. Note: The value that follows “to” is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

A. All costs incurred for the proposed project shall be borne by LADPW.

B. This Consent is executed subject to General Order No. 69-C, of the Public Utilities Commission of the State of California dated and effective July 10, 1985, incorporated herein by this reference. As set forth in General Order No. 69-C, this grant is made conditional upon the right of SCE either on order of the Public Utilities Commission or on SCE’s own motion to resume the use of the property in question (including, but not limited to the removal of any obstructions) whenever, in the interest of SCE’s service to its patrons or consumers, it shall appear necessary or desirable to do so. Consentee agrees to comply with all applicable federal, state and local laws and regulations. This Consent should not be construed as a subordination of SCE’s rights, title and interest in and to its easements, nor should this Consent be construed as a waiver of any of the provisions contained in said easements or a waiver of any costs of relocation of affected SCE facilities.

C. All notice required to be given to SCE herein, shall be made in writing and shall be deposited in the United States mail, first class, postage prepaid, addressed as follows:

Southern California Edison Company
Real Properties Department
2 Innovation Way, 2nd Floor
Pomona, CA 91768

LADPW agrees, for itself, and for its and their agents and employees and any person or persons claiming under LADPW to save harmless and indemnify SCE, its successors and assigns and its and their officers, agents, and employees, from and against all claims, demands, loss, damage, actions, causes of action, expense and/or liability arising or growing out of loss of or damage to property, including the property of SCE, its successors and assigns, and its and their officers, agents, and employees, or injury to or death of persons resulting in any manner, directly or indirectly, from the maintenance, use, operation, repair or presence of the use approved herein.

There are numerous sources of power frequency electric and magnetic field ("EMF"), including household or building wiring, electrical appliances and electric power transmission and distribution facilities. There have been numerous scientific studies about the potential health effects of EMF. Interest in a potential link between long-term exposures to EMF and certain diseases is based on the combination of this scientific research and public concerns.

While some 30 years of research have not established EMF as a health hazard, some health authorities have identified magnetic field exposures as a possible human carcinogen. Many of the questions about specific diseases have been successfully resolved due to an aggressive international research program. However, potentially important public health questions remain about whether there is a link between EMF exposures in homes or work and some diseases including childhood leukemia and a variety of other adult diseases (e.g. adult cancers and miscarriages). While scientific research is continuing on a wide range of questions relating to exposures at both work and in our communities, a quick resolution of the remaining scientific uncertainties is not expected.

Since you plan to enter SCE's right of way that is in close proximity to SCE's electric facilities, SCE wants to share with you and those who may enter the property under this agreement, the information available about EMF. Accordingly, SCE has attached to this document a brochure that explains some basic facts about EMF and that describes SCE's policy on EMF. SCE also encourages you to obtain other information as needed to assist you in understanding the EMF issues with respect to your planned use of this right of way.

It is the Consentee's responsibility to determine if the consent of any other party owning an interest in the property is required and to obtain such consent prior to engaging in any activity permitted hereby on the property.

We would appreciate the project completion date inserted in the space provided below.

Please have LADPW sign and date the enclosed copy of this letter, thereby indicating acceptance of the above conditions, and return the signed copy to this office using the enclosed envelope.

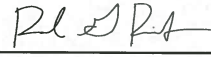
As previously indicated, it is necessary that the use of the land within an operating high voltage transmission line right of way be closely coordinated. For this reason, it will be necessary for SCE to assume your project has been either delayed or cancelled in the event the copy of this letter has not been signed and returned within sixty (60) days from the date of this letter. Should this occur, any consent granted or implied is voided without further notice in order to protect our rights and facilities. If the project is subsequently reactivated, please contact SCE again prior to the start of any construction, referencing our Real Properties file number. We will then work together with you to ensure the project is coordinated so as to avoid interference with SCE installations and operations.

LADPW/CON# 203591849-801748123

SCE appreciates the opportunity to review your plans and thanks you for your cooperation in coordinating your project with our company. If you have any questions please contact Mari Valenzuela at (909) 274-1880 or call mobile (626) 632-8696.

LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Accepted and Approved - Dated: January 2, 2019

Signature: 

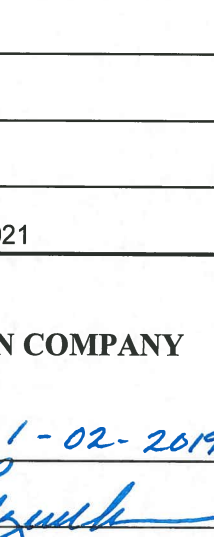
Print Name: Rafael G. Piamonte

Title: Associate Civil Engineer

Estimated Completion Date: Sept 2021

SOUTHERN CALIFORNIA EDISON COMPANY

Accepted and Approved - Dated: 1-02-2019

Signature: 

Print Name: Maria (Mari) I. Valenzuela

Title: Land Services Agent – Land Management - Metro Region



CUSTOMERS FIRST

Eric Garcetti, Mayor

Board of Commissioners
Mel Levine, President

Cynthia McClain-Hill, Vice President

Jill Banks Barad

Nicole Neeman Brady

Susana Reyes

Susan A. Rodriguez, Secretary

Martin L. Adams, General Manager and Chief Engineer

June 25, 2020

Rafael Piamonte
Los Angeles County Department of Public Works
900 South Fremont Avenue, 6th Floor
Alhambra, CA 91803

Dear Mr. Piamonte:

Subject: LADWP File No. J-101510
Letter of Non-Objection
Pacoima Spreading Grounds Enhancement Project
City Trunk Line North Unit 2
Rinaldi - Toluca Lines 1 and 2
Valley - Rinaldi Lines 1 and 2
Transmission Line Right-of-Way No. 9 and 13A
Assessor Parcel Numbers: 2647-015-900, 2647-015-901, and 2648-012-905

This letter is in reply to your letter dated April 30, 2020 and the 100 percent drawings received on January 2, 2020 for the review and approval of project plans for the Los Angeles County Department of Public Works (LACPW) Pacoima Spreading Grounds Enhancement Project. The proposed improvements are within the Los Angeles Department of Water and Power's (LADWP) Transmission Line Right-of-Way (TLRW) and LADWP's Water Operations Division City Trunk Line North Unit 2 easements.

LADWP has reviewed the revised plans and found no objections subject to the following conditions:

Conditions:

1. LACPW referenced herein shall pertain to its employees, agents, consultants, contractors, officers, agents, patrons or invitees of LACPW, or by any other of LACPW's affiliated entities.
2. No improvements or construction activities of any kind whatsoever will be allowed within the LADWP TLRW, except for the plans stamped "Reviewed and Accepted by Power System Right-of-Way Engineering on 1/14/2020" or as authorized in the field by LADWP personnel, without the prior 1/14/2020" or as authorized in the field by LADWP personnel, without the prior written approval of the LADWP.

3. No pre-construction or construction activities shall commence until the engineering design is approved by LADWP Water System. If you have any questions, please contact Du Tran, District Engineering Manager – Valley, (213) 367- 4188.
4. LACPW shall notify LADWP's Transmission Construction and Maintenance Business Group at (818) 771-5014, or (818) 771-5076, at least 14-days prior to the start of any construction activities within the TLRW.
5. LACPW shall acknowledge the LADWP TLRW are integral components of the transmission line system, which provides electric power to the City of Los Angeles and other local communities. Their use is under the jurisdiction of the Federal North American Electric Reliability Corporation (NERC). Safety and protection of critical facilities are the primary factors used to evaluate secondary land use proposals. The rights of way serve as platforms for access, construction, maintenance, facility expansion and emergency operations. Therefore, the proposed use may from time to time be subject to temporary disruption caused by such operations.
6. LACPW must post a "shock or hazard warning" sign under the TLRW.
7. Proposed improvements illustrated on Sheet 8, Profile P7-P7, shall not be higher than 8-feet from the existing ground line.
8. LACPW or its contractor must provide LADWP an engineering design prepared and signed by a California registered Professional Engineer to support the 72-inch CTL in place, or propose an alternative method of construction with technical documentation.
9. All conditions previously stated in the letter dated April 17, 2019 shall apply.
10. If any excavations are required, utility agencies within the proposed excavation sites shall be notified of impending work. LACPW shall be responsible for coordinating the relocation of utilities, if any, within the project boundaries. Before commencing any excavations, contact Underground Service Alert of Southern California (a.k.a. DigAlert).
11. LACPW shall acknowledge that LADWP shall retain its right to access the said Assessor Parcel Numbers (APNs) at any time and that LACPW shall not impede or interfere with LADWP's full use and enjoyment of the easement.

Please sign and return a copy of this letter to acknowledge your understanding and agreement to the conditions provided by LADWP.

Rafael Piamonte
June 25, 2020
Page 3

If you have any questions concerning the foregoing, please contact Ms. Shavon Paige, Senior Real Estate Officer, at (213) 202-0513, or by email at shavon.paige@ladwp.com. You may also contact Real Estate Services at (213) 367-0564.

Sincerely,



Adriana Rubalcava
Director of Real Estate

SP:sw
Enclosures

The undersigned acknowledges, understands, and agrees to the conditions provided by LADWP for the Pacoima Spreading Grounds Enhancement Project.



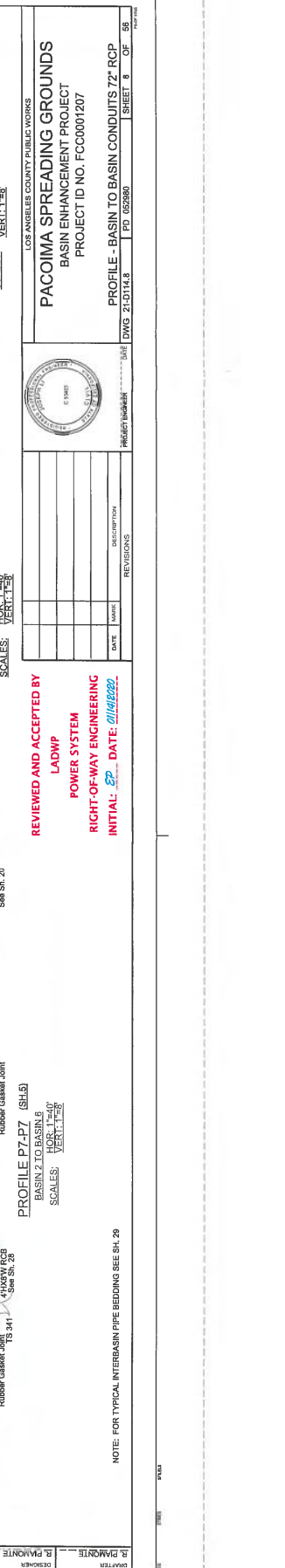
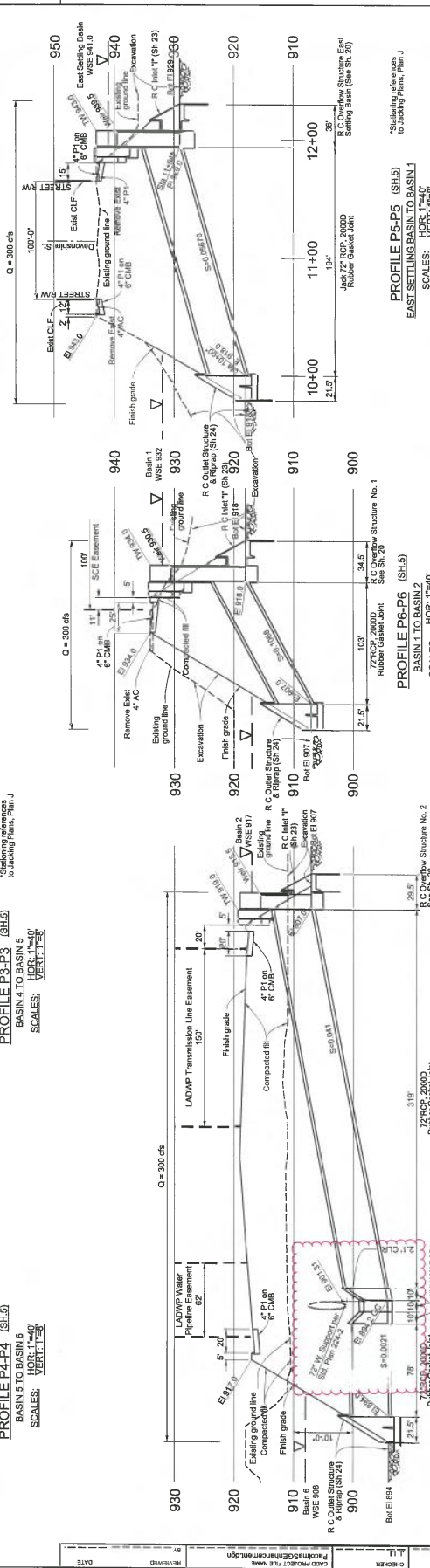
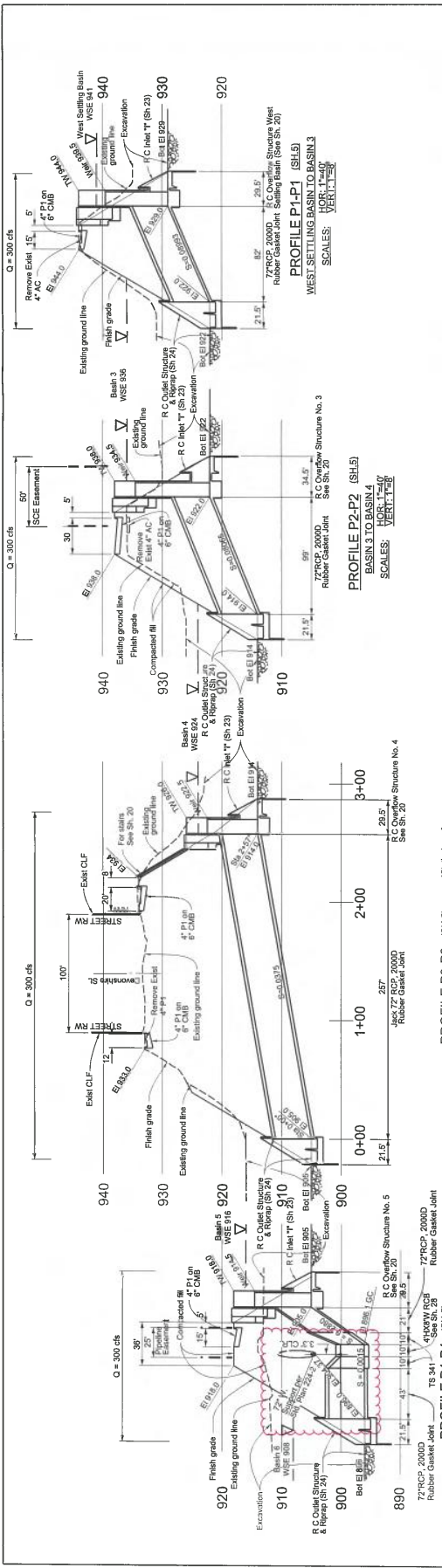
Name

Title

Date

Hector Bordas
Asst. Deputy Director
7/21/2020

*See Standard Plans for
Public Works Construction
2012 Edition
224-2*



2021 Project Calendar

PACOIMA SPREADING GROUNDS BASIN ENHANCEMENT PROJECT

PROJECT ID NO: FCC0001207

JANUARY 2021							FEBRUARY 2021							MARCH 2021						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
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APRIL 2021							MAY 2021							JUNE 2021						
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18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	H	25	26	27	28	29	27	28	29	30			
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JULY 2021							AUGUST 2021							SEPTEMBER 2021						
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25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		
OCTOBER 2021							NOVEMBER 2021							DECEMBER 2021						
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24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	H	
31																				

= Work Allowed

= No Work Allowed

H = Holiday

2022 Project Calendar

PACOIMA SPREADING GROUNDS BASIN ENHANCEMENT PROJECT

PROJECT ID NO: FCC0001207

JANUARY 2022							FEBRUARY 2022							MARCH 2022						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
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23	24	25	26	27	28	29	27	28						27	H	29	30	31		
30	31																			
APRIL 2022							MAY 2022							JUNE 2022						
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24	25	26	27	28	29	30	29	H	31					26	27	28	29	30		
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OCTOBER 2022							NOVEMBER 2022							DECEMBER 2022						
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23	24	25	26	27	28	29	27	28	29	30				25	H	27	28	29	30	31
30	31																			

= Work Allowed

= No Work Allowed

H = Holiday

2023 Project Calendar

PACOIMA SPREADING GROUNDS BASIN ENHANCEMENT PROJECT

PROJECT ID NO: FCC0001207

JANUARY 2023							FEBRUARY 2023							MARCH 2023							
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	
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29	30	31					26	27	28					26	H	28	29	30	31		
APRIL 2023							MAY 2023							JUNE 2023							
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23	24	25	26	27	28	29	28	H	30	31				25	26	27	28	29	30		
30																					
JULY 2023							AUGUST 2023							SEPTEMBER 2023							
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						1			1	2	3	4	5							1	2
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OCTOBER 2023							NOVEMBER 2023							DECEMBER 2023							
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= Work Allowed

= No Work Allowed

H = Holiday

Pacoima Spreading Grounds Basin Enhancement Project Construction Phasing

PHASE 1 (Site Prep):

Site prep includes the implementation of the line of demarcation and SWPPP, installation of the noise barrier and approved tire wash apparatuses, pavement of access roads in Zones A and B, other mitigation measures required by the MND.

PHASE 2A (Delineated Soil Removal – Zone A):

- (1) Before any grading activities, the contractor shall stakeout the delineated areas, including a buffer to account for the required excavation slope.
- (2) The delineated material shall be excavated and directly loaded in the trucks without stockpiling.
- (3) The material shall be exported to Sunshine Canyon Landfill.

PHASE 2B:

Once Phase 2A is completed, upon direction from the Engineer, proceed with grading and other construction items in Zone A.

PHASE 3A (Delineated Soil Removal – Zone B):

- (1) Before any grading activities, the contractor shall stakeout the delineated areas, including a buffer to account for the required excavation slope.
- (2) The delineated material shall be excavated and directly loaded in the trucks without stockpiling.
- (3) The material shall be exported to Sunshine Canyon Landfill.

PHASE 3B:

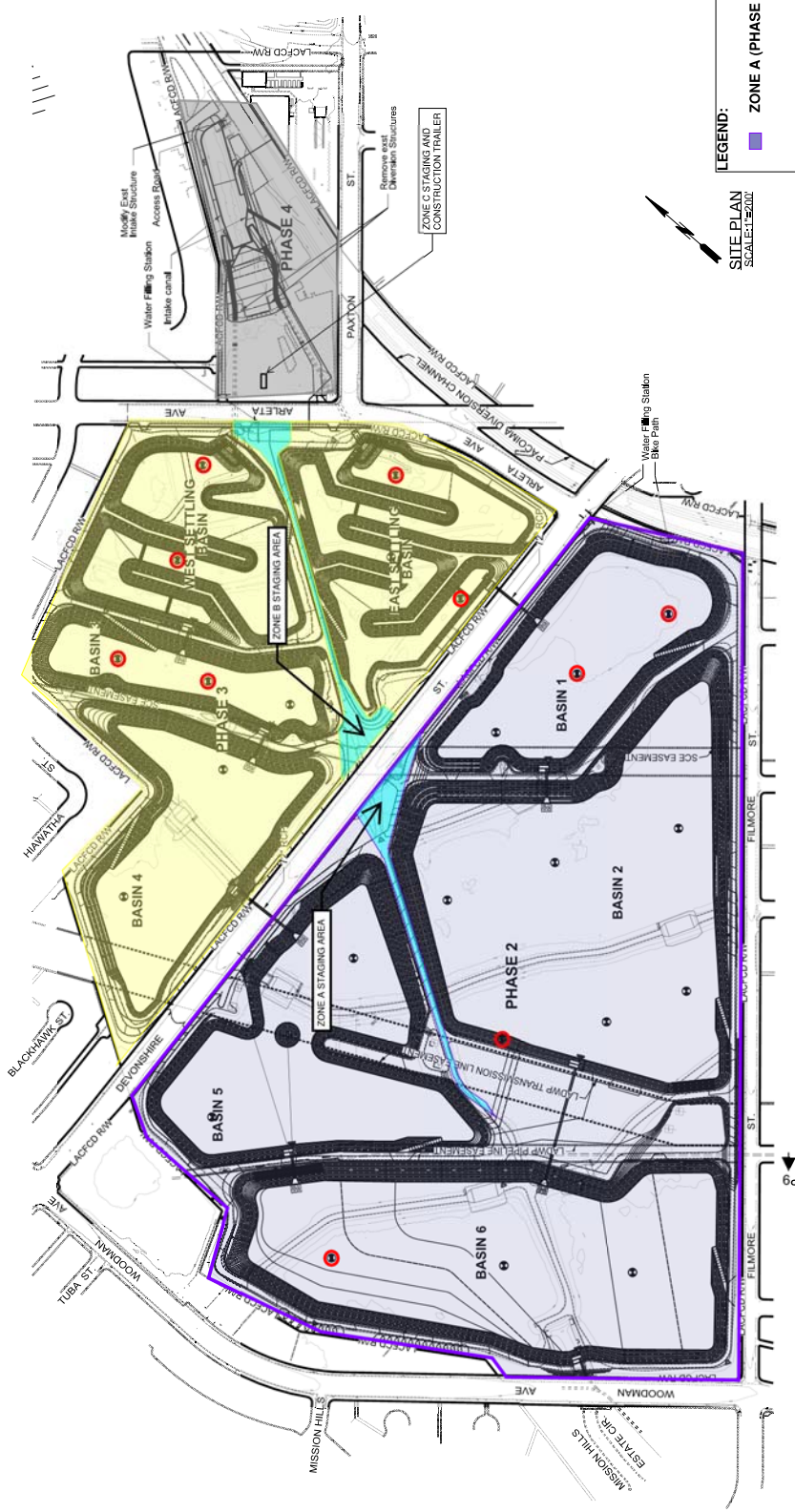
Once Phase 3A is completed, upon direction from the Engineer, proceed with grading and other construction items in Zone B.

PHASE 4 (Intake Canal):

Removal of the existing structures and canal gunite slopes, start work on the access roads, intake canal walls, invert, access ramp, concrete weir structures, and concrete lined basins.

*Tubular fence installation shall be in such a way to avoid unauthorized access to the spreading grounds while the chain link fence is being removed and replaced.

SEE EXHIBIT ATTACHED



- LEGEND:**
- ZONE A (PHASE 2)
 - ZONE B (PHASE 3)
 - ZONE C (PHASE 4)
 - ACCESS ROAD
 - DELINEATED SOIL (SEE SH. 9 - 12 FOR COORDINATES, DIMENSIONS, AND DEPTHS)

SITE PLAN
SCALE: 1:5000

DATE	WORK	DESCRIPTION	REVISIONS

LOS ANGELES COUNTY PUBLIC WORKS
PACOIMA SPREADING GROUNDS
 BASIN ENHANCEMENT PROJECT
 PROJECT ID NO. FCC0001207
 CONSTRUCTION PHASING EXHIBIT
 DWG. 2-H-14-X PD 052380 SHEET X OF 21

DATE: 11/11/2020
 WORK: CONSTRUCTION PHASING EXHIBIT
 DESCRIPTION: CONSTRUCTION PHASING EXHIBIT
 REVISIONS: 1

DATE: 11/11/2020
 WORK: CONSTRUCTION PHASING EXHIBIT
 DESCRIPTION: CONSTRUCTION PHASING EXHIBIT
 REVISIONS: 1

DATE: 11/11/2020
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PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION EC – ENVIRONMENTAL COMPLIANCE

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.



Prepared By:

Keegan D. Fahey

02/22/2021

Date

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2-5.4	Haul Routes	EC-1

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PART 1

GENERAL PROVISIONS

SECTION 2 - SCOPE OF THE WORK

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

2-5.1 General. (Page 12 of the SSPWC)

Add the following to the end of the first paragraph:

Equipment and vehicle emission standards shall conform to 3-12.2.1.

2-5.4 Haul Routes. (Page 12 of the SSPWC)

Replace the entire subsection with the following:

The Contractor shall transport excavated material, including but not limited to, sediment, unclassified excavation, and structural excavation, to either the Vulcan CalMat Facility or Sunshine Canyon Landfill in accordance with the Haul Route Exhibits (Exhibit A), included at the end of this Section EC.

The outbound truck trips shall not exceed the maximum limits for each location and haul route shown in Table 2-5.4.

Table 2-5.4 – Haul Route Maximum Outbound Truck Trips per Hour

10 Yard Trucks				
Time Period ¹	Vulcan- CalMat Facility²		Sunshine Canyon Landfill^{3,4}	Total Outbound Truck Trips
	Haul Route A	Haul Route B	Haul Route C	
9:00am – 10:00am	7	4	5	16
10:00am – 11:00am	10	7	17	34
11:00am – 12:00pm	10	7	17	34
12:00pm – 1:00pm	10	7	17	34
1:00pm – 2:00pm	10	7	17	34
2:00pm – 3:00pm	10	9	9	38
3:00pm – 4:00pm	10	10	9	29
4:00pm – 5:00pm	10	10	9	29
Maximum Outbound Truck Trips	77	61	100	238

- (1) Outbound time will be based on the time the truck exits the scales.
- (2) Vulcan CalMat Facility closes at 4:30pm (M-F)
- (3) Sunshine Canyon Landfill closes at 5:00pm (M-F)
- (4) Sunshine Canyon Landfill is limited to 6,600 tons per week.

For each day of sediment hauling, the Contractor shall submit a copy of the completed and signed Daily Haul Route Reporting Form (Exhibit B), included at the end of this Section EC, to the Engineer by 7:00pm the same day.

Failure to submit the Daily Haul Route Reporting Form on time or failure to comply with the specified haul routes, including the hourly/daily truck trip maximums, may result in suspension of the Work per 6-6. Upon notification from the Engineer, the Contractor shall submit a corrective action plan per 3-8 to correct the deficiencies identified by the Engineer. Work will only be allowed to resume after approved corrective actions have been implemented to the satisfaction of the Engineer.

The Contractor shall sweep haul routes in accordance with 3-12.1 and 3-12.6.3.

2-5.4.2 Payment. No separate or additional payment will be made for haul route compliance. Payment for haul route compliance shall be considered as included in the Contract Unit Prices in the Bid for the various items of work.

SECTION 3 - CONTROL OF THE WORK

3-12 WORK SITE MAINTENANCE.

3-12.1 General. (Page 18 of the SSPWC)

Replace the entire subsection with the following:

As used in Subsection 3-12, the definition for “Engineer” in 1-2 of Section G shall be amended to add, “The authorized representative of the Engineer for 3-12 shall be:

Oscar Enriquez
oenrique@dpw.lacounty.gov

Throughout all phases, the Contractor shall keep the Work site clean and free from rubbish and debris. Rubbish and debris collected on the Work site shall only be stored in roll-off enclosed containers prior to disposal. Stockpiles of such will not be allowed. Should the Contractor fail to keep the Work site free from rubbish and debris, the Engineer may suspend the Work pursuant to 6-6 until the condition is corrected.

Throughout all phases, and whenever sediment, other excavated materials, or debris are being exported from the project site, the Contractor shall furnish and operate South Coast Air Quality Management District (SCAQMD) Rule 1186 Certified PM₁₀-efficient regenerative air street sweeper(s) per 3-12.2.2.5. Such equipment shall be hereinafter referred to as “regenerative air street sweeper.” Regenerative air street sweeper(s) shall clean all paved areas within the Work site and all paved haul routes. The Contractor shall ensure there is no spillage along haul routes. Any such spillage shall be removed immediately and the area cleaned.

The Contractor shall sweep sidewalks adjacent to the Work site, including at all Work site entrance and exit locations, either manually or with a regenerative air street sweeper, to the satisfaction of the Engineer.

Sweeping operations shall be in accordance with 3-12.2.3.1 and produce a clean surface throughout the Work site, on sidewalks, and along haul routes.

If, in the opinion of the Engineer, this effort does not result in satisfactorily clean paved areas, sidewalks, and streets, then the Contractor shall take whatever other measures are necessary to keep the streets and sidewalks clean. Such measures may

include, but not be necessarily limited to, manual sweeping by hand labor, installation of additional tracking control devices, or suspension of hauling operations to satisfactorily comply with the requirements.

The Agency requirement to use only regenerative air street sweepers on paved areas and haul routes is more stringent than AQMD Rule 1186.

3-12.2 Air Pollution Control. (Page 18 of the SSPWC)

Replace the entire subsection with the following:

3-12.2.1 General. The Contractor shall not discharge smoke, dust, equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any Federal, State, or local regulations.

3-12.2.1.1 Valley Fever Management Plan. The Work site, during ground disturbing activities including grading, trenching, and landscaping, may have the potential for Coccidioidomycosis (Cocci), otherwise known as Valley Fever, exposure.

Information on a Valley Fever Management Plan is available from County of Los Angeles Public Health at the following website address:

<http://publichealth.lacounty.gov/acd/docs/valleyfeverplan2019.pdf>

The Contractor shall post a copy of the educational brochures contained within Appendix C of the aforementioned Valley Fever Management Plan at the Work site and maintain a log of any employees or subcontractors who report symptoms of Valley Fever.

3-12.2.2 Emission Standards.

3-12.2.2.1 General. All haul trucks used to transport sediment, unclassified excavation, and structural excavation shall be limited to tri-axle dump trucks or 10-wheel dump trucks. Haul trucks with “booster” or “tag” axle(s) located behind the drive axle (e.g. “superdumps” or “supertags”) will not be allowed on the Work site. No trailers or “pup boxes” will be allowed. The loaded weight for the haul trucks shall not exceed the truck’s GVWR or California Vehicle Code Section 35550-35551.

3-12.2.2.2 Submittals. The submittals included herein shall be the responsibility of the Contractor to provide and apply to all Work activities performed by the Contractor, including Work performed subcontractors, brokers, vendors, or other agents employed in the Work. The Contractor shall prepare and submit the following in accordance with 3-8:

- a) **On-Road Diesel-Powered Vehicle Emissions Inventory Form.** The Contractor shall complete and sign the “*On-Road Diesel-Powered Vehicle Emissions Inventory Form*” (included as Exhibit C at the end of this Section EC) and shall provide a copy of the certificate of compliance and executive order issued from the California Air Resources Board (CARB) for all on-road, diesel-powered vehicles mobilized or used on-site, regardless of duration. The forms shall include the following information:
 - i) **Periodic Smoke Inspection Program (PSIP) Results.** The Contractor shall submit the results of Periodic Smoke Inspection Program (PSIP) tests for all haul trucks. PSIP test results shall be documented on the “*On-Road Diesel-Powered Vehicle Emissions Inventory Forms*” (included as Exhibit C and Exhibit C.1 at the end of this Section EC).
- b) **Off-Road Diesel-Powered Equipment Emissions Inventory Form.** The Contractor shall submit complete and signed “*Off-Road Diesel-Powered Equipment Emissions Inventory Form*” (included as Exhibit D at the end of this Section EC) and provide a copy of the certificate of compliance and executive order issued from CARB for all off-road diesel powered equipment mobilized or used on-site, regardless duration.
- c) **Staging and Idling Plan.** The Contractor shall submit a Staging and Idling Plan describing the procedures for complying with the staging and idling restrictions per 3-12.2.2.7 and 3-12.2.2.8, respectively. At a minimum, the Staging and Idling Plan shall include the following:
 - i) How, when, and where haul trucks will be staged off-site, including location map and address of the off-site staging area(s).
 - ii) Acknowledgement that no haul trucks shall be permitted to park or stage on public streets.
 - iii) Procedures for releasing haul trucks from the off-site staging area(s) to the Work site to ensure no haul truck arrives on-site prior to 9:00am and no more than 34 haul trucks are at the Work site at one time.
 - iv) Quantity and location map of idling restriction notification signage.

- v) Procedures for notifying truck drivers and equipment operator to shut-off engines where idling or queuing will exceed 5 minutes.
- vi) Training materials and log.

Any incomplete submittals/forms will be rejected without review.

3-12.2.2.3 On-Road Diesel-Powered Vehicles. All diesel-powered vehicles shall be equipped with model year 2013 or newer engines that conform to the United States Environmental Protection Agency's (EPA) "*Emission Standards and Supplemental Requirements for 2007/2010 Model Year Diesel Heavy-Duty Engines and Vehicles*" per 40 CFR 86.007-11, with a NO_x emissions standard (STD) of 0.2 g/bhp-hr. or less.

Emissions standards for each engine family were certified by the California Air Resources Board (CARB) through an Executive Order for New On-Road Heavy Duty Engines. All engines shall be certified (CERT) by CARB on the Executive Order under Federal Test Procedures (FTP) to a NO_x standard (STD) of 0.2 g/bhp-hr. or less. Engines certified by CARB under Family Emissions Limit (FEL) will not be permitted at the Work site.

Information regarding CARB Executive Orders may be obtained from the following website: <https://ww3.arb.ca.gov/msprog/onroad/cert/cert.php>

The On-Board Diagnostic (OBD) for all heavy-duty vehicles shall comply with Title 13 CCR, Sections 1971.1 and Section 1971.5. Heavy-duty vehicles without an OBD port will not be allowed on the Work site.

Vehicles with a GVWR greater than 14,000 pounds shall comply with the Truck and Bus Regulations (Title 13, California Code of Regulations, Section 2025). All vehicle owners shall register and report on the Truck Regulation Upload, Compliance, and Reporting System (TRUCRS) to certify regulation compliance regardless of fleet size/status. The Contractor shall submit a copy of TRUCRS certificates for all vehicles used in the performance of the Work per 3-12.2.2.2 and upon request of the Engineer. ***The Engineer will inform CARB of any non-verified vehicles.***

Information regarding the Truck and Bus Regulations may be obtained from the following website: <https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation>.

The Agency's requirements to only use model year 2013 or newer engines, with a NOx emissions standard (STD) of 0.2 g/bhp-hr. or less, and have all vehicle owners register and report on TRUCRS are more stringent than the CARB Truck and Bus Regulations.

In addition to the requirements above, no haul truck will be allowed on the Work site unless they meet the following requirements:

- a) Shall be certified by CARB to a NOx idling emission standard of 30 grams per hour (Certified Clean Idle) per Title 13, California Code of Regulations, section 1956.8(a)(6)(C).
- b) Shall be labeled in accordance with Title 13, California Code of Regulations, section 1956.8(b).
- c) Shall pass Periodic Smoke Inspection Program (PSIP) tests with an opacity limit of 5 percent or less regardless of fleet size/status or engine model year. PSIP tests on all vehicles shall be:
 - i) Conducted no less than every 180 Days during the Work. PSIP passing test results from earlier than the date of issuance of the first notice to proceed will not be accepted.
 - ii) Conducted by a California Council on Diesel Education and Technology I (CCDET-I) certified technician and in compliance with the SAE J1667 Snap Acceleration Smoke Test Procedures.

The Agency's requirement for haul trucks to pass PSIP testing no less than every 180 Days is more stringent than the current CARB Heavy-Duty Vehicle Inspection and Periodic Smoke Inspection Programs.

3-12.2.2.4 Off-Road Diesel-Powered Equipment. All off-road diesel-powered equipment shall conform to US EPA Tier 4 Final emission standards per 40 CFR 1039. In addition, all off-road diesel-powered equipment 25 horsepower (hp) or greater shall comply with the In-Use Off-Road Diesel Fueled Fleets Regulations (Title 13, California Code of Regulations, Section 2449). Vehicle owners shall report on the Diesel Off-Road Online Reporting System (DOORS) to certify regulation compliance. *The Engineer will inform CARB of any non-verified equipment.*

Information regarding the In-Use Off-Road Diesel Fueled Fleets Regulations may be obtained from the following website:

<https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>

All equipment subject to the In-Use Off-Road Diesel Fueled Fleets Regulations shall have an Equipment Identification Number (EIN) label attached to both sides of the equipment.

The Agency's requirement for all diesel-powered equipment to conform to US EPA Tier 4 Final emission standards is more stringent than the CARB In-Use Off-Road Diesel Fueled Fleets Regulations.

3-12.2.2.5 Street Sweepers. Street sweepers shall be SCAQMD Rule 1186 Certified PM₁₀-efficient regenerative air street sweepers with an operational water spray system. Such equipment shall be hereinafter referred to as "regenerative air street sweeper."

Information regarding the SCAQMD Rule 1186 Certified PM₁₀-efficient regenerative air street sweepers may be obtained from the following website:

<http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-1186/certified-street-sweepers-equipment-list.pdf>

Regenerative air street sweepers shall be operated and maintained in accordance with the manufacturer's instructions. The Contractor shall be responsible for ensuring that the dust control systems are in place and operational for each regenerative air street sweeper.

3-12.2.2.6 Portable Equipment Registration Program (PERP) and Local Air District Permits. All portable equipment (50 horsepower or greater) or equipment units shall be registered under PERP and/or obtain the appropriate Local Air District Permit to Operate. The Contractor shall comply with any additional permit requirements from a local air district.

Information for PERP may be obtained from the following website:

<https://ww2.arb.ca.gov/our-work/programs/portable-equipment-registration-program-perp>

Information for the SCAQMD Permits may be obtained from the following website:

<https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/regulation-ii>

PERP label and/or Local Air District Permits, including required documentation, shall be mounted on the exterior of all portable equipment or equipment units. *The Engineer will inform SCAQMD of any non-verified portable equipment.*

3-12.2.2.7 Staging Restrictions. Haul trucks shall not be staged within the Work site nor on any public streets. Haul trucks shall not enter the Work site prior to 9:00 am on any Working Day. No more than 34 haul trucks will be allowed within the Work site at any time.

The Contractor shall post signage at each Work site entrance stating; *“Truck staging not allowed within Work site boundaries.”*

The Contractor shall be responsible for obtaining any off-site staging area(s).

3-12.2.2.8 Idling Restrictions. Diesel-powered vehicles shall limit idling to no more than 5 minutes for any reason. The 5-minute idling restriction shall apply to haul truck vehicles queuing while waiting for loading or any other activity. In the event haul truck idling or queuing will exceed 5 minutes, the vehicle shall shut-off the engine.

Diesel-powered off-road equipment shall limit idling in accordance with the CARB General Requirements for In-Use Off-Road Diesel-Fueled Fleets (Title 13, CCR, Section 2449).

Vehicles and equipment are prohibited from idling, for any duration, within 100 feet of any residential area or school.

The Contractor shall post signage where haul trucks are being loaded and at each Work site entrance with the following message; *“No Idling in Excess of Five Minutes for any reason.”*

Construction equipment shall also have stickers in plain view of the operator with the following message; *“This Engine Cannot Idle for More Than Five Minutes.”*

The Contractor shall be responsible for training haul truck drivers and equipment operators on these idling restrictions. The Contractor shall maintain a log of attendees and verify that drivers and operators on the Work site have completed the training and will comply with the idling restrictions. The training log shall be submitted to the Engineer when requested in accordance with 3-8.

In no event will any driver or operator be allowed on the Work site prior to completing the training. Failure to attend the training or comply with these idling restrictions will result in immediate removal of the driver or operator for the remaining duration of the Work and may result in suspension of the Work per 6-6.

The Agency's requirements on vehicle idling are more stringent than the idling limits and requirements per Title 13, CCR, Section 2485.

3-12.2.2.9 Implementation and Enforcement.

- a) **General.** The Contractor shall implement and comply with all emission standard requirements contained within these Specifications for the duration of the Contract including non-Working Days, any periods of Work suspension, or any designated construction moratoriums.

Vehicles and equipment under recall issued from the US EPA or CARB for any emissions-related issues will not be allowed on-site or allowed to work until proof of correction, issued from the manufacturer, is submitted in accordance with 3-8 and accepted by the Engineer.

In the event the Contractor, including subcontractor, broker, or vendor, elects to mobilize any vehicle or equipment not included in the submittals per 3-12.2.2.2; the Contractor shall submit all required information within 2 Days of mobilizing the vehicle or equipment to the Work site. Failure to submit the required information will result in immediate removal of the vehicle or equipment from the Work site and may result in suspension of the Work per 6-6.

Failure of the Contractor to update approved submittals, with passing PSIP test results for any haul truck, no less than every 180 Days will result in immediate removal of the vehicle from the Work site without any additional compensation to the Contractor or any extension of Contract time.

- b) **Agency's Right to Inspect Vehicles and Equipment.** Execution of the Contract shall constitute agreement by the Contractor, including all subcontractors, brokers, vendors, or other agents employed in the Work, that the Agency reserves the right to:
- i) access, enter, evaluate, examine, investigate, photograph, test, or otherwise inspect all vehicles or equipment, and
 - ii) install sensor(s) or GPS device(s) on all vehicles or equipment;

at any time during the performance of the Work, in order to confirm compliance with these Specifications or to collect additional information deemed necessary by the Engineer. In the event the Engineer (or authorized agent) is denied access to any vehicle or equipment or are not allowed to install sensor(s) or GPS device(s), the vehicle or equipment shall be immediately removed from the Work site. Any vehicle or equipment removed may only return upon approval of the Engineer. The vehicle driver or equipment operator shall be present during any inspection. The vehicle driver or equipment operator shall allow up to 30 minutes for each inspection. No separate or additional payment will be made for vehicle or equipment inspection or to install sensor(s) or GPS device(s).

- c) **Visible Emissions or Smoke.** Any vehicle with visible emissions/smoke shall be immediately remove from the Work site. The vehicle may return to the Work site only after the vehicle passes a PSIP test per 3-12.2.2.3 performed *after* repairs have been identified, reported, and made. The Contractor will not be entitled to any extension of time for the removal of any vehicles for failure to comply with these Specifications. The removal of the vehicle and subsequent repair and PSIP test(s) shall be at no cost to the Agency.
- d) **On-Board Diagnostics (OBD) Downloads.** The Agency will perform visual Malfunction Indicator Lamp (MIL) inspections and On-Board Dialogistic (OBD) downloads of each haul truck. Visual MIL inspections and OBD downloads will be performed at the start of sediment hauling until all haul trucks are inspected and shall be repeated every 90 Days thereafter unless otherwise determined by the Engineer to document proper maintenance and tamper-free operation of the vehicles. Potential malfunctions/deterioration of emission control components and diagnostic information for repairs will be reported to the Contractor.

Any haul truck with an emissions related illuminated MIL or an active fault code identified by the Engineer during OBD download shall be removed from the Work site by the end of the Day. The haul truck may return to the Work site after repairs have been made. The Contractor shall submit a copy of the repair order receipt. The Agency will perform visual MIL inspection and OBD download after repairs are made. The Contractor will not be entitled to any extension of time for the removal of any vehicles for failure to comply with these Specifications. The removal of the vehicle and subsequent repair and inspection shall be at no cost to the Agency.

3-12.2.2.10 Agency's Right to Exclude Vehicles. The Agency reserves the right to exclude any vehicle including haul trucks with a model year engine between 2013 and 2015. Vehicles with a model year engine of 2016 or newer will not be excluded. Haul trucks may be excluded based on engine model year, engine manufacturer, mileage, or any reason deemed appropriate by the Engineer.

Upon written notification from the Engineer, the Contractor will have 30 Days to replace the excluded vehicle(s). In no event will a vehicle identified for exclusion be allowed on the Work site after 30 Days from written notification.

3-12.2.2.11 Payment. Payment for preparation of the on-road diesel-powered vehicle emissions and off-road diesel-powered equipment emissions inventory forms per 3-12.2.2.2, including any revisions and any PSIP testing shall be considered as included in the Contract Unit Price in the Bid for "VEHICLES AND EQUIPMENT EMISSIONS REPORTING."

Payment for furnishing, operating, and maintaining SCAQMD Rule 1186 Certified PM₁₀-efficient regenerative air street sweepers shall be considered as included in the Contract Unit Price in the Bid for "STREET SWEEPING." The provisions of 7-3.5.2 and 7-3.5.3 of the SSPWC shall not apply to this Bid Item.

Payment for preparation of the haul truck staging and idling plan shall be considered as included in the Stipulated Unit Price for "HAUL TRUCK STAGING AND IDLING PLAN."

Payment for complying with the emission standards contained within these Specifications shall be considered as included in the various items in the Bid.

No separate or additional payment will be made for the removal of vehicles or equipment for failure to comply with these Specifications, or for the repair and inspection of vehicles or equipment.

No separate or additional payment will be made for the exclusion of any vehicles per 3-12.2.2.10 except where vehicles are excluded based on engine model year. The Contract Unit Price for "AGENCY EXCLUDES MODEL YEAR ENGINE TRUCK" for the various model years shall be considered as full compensation for excluding vehicles by engine model year including any delay costs, loss of production, or other costs incurred by the Contractor to complete the Work. An example of the engine model year exclusion payment is included at the end of this Section EC.

3-12.2.3 Control of Fugitive Dust.

3-12.2.3.1 General. This Contract is subject to the South Coast Air Quality Management District (SCAQMD) Rule 402 and Rule 403 Large Operations. Copies of these rules and further information may be obtained from the following:

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Telephone: (909) 396-3600

<http://www.aqmd.gov/home/programs/business/training-403-403-1-fugitive-dust>

The Contractor shall comply with the requirements of SCAQMD Rule 402 and Rule 403. In addition, the Contractor shall comply with the following requirements:

- a) Loading and hauling operations shall cease when the wind speed, or any instantaneous wind gusts, exceed 25 miles per hour.
- b) Exposed surfaces shall be watered no less than 3 times per Day.
- c) Construction equipment or vehicles shall not use the perimeter access roads of the Work site.
- d) Haul trucks shall be limited to traveling no more than 1/8 mile on unpaved roads within the Work site.
- e) Streets and sidewalks shall be maintained and cleaned continuously so that there is no visible dust, soil, sediment, debris, or any other material either on the surface or present that could become airborne.
- f) Chemical dust suppressants/stabilizers shall not be used within the Work site, unless otherwise approved by the Engineer.

The Contractor shall designate Dust Control Supervisor(s) responsible for ensuring the Contractor's operations are in compliance with SCAQMD Rule 402, Rule 403, and the requirements contained herein. The Dusts Control Supervisor(s) shall possess valid training certification from SCAQMD on dust control compliance for the duration of the Work. Training certification shall be renewed every 2 years.

3-12.2.3.2 Submittals. The submittals included herein shall be the responsibility of the Contractor to provide and apply to all Work activities performed by the Contractor, including Work performed subcontractors, brokers, vendors, or other agents employed in the Work. The Contractor shall prepare and submit the following in accordance with 3-8:

- a) Fugitive Dust Control Plan, prepared by the Contractor's Dust Control Supervisor, that includes, at a minimum, the following:
- i) Dust Control Supervisor(s) valid training certification(s).
 - ii) A statement that the Contractor acknowledges the implementation of the approved Fugitive Dust Control Plan and dust control Best Available Control Measures (BACM) are required 24 hours a day, every Day, from the date of issuance of the notice to proceed until the Work is completed, including any periods of temporary Work suspension and any construction moratoriums.
 - iii) A statement that the Contractor acknowledges the requirements contained within 3-12.2.3 are more stringent than the requirements of Rule 403 Large Operations.
 - iv) A statement that the Contractor acknowledges that the Contractor is solely responsible for compliance with the Fugitive Dust Control Plan, including the compliance of all subcontractors, suppliers, vendors, and any other persons performing work on this Contract.
 - v) Identification all potential fugitive dust sources, including all applicable source categories identified in Table 1 and Table 2 of Rule 403.
 - vi) Description of all dust control BACMs to implement to meet the requirements of 3-12.2.3.1 before, during, and after active operations for each applicable source category identified in Table 1 and Table 2 of Rule 403.
 - vii) Number of regenerative air street sweepers in operation and each regenerative air street sweeper's responsibilities within the Work site and along the haul routes, including frequency of sweeping activities (number of passes per hour) for each haul route and paved areas within the Work site.
 - viii) Number of water trucks in operation and each water truck's responsibilities within the Work site, including frequency of watering activities.
 - ix) Soil moisture testing procedures, in accordance with ASTM D1157 and D2216, and testing frequency to ensure compliance with Table 2 and Table 3 of Rule 403.
 - x) Description and locations of the Work site signage that conforms to the minimum standards of the Rule 403 Implementation Handbook. Must include sample of the proposed signage.
 - xi) Procedures for conducting daily inspections to document the specific dust control actions implemented using the inspection form contained within the Rule 403 Implementation Handbook.

- xii) Corrective actions to implement, for each applicable source category activity, where deployed BACMs are not adequate to meet the requirements of 3-12.2.3.1. At a minimum, the corrective actions shall include the contingency control measures identified in Table 3 of Rule 403.
- xiii) A statement that the Contractor will immediately stop all work when the corrective actions implemented are not adequate to meet the requirements of 3-12.2.3.1 and that the Contractor will cease all loading and hauling operations when the wind speed, or any instantaneous wind gusts, exceed 25 miles per hour.

3-12.2.3.3 Air Monitoring for Particulate Matter. The Agency will conduct air monitoring for particulate matter (PM) as part of the Agency's quality assurance verification of compliance with SCAQMD Rule 403. Air monitoring will be conducted at various locations upwind and downwind of construction activities within the Work site, as close to the property line as feasible.

In accordance with Rule 403, the Contractor shall not cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter (ug/m³). PM₁₀ levels will be measured and determined through simultaneous sampling of upwind and downwind samples. The Engineer will notify the Contractor in the event the difference between upwind and downwind samples exceeds 50 micrograms.

The Agency will utilize U.S. EPA-approved equivalent method for PM₁₀ monitoring. Air monitoring instruments will be operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM₁₀.

The Agency reserves the right to use the air monitoring equipment to monitor additional particulate matter constituents that are of concern to the Agency and set maximum permissible levels for these additional constituents. The Contractor shall be responsible for taking immediate corrective action to reduce additional constituent levels below the Agency set permissible levels when notified by the Engineer. Such corrective action will be considered as Extra Work.

3-12.2.3.4 Implementation and Enforcement.

- a) **General.** The Contractor shall be responsible for fugitive dust control compliance and the implementation of the approved Fugitive Dust Control Plan from the date of issuance of the notice to proceed until the Work is completed. The Fugitive Dust Control Plan shall be implemented every Day, including weekends, holidays, non-Working Days, any periods of temporary suspension of the Work or during any construction moratoriums. The Contractor shall be responsible for ensuring that all subcontractors, suppliers, vendors, or any other persons performing work on this Contract complies with the Fugitive Dust Control Plan.

At least one Dust Control Supervisor shall be on-site during all hours of the Work. The Dust Control Supervisor(s) shall not delegate any of their responsibilities. The Contractor's Dust Control Supervisor shall conduct daily inspections of the Work, complete inspection forms that conform to SCAQMD's Rule 403 Implementation Handbook, and direct adjustments to BACMs or deployment of corrective actions to comply with the Fugitive Dust Control Plan. The Contractor shall submit copies of the daily inspection forms to the Engineer at the end of each week or as requested.

The Engineer will notify the Contractor if any air monitoring results for particulate matter exceeds the limits specified in 3-12.2.3.3. The Contractor shall take immediate action to reduce the level below the permissible limit.

The Contractor shall monitor and observe wind speed within the Work site and cease loading and hauling operations when wind speeds exceed the limits established in 3-12.2.3.1. The Contractor shall also notify the Engineer of the operational stoppage. The Engineer will also monitor wind speed and notify the Contractor to cease loading and hauling operations due to excessive wind. The Engineer's determination of the wind speed is final.

The Engineer will notify the Contractor of any visible dust, soil, sediment, debris, or other material within the streets or sidewalks that require immediate cleaning.

Failure of the Contractor to take immediate action to remedy any non-compliance notification from the Engineer may result in suspension of the Work per 6-6. Work, once suspended, will not resume until corrective actions have been successfully deployed or revisions to the Fugitive Dust Control Plan are approved and implemented.

- b) **SCAQMD Notifications.** The Contractor shall submit all required notifications to the SCAQMD in accordance with Rule 403 Large Operations. The Contractor shall submit copies of all notifications to the Engineer no later than 1 Day after submittal to the SCAQMD or upon request.

3-12.2.3.5 Payment. Payment for preparation of the Fugitive Dust Control Plan, including each annual update, and all required revisions will be made at the Stipulated Unit Price in the Bid for “FUGITIVE DUST CONTROL PLAN (STIPULATED UNIT PRICE OF \$2,500).”

Payment for implementation of the Fugitive Dust Control Plan, including compliance with SCAQMD Rule 402, Rule 403 Large Operations, and all requirements of this subsection shall be considered as included in the Contract Unit Price in the Bid for “IMPLEMENTATION OF THE FUGITIVE DUST CONTROL PLAN.”

Payment for furnishing, operating, and maintaining water trucks shall be considered as included in the Contract Unit Price in the Bid for “WATER TRUCKS.” The provisions of 7-3.5.2 and 7-3.5.3 of the SSPWC shall not apply to this Bid Item.

3-12.3 Noise Control. (Page 18 of the SSPWC)

Replace the entire subsection with the following:

3-12.3.1 General. The Work site is within the jurisdiction of the City of Los Angeles and is subject to the following noise ordinance:

- a) City of Los Angeles Municipal Code, Section 41.40, located at the following website: https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-128777

3-12.3.1.1 Noise Assessment and Abatement Manager. The Contractor shall designate a Noise Assessment and Abatement Manager (NAAM) responsible for the preparation of the Noise Assessment Report, the preparation and implementation of the Noise Mitigation Plan, and the Work site noise monitoring and reporting.

At a minimum, the NAAM shall possess a bachelor's degree in physics, or a related engineering discipline, and shall have at least 10 years combined experience in the following:

- a) Noise and ground-borne vibration monitoring,
- b) Temporary noise barrier design, and
- c) Construction noise and vibration assessments and mitigation plans.

Additionally, the NAAM shall be a current member in at least one of the following organizations:

- d) National Council of Acoustical Consultants (NCAC),
- e) Institute of Noise Control Engineering of the USA, or
- f) Acoustical Society of America.

3-12.3.2 Submittals. The submittals included herein shall be the responsibility of the Contractor to provide and apply to all Work activities performed by the Contractor, including Work performed subcontractors, brokers, vendors, or other agents employed in the Work. Review and acceptance of each submittal by the Agency will not relieve the Contractor of their responsibility for submittal accuracy and completeness or for compliance with all applicable Federal, State, and local laws and regulations. The Contractor shall prepare and submit the following in accordance with 3-8:

3-12.3.2.1 Noise Assessment and Abatement Manager's Statement of Qualifications. The NAAM Statement of Qualifications (SOQ) shall describe the education, experience, and member organizations of the NAAM. The SOQ shall be submitted and approved by the Agency prior to preparation of the Noise Assessment Report and the Noise Mitigation Plan. Any NAAM SOQs that do not meet the requirements of 3-12.3.1.1 will be rejected.

3-12.3.2.2 Noise Assessment Report. The Noise Assessment Report shall be prepared by the NAAM. The Noise Assessment Report shall assess the noise generated by construction activities to complete the Work. The assessment shall include noise generated by construction equipment, the equipment location, the sensitivity of nearby noise receptors, and the duration of the construction activities.

The noise generated by on-site construction shall be analyzed using either the FHWA's Roadway Construction Noise Model (RCNM) Version 1.1 or Version 2.0. Information for the RCNM can be found at the following website:

https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/

The model shall be used to predict the noise impact from each of the principal noise sources to the targeted noise receptors identified. The model shall include the effectiveness of the temporary noise barrier per 3-12.3.4. The Noise Assessment Report shall identify the predicted L_{max} , 1-hour L_{eq} , and 8-hour L_{eq} .

a) Principal Noise Sources. The following principal noise sources shall be included in the Noise Assessment Report:

- i) Headworks demolition equipment and activities,
- ii) Excavation, grading, and loading equipment and activities for each basin,
- iii) Contractor's staging areas, and
- iv) All other construction related noise.

b) Targeted Noise Receptors. The following targeted noise receptors shall be included in the Noise Assessment Report:

- i) Residential homes adjacent to headworks demolition and basin excavation on Minnehaha Street, Arleta Avenue, San Jose Street, Hiawatha Street, Blackhawk Street, Devonshire Street, Woodman Avenue, and Filmore Street.
- ii) Devonwood Park.
- iii) New Apostolic Church.

The Noise Assessment Report shall include Noise Contour Maps (drawn to scale) showing the noise contours from all principal noise sources and all targeted noise receptors.

Equipment noise levels shall be estimated based upon actual equipment noise measurements, equipment vendor noise specifications or the FHWA Highway Construction Noise Report from the equipment with the highest noise levels located closest to the targeted noise receptor to predict the maximum construction activity impacts. The predicted L_{max} , 1-hour L_{eq} , and 8-hour L_{eq} for each noise receptor shall be included in tabular form in the Noise Assessment Report. The Noise Assessment Report shall also include all calculations.

3-12.3.2.3 Noise Mitigation Plan. The Noise Mitigation Plan shall be prepared by the NAAM and shall include, at a minimum, the following:

- a) Site map(s) showing construction activity locations and noise mitigation measures to ensure noise levels do not exceed the maximum noise levels per 3-12.3.3 at the nearest Targeted Noise Receptors identified in 3-12.3.2.2.

- b) Working Drawings, Shop Drawings, and supporting information, including structural calculations, for the temporary sound barrier conforming to 3-12.3.5.
- c) Noise monitoring and reporting procedures in accordance with 3-12.3.6.2 and 3-12.3.6.3, respectively.

3-12.3.2.4 Vehicle and Equipment Reverse Signal Alarm Mitigation Plan.

The Vehicle and Equipment Reverse Signal Alarm Mitigation Plan shall apply to all vehicles and equipment operated within the Work site and shall include, at a minimum, the following:

- a) Site plan showing the path of each vehicle and the location of each piece of equipment. This site plan shall also indicate the relative location of observer(s), if used during the performance of various construction activities.
- b) Matrix of each vehicle and each piece of equipment, including a description of their planned operation within the Work site and the specific method(s) used, conforming to 3-12.3.5, that will not activate the vehicle/equipment's reverse signal alarm.

3-12.3.3 Maximum Noise Levels. Noise generated during the performance of the Work shall not exceed the maximum noise levels shown in Table 3-12.3.3. The Work site and surrounding area land use shall be considered residential, unless otherwise approved in writing by the Engineer.

Table 3-12.3.3

Land Use (Receptor)	Maximum Noise Level (dBA L_{eq})	
	1-Hour	8-Hour
Residential	90	80
Commercial	100	85
Industrial	100	90
dBA: A-weighted decibels Leq: average sound level		

Noise measurements shall be taken at the property line of the Targeted Noise Receptors, unless otherwise approved or directed by the Engineer.

3-12.3.4 Temporary Sound Barrier. The Contractor shall construct a temporary sound barrier consisting of a sound wall and sound blankets. The temporary sound wall shall be constructed at the locations and limits shown on the Plans (Plan Sheet TM-1). The temporary sound wall shall be at least 8 feet high and shall be constructed of timber and plywood, or oriented strand board (OSB), at least 1/2 inches thick. The temporary sound wall shall be constructed without visible openings or gaps as determined by the Engineer.

Sound blankets shall be secured to the temporary sound wall and shall cover the above grade surface area of the sound wall on the side closest to the noise sources. The sound blankets shall be a manufactured by one of the following:

- a) Environmental Noise Control
STC-25 Acoustical Barrier Blanket
13806 Inglewood Avenue
Hawthorne, CA 90250
(310) 771-0571
<http://www.environmental-noise-control.com>
- b) Sound Seal
BBC-13X Temporary Construction Noise Barrier
50 H.P. Almgren Dr.
Agawam, MA 01001
(413) 789-1770
<https://www.soundseal.com/temporary-barrier-backed-composites.html>
- c) eNoise Control
UNC-XT-1 Exterior Noise Barrier/Sound Absorber Composite
129 Penn Street
Westfield, IN 46074
(317) 774-1900
<https://www.enoisecontrol.com/products/outdoor-sound-blankets/>
- d) Agency-approved equal submitted in accordance with 3-8 and 4-6.

The Contractor shall construct the temporary sound barrier prior to the performance of any other work at the Work site. The Contractor shall maintain the temporary sound barrier for the duration of the Work and shall not remove the temporary sound barrier until all other site work is complete, unless otherwise approved or directed by the Engineer.

The Contractor shall be responsible for maintenance and repairs to the temporary sound barrier resulting from construction operations, public disturbance, weather, or any other damage. The Contractor shall proactively repair and maintain the temporary sound barrier and shall take immediate action when notified by the Engineer.

3-12.3.5 Vehicle and Equipment Reverse Signal Alarm Mitigation. Execution of the Contract shall constitute agreement by the Contractor, including all subcontractors, brokers, vendors, or other agents employed in the Work, that the Agency endeavors to minimize public nuisance and that Work shall be performed in such a manner that vehicle and equipment reverse signal alarms are not activated.

This noise mitigation requirement may be accomplished by performing the work in a manner that does not require vehicles or equipment to operate in reverse, or by using observers, or by using alternative technologies. The Contractor shall be responsible for obtaining Cal-OSHA approval of any alternative technology prior to using the alternative technology in the performance of the Work.

The Contractor and all subcontractors, brokers, vendors, or other agents employed in the Work shall comply with the approved Vehicle and Equipment Reverse Signal Alarm Mitigation Plan submitted per 3-12.3.4. In no case shall the Contractor be relieved from compliance with CCR 1592; 29 CFR 1926.601(b)(4); and 29 CFR 1926.602(a)(9) during the performance of the Work.

3-12.3.6 Implementation and Enforcement.

3-12.3.6.1 General. The Contractor shall be responsible for noise control compliance, and the implementation of the approved Noise Mitigation Plan and the Vehicle and Equipment Reverse Signal Alarm Mitigation Plan, from the date of issuance of the notice to proceed until the Work is completed.

The Contractor shall perform all work utilizing proper noise suppression to minimize disturbance to targeted noise receptors and shall ensure that construction equipment is equipped with properly operating and maintained noise mufflers and intake silencers, consistent with manufacturers' standards.

Generators shall be placed at least 30 feet away from any targeted noise receptors.

In the event the temporary sound barrier requires maintenance, repair, or corrective action, the Contractor shall stop all work at the headworks and the basin(s) nearest the maintenance/repair/corrective action unless otherwise approved by the Engineer.

The Contractor shall remove and dispose of noise mitigation measures after all other work is completed unless otherwise approved or directed by the Engineer.

3-12.3.6.2 Noise Monitoring. The Contractor's NAAM shall conduct noise monitoring for at least 8 consecutive hours no less than once every 7 Days at the targeted noise receptors identified in the approved Noise Assessment Report. Noise monitoring shall conform to FHWA's Noise Measurement Handbook available at the following website:

<https://www.fhwa.dot.gov/environment/noise/measurement/>

Alternative noise monitoring methods may be used when approved in writing by the Engineer.

The noise measurements shall be collected using either a Class 1 or Class 2 (IEC 61672) sound level meter capable of measuring and reporting in L_{max} , L_{eq} (1-hour), and L_{eq} (8-hour). The sound level meter shall be calibrated by a certified laboratory. Measurements taken by a meter that has not been calibrated within the last 12 months will not be accepted.

Prior to each noise monitoring event, the NAAM shall meet with the Contractor and Engineer to discuss and confirm the planned monitoring locations and durations for that day's event. No later than the close of business on the day of monitoring, the NAAM shall meet with the Contractor and Engineer to discuss the results, any exceedances, and any corrective actions. The Agency, at its discretion, may also take noise measurements for quality assurance.

In the event measured noise levels, identified by either the NAAM or the Agency, exceed the maximums of 3-12.3.3, the Contractor, in consultation with the NAAM and Engineer, shall identify and implement corrective actions to reduce noise levels to comply with these Specifications.

3-12.3.6.3 Reporting. The Contractor shall submit a monthly summary report of all noise monitoring data, include a summary table of results, site map (drawn to scale) showing monitoring locations, principal noise sources, target noise receptors, and noise mitigation measures implemented. The report shall also include any

revisions or amendments to the Noise Mitigation Plan. The monthly report shall be submitted to the Agency no later than the 5th day of the subsequent month. Failure to submit the monthly report on time will result in rejection of the data and/or non-payment.

3-12.3.6.4 Notifications. The Contractor shall notify the Engineer, at least 2 Working Days prior to conducting any noise monitoring. Failure to notify the Engineer will result in rejection of the data and/or non-payment.

3-12.3.6.5 Enforcement. The Contractor shall implement corrective actions identified by the NAAM, or the Engineer, to maintain compliance with the noise control requirements, the Noise Mitigation Plan, and the Vehicle and Equipment Reverse Signal Alarm Mitigation Plans. Corrective actions shall be implemented within 1 Working Day of being identified. The Engineer may direct certain corrective actions be implemented immediately.

Failure of the Contractor to implement corrective actions within the time specified above will result in written notification from the Engineer in the form of a “Noise Control Notification of Corrective Action.” The “Noise Control Notification of Corrective Action” will include:

- a) Description and location of the non-compliance.
- b) Date and time that the non-compliance was identified.
- c) Description of the corrective actions(s) identified by the NAAM or Engineer.
- d) Date and time the required corrective action(s) shall be completed.

For each corrective action identified in a “Noise Control Notification of Corrective Action” not implemented by the date and time included in the notification, the Engineer will deduct from the Contractor’s monthly progress payment, or final payment, \$1,000 per day for the days until the corrective action is implemented. Repeat, or flagrant, non-compliance, as determined by the Engineer, will result in immediate deduction of \$1,000 per day until the corrective action is implemented, without the written notification of corrective action, and may result in suspension of the Work per 6-6.

The Contractor shall be responsible for the costs and for the liabilities imposed by law as a result of its failure to fully-comply with 3-12.3. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor. In addition, the Engineer will deduct from any monies

due the Contractor, the total amount of any legal fees, staff costs, and consultant fees incurred as a result of the Contractors non-compliance with 3-12.3.

3-12.3.8 Payment. Payment for preparation of the Noise Assessment Report, including all required revisions, will be made at the Stipulated Price in the Bid for “PREPARATION OF THE NOISE ASSESSMENT PLAN.”

Payment for preparation of the Noise Mitigation Plan, including all required revisions, will be made at the Stipulated Price in the Bid for “PREPARATION OF THE NOISE MITIGATION PLAN.”

Payment for compliance and implementation of the Noise Mitigation Plan shall be considered as included in the various items in the Bid.

Payment for performing noise monitoring reporting and notifications, and all other incidental related costs shall be considered as included in the Contract Unit Price Bid for “NOISE MONITORING AND REPORTING.”

Payment for preparation of the Vehicle and Equipment Reverse Signal Alarm Mitigation Plan, including all required revisions, will be made at the Stipulated Unit Price in the Bid for “PREPARATION OF THE REVERSE SIGNAL ALARM MITIGATION PLAN.”

No separate or additional payment will be made for implementation or compliance with the Vehicle and Equipment Reverse Signal Alarm Mitigation Plan. Payment shall be considered as included in the various items in the Bid.

Payment for construction of the temporary sound barrier, including the sound blankets, will be made at the Contract Unit Price in the Bid for “CONSTRUCTION OF TEMPORARY SOUND BARRIER.”

Payment for maintenance of the temporary sound barrier will be made at the Contract Unit Price in the Bid for “MAINTENANCE OF TEMPORARY SOUND BARRIER.” Payment will be prorated on a monthly basis over the duration of the Contract.

Payment for removal and disposal of the temporary sound barrier will be made at the Contract Unit Price in the Bid for “REMOVAL OF TEMPORARY SOUND BARRIER.”

3-12.6 Water Pollution Control. (Page 20 of the SSPWC)**3-12.6.1 General.**

Add the following:

The Contractor shall monitor the 5 Day weather forecast provided by the National Weather Service located at the following website:

<https://www.wrh.noaa.gov/forecast/wxtables/index.php?lat=34.2604645753552&lon=-118.44557869801068&table=custom&duration=7&interval=6>

Add the following subsection:

3-12.6.1.1 Weather Restrictions. The Contractor shall not transport excavated material during an “anticipated rainfall event” which shall be defined as a rainfall event predicted to produce more than 1/4 inches of rain over a 24-hour period.

In the event actual rainfall totals 1/4 inches of rain or more for any rainfall event, the Contractor shall suspend transportation of excavated material for a dry-out period of at least 24 hours after the rainfall event has ended (defined as the time of the last recorded measurement on the rain gage). The Contractor shall monitor the Los Angeles County Public Works, Stormwater Engineering Division rain gauge for “Pacoima SG” during rain events to determine the amount of rain and duration of the rain event located at the following website: <https://dpw.lacounty.gov/wrd/rainfall/>.

Extensions of time for an anticipated/actual rainfall event and any dry-out period will be as determined by the Engineer in accordance with 6-4.2. No separate or additional payment will be made for resuming Work after a rainfall event and any subsequent dry-out period.

3-12.6.2 Best Management Practices (BMPs). (Page 20 of the SSPWC)

Replace the entire subsection with the following:

3-12.6.2 Tire Wash Systems.

3-12.6.2.1 General. The Contractor shall be responsible for furnishing, installing, operating, and maintaining tire wash systems at each haul truck exit from the Work site for the duration of excavation and hauling Work. Tire wash systems shall conform to these specifications and the Los Angeles County Department of

Public Works Construction Site Best Management Practices (BMPs) Manual BMP Fact Sheet TC-3.

All haul trucks and any other vehicles or equipment used to haul excavated material shall use the tire wash system prior to exiting the Work site. The tire wash system shall remove sediment/mud from the tires, undercarriages, mud flaps, fenders, and bumpers of vehicles and equipment, and shall be used to prevent any visible dust, sediment, soil, mud, or any other debris from being tracked onto public roadways.

The tire wash systems used in the performance of the Work shall be from one of the following manufacturers:

- a) Rain for Rent Long Beach
Conline 800c (may substitute two Conline 400 in series)
1301 East Spring Street
Long Beach CA 90806
562-595-7760
<https://www.rainforrent.com/jobsite-safety-protection/conline-wheelwash/>
- b) Neptune Tire Wash
Maximus Series
174 Cornerstone Court, Suite B
Hot Springs, Arkansas 71913
1-866-303-4437
<https://www.neptunewash.com/automated-wheel-wash-systems/>
- c) Stanton Systems
STB 75 Steel Modular Wash
50 Richard Road
Ivyland, PA 18974
1-800-884-9281 | 215-956-9800
<https://www.tirewash.com/stb/stb-75.html>
- d) Agency-approved equal submitted in accordance with 3-8 and 4-6.

The Contractor shall be responsible for determining, based upon their operations, vehicles and equipment used, and site conditions, the appropriate model, the number of units, and additional system components necessary to provide a complete tire wash system that conforms to the requirements of 3-12.6.2.3.

The proposed locations of the tire wash systems shall be shown in the Water Pollution Control Drawings of the Storm Water Pollution Prevention Plan (SWPPP) per 3-12.6.3.

Unless otherwise shown on the Plans, the entrance and exit to each tire wash shall be paved with Portland cement concrete pavement or asphalt cement pavement for a length not less than 1-1/2 times the length of a typical haul truck and trailer, or 60 feet, whichever is greater. The same length of the entrance/exit to the tire wash system shall be on a straight horizontal alignment with a mild grade and cross-slope in accordance with the manufacturer's recommendations. The exit of the tire wash system located nearest the headworks shall incorporate a stabilized construction entrance/exit in accordance with BMP TC-1, "Stabilized Construction Entrance/Exit" of the BMP Manual.

3-12.6.2.2 Submittals. Review and acceptance of each submittal by the Agency will not relieve the Contractor of their responsibility for submittal accuracy and completeness or for compliance with all applicable Federal, State, and local laws and regulations. The Contractor shall prepare and submit the following in accordance with 3-8:

- a) Tire Wash System Installation, Operation, and Maintenance Plan that includes, at a minimum, the following:
 - i) Working Drawings of each tire wash system per Work site location, including dimensions and alignment of the paved surface at tire wash entrances and exits that conform to 3-12.6.2.1, tire wash system layout, tank design, piping layout, electrical conduit layout with point of connection, and all other associated equipment to complete the system.
 - ii) Supporting information for each tire wash system, including the manufacturer, model, number of units, and additional system components used at each location within the Work site conform to the requirements of 3-12.6.2.3.
 - iii) Supporting information for any flocculants used, including concentration, frequency, and associated safety data sheets.
 - iv) Description, schedule, staffing plan, and best practices for the routine operation and maintenance of the tire wash systems, including frequency of replacing water and cleaning sediment from the tire wash systems. Water shall be replaced, and the sediment removed, from the tire wash system as necessary for effective operation of the system and no less than

once per week. Water from the tire wash systems shall not be disposed/discharged on the Work site or into any storm drain system or channel.

- v) Procedures for disposing of the water and sediment including the name and address of the recycling facility that will accept the water from the tire wash system, and sampling and analysis procedures. The recycling facility shall be fully permitted and regulated in accordance with local, state, and federal laws and regulations. The Contractor shall be responsible for any water quality sampling and analysis as required by the approved disposal facility. The Contractor shall identify the name of the Environmental Laboratory Accreditation Program (ELAP) Laboratory conducting the analysis.
- vi) Operation and maintenance training materials from the manufacturer and name of manufacturer's representative who will be conducting on-site training sessions per 3-12.6.2.4.

3-12.6.2.3 Requirements. Tire wash systems shall be operated in accordance with the approved Tire Wash System Installation, Operation, and Maintenance Plan and the requirements of 3-12.2.3.1.

The Contractor shall be responsible for ensuring that no visible sediment, mud, silt, dried or wet, or other materials are observed on the paved exit ramps of the tire wash systems, sidewalk, or public streets. The tire wash systems shall also perform so that no visible dust is observed on the sidewalk or public streets. The Engineer will make the determination of what is considered visible or observable.

In addition, the tire wash system(s) shall conform to the following:

- a) Be automatically activated by an optical sensor that detects the vehicle or its movement.
- b) Be of sufficient length that each tire of the haul truck completes at least one complete tire revolution before exiting the system.
- c) Be designed to support AASHTO H-20 truck axle loading and haul truck vehicle dimensions.
- d) Be equipped with a closed system water reclamation system capable of reclaiming water from the tire wash system and processing water by means of settling tank(s) and/or in-line filter(s) so there is no visible sediment and the turbidity is less than 50 NTUs, as measured by the Engineer.

- e) Be equipped with a scraper conveyor that automatically removes solids. All solids generated shall be removed and contained in a waterproof container. The container shall be emptied when 75 percent full. No sediment shall be discharged to the ground surface.
- f) Be able to operate without odors. Algae/sludge build-up in the tire wash water that results in objectionable odors will not be accepted by the Agency. In the event any odors emanate from the tire wash system, the Contractor shall immediately replenish the tire wash with clean fresh water.

3-12.6.2.4 Implementation and Enforcement. The Contractor shall be responsible for tire wash system compliance, and the implementation of the approved Tire Wash System Installation, Operation, and Maintenance Plan, from the date of issuance of the notice to proceed until the Work is completed.

In accordance with 2-5.2, the Contractor shall be responsible for the temporary utility services including electrical power and water required for operating the tire washes.

Each tire wash system shall be installed and operating correctly before sediment hauling activities will be allowed to start. The tire wash systems will be deemed to be operating correctly upon successful completion of a test run performed in the presence of the Engineer and the manufacturer's representative. The Contractor shall be responsible for scheduling and performing all test runs to demonstrate their ability to continuously operate the tire wash system, including the capacity of the water reclamation system, for a period of not less than 1 hour. The test run shall be accomplished with an appropriate number of haul trucks that conform to 3-12.2.2.1 that will simulate typical production rates and travel through the basins, through the tire wash system, and onto the public streets, then returning for another cycle until the test run is complete. During the test run, manual adjustments or overrides to the tire wash system will not be allowed.

The Contractor shall be responsible for training their personnel on the operation and maintenance of the tire wash systems. The training shall be performed by the manufacturer's representative and all trainings shall be performed in the presence of the Engineer.

The Engineer will notify the Contractor of any visible dust, soil, sediment, debris, or other material within the streets or sidewalks that require immediate maintenance of the tire wash systems.

The Contractor shall be solely responsible for tire wash system performance. If, during the progress of the Work, the Agency determines the operation and maintenance of the tire wash system fails to conform to the requirements, the Agency will take progressive enforcement actions in accordance with 3-12.6.3.10.

In addition, failure of the Contractor to take immediate action to remedy any non-compliance notification from the Engineer may result in suspension of the Work per 6-6. Work, once suspended, will not resume until corrective actions have been successfully deployed or revisions to the Tire Wash System Installation, Operation, and Maintenance Plan are approved and implemented.

3-12.6.2.5 Payment. Payment for the installation of the tire wash systems, including the preparation of the Tire Wash System Installation, Operation, and Maintenance Plan, site work, electrical power, water supply, and other incidental installation costs will be made at the Contract Unit Price in the Bid for “INSTALLATION OF TIRE WASHES.”

Payment for the operation, maintenance, and removal of the tire wash systems including the implementation of the Tire Wash System Installation, Operation, and Maintenance Plan and any plan revisions, water quality sampling and analysis, disposal of water and sediment, corrective actions, site restoration, and other incidental operation and maintenance costs will be made at the Contract Unit Price in the Bid for “MAINTENANCE OF TIRE WASHES.”

3-12.6.3 Storm Water Pollution Prevention Plan (SWPPP).

Replace the entire subsection with the following:

3-12.6.3.1 Terms and Definitions.

Active Areas of Construction – areas subject to land surface disturbance activities related to the Project including, but not limited to, the Project site, staging areas, immediate access areas and storage areas. Previously active areas will be considered active areas until temporary or final soil stabilization BMPs are implemented.

Accumulated Precipitation Procedure (APP) – the methods and procedures for management and discharge of accumulated precipitation on the Project site.

Agency-Certified SWPPP – a SWPPP that has been reviewed and certified by the Agency.

Best Management Practices (BMPs) – shall be defined as specified in the Waste Discharge Requirements referenced in 3-12.6.3.4.

BMP Manual – the edition of the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMPs) Manual, in effect as of the date of advertisement of the Contract.

Exposed Soil – native soil left exposed as the result of uncovering, removal of vegetation or pavement, grading, excavation, or any other construction activity. Soil protected with temporary soil stabilization BMPs will not be considered exposed soil.

Final Stabilization – the implementation of soil stabilization BMPs following the completion of construction activities.

Inactive Disturbed Soil Areas (DSA) – areas that have been disturbed and have not or will not be disturbed for at least 14 Days.

Likely Precipitation Event – Any weather pattern that is forecasted to have a 50 percent or greater chance of producing precipitation within the Project site.

Non-Storm Water Discharges – discharges that do not originate from precipitation events.

Non-Visible Pollutants – pollutants associated with a specific Project site or activity that cannot be seen through observation and which can have a negative impact on water quality.

Numeric Action Level (NAL) – The action level (250 NTU and 6.5-8.5 pH) at which the QSP shall evaluate whether the implemented BMPs are performing effectively or if corrective actions are required.

Perimeter Sediment Control BMPs – a temporary sediment control BMP around the perimeter of the Project site used to prevent sediment discharges from storm water run-on or run-off.

Qualified SWPPP Developer (QSD) – an individual certified by the State Water Resources Control Board as meeting the requirements of Order No. 2009-0009-DWQ to develop, revise, and amend SWPPPs.

Qualified SWPPP Practitioner (QSP) – an individual certified by the State Water Resources Control Board as meeting the requirements of Order No. 2009-0009-DWQ.

Qualifying Rain Event - any event that produces 0.50 inch or more of precipitation within a 48-hour or greater period between rain events. Qualifying rain event forecast information shall be obtained from the National Weather Service Forecast (e.g., by entering the zip code of the Project location at <http://www.srh.noaa.gov/>). Qualifying rain event actual precipitation amounts shall be obtained from the closest Agency rain gauge station by checking the 24-hour rain amounts on the Agency rain gauge website, http://ladpw.org/wrd/precip/alert_rain/index.cfm?cont=24hr.cfm.

Rain Event Action Plan (REAP) – a written plan (Attachment P in the SWPPP) specific for each rain event that discusses and describes the procedures to be followed, and the measures to be taken, that, when implemented, will result in the protection of all exposed soil within the Project site for 48 hours from the start of a Likely Precipitation Event.

Run-On – storm water discharges that flow onto the Project site.

Run-On Control BMPs – BMPs used to divert or direct run-on either around or through the Project site.

Sampling and Analysis Plan (SAP) – A written document that discusses and describes how samples will be collected; under what conditions, where and when the samples will be collected; what the samples will be tested for; what test methods will be followed and their detection limits; and what methods/procedures will be followed to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

SWPPP Preparation Manual – the edition of the Los Angeles County Department of Public Works Storm Water Pollution Prevention Plan (SWPPP) Preparation Manual in effect as of the date of advertisement of the Contract.

Turbidity – The cloudiness of water quantified by the amount light traveling through a water column is scattered by suspended organic and inorganic particles as measured and reported in Nephelometric Turbidity Units (NTU).

3-12.6.3.2 Abbreviations.

<u>Abbreviation</u>	<u>Word or Words</u>
APP	Accumulated Precipitation Procedure
BMP	Best Management Practice
CSMP	Construction Site Monitoring Program
NAL	Numeric Action Level
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
REAP	Rain Event Action Plan
RWQCB	Los Angeles Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SMARTS	Storm water Multiple Application Reporting and Tracking System
SWPPP.....	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
WDID	Waste Discharge Identification Number

3-12.6.3.3 General. The SWPPP shall conform to the requirements in these Special Provisions, the BMP Manual, and the SWPPP Manual. This manual is available from the following website address:

<http://dpw.lacounty.gov/cons/specs/SWPPPMannual.pdf>

The SWPPP shall be prepared by a QSD for a Risk Level 2 (as referenced in 3-12.6.3.4, subparagraph “b).”

No work having the potential to cause pollution, as determined by Engineer, shall be performed until the SWPPP has been reviewed and certified by the Agency and a Waste Discharge Identification Number (WDID) has been issued by the State Water Resources Control Board (SWRCB) Storm Water Multiple Application Reporting and Tracking System (SMARTS).

3-12.6.3.4 Regulatory Agency Requirements. The Contractor shall comply with the following at all times:

- a) Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach (Order No. R4-2012-0175, NPDES

Permit No. CAS004001). Within the City of Long Beach, Order No. 99-060, NPDES Permit No. CAS004003.

- b) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Order No.-2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities for Risk Level 2.
- c) Within the unincorporated areas of the County of Los Angeles, Los Angeles County Code, Chapter 12.80.
- d) Other applicable environmental regulatory permits.

3-12.6.3.5 Best Management Practices (BMPs).

- a) **Minimum Requirements.** The Contractor shall implement an effective combination of erosion and sediment controls and maintain the appropriate Construction Site BMPs shown in Table 3-12.6.3.5 (A). The BMPs shown in this table meet or exceed the Waste Discharge Requirements referenced in 3-12.6.3.4.

TABLE 3-12.6.3.5(A)

Construction Site BMPs		
ID	BMP Name	Minimum Requirement
Temporary Soil Stabilization		
SS-1	Scheduling	X
SS-2	Preservation of Existing Vegetation	X
SS-3	Hydraulic Mulch	
SS-4	Hydro seeding	
SS-5	Soil Binders	
SS-6	Straw Mulch	
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	X
SS-8	Wood Mulching	
SS-9	Earth Dikes/Drainage Swales & Ditches	
SS-10	Outlet Protection/Velocity Dissipation Devices	
SS-11	Slope Drains	
SS-12	Stream bank Stabilization	
Temporary Sediment Control		
SC-1	Silt Fence	X
SC-2	Sediment/Desilting Basin	

SC-3	Sediment Trap	
SC-4	Check Dam	
SC-5	Fiber Rolls	X
SC-6	Gravel Bag Berm	X
SC-7	Street Sweeping and Vacuuming	X
SC-8	Sandbag Barrier	X
SC-10	Storm Drain Protection	X
Wind Erosion Control		
WE-1	Wind Erosion Control	X
Tracking Control		
TC-1	Stabilized Construction Entrance/Exit	X
TC-2	Stabilized Construction Roadway	
TC-3	Entrance/Outlet Tire Wash	
Non-Storm Water Management		
NS-1	Water Conservation Practices	X
NS-2	Dewatering Operations	X
NS-3	Paving and Grinding Operations	X
NS-4	Temporary Stream Crossing	
NS-5	Clear Water Diversion	X
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting	X
NS-7	Potable Water/Irrigation	X
NS-8	Vehicle Equipment Cleaning	X
NS-9	Vehicle Equipment Fueling	X
NS-10	Vehicle Equipment Maintenance	X
NS-11	Pile Driving Operations	
NS-12	Concrete Curing	X
NS-13	Material and Equipment Use Over Water	X
NS-14	Concrete Finishing	X
NS-15	Structure Demolition Over or Adjacent to Water	X
NS-16	Temporary Batch Plant	
Waste Management and Material Pollution Control		
WM-1	Material Delivery	X
WM-2	Material Use	X
WM-3	Stockpile Management	X
WM-4	Spill Prevention and Control	X
WM-5	Solid Waste Management	X
WM-6	Hazardous Waste Management	X
WM-7	Contaminated Soil Management	
WM-8	Concrete Waste Management	X
WM-9	Sanitary/Septic Waste Management	X
WM-10	Liquid Waste Management	X

Additional BMPs may be required as a result of actual field conditions, Contractor activities, or construction operations.

b) **Implementation Requirements.** Implementation shall conform to the requirements on the applicable BMP Fact Sheets and the following:

1) **Temporary Soil Stabilization**

- i) Inactive Disturbed Soil Areas and completed areas of construction shall be stabilized after 14 Days of inactivity or prior to a Likely Precipitation Event.
- ii) Active areas of construction shall be stabilized, and temporary sediment controls implemented prior to a rain event.

2) **Temporary Sediment Control**

- i) Linear sediment controls shall be placed along the toe and face of inactive disturbed slopes (14 Days or more of inactivity), and at grade breaks of exposed soil in accordance with Table 3-12.6.3.5 (B).

TABLE 3-12.6.3.5(B)

Slope Percentage	Maximum Spacing
0-25% (flat to 1:4 V:H)	20 feet
25-50% (1:4 to 1:2 V:H)	15 feet
Over 50% (steeper than 1:2 V:H)	10 feet

- ii) Stockpiles shall be surrounded by a berm of perimeter sediment controls prior to a Likely Precipitation Event and when not in use.

3) **Wind Erosion Control**

- i) Wind erosion control BMPs shall be implemented in conformance with the requirements of the jurisdictional air quality regulatory agency.

4) **Tracking Control**

- i) Each entrance to, and exit from, the Project site shall be stabilized. Traffic entering/exiting the Project site shall be directed so as to only use such stabilized entrances/exits. Mud and/or sediment tracked onto paved surfaces shall be removed by the end of each Day.

5) **Non-Storm Water Management**

- i) Accumulated precipitation shall be discharged in accordance with the APP (Attachment K of the SWPPP).

- ii) Separate permits are required for groundwater dewatering.
- iii) Non-storm water BMPs shall be implemented to prevent un-authorized discharges.
- iv) Non-storm water discharges shall be in compliance with Section III of the Waste Discharge Requirements referenced in 3-12.6.3.3.

6) **Waste Management and Material Pollution Control**

- i) Stockpiles (and portions thereof) that are not actively being used shall be covered and bermed (surrounded by a berm).
- ii) Material and waste stockpiles shall be covered prior to a Likely Precipitation Event.
- iii) Stockpiles of temporary asphalt concrete (“cold mix”) shall be covered at all times.
- iv) Stockpiles shall be removed from roadways at the end of each Day.
- v) The Contractor shall have a minimum of 3 spill response cleanup on the Project site at all times.
- vi) Spills and leaks shall be cleaned up within one hour after spillage.
- vii) Concrete waste shall be considered as including, but not be limited to, slurry, cement, wash waters, additives, or grout. Concrete waste shall be contained in a concrete washout bin. At-grade and below- grade washouts are prohibited. There shall be no discharge of concrete washout or waste onto the underlying soil or surrounding areas.

3-12.6.3.6 Preparation and Submittal Requirements.

- a) **General.** The SWPPP shall be prepared in accordance with the SWPPP Preparation Manual.

The SWPPP shall be signed and stamped by a Civil Engineer registered in the State of California.

The SWPPP shall be submitted in accordance with 3-8.2 *within 14 Days of the issuance of Part 1 NTP*. One printed copy in a 3-ring binder shall be submitted for initial Agency review.

Failure to submit a SWPPP which conforms to the requirements in this manual will result in rejection of the submittal.

b) **Qualified SWPPP Developer (QSD).** The SWPPP shall be prepared, certified and amended by a QSD.

A copy of the QSD's certificate shall be included in Attachment I of the SWPPP submittal.

3-12.6.3.7 Agency Review and Certification. The Agency will review each submittal. The Agency may require corrections and/or revisions (comments) and one or more re-submittals prior to certification.

If the Agency has comments, the Contractor shall prepare a comment response table following the format below. The table shall be submitted with each re-submittal.

Comment No.	Comment	Response
Include the Agency comment number.	Repeat the comment.	Describe action taken to fully address the comment.

Once the Contractor has satisfactorily addressed all review comments, the Agency will sign Section 100.2 of the SWPPP and provide it to the Contractor for inclusion. The Contractor shall insert Section 100.2. This becomes the Agency-Certified SWPPP.

The term SWPPP, as used in Subsections 3-12.6.3.8 and thereafter, shall mean the SWPPP which has been reviewed by the Agency and includes the Agency-signed Section 100.2.

The Contractor shall provide three hard copies of the SWPPP to the Office Engineer in accordance with Section 2.4 of the SWPPP Preparation Manual. In addition, the Contractor shall submit one electronic copy of in portable document format (pdf) on a read/write (R/W) capable compact disk (CD). The pdf shall not exceed a file size of 70 MB.

The Agency will submit the SWPPP to the SWRCB. The SWRCB and Regional Water Quality Control Board (RWQCB) may require revisions. Should revisions be required, the Contractor shall perform such and re-submit the SWPPP to the Agency within 5 Days of being notified in writing by the Engineer. The SWRCB has not established a time frame for SWPPP review and issuance of the WDID. Should this process result in delays, the Contractor will be entitled to an extension of time in accordance with 6-4.2.

Review and certification by the Agency and acceptance by the SWRCB will not relieve the Contractor of the responsibility for the adequacy of the SWPPP nor for full compliance with all applicable Federal, State, and local laws and regulations governing water quality.

The Contractor shall maintain (1) one hard copy of the SWPPP and SWPPP amendments at the Project site. The SWPPP shall be made available to a representative of the RWQCB, SWRCB, United States Environmental Protection Agency or the Agency upon request. Any requests by the public shall be directed to the Engineer.

3-12.6.3.8 SWPPP Amendments. An amendment to the SWPPP shall be prepared and submitted when there is a change in construction activities or operations which may affect the discharge of pollutants to surface waters, ground waters, or municipal storm drain systems; when the Contractor's activities or operations violate any condition of the Permits; if the QSD or QSP is proposed to be changed; or when so directed by the Engineer.

Amendments shall be prepared in accordance with Section 200 of the SWPPP Preparation Manual and shall include the following:

- a) A description of what SWPPP section is being amended.
- b) Why the Amendment is necessary.
- c) Who requested the Amendment?
- d) An Amendment Log.
- e) The signed certification of the QSD.

Amendments shall describe additional water pollution control practices or revised operations, including those areas or operations not shown in the SWPPP. Amendments to the SWPPP shall be prepared and submitted for review and certification by the Agency within 14 Days of direction by the Engineer.

3-12.6.3.9 Implementation.

- a) **General.** The Contractor shall be responsible year-round, throughout the duration of the Project, for implementation of the SWPPP and all certified SWPPP amendments until the Notice of Termination is filed by the Agency. The Contractor's responsibility for implementation of the SWPPP shall continue throughout any temporary suspension of the Work or designated construction moratorium.

Implementation of the SWPPP shall conform to the requirements in the SWPPP Preparation Manual and the BMP Manual.

If the BMPs selected in the SWPPP do not result in conformance with the performance standards specified in 3-12.6.3.4, the Contractor shall implement additional BMPs as necessary.

- b) **Qualified SWPPP Practitioner (QSP).** The Contractor shall designate a QSP. A copy of the QSP's certificate shall be included in Attachment I.

The Contractor shall provide a QSP full-time on the Project site during working hours and rain events. The QSP shall have the responsibility and authority to fully implement the SWPPP.

- c) **BMP Manual.** The Contractor shall have a readily accessible copy of the BMP Manual on the Project site at all times.
- d) **Weather Forecast:** The Contractor shall monitor the National Weather Service (NWS) forecast on a daily basis. Forecast information shall be obtained from the National Weather Service by entering the zip code of the Project's location at <http://www.wrh.noaa.gov/lox/>.
- e) **Rain Event Action Plan (REAP).** A REAP shall be prepared by the QSP whenever a Likely Precipitation Event is forecast. REAPs shall be prepared in conformance with the REAP template (Attachment P). The Contractor shall plan for 20 Likely Precipitation Events throughout the duration of the Contract.

The QSP shall prepare and submit to the Engineer a REAP and a printed copy of the National Weather Service forecast a minimum of 48 hours prior to a forecast Likely Precipitation Event. The Contractor shall implement the

REAP a minimum of 24 hours of prior to the forecast start of the Likely Precipitation Event.

If a Likely Precipitation Event is forecast less than 24 hours in advance or otherwise occurs, the QSP shall immediately prepare a REAP and submit to the Engineer, and the Contractor shall immediately implement the REAP.

The QSP shall inspect the Project site and document the actions implemented as part of the REAP.

Completed REAPs shall be filed in Attachment P.

- f) **Accumulated Precipitation Procedure (APP).** The Contractor shall implement the APP (Attachment K) whenever a discharge of accumulated precipitation is necessary. Accumulated precipitation shall not be discharged without an APP. The Contractor shall notify the Engineer 24 hours prior to the scheduled discharge. Samples of accumulated precipitation shall be collected and analyzed prior to discharge.
- g) **Construction Site Monitoring Program (CSMP).** The QSP shall implement the CSMP included in the SWPPP for visual monitoring (inspections), and sampling and analysis. CSMP implementation shall include the following:
- 1) **Visual Monitoring.** The QSP shall inspect the Project site to ensure compliance with the SWPPP. The QSP shall document inspections on the BMP Checklist (Attachment H) at the frequencies specified below:
 - i) A minimum of once every week.
 - ii) Within 48 hours prior to a Likely Precipitation event.
 - iii) Within 48 hours after all rain events (0.01 inch of precipitation or more).
 - iv) At least once every 24 hours during extended rain events (a Qualifying Rain Event that occurs for more than 24 hours).

The Contractor shall sign and submit one copy of the completed BMP Checklist to the Engineer within 24 hours of completing each inspection. One completed and signed copy of each BMP Checklist shall be kept with the SWPPP.

The QSP shall perform at a minimum the following:

- v) Inspect all BMPs. Document the inspection and whether BMPs have been implemented in accordance with the SWPPP/REAP. If needed, corrective actions shall be implemented by the Contractor.
 - vi) Inspect each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources. Document the inspection and findings.
 - vii) Inspect all actual and potential run-on sources from surrounding areas. Document the inspection and findings.
 - viii) Ensure all accumulated precipitation discharges are in compliance with the APP.
 - ix) Document all BMP deficiencies and corrective actions on the BMP Checklist as required in the BMP Manual.
 - x) Implement BMP corrective actions within 24 hours.
 - xi) Inspect all non-storm water discharges. Document the inspection and findings. The QSP shall implement non-storm water corrective actions within 24 hours.
- 2) **Rain Gauge Reading.** The QSP shall record the time, date, and rain gauge reading from the Agency's real-time rainfall data precipitation map, http://ladpw.org/wrd/precip/alert_rain/. If the rain event was a Qualifying Rain Event, attach a copy to Attachment N.
- 3) **Storm Water Sampling and Analysis.** The QSP shall submit rain event field water sampling and analytical data (on Attachment N) within 24 hours of the conclusion of each Qualifying Rain Event. Attachment N shall be completed for each Qualifying Rain Event regardless of whether samples were collected. The QSP shall submit non-storm water and non-visible pollutant water sampling laboratory results within 20 Days after sample collection. The QSP shall submit the data in accordance with the SWPPP Preparation Manual.

The Contractor shall plan for 10 Qualifying Rain Events and collection of 3 samples per event (total of 30 samples). The QSP shall collect samples only when storm water discharges occur during working hours.

The QSP shall collect storm water samples for each Qualifying Rain Event as follows:

- i) Collect and analyze storm water samples from each discharge location. A minimum of 3 samples shall be collected each Day. Discharge locations are identified on Attachment B (Water Pollution Control Drawings).
- ii) Ensure storm water samples are representative of the flow and duration of the discharge from the Project site.
- iii) Collect a minimum of one run-on sample from each run-on source.

Calibrated turbidity and pH meters conforming to the requirements shown in Table 3-12.6.3.9 shall be provided by the Contractor and retained on the Project site at all times.

TABLE 3-12.6.3.9

Parameter	Test method	Min. Detection Limit	Units	Numeric Action Level (NAL)
pH	Calibrated portable pH meter	0.2	pH units	lower NAL 6.5 upper NAL 8.5
Turbidity	Calibrated portable turbidity meter	1	NTU	250

Turbidity and pH meters must be calibrated in accordance with the manufacturer's specifications prior to use for field analysis. Calibration data shall be filed with the analytical results in the SWPPP at the Project site.

If any storm water test result exceeds the NALs shown in Table 3-12.6.3.9, the QSP shall:

- iv) Implement immediate corrective actions to address the cause of the exceedance and to prevent further exceedance. Re-sample the discharge location to ensure the average analytical result is in compliance the above referenced table.

- v) If the average of the samples still exceeds the NALs, sign and submit a Numeric Action Level Exceedance Report (Attachment R) to the Engineer within 5 Days of the date of sampling.
 - vi) Notify the Engineer and the Environmental Compliance Unit (ECU) within 24 hours of any NAL Exceedance at oenriquez@dpw.lacounty.gov.
 - vii) Revise the NAL exceedance reports to the satisfaction of the Engineer when requested.
- 4) **Non-Storm Water Sampling.** If Project site inspections indicate any authorized or unauthorized non-storm water discharges, the QSP shall record the findings on the BMP Checklist and immediately implement the procedures for non-storm water sampling specified in the SWPPP.

The QSP shall collect samples at all discharge points. Each sample shall be transported under chain-of-custody procedures to a State of California Department of Health Services Environmental Accreditation Program (ELAP) certified laboratory for analysis as identified in the SWPPP.

The QSP shall submit a summary of the water quality data collected, including signed laboratory analytical data sheets, chain-of-custody (COCs) forms, and laboratory QA/QC data sheets with Attachment N within 20 Days after sample collection. The QSP shall submit the data in accordance with the SWPPP.

- 5) **Non-Visible Pollutant Monitoring.** Non-visible pollutant discharges are not authorized. The QSP shall collect one or more samples down gradient and one or more upstream control samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants from the Project site that would not be visually detectable. Samples shall be analyzed in the field or by a laboratory in accordance with the SWPPP.

Analytical results shall be submitted in accordance with Attachment N and shall be accompanied by a determination by the QSP if down-gradient samples show elevated levels of the tested parameter relative to levels in the uncontaminated control sample. If down-gradient samples show increased levels, the Contractor shall implement corrective actions.

Where appropriate BMPs are not implemented prior to a rain event, and if a failure of a BMP occurs, or spilled materials or wastes are not completely removed (including contaminated soils) which could result in the discharge of non-visible pollutants from the Project site, the requirements to conduct sampling and analysis shall apply. If the Engineer determines that the Contractor has not properly deployed or maintained the appropriate BMPs necessary to significantly reduce and minimize the discharge of pollutants, the Engineer will direct the Contractor to collect and analyze water quality samples as specified in these Special Provisions.

The QSP shall submit a summary of the water quality data collected, including signed laboratory analytical data sheets, chain-of-custody (COCs) forms, and laboratory QA/QC data sheets with attachment N for non-visible pollutant sampling within 20 Days after sample collection. The QSP shall submit the data in accordance with the SWPPP Preparation Manual.

- h) **Annual Report.** The QSP shall prepare, sign and submit to the Engineer an annual report for the reporting period of July 1 to June 30 of each year. The Annual Report shall be completed using Attachment L in accordance with the SWPPP Preparation Manual. If construction occurs through June 30, the report shall be submitted no later than July 15 for the prior reporting period. If construction ends before June 30, the report shall be submitted within 15 Days after being requested by the Engineer.

3-12.6.3.10 Progressive Enforcement. The Agency, as a permittee, is subject to enforcement action by the State Water Resources Control Board (SWRCB), Environmental Protection Agency, private citizens and citizen groups. The Contractor shall notify the Engineer immediately following receipt of a request from any jurisdictional regulatory agency, to enter, inspect, sample, monitor or otherwise access the Project site or the Contractor's records pertaining to water pollution control.

The Agency will assess the Contractor a penalty of \$1,000 for each Day that the Contractor fails to fully-comply with the specified requirements. The penalty will be deducted from Contract progress payments due the Contractor.

The Contractor shall be responsible for the costs and for the liabilities imposed by law as a result of its failure to fully-comply. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor, including those levied under the Federal Clean Water Act and the

State Porter Cologne Water Quality Act. In addition, the Agency will deduct from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees incurred as a result of the Contractors non-compliance with these Special Provisions.

3-12.6.3.11 Payment. Payment for preparation of the SWPPP shall be considered as included in the Stipulated Unit Price for "PREPARATION OF THE SWPPP."

Payment for:

- a) implementation of the SWPPP, including SWPPP revisions and amendments, QSD/QSP training and certifications,
- b) providing a full-time QSP on the Project site during working hours and rain events,
- c) BMP inspection and maintenance,
- d) BMP corrective actions,
- e) providing a printed copy of the daily weather forecast and rain gauge data,
- f) implementation of the CSMP,
- g) APP implementation,
- h) implementation and removal of BMPs,
- i) 20 Rain Event Action Plans,
- j) sampling and analysis for 30 storm water samples,
- k) preparation of NAL Exceedance reports and revisions,
- l) preparation of Annual Reports and revisions, and
- m) all other SWPPP reporting documents and requirements and related costs, shall be considered as included in the lump sum Bid price for "IMPLEMENTATION OF THE SWPPP."

If the BMPs selected in the certified SWPPP do not meet the performance standards of these special provisions, the Contractor shall implement additional BMPs and amend the SWPPP at no additional cost to the Agency.

Payment will be prorated on a monthly basis over the duration of the Contract. The final payment will not be made until the final Annual Report is reviewed and accepted in writing by the Agency.

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES**5-7 SAFETY****5-7.1 Work Site Safety.** (Page 27 of the SSPWC)**5-7.1.1 General.**

Add the following:

As used in Subsection 5-7, the definition for “Engineer” in 1-2 of Section G shall be amended to add, “The authorized representative of the Engineer for 5-7 shall be:

Oscar Enriquez
oenrique@dpw.lacounty.gov

References to the “Engineer” in 5-7 shall mean the above.

The Contractor shall comply with Vulcan Materials Company’s “Landfill Safety Rules” at all times while on Vulcan Materials Company property. A copy of the “Landfill Safety Rules” are included as Exhibit E at the end of this Section EC.

5-7.4. Hazardous Substances. (Page 28 of the SSPWC)

Add the following subsections:

5-7.4.1 Oil Pipeline Removal. Segments of an oil pipeline are in conflict with Work to be performed at the headworks as shown on Plans. The oil pipeline is no longer active; however, it is unknown if the oil pipeline was properly abandoned per 49 CFR Parts 192 and 195. Therefore, the oil pipeline may still contain hazardous materials. The Agency is unable to ensure physical separation of the pipeline from any potential flows of oil, gas, or water.

The Contractor shall be responsible for hiring an experienced specialty subcontractor trained to perform the safe removal of oil pipelines and mitigation of the potential for oil spills or explosive atmospheres.

5-7.4.1.1 Submittals. The Contractor shall prepare and submit an Oil Pipeline Removal Plan, per 3-8, for the removal of the segments of the oil pipeline in conflict with the Work. Review and acceptance of submittals by the Agency will not relieve the Contractor of their responsibility for submittal accuracy and completeness or for compliance with all applicable Federal, State, and local laws and regulations. The Oil Pipeline Removal Plan shall be in accordance with 49 CFR Parts 192 and 195 and the following requirements.

The Oil Pipeline Removal Plan shall address the methods and procedures for the safe removal of the oil pipeline and shall include the following:

- a) **Working Drawings**, including methods and procedures to address the following:
 - i) Expose the buried oil pipeline, including hand digging around pipeline.
 - ii) Cold tap an observation port in the pipeline to verify that the pipe is empty and to conduct air sampling the verify the presence of explosive or hydrocarbon gases.
 - iii) Draining and containing any oil or water, if necessary. Additional access opening may be required and additional cleaning.
 - iv) Purging and inerting the pipe with nitrogen. Continuous monitoring until all explosive or hydrocarbon gases are removed, and the pipeline is safe to cut.
 - v) Removal of the interfering section of pipeline and sealing the ends with bentonite/grout, and a steel plate welded over the openings.
 - vi) Emergency response procedures in accordance with 49 CFR Part 195.403.
- b) **Training**: All personnel involved with the removal of the oil pipeline shall be trained in accordance with 49 CFR 195 subpart G to ensure that individuals performing work have the necessary knowledge and skills to perform the tasks in a manner that ensures the safe removal of oil pipeline.

- c) **Air Monitoring.** A description of air monitoring methodologies and instrumentation to be used during work to determine if the pipeline has been properly purged and is inert. Including the recent calibration logs for the monitoring and sampling equipment to be used.
- d) **Personnel Protective Equipment (PPE).** Description of PPE to be used. At minimum, the following PPE shall be used:
- i) Full body disposable coveralls.
 - ii) Disposable gloves.
 - iii) Safety glasses.
 - iv) Half-face negative pressure respirators with P-100 filters.
 - v) Worker decontamination provisions and requirements and PPE disposal methods. Area safety perimeter/barrier controls including warning signs
- e) **Waste characterization (If Applicable).** Waste characterization sampling protocol and Quality Assurance/Quality Control (QA/QC) requirements and procedures for conducting waste characterization sample analysis, including the number of waste characterization samples to be collected. Identify the name of the Environmental Laboratory Accreditation Program (ELAP) Laboratory conducting the waste characterization sample analysis.
- Waste characterization samples shall be analyzed as required by the approved disposal facility. Based on the waste characterization sample analysis, the Engineer shall determine the waste classification.
- f) **Storage and Transportation, and Disposal.** Procedures for the storage, transportation and disposal of liquid waste or sludge generated of the oil pipeline removal:
- i) All liquid waste or sludge generated shall be contained and transferred Department of Transportation (DOT)-approved trucks provided by a licensed hazardous waste transporter.

Or,

- Procedures for the on-site storage of any liquid waste or sludge including type of United States Department of Transportation (DOT)-approved waste storage containers. Labels shall conform to the provisions of Title 22, CCR, Sections 66262.31 and 66262.32. The containers shall be handled so that no spillage will occur. Site map showing the container storage location and how the containers will be secured until transport for disposal.
- ii) The liquid waste or sludge soil generated shall be transported off-site by a licensed hazardous waste transporter with the following licenses/registrations:
 - 1) Commercial driver's license with a hazardous materials endorsement, including a Transportation Security Administration (TSA) security threat assessment,
 - 2) Current hazardous materials transportation license issued by the California Highway Patrol (CHP),
 - 3) Current DTSC Hazardous Waste Transporter Registration, and
 - 4) Transporter EPA Identification Number.
 - iii) Name and address for the disposal facility that will accept the waste. Hazardous waste shall be transported directly to an Agency-approved disposal facility fully permitted and regulated in accordance with local, state, and federal laws and regulations. Facilities located on tribal lands will not be approved.

5-7.4.1.2 Implementation. The Contractor and any subcontractor shall be responsible for implementation of the approved Oil Pipeline Removal Plan. The Contractor shall perform the pipeline removal in a safe manner that prevents damage to persons or property.

If any liquid waste or sludge is generated, the Contractor shall submit, to the Engineer, a typed Uniform Hazardous Waste Manifest and a completed waste profile form for the Agency-approved disposal facility. The Engineer shall review and sign all hazardous waste manifests and waste profile forms. The “Generator” on all hazardous waste manifests and waste profile forms shall be as follows:

Los Angeles County Public Works
Stormwater Quality Division
900 S. Fremont Ave.
Alhambra, CA 91803

The contact information on all profile and manifest forms shall be:

Oscar Enriquez
(626) 458-4970
oenrique@dpw.lacounty.gov

The Contractor shall provide the Engineer the appropriate number of completed manifests for signature a minimum of 7 Days prior to performing the pipeline removal work. Manifests shall be distributed individually on a load by load basis to truck drivers by the Engineer.

The Agency will provide a Generator EPA Identification Number for this Work upon notification by the Contractor.

5-7.4.1.3 Notification Requirements. The Contractor shall provide the following notifications by email to the Engineer. Failure to make the notification in the time specified may result in in delays in providing the Uniform Hazardous Waste Manifests or enforcement actions. Any delays associated with failure to provide the above notifications in the time specified will be at the Contractor's expense.

- a) Notification a minimum of 7 Days prior to the start of pipeline removal work to request an EPA Identification Number. The notification shall include the date and the duration of work.
- b) Notification within 24 hours of any release or discharge of liquid waste or sludge to the underlying soil, any non-compliance with these Specifications, or any non-compliance with the Agency-accepted Oil Pipeline Removal Plan.

5-7.4.1.4 Payment. Payment for preparation of the Oil Pipeline Removal Plan, including all required revisions, will be made at the Stipulated Unit Price in the Bid for "PREPARATION OF OIL PIPELINE REMOVAL PLAN."

Payment for implementation of the Oil Pipeline Removal Plan, including cutting, draining, plugging, air monitoring, removal and sealing the oil pipeline, and all other related costs shall be considered as included in the Contract Lump Sum Bid Price for "REMOVAL OF OIL PIPELINE."

Payment for the transportation and disposal of any liquids drained from the oil pipeline, including waste characterization, profiling, manifesting, transportation and disposal, and all other related and incidental costs will be made under the Allowance in the Bid for "TRANSPORTATION AND DISPOSAL OF PETROLEUM WASTE (ALLOWANCE OF \$5,000)."

5-7.4.2 Treated Wood Waste. Treated Wood Waste (TWW) is present within the Work site. TWW is considered hazardous waste and shall be managed, stored, transported and disposed as hazardous waste at only a Class I Hazardous Waste Landfill per CCR, Title 22, Division 4.5. Information may be found at the following website: <https://dtsc.ca.gov/defining-hazardous-waste/>.

TWW is no longer regulated by the Alternative Management Standards (AMS) per CCR, Title 22, Division 4.5, Chapter 34.

5-7.4.2.1 Submittals. The Contractor shall prepare and submit an TWW Workplan, per 3-8, for the removal of TWW. Review and acceptance of submittals by the Agency will not relieve the Contractor of their responsibility for submittal accuracy and completeness or for compliance with all applicable Federal, State, and local laws and regulations. The TWW Workplan shall address the methods and procedures for the management, storage, transportation and disposal of TWW, including the following components:

- a) **Removal, Storage, Transportation, and Disposal.** TWW Workplan shall include procedures for the removal, storage, transportation and disposal of TWW.
- i. Procedures for the on-site storage of all TWW, including type of United States Department of Transportation (DOT)-approved waste storage containers. Labels shall conform to the provisions of Title 22, CCR, Sections 66262.31 and 66262.32 with the following information.

<p><i>TREATED WOOD WASTE – Do not burn or scavenge.</i></p> <p><i>TWW Handler</i></p> <p><i>Name:</i> _____</p> <p><i>Address:</i> _____</p> <p><i>Accumulation Date:</i> _____</p>
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The containers shall be handled so that no spillage will occur. Site map showing the container storage location and how the containers will be secured.

- ii. The TWW shall be transported off-site by a licensed hazardous waste transporter with the following licenses/registrations:
 - 1) Commercial driver's license with a hazardous materials endorsement, including a Transportation Security Administration (TSA) security threat assessment.
 - 2) Current hazardous materials transportation license issued by the California Highway Patrol (CHP),
 - 3) Current DTSC Hazardous Waste Transporter Registration, and
 - 4) Transporter EPA Identification Number.

 - iii. Name and address for the Class I disposal facility that will accept the waste. Hazardous waste shall be transported directly to an Agency-approved disposal facility fully permitted and regulated in accordance with local, state, and federal laws and regulations. Facilities located on tribal lands will not be approved.

 - iv. Emergency response procedures.
- b) **Training.** The TWW Workplan shall include training requirements for all personnel involved with the removal of the TWW to ensure that individuals performing work have the necessary knowledge and skills to perform the tasks in a manner that ensures the safe removal of TWW.
- c) **Personnel Protective Equipment (PPE).** The TWW Workplan shall include a description of PPE to be used. At minimum, the following PPE shall be used:
- i) Full body disposable coveralls.
 - ii) Disposable gloves.
 - iii) Safety glasses.
 - iv) Worker decontamination provisions and requirements and PPE disposal methods. Area safety perimeter/barrier controls including warning signs

- d) **Waste characterization (If Applicable)**. If testing of the TWW is required by the disposal facility it shall be conducted by the Contractor per the requirements of the disposal facility. The TWW Workplan shall include waste characterization sampling protocol and Quality Assurance/Quality Control (QA/QC) requirements and procedures for conducting waste characterization sample analysis, including the number of waste characterization samples to be collected. Identify the name of the Environmental Laboratory Accreditation Program (ELAP) Laboratory conducting the waste characterization sample analysis.

Waste characterization samples shall be analyzed as required by the approved disposal facility. Based on the waste characterization sample analysis, the Engineer shall determine the waste classification. The Engineer shall be present to observe the Contractor during the collection of all samples.

The Contractor shall submit to the Engineer, a typed Uniform Hazardous Waste Manifest and a completed waste profile form for the Agency-approved disposal facility for the TWW materials generated from the Work. The Engineer shall review and sign all hazardous waste manifests and waste profile forms. The “Generator” on draft Uniform Hazardous Waste Manifest and waste profile form shall be as follows:

Los Angeles County Public Works
Stormwater Quality Division
900 S. Fremont Ave.
Alhambra, CA 91803

The contact information on all profile and manifest forms shall be:

Oscar Enriquez
(626) 458-4970
oenrique@dpw.lacounty.gov

The Agency will provide a Generator EPA Identification Number for this Work upon notification from the Contractor.

5-7.4.2.2 Implementation. Implementation shall conform to the Agency-accepted TWW Workplan.

The Contractor shall contain and manage splinters and debris from treated wood. The Contractor shall not mix TWW with other waste.

The waste shall remain at the point of generation (the Work site) and shall not be moved off-site until the Uniformed Hazardous Waste Manifest is signed by the Engineer. The Contractor shall provide the Engineer the appropriate number of completed manifests for signature a minimum of 7 Days prior to off-site transport and disposal of the TWW. Manifests shall be distributed individually on a load by load basis to truck drivers by the Engineer.

Waste generated due to negligence of the Contractor shall be disposed at the Contractor's expense.

5-7.4.2.3 Notification Requirements. The Contractor shall provide the following notifications to the Engineer. Failure to make the notification in the time specified may result in in delays in providing the Uniform Hazardous Waste Manifests or enforcement actions. Any delays associated with failure to provide the above notifications in the time specified will be at the Contractor's expense.

- a) Notification a minimum of 7 Days prior to waste characterization sampling of the TWW.
- b) Notification a minimum of 14 Days prior to the work to request an EPA Identification Number.
- c) Notification a minimum of 14 Days prior to removal, transport, and disposal of any TWW from the Work site. The notification shall include the date and time of the work to remove and transport TWW as well as the duration of work.
- d) Notification within 24 hours of any non-compliance with these Specifications, or any non-compliance with the Agency-accepted TWW Workplan.
- e) Immediate notification of a request from any jurisdictional regulatory agency to enter, inspect, sample, monitor or otherwise access the Work site or the Contractor's records pertaining to hazardous waste.

5-7.4.2.4 Reporting. The Contractor shall prepare and submit to the Engineer a TWW Waste Disposal Report, in spreadsheet form, within 14 Days from the date of transport of any TWW. The TWW Waste Disposal Report shall include certified weight tickets that show the gross, tare, and net weights of each truck load with associated manifest numbers and all other applicable information. The TWW Waste Disposal Report shall follow the format shown in Table 5-7.4.2.4. Failure of the Contractor to provide a report to the Engineer within 14 Days of the date of transportation to the receiving facility will, at the discretion of the Engineer, result in nonpayment for the truckload.

TABLE 5-7.4.2.4

Date	Manifest Number	Receiving Facility	Certificates Weight Ticket (attach copy)	Net Weight of TWW (per Truck Load in Tons)

5-7.4.2.5 Enforcement. The Contractor shall be responsible for the costs and for the liabilities imposed by law as a result of its failure to fully-comply. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor, including those levied under United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC). In addition, the Agency will deduct, from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees incurred as a result of the Contractors non-compliance with these Specifications.

5-7.4.2.5 Payment. Payment for TWW laboratory testing, manifesting, segregation, waste storage, transportation and disposal of all TWW generated, and all other costs shall be paid at the Contract Unit Price for “TRANSPORTATION AND DISPOSAL OF TREATED WOOD WASTE.”

Add the following subsections:

5-7.9 Site Specific Health and Safety.

5-7.9.1 Silica Dust.

5-7.9.1.1 General. The existing concrete contains crystalline silica. Exposure

to respirable crystalline silica can occur during common construction tasks, such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools; operating vehicle-mounted drilling rigs; milling; operating crushing machines; using heavy equipment for demolition or certain other tasks; and during abrasive blasting and tunneling operations.

Any work that disturbs existing concrete may expose workers to health hazards and shall be conducted in accordance with the Occupational Safety and Health Administration (OSHA)'s Respirable Crystalline Silica Standard for Construction (29 Code of Federal Regulations (CFR) 1916.1153).

5-7.9.1.2 Submittals. The Contractor shall submit a copy of their written Silica Exposure Control Plan (SECP) per 3-8. Review by the Agency will not relieve the Contractor of the responsibility for the adequacy of the submittals or for full compliance with all applicable Federal, State, and local laws and regulations.

The SECP shall be prepared in accordance with 8 CCR section 1532.3, "Respirable Crystalline Silica", including all subsections. The SECP shall include, at a minimum, the following:

- a) A description of the tasks performed as part of the Work that involves exposure to respirable crystalline silica;
- b) A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task;
- c) A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica; and
- d) A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.

The Contractor shall also submit the following supplemental information to their SECP:

- e) Names and current and valid Respirable Crystalline Silica training certificates for the individual(s) who will be conducting and supervising any work that will impact the existing concrete including any subcontractors. All training certificates must be complete and have all required signatures. Respirable

Crystalline Silica Awareness training shall be conducted in accordance with 8 CCR 1532.3(i) and CCR Title 8, Section 5194 “Hazard Communication Standard.” If the proposed individuals are not available to perform the work, the Contractor may replace the personnel conducting any concrete impacted work by submitting names, current and valid Respirable Crystalline Silica training certificates for review to the Engineer at least 14 Days prior to the start of any concrete impacted work.

- f) The Contractor shall also include a statement that “all required worker training certificates will be provided 14 Days prior to the performance of any concrete impacted work.”

5-7.9.1.3 Implementation. Implementation shall conform to the Engineer-accepted SECP.

- a) **Reporting.** The Contractor shall submit copies of the personal exposure air monitoring test results to the Engineer. All personal exposure air monitoring test results shall be in compliance with 8 CCR 1532.3 (j)(1)(B), and shall include the following information:
- i) The date of measurement for each sample taken;
 - ii) The task monitored;
 - iii) Sampling and analytical methods used;
 - iv) Number, duration, and results of samples taken;
 - v) Identity of the laboratory that performed the analysis;
 - vi) Type of personal protective equipment, such as respirators, worn by the employees monitored; and
 - vii) Name, last four digits of social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored and the task they were performing.

The Contractor shall make medical surveillance available at no cost to each employee and at a reasonable time and place, for each employee who will be required to use a respirator for 30 or more Days per year, and shall be in compliance with the requirements of 8 CCR 1532.3 (h)(1)(A).

5-7.9.1.4 Payment. No separate or additional payment will be made for the preparation and implementation of the SECP. Payment for compliance with the

aforementioned requirements shall be considered as included in the various items in the Bid.

5-7.9.2 Lead Based and Lead Containing Paint (LBP/LCP).

5-7.9.2.1 General. The existing paint systems on some of the equipment and structures to be removed during the performance of the Work contain lead. Any Work that disturbs the existing paint systems will expose workers to health hazards and will:

- a) Produce debris containing lead in amounts that exceed the thresholds established in Titles 8 and 22 of the California Code of Regulations (CCR), and
- b) Produce toxic dust when disturbed and fumes when heated.

The Agency has conducted analytical sampling of the surface coatings within the Work site and determined the appropriate classification as shown in Table 5-7.9.2.1.

Table 5-7.9.2.1				
Lead Analytical Results				
Substrate	Location	Color	Lead Concentration (parts per million [ppm])	Classification
Metal	BD-7 Handrail	Yellow	284	LCP
Metal	BD-7 Valve	Silver	19,500	LBP
Metal	BD-6 Handrail	Yellow	143	LCP
Metal	BD-6 Valve	Silver	6,700	LBP
Metal	BD-1 Handrail	Yellow	161	LCP
Metal	BD-1 Valve	Silver	17,400	LBP
Metal	BD-1 Corrugated Vertical Vent Pipe	Grey	34,600	LBP
Metal	BD-1 Side of Catwalk	Grey	722	LCP
Metal	BD-8 Handrail	Yellow	404	LCP
Metal	BD-8 Valve	Silver	22,500	LBP

Table 5-7.9.2.1				
Lead Analytical Results				
Substrate	Location	Color	Lead Concentration (parts per million [ppm])	Classification
Concrete	BD-8 Wall	White	86.8	LCP
Metal	BD-8 Handrail	Yellow	80.0	LCP
Metal	BD-8 Valve	Silver	4,560	LCP
Concrete	BD-8 Wall	White	179	LCP
Metal	BD-9 Handrail	Yellow	74.7	LCP
Metal	BD-9 Valve	Silver	29,500	LBP
Metal	BD-2 Handrail	Yellow	134	LCP
Metal	BD-2 Valve	Silver	25,300	LBP
Metal	BD-10 Handrail	Yellow	84.7	LCP
Metal	BD-10 Valve	Silver	4,670	LCP
Concrete	BD-10 Wall	Grey	5.90	LCP
Concrete	Trash Rack at Woodman Ave Overflow Structure	Grey	14.3	LCP
Metal	Trash Rack at Woodman Ave Overflow Structure, Handrail	Yellow	44.1	LCP
Metal	BD-12 Corrugated Vertical Vent Pipe	Grey	20,000	LBP
Wood	BD-12 Brace around Corrugated Vertical Vent Pipe	Grey	332	LCP
Metal	BD-12 Handrail	Yellow	104	LCP
Metal	BD-12 Valve	Silver	12,000	LBP
Metal	Diversion Channel Handrail	Yellow	45,600	LBP

Table 5-7.9.2.1				
Lead Analytical Results				
Substrate	Location	Color	Lead Concentration (parts per million [ppm])	Classification
Metal	Diversion Channel Valve	Silver	1,280	LCP
Metal	Diversion Channel Catwalk	Silver	307	LCP
Metal	Diversion Channel Slide Gate	Silver	24,700	LBP

Values in bold exceed the concentration that qualifies as lead containing or lead based paint.

*LBP = Lead Based Paint

*LCP = Lead Containing Paint

Samples collected from the yellow paint on the diversion channel handrails, the silver paint on the diversion channel slide gate, the grey paint on the corrugated vertical vent pipes, and the silver paint on the valves between the cells had lead concentrations that met or exceeded the 5,000 ppm threshold and are defined as LBP. **All silver paint on valves and the diversion channel slide gate, valve, and catwalk; grey paint on vent pipes; and yellow paint on diversion channel handrails is to be considered to be LBP.**

Samples collected from the yellow paint on the handrails and trash racks, the silver paint on the diversion channel valves and catwalks, and the grey paint on the catwalks, concrete, and the wood brace around the corrugated vertical pipes had detectable lead concentrations below 5,000 ppm. The paint on these areas is considered to be LCP and is also required to be regulated. **All yellow paint on handrails (other than at the diversion channel); grey paint on the catwalk; white and grey paint on concrete walls; and grey and yellow paint on the trash rack are to be considered to be LCP.**

No additional supplemental surface coating or testing activities shall be conducted by the Contractor without prior written approval by the Engineer.

The Contractor shall be responsible for the following:

- a) All debris produced, when the existing paint systems are disturbed, shall be properly contained, analyzed, and disposed of as required by the Federal, State, and local agencies. The Contractor shall also comply with their Lead

Compliance Plan as required under the Lead Compliance Program and Title 8, CCR Section 1532.1, "Lead."

- b) Only State of California Department of Public Health (CDPH) Lead-Related Construction certified workers and supervisors shall perform the lead abatement work.
- c) Lead related work shall be conducted under the supervision of an American Board of Industrial Hygiene (ABIH)-Certified Industrial Hygienist (CIH) who is also a CDPH Certified Lead Project Monitor employed by the Contractor, or a separate CDPH Certified Lead Project Monitor.

5-7.9.2.2 Submittals. The Contractor shall prepare and submit a Site-Specific Lead Compliance Plan (SSLCP) per 3-8. The SSLCP is required by Subsection (e) (2), "Compliance Program," of CCR Title 8 Section 1532.1, "Lead," of the Construction Safety Orders. The SSLCP shall include the data specified in Subsections (e)(2)(B) and (e)(2)(C) of CCR Title 8 Section 1532.1, "Lead."

Review by the Agency will not relieve the Contractor of the responsibility for the adequacy of the submittals or for full compliance with all applicable Federal, State, and local laws and regulations.

The SSLCP shall be reviewed, signed and stamped by an ABIH – CIH and CDPH Certified Lead Project Monitor.

In addition, the SSLCP shall contain, at a minimum, the following:

- a) **Work Plan.** The SSLCP work plan shall include the following:
 - i) Identify all locations where LBP/LCP coated materials are required for removal.
 - ii) Description of the procedures for LBP/LCP coating removal/surface preparation methods.
 - iii) Engineering controls to be used to achieve regulatory compliance and, where engineering controls are required, provisions for controlling exposure to lead.

- iv) Description of the procedures for LBP/LCP debris containment and collection. Provide a description of the methods used to control the LBP/LCP debris during removal.
 - v) Procedures to remove, cut, and handle the steel containing LBP/LCP in accordance with the CCR, Title 8, Section 1532.1. The LBP/LCP shall remain intact and shall not be removed from the steel substrate.
 - vi) Steel containing LBP/LCP shall not be salvaged or re-used by the Contractor or by others. Steel containing LBP/LCP shall be taken to an approved metal recycling facility. The Contractor shall notify the receiving facility that the steel contains LBP/LCP and provide testing/analytical data, if requested.
 - vii) Emergency response procedures and employee job responsibilities.
 - viii) Housekeeping (Best Management Practices).
 - ix) Worker decontamination provisions, requirements, and PPE disposal methods. This includes area safety perimeter/barrier controls and warning signs.
 - x) Statement indicating that the Contractor shall make the required notifications.
 - xi) SDS for any chemical/materials that will be used.
- b) **Training:** The SSLCP shall include the following training and training certificates:
- i) Current worker LBP/LCP abatement training certificates for the individual(s) who will be conducting the abatement work.
 - ii) Name and responsibilities of the competent person and training certificates.
 - iii) California license/certification for lead abatement contractor performing the work.
 - iv) CIH certification and oversight information.

- c) **Air Monitoring.** Air monitoring shall be performed under the direction of a Certified Industrial Hygienist (CIH) who is also a CDPH Certified Lead Project Monitor or a separate CDPH Certified Lead Project Monitor. The SSLCP shall include a description of air monitoring to be conducted during work including, at a minimum, the following information:
- i) Description of work area monitoring of ambient air in and around the lead paint removal areas to verify the effectiveness of the containment system and personal air monitoring in accordance with the CCR, Section 1532.1.
 - ii) Air sampling methodologies and instrumentation to be used, including the recent calibration logs for the monitoring and sampling equipment to be used.
 - ii) Lead air samples shall be collected and analyzed in conformance with NIOSH Method 7082 or 7300, with a limit of detection of at least 0.050 milligrams per cubic meter (mg/m³) of air.
 - iii) The air samples shall be collected during the first three days of LBP/LCP removal at each removal location and at least once thereafter. All air samples shall be analyzed within 48 hours at a facility accredited by the AIHA/ELLAP or EPA/NLLAP.
 - iv) The airborne lead exposure, outside either the containment system or work areas, shall not exceed 10 percent of the PEL specified for lead by Section 1532.1.
 - v) Qualifications of sampling personnel.
 - vi) Name of laboratory analyzing the air samples, including the Air/industrial hygiene testing laboratory certificates (Environmental Lead Laboratory Accreditation Program (ELLAP)/Department of Health Services (DHS) certificates).
 - vii) Medical surveillance procedures for respirator use and lead-related work.
- d) **Personnel Protective Equipment (PPE).** The SSLCP shall include a description of PPE to be used for all work with the SECA. At minimum, the following PPE shall used:

- i) Full body disposable coveralls.
 - ii) Disposable gloves.
 - iii) Safety glasses.
 - iv) Half-face negative pressure respirators with P-100 filters.
- e) **Waste characterization.** The SSLCP shall include the following waste characterization sampling protocol and Quality Assurance/Quality Control (QA/QC) requirements and procedures for conducting waste characterization sample analysis. At minimum, the SSLCP waste characterization shall include the following:
- i) Name and address for the disposal facility that will accept the LBP/LCP waste. Hazardous waste shall be transported directly to an Agency-approved Class I Landfill, fully permitted and regulated in accordance with local, state, and federal laws and regulations. Facilities located on tribal lands will not be approved. Non-hazardous waste may be disposed of at a regulated out of state landfill licensed to accept the waste.
 - ii) The Agency-approved disposal facility's waste acceptance policy.
 - iii) The number and location of waste characterization samples to be collected and analyzed in conformance with the waste acceptance policy of the Agency-approved disposal facility. Include the EPA test methods used for analysis.
 - iv) The name of the Environmental Laboratory Accreditation Program (ELAP) Laboratory conducting the waste characterization sample analysis.

Based on the LBP/LCP waste characterization sample analysis, the Engineer shall determine the waste classification.

- f) **Storage and Transportation, and Disposal.** The SSLCP shall include the following procedures for the storage, transportation and disposal of waste generated:
- i) Procedures for the on-site storage of all LBP/LCP waste, including type of United States Department of Transportation (DOT)-approved waste

- storage containers. Labels shall conform to the provisions of Title 22, CCR, Sections 66262.31 and 66262.32. The containers shall be handled so that no spillage will occur. Site map showing the container storage location and how the containers will be secured.
- ii) The LBP/LCP waste generated shall be transported off-site by a licensed hazardous waste transporter with the following licenses/registrations:
 - 1) Commercial driver's license with a hazardous materials endorsement, including a Transportation Security Administration (TSA) security threat assessment.
 - 2) Current hazardous materials transportation license issued by the California Highway Patrol (CHP),
 - 3) Current DTSC Hazardous Waste Transporter Registration, and
 - 4) Transporter EPA Identification Number.
 - iii) A draft typed draft hazardous waste manifest and draft waste profile forms for the Agency-approved disposal facility. The "Generator" on draft hazardous waste manifest and waste profile form shall be as follows:

Los Angeles County Public Works
Stormwater Quality Division
900 S. Fremont Ave.
Alhambra, CA 91803

The contact information on all profile and manifest forms shall be:

Oscar Enriquez
(626) 458-4970
oenrique@dpw.lacounty.gov

The Agency will provide a Generator EPA Identification Number for this Work upon notification from the Contractor.

5-7.9.2.3 Implementation. Implementation shall conform to the Agency accepted SSLCP.

The Contractor shall submit the waste profile form per the Agency-accepted SSLCP, to the Engineer, a minimum of 14 Days days prior to lead removal activities for final approval and signature. The waste profile form shall include all waste

characterization sample results, including signed laboratory data sheets, QC/QC forms and chain-of-custody documentation.

When corrective action is recommended by the CIH/CDPH Certified Lead Project Monitor, the Engineer may require additional samples at the Contractor's expense.

The LBP/LCP waste shall remain at the point of generation (Work site) and shall not be moved off-site until the Hazardous Waste Manifests are signed by the Engineer. The Contractor shall provide the Engineer the appropriate number of completed manifests for signature a minimum of 14 Days prior to off-site transport and disposal of the LBP/LCP waste. Manifests shall be distributed individually on a load by load basis to truck drivers by the Engineer.

Any delays resulting from failure to submit the waste profile forms or the completed Uniform Hazardous Waste Manifests within the time specified above will be at no cost to the Agency.

LBP/LCP waste or other waste generated due to negligence of the Contractor shall be disposed at the Contractor's expense.

5-7.9.2.4 Reporting Requirements. The Contractor shall be responsible for complying with the following:

- a) **Air Sample Test Results.** Air sample laboratory analysis results, including results of additional samples taken after corrective action as recommended by the CIH/CDPH Certified Lead Project Monitor, shall be submitted to the Engineer. The results shall be submitted verbally to the Engineer within 48 hours of sampling. A written report shall be submitted to the Engineer, with a copy to the Contractor, within 7 Days of sampling. Sample analysis reports shall be prepared by the Contractor's CIH/CDPH Certified Lead Project Monitor and shall include the following:
 - i) The date and location of sample collection.
 - ii) Sample number.
 - iii) The full name of the structure as shown on the Plans.
 - iv) List of emission control measures in place when air samples were taken.

- v) Type of respiratory protection used for personal air samples.
 - vi) Air sample results shall be shown on laboratory letterhead and compared to the appropriate PELs and ALs.
 - vii) Chain of custody forms.
 - viii) Calibration documentation for air sampling equipment used.
 - ix) Corrective action(s) recommended by the CIH/CDPH Certified Lead Project Monitor to ensure airborne metals exposure, outside either the containment system, or work areas, is within specified limits.
 - x) Quality Assurance/Quality Control results for analyses.
- b) **Waste Reporting.** The Contractor shall prepare and submit to the Engineer a LBP/LCP Waste Disposal Report, in spreadsheet form, within 14 Days from the date of transport of any LBP/LCP waste. The LCB/LCP Waste Disposal Report shall include certified weight tickets that show the gross, tare, and net weights of each truck load with associated manifest numbers and all other applicable information. The LBP/LCP Waste Disposal Report shall follow the format shown in Table 5-7.9.2.4. Failure of the Contractor to provide a report to the Engineer within 14 Days of the date of transportation to the receiving facility will, at the discretion of the Engineer, result in nonpayment for the truckload.

TABLE 5-7.9.2.4

Date	Manifest Number	Receiving Facility	Certified Weight Ticket (attach copy)	Net Volume or Weight of Waste

The Contractor shall obtain and submit to the Engineer a certificate of recycling/destruction from the recycling facility as proof of recycling.

5-7.9.2.5 Notification Requirements. The Contactor shall provide the following notifications to the Engineer. Failure to make the notification in the time specified may result in in delays in providing the Uniform Hazardous Waste Manifests or

enforcement actions. Any delays associated with failure to provide the above notifications in the time specified will be at the Contractor's expense.

- a) Notification a minimum of 2 Working Days prior to the collection of any waste profile samples. Samples shall only be collected in the presence of the Engineer.
- b) Notification a minimum of 14 Days prior to the work to request an EPA Identification Number.
- c) Notification a minimum of 14 Days prior to the start of any LBP/LCP removal operations and waste disposal. The notification shall include the date and time, and the duration of work.
- d) Notification with 24 hours of any release spill, any discharge of waste, any non-compliance with these Specifications, or any non-compliance with the Agency- accepted SSLCP.
- e) Immediate notification of a request from any jurisdictional regulatory agency to enter, inspect, sample, monitor or otherwise access the Work site or the Contractor's records pertaining to hazardous waste.

5-7.9.2.6 Enforcement. The Contractor shall be responsible for the costs and for the liabilities imposed by law as a result of its failure to fully-comply. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor, including those levied under United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC). In addition, the Agency will deduct, from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees incurred as a result of the Contractors non-compliance with these Specifications.

5-7.9.2.7 Payment. Payment for preparation of the SSLCP including any subsequent revisions will be made at the Stipulated Unit Price in the Bid for "PREPARATION OF SITE-SPECIFIC LEAD COMPLIANCE PLAN (STIPULATED UNIT PRICE OF \$3,000)."

Payment for the designated CIH, CDPH Certified Lead Project Monitor, personal protective equipment and clothing, performing air monitoring and testing, air sample laboratory analysis and work area monitoring including reporting test results, air monitoring reports and revisions, establishing and following health and safety procedures and measures, debris containment system, worker decontamination, waste stream laboratory analyses, debris and/or waste testing, hazardous waste storage, manifesting, and all other costs related to implementation of the SSLCP will be made at the lump sum price in the Bid for "IMPLEMENTATION OF SITE-SPECIFIC LEAD COMPLIANCE PLAN."

Payment for disposal of lead-containing paint will be made at the Lump Sum Bid Price for “DISPOSAL OF LEAD CONTAINING PAINT WASTE.”

No separate or additional payment will be made for any sampling and analysis required by the disposal facility.

Add the following subsections:

5-8 THROUGH 5-22 NOT USED.

5-23 SPECIES PROTECTION.

5-23.1 General. The Agency will provide a biologist to monitor construction activities, as necessary, to protect species that may be harmed during the Work.

5-23.2 Bird Nesting Surveys. In the event the Contractor performs tree pruning or removal work between February 1st and August 31st, the Agency biologist will conduct bird nesting surveys and monitor construction activities. If the bird nesting surveys identify any active nests, the Agency biologist will establish protective buffer zone(s) around nest(s). The Contractor shall not work within an established protective buffer zone until the Contractor receives written authorization from the Engineer to resume the work within that zone.

5-23.3 Payment. No separate or additional payment will be made for Species Protection. Payment shall be considered as included in the various items in the Bid.

5-24 CULTURAL RESOURCES.

5-24.1 Paleontological Resources. The potential for unknown paleontological resources exists and may be disturbed during construction. The Agency will retain a paleontologist to monitor construction activities.

In the event paleontological resources are discovered, the Contractor shall immediately cease all operations in the immediate vicinity of the discovery, as directed by the Engineer. The Agency’s paleontologist, in consultation with the Engineer, will establish protocols and a buffer zone to protect the area of discovery. If the discovery proves to be significant, additional work and data recovery may be required.

The Contractor shall comply with the protocols and buffer zones established by the Engineer. No work shall be performed within the buffer zone until the

paleontologist evaluates the discovery and the Engineer approves the resumption of excavation.

If human remains are found, all work in the area must stop until the County Coroner identifies the remains and makes recommendations regarding their appropriate treatment.

5-24.2 Tribal Cultural Resources. The potential for unknown tribal cultural resources and archaeological resources exists and may be disturbed during the Work. The Agency will retain a Native American monitor to monitor the Work.

In the event tribal cultural resources, or archeological resources, are discovered, the Contractor shall immediately cease all operations in the immediate vicinity of the discovery as directed by the Engineer. The Native American monitor, in consultation with the Engineer, will establish protocols and a buffer zone to protect the area of discovery. If the discovery proves to be significant, additional work and data recovery may be required.

The Contractor shall comply with the protocols and buffer zones established by the Engineer. No work shall be performed within the buffer zone until the Native American monitor evaluates the discovery and the Engineer approves the resumption of excavation.

5-24.3 Cultural Resources Training. The Agency shall provide cultural resources training, in cooperation with the Native American Monitor, prior to the start of of the Work. All workers performing work within the Work sites including those of the Contractor and any tier subcontractor, shall attend the cultural resources training.

The Agency will maintain an attendance roster of the training sessions. The attendance roster will include the printed and signed name of each attendee certifying that they have attended and understand the cultural resources protection measures required for this Contract. No worker will be allowed on the Work site without confirmation of attendance to the cultural resources training.

5-24.4 Payment. No separate or additional payment will be made for cultural resources requirements, except as allowed in accordance with 6-6.2. Payment shall be considered as included in the various items in the Bid.

ENGINE MODEL YEAR EXCLUSION PAYMENT

The following calculations are intended as an example per 3-12.2.2.11 and are not representative of actual amounts for this Contract. Actual amounts will be based upon the Bid and actual quantities.

Item 47, Agency Excludes 2013 Model Year Engine Truck, Unit Price: \$0.40 per ton

Item 48, Agency Excludes 2014 Model Year Engine Truck, Unit Price: \$0.80 per ton

Item 49, Agency Excludes 2015 Model Year Engine Truck, Unit Price: \$1.20 per ton

Item 50, Excavation, Transportation and Disposal of Excess Basin Material,

Unit Price: \$13.00 per ton

Total Quantity Hauled: 2,100,000 tons

Example No. 1

Agency does not exclude any vehicles by model year engine for the duration of Work. Final payment for the items above would be as follows:

Item 47 – DELETED

Item 48 – DELETED

Item 50, \$13.00 x 2,100,000 = \$27,300,000.00

Item 49 – DELETED

Example No. 2

Agency excludes 2013 model year engine vehicles after 400,000 tons have been hauled. Final payment for the items would be as follows:

Item 47, \$ 0.40 x 1,700,000 = \$ 680,000.00

Item 48 – DELETED

Item 50, \$13.00 x 2,100,000 = \$27,300,000.00

Item 49 – DELETED

Example No. 3

Agency excludes 2013 model year engine vehicles after 500,000 tons have been hauled. Agency excludes 2014 model year engine vehicles after 1,000,000 tons have been hauled. Final payment for the items would be as follows:

Item 47, \$ 0.40 x 1,600,000 = \$ 640,000.00

Item 49 – DELETED

Item 48, \$ 0.80 x 1,100,000 = \$ 880,000.00

Item 50, \$13.00 x 2,100,000 = \$27,300,000.00

Example No. 4

Agency excludes 2013-2015 model year engine vehicles prior to start of Work. Final payment for the items would be as follows:

Item 47, \$ 0.40 x 2,100,000 = \$ 840,000.00

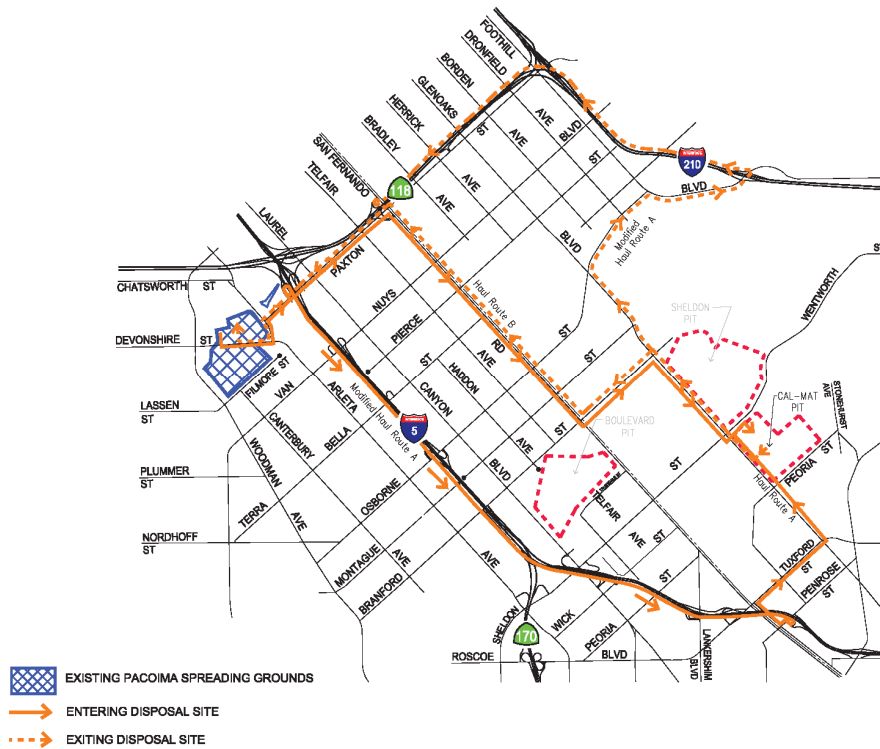
Item 48, \$ 0.80 x 2,100,000 = \$ 1,680,000.00

Item 49, \$ 1.20 x 2,100,000 = \$ 2,520,000.00

Item 50, \$13.00 x 2,100,000 = \$27,300,000.00

Exhibit A

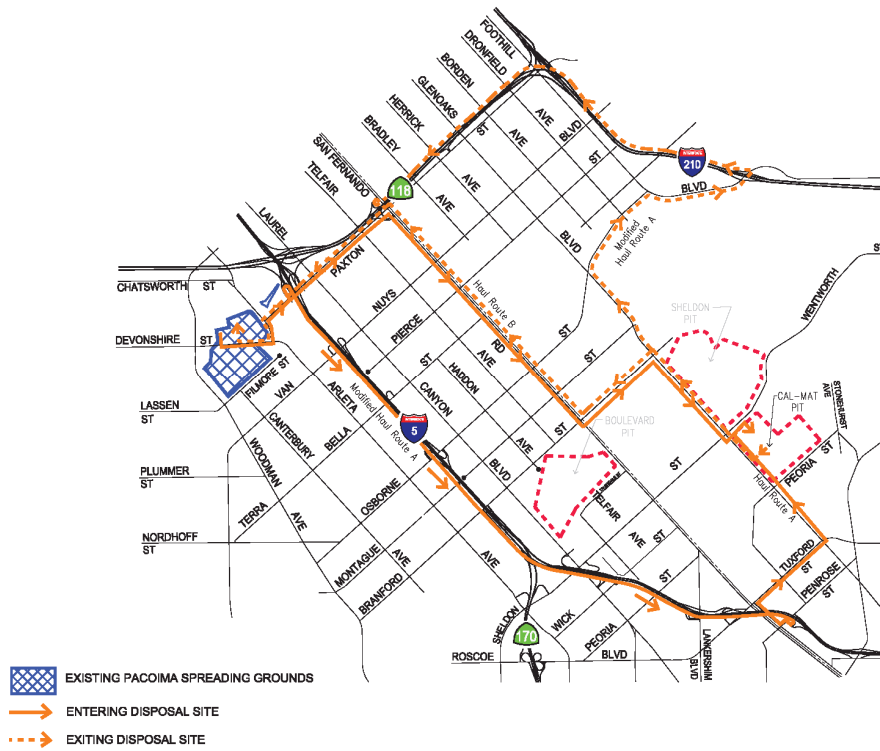
Pacoima Spreading Grounds Basin Enhancement Project Vulcan-CalMat Pit Modified Haul Route A



Modified Haul Route A – Vulcan (CalMat)	
Departure	Return
<p style="text-align: center;">Eastbound on Devonshire St. North on Arleta Ave. Northeast on Paxton St. I-5 Southbound Exit Penrose St. (head southwest) Northwest on San Fernando Rd. Northeast on Tuxford St. Northwest on Glenoaks Blvd Enter CalMat on the right</p>	<p style="text-align: center;">Northwest on Glenoaks Blvd Northeast on Osborne St. and Foothill Blvd I-210 Westbound Merge onto SR-118 Westbound Exit San Fernando Rd. Right turn on Paxton St. (head southwest) Southbound on Arleta Ave. Westbound on Devonshire St. Enter Pacoima Spreading Grounds</p>

Exhibit A (continued)

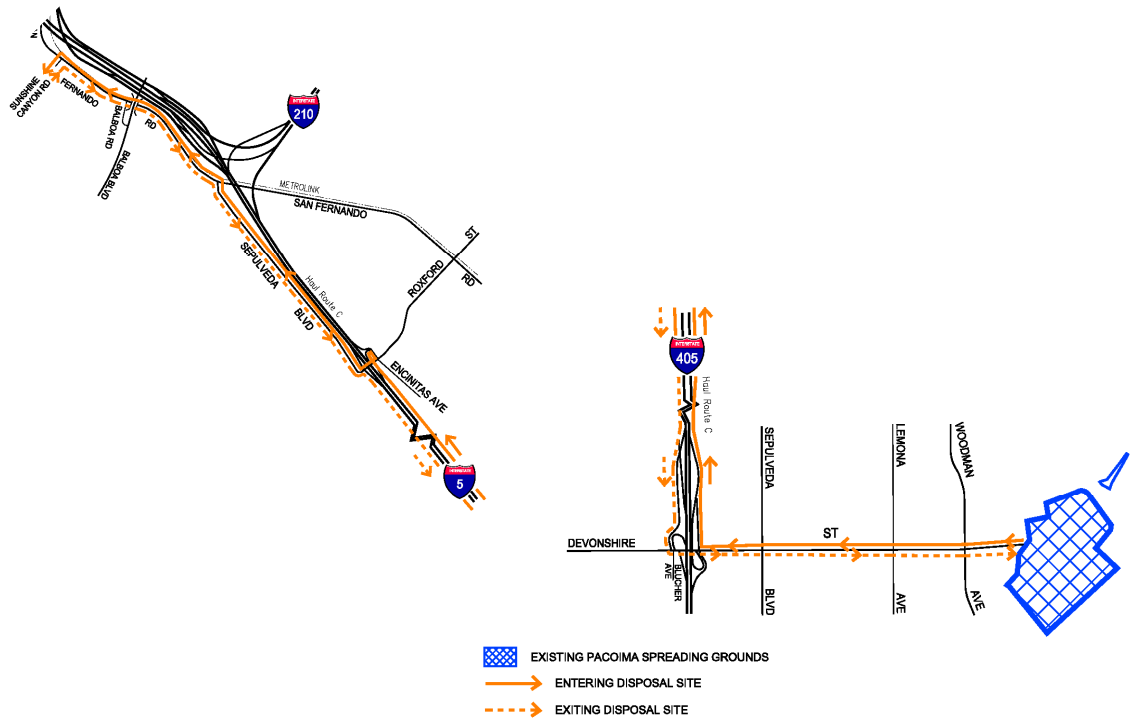
Pacoima Spreading Grounds Basin Enhancement Project Vulcan (CalMat Pit) Haul Route B



Haul Route B – Vulcan (CalMat)	
Departure	Return
<p style="text-align: center;">Eastbound on Devonshire St. North on Arleta Ave. Northeast on Paxton St. Turn right onto San Fernando Rd. (head southeast) Northeast on Branford St. Southeast on Glenoaks Blvd. Northeast on Sheldon St. Enter CalMat</p>	<p style="text-align: center;">Retrace the same route to return to Pacoima Spreading Grounds</p>

Exhibit A (continued)

Pacoima Spreading Grounds Basin Enhancement Project Sunshine Canyon Landfill Haul Route C



Sunshine Canyon Landfill	
Departure	Return
Westbound on Devonshire St. I-405 Northbound Merge onto I-5 Northbound Exit Roxford St. (head southwest) Northwest on Sepulveda Blvd. Northwest on San Fernando Rd. Turn left on Sunshine Canyon Road Enter Sunshine Canyon Landfill	Retrace the same route to return to Pacoima Spreading Grounds

EXHIBIT B



LOS ANGELES COUNTY PUBLIC WORKS
 STORMWATER QUALITY DIVISION - ENVIRONMENTAL COMPLIANCE UNIT
DAILY HAUL ROUTE REPORTING FORM

Time Period ⁽¹⁾	Vulcan Facility ⁽²⁾		Sunshine Canyon Landfill ⁽³⁾	Total
	Haul Route A	Haul Route B	Haul Route C	
2:00pm – 3:00pm				28
3:00pm – 4:00pm				29
4:00pm – 5:00pm				29
Totals	77	61	100	238

- (1) Outbound time will be based on the time the truck exits the scales.
- (2) Vulcan closes at 4:30 pm.
- (3) Sunshine Canyon Landfill closes at 5:00 pm. Maximum weekly limit of 6,600 tons to Sunshine Canyon Landfill.

By signing below, I, the responsible official, affirm and certify under penalty of perjury, under the laws of the State of California, that I have used all reasonable diligence in preparing this report, and that I have reviewed this report and the information reported on this form is true, accurate, and complete to the best of my knowledge. By signing below, I further certify that I have the authority to make this certification.

Signature

Date

Print Name

Company Name



**LOS ANGELES COUNTY PUBLIC WORKS
CONSTRUCTION DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
ON-ROAD DIESEL-FUELED VEHICLES EMISSIONS REPORTING FORM**

EXHIBIT C

Project Name	Pacoima Spreading Grounds Basin Enhancement Project	Project ID No.	FCC0001207
Date	Contractor/Subcontractor Name		

Vehicle License Plate No. ⁽¹⁾	Vehicle Make and Model	Company Name	Vehicle GVWR (lbs)	Engine Model Year ⁽²⁾	TRUCRS ⁽³⁾ ID	Clean Idle Vehicle ⁽⁴⁾ (Y/N)	Executive Order No. ⁽⁵⁾	Date of Certificate of Reporting Compliance ⁽⁶⁾

By signing below, I, the responsible official, affirm and certify under penalty of perjury, under the laws of the State of California, that I have used all reasonable diligence in preparing this report, and that I have reviewed this report and the information reported on this form is true, accurate, and complete to the best of my knowledge. By signing below, I further certify that I have the authority to make this affirmation.

Signature of Responsible Official _____ Date _____

Print Name of Responsible Official _____ Company Name _____

- (1) Include all contractor, subcontractor, and rental/leased vehicles regardless of GVWR used on this project
- (2) Engine Model Year shall be per 3-12.2.2.3 of Section EC of the Special Provisions.
- (3) Truck Regulation Upload Compliance and Reporting System (TRUCRS).
- (4) Clean Idle Vehicle per 3-12.2.2.3(a) of Section EC of the Special Provisions and Title 13, California Code of Regulations, section 1956.8(a)(6)(C).
- (5) Attach copy of the Executive Order issued by California Air Resources Board.
- (6) Attach copy of the Certificate of Reporting Compliance issued by the California Air Resources Board for this fleet.



LOS ANGELES COUNTY PUBLIC WORKS
STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
ON-ROAD DIESEL-FUELED VEHICLES EMISSIONS REPORTING FORM
PERIODIC SMOKE INSPECTION PROGRAM (PSIP) RESULTS

EXHIBIT C.1

Project Name	Pacoima Spreading Grounds Basin Enhancement Project	Project ID No.	FCC0001207
Date	Contractor/Subcontractor Name		

Vehicle License Plate No.	Company Name	Engine Model Year ⁽²⁾	PSIP Test Results ⁽¹⁾				Average Test Result ⁽²⁾	CCDET ⁽³⁾ Certification No.
			Date	Test No. 1	Test No. 2	Test No. 3		

(1) PSIP Test shall be per 3-12.2.2.3(c) of Section EC of the Special Provisions. Include copy of the printout by the CCDET technician showing the three test results and average.
 (2) Average PSIP Test Result shall have an opacity of 5% or less.
 (3) California Council on Diesel Education and Technology I (CCDET)

By signing below, I, the responsible official, affirm and certify under penalty of perjury, under the laws of the State of California, that I have used all reasonable diligence in preparing this report, and that I have reviewed this report and the information reported on this form is true, accurate, and complete to the best of my knowledge. By signing below, I further certify that I have the authority to make this affirmation.

 Signature of Responsible Official

 Print Name of Responsible Official

 Date

 Company Name



EXHIBIT C.1

**LOS ANGELES COUNTY PUBLIC WORKS
 STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
 ON-ROAD DIESEL-FUELED VEHICLES EMISSIONS REPORTING FORM
 PERIODIC SMOKE INSPECTION PROGRAM (PSIP) RESULTS**

Project Name	Pacoima Spreading Grounds Basin Enhancement Project	Project ID No.	FCC0001207
Date		Contractor/Subcontractor Name	

Vehicle License Plate No.	Company Name	Engine Model Year ⁽²⁾	PSIP Test Results ⁽¹⁾					CCDET ⁽³⁾ Certification No.
			Date	Test No. 1	Test No. 2	Test No. 3	Average Test Result ⁽²⁾	



LOS ANGELES COUNTY PUBLIC WORKS
STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
OFF-ROAD DIESEL-FUELED EQUIPMENT EMISSIONS REPORTING FORM

EXHIBIT D

Project Name	Pacoima Spreading Grounds Basin Enhancement Project	Project ID	FCC0001207
Reporting Month/Year	Contractor/Subcontractor Name		

Equipment Identification Number (EIN)	Equipment Description	Tier Rating ⁽¹⁾	Equipment Horsepower	DOORS ⁽²⁾ Fleet ID No.	CARB Executive Order ⁽³⁾

By signing below, I, the responsible official, affirm and certify under penalty of perjury, under the laws of the State of California, that I have used all reasonable diligence in preparing this report, and that I have reviewed this report and the information reported on this form below is true, accurate, and complete to the best of my knowledge. By signing below, I further certify that I have the authority to make this affirmation.

Signature of Responsible Official/Designated Official

Date

Print Name of Responsible Official/Designated Official

Company Name

- (1) Tier rating of equipment shall be per 3-12.2.2.4 of Section EC of the Special Provisions.
- (2) Diesel Off-Road Online Reporting System (DOORS).
- (3) Attach copy of the Executive Order issued by California Air Resources Board (CARB) for this engine model.

Exhibit E

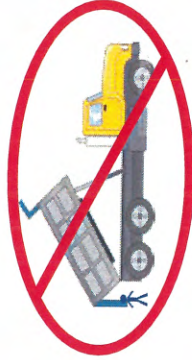
LANDFILL SAFETY RULES

1. CUSTOMERS MUST HAVE PROPER PPE WHEN EXITING VEHICLES INCLUDING: FACE MASK, HARDHAT, STEEL-TOED BOOTS, SAFETY GLASSES, AND REFLECTIVE VEST.
2. WHEELS MUST BE CHOCKED & PARKING BRAKE SET WHEN EXITING VEHICLES, TRUCKS, OR MOBILE EQUIPMENT AT ALL TIMES.
3. ALWAYS SOUND YOUR HORN BEFORE MOVING FORWARD AND BACKWARD.
4. DO NOT SPEED. PLEASE OBEY SPEED LIMIT SIGNS, 5 MPH FOR ALL POSTED AND UNPOSTED AREAS.
5. DO NOT DRIVE WITH TRAILER UP OR TAILGATE UP.
6. TAILGATES MUST BE CLOSED AND TRAILER DOWN BEFORE CLEANING. ALL CLEANING MUST BE DONE IN AN APPROVED AREA.
7. CLIMBING INTO THE VEHICLE BED OR TRAILER TO CLEAN IS NOT PERMITTED.
8. CLEANING YOUR VEHICLE BY THE RESTROOM AREA IS NOT PERMITTED. PLEASE ASK SITE PERSONNEL FOR ASSISTANCE.
9. ALWAYS WEAR YOUR SEAT BELT.
10. ALL VEHICLES MUST HAVE A BACK-UP ALARM.
11. ALWAYS MAINTAIN 3 POINTS OF CONTACT WHEN ENTERING OR EXITING YOUR VEHICLE

WARNING!

CUSTOMERS NOT FOLLOWING THE SAFETY RULES WILL BE SUBJECT TO MSHA/CAL OSHA MINE PENALTIES AND CAN RESULT IN NOT BEING ALLOWED TO RETURN TO THE SITE.

PLEASE TAKE THE TIME TO READ THE SIGNS ALONG YOUR TRAVEL ROUTE. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE OFFICE 818-768-4157



PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION EW - EARTHWORK

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.



Prepared By:

Rafael Piamonte

2/24/2021

Date

Reviewed By:

Steven Dickson

2/24/2021

Date

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PART 2 CONSTRUCTION MATERIALS

SECTION 200 - ROCK MATERIALS

200-1 ROCK PRODUCTS.

200-1.6 Stone for Riprap. (Page 47 of the SSPWC)

200-1.6.2 Grading Requirements.

Replace Table 200-1.6.2 with the following:

TABLE 200-1.6.2

Rock Size	Percentage Larger Than				
	1000 lb Class	500 lb Class	200 lb (Light) Class	75 lb (Facing) Class	25 lb (Cobble) Class
2000 lb	0-5	-	-	-	-
1000 lb	50-100	0-5	-	-	-
500 lb	-	50-100	0-5	-	-
200 lb	90-100	--	50-100	0-5	-
75 lb	-	90-100	90-100	50-100	0-5
25 lb	-	-	-	90-100	95-100

SECTION 211 - MATERIAL TESTS

211-1 COMPACTION TESTS.

211-1.1 Laboratory Maximum Density. (Page 213 of the SSPWC)

Replace the second and third paragraphs with the following:

Compaction tests will be performed in accordance with ASTM D1557 using the appropriate procedure based on the materials gradation where applicable. The Engineer may specify another procedure within this test; require the use of another test procedure; or specify a specific compaction method to be used where this test is not applicable.

All reported maximum densities shall be based on dry unit weight. However, the Engineer may modify the procedure in ASTM D1557, at its option, to calculate a relative compaction at the site based on adjusted laboratory maximum wet density to give the

Contractor an indication of the achieved relative compaction. The adjusted laboratory maximum wet density will be calculated as follows:

211-1.3 Relative Compaction. (Page 213 of the SSPWC)

Replace the entire subsection with the following:

The words "Relative Compaction" shall mean the ratio of the field dry density to the laboratory maximum dry density expressed as a percentage.

SECTION 217 – BEDDING AND BACKFILL MATERIALS

217-3 STRUCTURE BACKFILL

Replace the first sentence with the following:

Material used for structure may have a sand equivalent of not less than 20 and can conform to the gradation requirements shown in Table 217-3.

**PART 3
CONSTRUCTION METHODS**

SECTION 300 - EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.1 General. (Page 265 of the SSPWC)

Add the following:

The spreading basin, within the limits of excavation only, shall first be cleared and grubbed. Organic material generated during clearing and grubbing operations shall be separated and processed in accordance with 300-12.6.2.

300-1.2 Root Pruning and Tree Trimming. (Page 265 of the SSPWC)

Replace the entire subsection with the following:

300-1.2 Tree Removal. Tree removal shall include stump and root removal. Trees designated for removal shall be "topped", or, if in the opinion of the Contractor, a tree is

unable to withstand the strain of the topping procedure, the branches shall be lowered by another means. Unless impractical, lower limbs shall be removed first, working toward the top until the tree is de-limbed. Stubs, at least 12 inches or more in length, shall be left following de-limbing to provide crotches for lowering sections of the trunk or main limbs.

Limbs, branches, and trunks shall be prevented from falling and damaging adjacent improvements and other property, both public and private. When necessary, brush mats, tires, logs or skids shall be used to prevent such damage.

Stump removal shall include grinding out the stump and all roots, including surface roots, to a minimum depth of 24 inches below existing ground level. Stump holes shall be backfilled.

Chips and debris from stump removal shall be removed from the Project site by the end of the work day that such chips and debris were generated. The Project site shall be raked and swept.

300-1.4 Payment. (Page 265 of the SSPWC)

Replace the first sentence of the first paragraph with the following:

Payment for clearing and grubbing will be made at the lump sum Bid price for "CLEARING AND GRUBBING." The lump sum Bid price shall include payment for removal and disposal of all the resulting materials.

Add the following:

Payment for trees to be removed having a trunk 6 inches in diameter or greater will be made at the Contract Unit Price for "TREE REMOVAL" for the respective range of diameters. Said diameter shall be the smallest diameter measured 6 inches above the crown roots. Multi-trunk trees will be considered as one tree if any one trunk is 6 inches in diameter or greater. The Contract Unit Price shall be include cutting down and disposing of the entire tree including stump and root removal.

Payment for removal of all other trees, including cutting down and disposing of the entire tree and stump and root removal, shall be considered as included in the Contract Unit Price for "CLEARING AND GRUBBING."

The lump sum price in the Bid for "REMOVAL OF EXISTING IMPROVEMENTS" shall be considered full compensation for furnishing all labor, tools, and equipment for sealing existing conduits in place at existing outlet structures, as well as removing and

properly disposing of existing steel pipes, trash racks, metal handrails, guardrail, storage house, service poles and removal of other existing improvements shown on the Plans for removal and not specifically covered by the others items of the Work.

Add the following:

300-1.6 Construction and Demolition Debris Recycling.

300-1.6.1 General. Consistent with the Agency's efforts to comply with the California Integrated Waste Management Act of 1989 (AB 939), the Contractor shall reduce, reuse, and/or recycle at least 50 percent by weight or volume or to the maximum extent feasible, the construction and demolition debris (debris) generated by this Contract thereby diverting the debris from disposal facilities, saving landfill space, and conserving virgin materials and natural resources.

300-1.6.2 Definitions.

Construction and Demolition Debris (Debris) - materials resulting from building, construction or demolition-related activities such as excavation, grading, land clearing, renovation, repair, road work and site cleanup which are considered solid waste pursuant to Section 40191 of the California Public Resources Code. The materials include, but are not limited to, asphalt, brick, cardboard, carpet, cinder block, concrete, concrete with reinforcement bars, drywall, excavated materials, fixtures and fittings, glass, gravel, green waste, metal, mixed rubble, packaging materials, paper, plastics, porcelain, road work materials, roofing materials, rock, sand, site clearance materials, soil, trees, tree stumps and other vegetative matter, stones, and wood waste.

Deconstruction - the process of carefully dismantling a structure, piece by piece prior to or instead of conventional demolition, to maximize the recovery of building materials for reuse and/or recycling.

Delivery Site - a recycling facility as defined in Subsection E.14 and recycling or reuse site as defined in Subsection E.15 or any place, including a transfer station as defined in Subsection E.20 where the debris is delivered for the sole purpose of reuse and/or recycling in a manner acceptable to the Agency.

Disposal - the process of disposing of debris at a Disposal Facility.

Disposal Facility - a Landfill or any location where the debris is taken for "Transformation" as defined.

Generation - the quantity of debris produced by the Work before the debris is reused and/or recycled.

Green Waste - all vegetative cuttings, shrubs, stumps, logs, brush, tree trimmings, grass, and related materials which have been separated from other solid waste.

Landfill - a solid waste disposal facility that accepts solid waste for land disposal and is operating under a current Solid Waste Facility Permit issued by a local enforcement agency as defined in Section 40130 of the California Public Resources Code and concurred upon by the California Integrated Waste Management Board.

Recyclable - material that still has useful physical or chemical properties after serving its original purpose and that can be reused or re manufactured into additional products.

Recycle or Recycling - the process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste and returning them to the economic mainstream in the form of raw materials for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace, and in a manner acceptable to the Agency. "Recycle" or "Recycling" does not include Transformation.

Recycling Facility - any facility (except a transformation facility) whose principal function is to receive, store, convert, separate, or transfer recyclable materials for processing.

Recycling or Reuse Site - any place other than a recycling facility acceptable to the Agency for recycling and/or reuse of debris.

Reduce - any action which causes a net reduction in the generation and/or disposal of solid waste.

Reuse - the use, in the form as it was produced, and in a manner acceptable to the Agency of material which might otherwise be discarded into a Disposal Facility.

Site Clearance Material - materials such as trees, brush, earth, mixed concrete, rubble, sand, steel, extraneous paper, plastics, and other waste materials generated from site clearance.

Source Separation - the segregation, by the generator, of materials designated for separate collection for materials recovery or special handling.

Transfer Station - a facility utilized to receive solid wastes and to temporarily store, separate, convert, or otherwise process the materials in the solid wastes, and/or to transfer the solid wastes directly from smaller to larger vehicles or railroad trains for transport.

Transformation - incineration, pyrolysis, distillation, gasification, or biological conversion other than composting.

Wood Waste - solid waste consisting of wood pieces or particles which are generated from the manufacturing or production of wood products, harvesting, processing or storage of raw wood materials, or construction or demolition activities.

300-1.6.3 Recycling Summary. The Contractor shall prepare and submit a Recycling Summary report using the form included as Attachment 1 summarizing the disposal, reuse, and/or recycling activities which occurred throughout the Contract duration. This report shall be first faxed to the number shown on the report and also submitted to the Agency within 30 Days after field acceptance of the Work.

Failure of the Contractor to submit the Recycling Summary within the time specified will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For failure to submit the Recycling Summary within the time specified, the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of \$10,000.

Execution of the Contract shall constitute agreement by the Agency and Contractor that \$10,000 is the minimum value of the costs and actual damage caused by the failure of the Contractor to submit the Recycling Summary within the time specified. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor.

300-1.6.4 Payment. Payment for construction and demolition debris recycling shall be considered as included in the Contract Unit Price for the various Bid items. As part of the Recycling Summary report, the Contractor shall fill in the blank after the "Construction Demolition and Debris Recycling Requirements Cost:" This cost shall be the incremental cost of complying with the aforementioned requirements. This cost will be used for information gathering purposes only and not for purposes of payment to the Contractor.

300-1.7 Green Waste Recycling Requirements.

- a) In accordance with Agency efforts to comply with the California Integrated Waste Management Act of 1989 (AB 939), the Contractor shall recycle all tree trimming waste and other green waste, with the exclusion of palm tree waste. In no event shall green waste be disposed of in a landfill and/or transformation (e.g. incineration) facility unless otherwise approved by the Engineer in writing. No separate payment will be made for compliance with green waste recycling and reporting requirements.
- b) The Contractor shall furnish the Engineer with documentation adequate to determine the tonnage/volume of green waste recycled. The documentation shall be either:
 - 1) delivery receipts showing the quantity of green waste delivered for recycling;
 - 2) certified weigh-master tickets showing the weight of green waste delivered for recycling; or
 - 3) the Daily Green Waste Recycling Form included at the end of these Specifications completed by the Contractor.

In the case of (iii), the Contractor shall also submit to the Engineer: (1) a permission letter(s) issued by the landowner and site operator, acceptable to the Engineer, authorizing the Contractor to deliver the green waste to the recycling/delivery site; and (2) proof from the landowner or site operator, acceptable to the Engineer, which shows that the green waste delivered to the site will be recycled or reused in accordance with these Specifications.

Payment for green waste recycling shall be considered as included in the Contract Unit Price for the various Bid items which generate green waste.

300-2 UNCLASSIFIED EXCAVATION.

300-2.1 General. (Page 265 of the SSPWC)

Replace the entire paragraph with the following:

Unclassified excavation shall consist of excavation for access roads, which includes curbs, bike paths, driveways and the removal of existing AC pavement access roads that will be replaced with a new access road. The removal of existing AC pavement that will not be replaced with a new access road will fall under the Bid item "BASIN EXCAVATION". Unclassified excavation **will not include** structure excavation as specified in 300-3, excavation for debris dams and basins as specified in 300-6, and excavation for underground conduit construction as specified in 306.

300-2.8 Measurement. (Page 267 of the SSPWC)

Add the following:

h) Removal of bituminous pavement.

300-2.9 Payment. (Page 267 of the SSPWC)

Add the following:

Payment for unclassified excavation will be made at the Contract Unit Price for "UNCLASSIFIED EXCAVATION."

300-3 STRUCTURE EXCAVATION AND BACKFILL.

300-3.5 Structure and Backfill. (Page 269 of the SSPWC)

300-3.5.1 Requirements.

Replace the first sentence with the following:

Structure backfill material conforming to 217-3 will not be required. Structure excavation material may be placed as structure backfill or the Contractor may import structure backfill material conforming to 217-3.

300-3.6 Payment. (Page 270 of the SSPWC)

Replace the entire subsection with the following:

300-3.6.1 Measurement. Structure excavation *and structure backfill* shall be that volume in-place included within the vertical plane 1 foot outside of and parallel with the outermost horizontal dimensions of the structure and surface of the existing ground, final ground surface, or proposed street grade, whichever is lower, and the footing subgrade.

The volume of structure excavation will be a Final Payment Quantity in accordance with 9-6 of Section G.

Structure backfill will not be measured separately for payment.

300-3.7 Payment.

Payment for structure excavation will be made at the Contract Unit Price for "STRUCTURE EXCAVATION (OUTFALL STRUCTURE FOR EAST SETTLING

BASIN)” and “STRUCTURE EXCAVATION (OUTFALL STRUCTURE FOR WEST SETTLING BASIN)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (OVERFLOW STRUCTURE)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (OUTLET STRUCTURE)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (BASIN DOWN DRAIN)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (ACCESS RAMP)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (INTAKE CANAL)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (WEIR STRUCTURE WEST)” and “STRUCTURE EXCAVATION (WEIR STRUCTURE EAST)” for the structure(s) referenced in the Bid item description.

Payment for structure excavation and any required structure backfill will be made at the Contract Unit Price for “STRUCTURE EXCAVATION (CONCRETE BASIN WEST)” and “STRUCTURE EXCAVATION (CONCRETE BASIN EAST)” for the structure(s) referenced in the Bid item description.

No separate or additional payment will be made for structure backfill. Payment for structure backfill shall be considered as included in the Contract Unit Price for “STRUCTURE EXCAVATION.”

No separate or additional payment will be made for structure backfill if the Contractor elects to import structure backfill material conforming to 217-3.

300-4 UNCLASSIFIED FILL.**300-4.9 Measurement.** (Page 271 of the SSPWC)

Replace the entire subsection with the following:

Unclassified fill will not be measured separately for payment.

300-4.10 Payment. (Page 271 of the SSPWC)

Replace the first sentence of the first paragraph with the following:

There will be no separate payment for any Unclassified Fill. Payment for such fill shall be considered as included in the Contract Unit Price for "UNCLASSIFIED EXCAVATION."

300-6 EARTHWORK FOR DEBRIS DAMS AND BASINS.**300-6.1 General.** (Page 272 of the SSPWC)

Replace the entire subsection with the following:

Earthwork for *Pacoima Spreading Grounds* shall include clearing and grubbing, excavation, fill placement and compaction, grading to the lines, grades, and contours shown on the Plans, and disposal of excess excavated material.

Excavation and disposal of unsuitable material shall be in accordance with 300-2.2 except payment will be made in accordance with 300-6.8.

300-6.2 Clearing and Grubbing. (Page 272 of the SSPWC)

Add the following:

The requirements of 300-1 shall also apply.

300-6.3 Stripping. (Page 273 of the SSPWC)

Replace the entire subsection with the following:

Stripping will not be required

300-6.4 Basin Excavation. (Page 273 of the SSPWC)

Replace the entire subsection with the following:

The limits of basin excavation, including over-excavation, if any, shall be as shown on the Plans.

The fine-grained material removal contour maps are provided on sheets 9 through 12 of the Project Plans. The contours are based on previous subsurface exploration from the reference reports.

During excavation of the basins, conditions may vary from the anticipation conditions shown on the accompanying Plan sheets. The reconstruction of the basins should be based on the considerations reiterated herein and section 300-6.5 and verified in the field during construction.

Removal Depths

- Estimated removal depths and contours are provided on sheets 9 through 12 of the Project Plans. The estimated removals are depth below the currently proposed basin bottom elevations.
- Removal between locations should be performed at an evenly sloped gradient between the recommended removal depths. Final removal depths should be based on actual field conditions encountered during construction. A representative from, or authorized by, the Agency shall be present to verify that the fine-grained material layers are completely removed. Soils that contain greater than 30% fine-grained material, or more than 40% silt and fine-grained material combined, should not be re-used as permeable fill.
- A representative from, or authorized by, the Agency shall also be present to differentiate soil that may be re-used on site as permeable fill from soil that may be re-used for construction of the levees and berms. Permeable fill shall be suitable fill material for locations where the existing fine-grained material layers will be removed in order to allow the basin bottom to be more permeable. Fill that is considered permeable should be end-dumped on the infiltration surface and spread with light-weight, low-pressure equipment. Fill material used for construction of the levees and berms or in support of the levees and berms should be compacted to a minimum 90% relative compaction, per ASTM D1557.

300-6.5 Compacted Fills. (Page 273 of the SSPWC)

Add the following:

Rocks, broken concrete, or other solid materials, which are larger than 6 inches (150 mm) in greatest dimension, shall not be buried or placed in compacted fill.

Fill shall not be placed, spread, or rolled during rain events. When the Work is interrupted due to rain, fill operations shall not resume until the Engineer determines that the moisture content of the fill material is appropriate to result in the specified relative compaction.

Scarification shall extend to a depth of at least 6 inches and the existing ground surface shall be free from ruts, hummocks, or other uneven features, which would inhibit uniform compaction.

Field density tests will be performed by the Agency during compaction operations. Location and frequency of tests will be determined based on field conditions encountered. Field density test locations will be selected to verify relative compaction. Compacted fill placement and compaction operations within the area being tested shall cease until the testing is completed.

Sufficient tests of unclassified fill will be made to determine the relative compaction in accordance with the following minimums:

- a) One test for each 2-foot vertical lift;
- b) One test for each 1,000 cubic yards of material placed;

Where sheepfoot rollers are used, density tests will be taken in compacted material below the disturbed zone. When these tests indicate that the required relative compaction has not been achieved, the affected layer, or portion thereof, shall be re-worked until the required density has been obtained.

300-6.6 Payment. (Page 274 of the SSPWC)

Replace the entire subsection with the following:

300-6.6 Measurement. Excavation and compacted fill will be measured by the cubic yard. Final measurement will be based surveys performed by the Agency prior to the start of the Work and after completion of the Work. The final payment quantity will be the difference in quantity based on these surveys.

300-6.7 Payment.

Payment for excavation and compacted fill will be made at the Contract Unit Price for “BASIN EXCAVATION”.

300-11 STONEMWORK FOR EROSION CONTROL.

300-11.1 General. (Page 277 of the SSPWC)

Add the following:

These Specifications shall apply to stonework on level surfaces as well as on sloped surfaces. The rock class shall be " 500# OR Light (See Plan)" per 200-1.6 of these Special Provisions.

300-11.2 Placing Stone. (Page 278 of the SSPWC)

Replace the first sentence of the first paragraph with the following:

Stone for erosion control on sloped surfaces shall be placed in accordance with the following method:

Add the following as the last paragraph:

On level surfaces, the rock may be placed by dumping, but shall not be spread by means that would cause it to break up and not meet the required gradation. Rock shall be so placed as to provide a minimum of voids without segregation.

300-11.3 Concreted Stone Slope Protection.

300-11.3.1 Concrete. Revise Table 300-11.3.1 to read as follows:

TABLE 300-11.3.1

Rock Class	1000 lb	500 lb	200 lb (Light)	75 lb (Facing)	25 lb (Cobble)
Minimum Concrete Penetration in inches	18	14	10	8	6

300-11.4 Measurement and Payment. (Page 278 of the SSPWC)

Replace the entire subsection with the following:

Stone and stonework for erosion control will be measured and paid for per cubic yard of stonework in place. Full compensation for furnishing and placing concrete shall be considered as included in the Contract Unit Price for

“RIPRAP (LIGHT CLASS)”, or “RIPRAP (QUARTER TON CLASS)”, or “CONCRETED RIPRAP (LIGHT CLASS) FOR BERM”, or “CONCRETED RIPRAP (QUARTER TON CLASS)”, or “REMOVE AND RELOCATE EXISTING RIPRAP PER SH. 12”

300-12 SPREADING BASIN DISPOSAL OF SEDIMENT.

300-12.1 General.

"Sediment" shall mean any materials, mineral or organic, including soil, trash and trees, within the excavation areas, unless otherwise specified.

The excavation, removal, or transportation of sediment by sluicing, dredging, or other hydraulic methods will not be permitted. Vehicles shall only be used to excavate, remove, move sediment from basin to the basin, and stock pile the sediment.

The Contractor shall inspect and assume full responsibility for the safety, adequacy, and capacity of all roads used to handle his equipment.

It is the intent of the Plans that sediment only be removed to the lines and contours shown. The topography of the excavation area is subject to change from spreading operations.

300-12.1.1 Sediment Transportation Plan Details.

The Contractor shall prepare and submit a Sediment Transportation Plan that includes the details, methods and procedures for the excavation, loading, and transportation of the sediment from the spreading grounds to the sediment placement site. Transportation of the sediment shall comply with the haul routes attached at the end of Section EC.

All costs for the preparation and revisions to the Sediment Transportation Plan shall be considered as included in the lump sum Bid price for “SEDIMENT TRANSPORTATION PLAN.”

300-12.3 Excavation.

It is the intent of the Plans that debris only be removed to the lines, grades, contours, and cross sections shown. The topography of the excavation area shown on the Plans is based on a 2011 survey.

Excavation procedures that will increase the natural moisture content of the debris will not be permitted.

Excavation shall be performed in a manner that will insure free drainage of the excavation areas continuously.

300-12.4 Sediment Moisture Content.

The Contractor's attention is directed to the fact that the sediment may be saturated. The Contractor shall dry the sediment to a moisture content not exceeding 15 percent prior to removal.

The Contractor shall consider that drying the excavated material may be necessary to obtain the required moisture content.

If excavation materials are determined to have excessive moisture content, the Contractor may find it necessary to do one or more of the following to attain the required moisture content:

- a) Suitably dry the wet material.
- b) Blend the wet material with dry material, such dry material being from the Project excavation.

300-12.5 Organic Material and Trash.

Organic material such as logs, trees and shrubs, and trash shall be separated from sediment within the basin and transported and disposed at a facility arranged by the contractor. Organic material may be chipped or ground on-site and blended with sediment at a ratio not to exceed 1 part organic material to 20 parts sediment. Fine organic material overlying sediment shall be blended with sediment at the aforementioned ratio. The Agency will perform routine testing of the sediment to determine the percentage of organic material. Should the percentage exceed 5, the Engineer may direct the Contractor to cease disposal operations until such time as the Contractor has taken necessary corrective action to comply with these Special Provisions.

300-12.6 Testing.

The Agency will, on a regular frequency, take samples from vehicles transporting sediment as they wait to be weighed for the purposes of testing for organic material. Testing for organic material content will be performed in accordance with ASTM D2974.

The Contractor shall submit a "Quality Control Program for Moisture Content" in accordance with ASTM D4959-16 Standard Test Method for Determination of Water Content of Soil By Direct Heating. This program shall include the name(s) of personnel responsible for quality control, their qualifications, and specific procedures to be followed. The personnel responsible for quality control shall be certified by Caltrans to perform the testing.

The Agency has determined that the maximum moisture content of the material to be transported and disposed shall be no greater than 15 percent. The Contractor shall provide personnel to perform moisture content tests on material to be excavated, transported and disposed as part of the Quality Control Program. The Contractor shall perform a minimum of 1 moisture content test per hour on material to be excavated, transported and disposed unless otherwise directed by the Engineer. Any necessary re-testing shall be at the Contractor's expense. The Contractor will not be able to transport and dispose sediment off the Work Site until the hourly test has been conducted and the moisture content level of 15 percent or less has been met.

In the event a test reveals the sediment from the Work Site has a moisture content of higher than 15 percent, the Contractor shall not transport excavated sediment off the Work Site. It is the responsibility of the Contractor to prepare and process sediment leaving the site for transportation and disposal to meet the 15 percent moisture content threshold. If material is transported to one of the designated disposal sites and is rejected due to moisture content exceeding 15 percent, the Contractor shall return the sediment to the Work Site to prepare and process the sediment to meet the required moisture content. The Contractor shall not transport material rejected from one site to the alternative site, as it pertains to moisture content.

The Contractor's attention is directed to the fact that the Vulcan site is available for use by others. The Contractor may experience delays at the site while waiting to deposit the sediment. No additional compensation will be provided to the Contractor for such delays.

The Contractor shall keep accurate records of all moisture content tests it performs as part of its Quality Control Program and shall provide a copy of these records to the Engineer at the end of each working day. The Engineer will review these records prior to requesting

Quality Assurance testing to be performed by the Agency. The Contractor shall allow the Agency access to all material being transported to complete its Quality Assurance Testing.

Payment for implementation of a Quality Control Program and performance of organic material and moisture content testing, will be made at the Contract Unit Price per Day for “IMPLEMENTATION OF THE QUALITY CONTROL PROGRAM FOR MOISTURE CONTENT”.

300-12.7 Portable Scales and Weighing.

300-12.7.1 General. The Contractor shall furnish, install and remove upon completion of the Work portable scales for measurement of the amount of debris removed from the reservoir.

Scales shall be calibrated, certified, and sealed after installation and prior to initial use by a State of California Department of Food and Agriculture, Division of Measurement Standards, Registered Service Agency. A listing of registered service agencies is available at the following:

<https://www.cdffa.ca.gov/dms/programs/rsa/rsalistings/rsaListings.html>

300-12.7.2 Weighing Operations. The Contractor shall have at all times a certified weighmaster present who shall oversee weighing operations and be authorized to receive direction from the Engineer.

Each vehicle used to transport debris shall be legibly numbered or lettered with placards. Placards will be designed, printed and distributed by the Agency. Upon receiving the placards, the Contractor shall place them on the driver’s side of the truck ____.

Vehicles shall be weighed empty upon entering the reservoir (tare) and loaded prior to departing the reservoir (gross). The driver may be in the vehicle provided the tare and gross weights are determined in the same manner.

Weight tickets shall be generated using a fully automated, computer-based system.

The Contractor shall ensure that the scales and ticketing system are fully functional during hauling operations.

300-12.8 Sediment Disposal.

Disposal may be accomplished with trucks per 3-12.2.1 of Section EC. Trucks shall not be wider than 8'-6", higher than 14'-0", longer than 65' (40' for single vehicle), nor heavier than 80,000 lbs. The daily limit of excavated material to be delivered to the sediment placement sites shall be per 2-5.4 of Section EC.

300-12.8.1 Sediment Placement Site.

The delineated area of sediment (See plan sheets 9, 10 and 12) shall be disposed of at Sunshine Landfill; All other sediment, unclassified excavation and structural excavation shall be disposed of at Vulcan-CalMat or Sunshine Landfill per 2-5.4 of Section EC. Spreading of sediment in Sunshine Landfill will be performed by Browning-Ferris Industries of California. The Contractor will be directed by the Browning-Ferris representative as to where to deposit the sediment. Processing of the sediment anywhere within Vulcan's or Browning-Ferris's property will not be allowed. Deposition and spreading of material from other sources is strictly prohibited.

Excavated sediment from the spreading basin shall only be disposed at the following locations:

- 1) Sunshine Landfill
14747 San Fernando Road, Sylmar, CA, 91342

Bill Carr -Division Manager
wcarr@republicservices.com
(818) 362-2092

- 2) Vulcan-CalMat
11520 Sheldon St, Sun Valley, CA 91352

Primary:
Jose Pena - Landfill Manager
Mobile: 818-381-3494
penaj@vmcmail.com

Secondary:
J.R. (Jose Fiesta Jr) - Landfill Lead
Mobile: 818-476-6340
fiestaj@vmcmail.com

300-12.9 Measurement.

Excavation, transportation, and disposal of sediment will be measured by the ton of sediment removed from the reservoir having a moisture content of 15 percent or less. The Agency will make no distinction between debris existing within the reservoir at the start of the Work, and any additional debris deposited by the occurrence of storms throughout the duration of the Contract. Sediment having a moisture content greater than 15 percent will not be measured for payment.

Excavation, transportation and disposal of sediment will be measured by the ton of material removed from the spreading grounds.

Separation and disposal of organic material and trash will be measured by the ton of material removed from the reservoir. The Contractor shall submit to the Engineer copies of certified weighmaster tickets generated by the disposal facility for each load delivered as evidence of proper disposal.

The final quantity of sediment removed will be measured by a survey comparison of the Project site prior to construction and again following completion of the Work. The conversion from volume to weight shall be 1 cubic yard = 1.5 tons. The material to be transported and disposed of at the disposal facility will be measured by the ton of sediment delivered to the disposal facility.

300-12.10 Payment.

Payment for each portable scale and ticketing system will be made at the Contract Unit Price for "PORTABLE SCALES" for each portable scale and ticketing system in-place. The Contract Unit Price shall include payment for the purchase/rental, labor, materials, including but not limited to the foundation, operation, maintenance and removal of portable scales and its associated full automated, computer based ticketing system. The Contractor is responsible for maintaining scales and ticketing system. The Contractor will not receive compensation for any material removed and transported from the reservoir without a signed weight ticket from the Engineer. The final payment will be made based on the difference between the survey volume converted to weight and the sum of all prior weight tickets verified by the Engineer.

The Contract Unit Price for "EXCAVATION, TRANSPORTATION AND DISPOSAL OF EXCESS BASIN MATERIAL" shall be considered as full compensation for furnishing all labor, equipment, and materials, and for performing all work necessary for the excavation and removal of excess sediment (not delineated soil) from the spreading grounds, transportation, placement of the sediment at a disposal site, and all other costs not

specifically listed as separate items of work in the Schedule of Prices. Payment will not be made for sediment used for temporary construction purposes, such as, but not limited to, temporary fills for haul roads, until the sediment used for said fills is excavated, disposed of and placed at the disposal site.

The Contract Unit Price for "EXCAVATION, TRANSPORTATION AND DISPOSAL OF DELINEATED SOIL" shall be considered as full compensation for furnishing all labor, equipment, and materials, and for performing all work necessary for the excavation and removal of the sediment delineated on Project Plan sheets 9, 10 and 12 of the Project Plans at a disposal site, and all other costs not specifically listed as separate items of work in the Schedule of Prices.

PART 4 EXISTING IMPROVEMENTS

SECTION 401 - REMOVAL

401-6 MEASUREMENT. (Page 480 of the SSPWC)

Add the following:

Removal of existing improvements will be measured as shown in the Bid.

401-7 PAYMENT.

Payment for the removal of bituminous pavement will be made at the Contract Unit Price for "UNCLASSIFIED EXCAVATION."

Payment for the removal of non-reinforced concrete will be made at the Contract Unit Price for "CONCRETE REMOVAL (NON-REINFORCED)."

Payment for the removal of reinforced concrete will be made at the Contract Unit Price for "CONCRETE REMOVAL (REINFORCED)."

**ATTACHMENT 1
CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING SUMMARY**

Project Information

Check one: Roadway Flood Control Water/Sewer
 Traffic Signal/Street Lighting Bridge/Structure Other _____

Project Name: _____
 Project ID No.: _____
 Project Address/Location: _____
 Thomas Guide Page/Grid No(s): _____
 Resident Engineer/Inspector: _____ Office Engineer: _____

Contractor Information

Company Name: _____
 Company Address: _____
 Report Prepared by _____ Phone Number: _____
Project Duration: From: _____ **To:** _____

Construction Demolition and Debris Recycling Requirements Cost: \$ _____

Type(s) of Debris Generated	Estimated Quantity Generated (tons, c.y. or units)	Reuse/Recycling		Disposal	
		Estimated Quantity (tons, c.y. or units)	Name of Reuse/Recycling Facility/Site	Estimated Quantity (tons, c.y. or units)	Name of Disposal Facility
Asphalt					
Brick					
Concrete					
Green Waste					
Metal (ferrous)					
Metal (non-ferrous)					
Mixed Debris					
Rock					
Soil					
Wood Waste					
Other:					
Other:					
Total					

Notes:

- Other debris types may include, but are not limited to, Ash, Cardboard, Carpeting, Glass, Gravel, Land Clearing Debris, Non-friable Asbestos, Paper, Plastic, Porcelain, Roofing Material, Sand, and Tires. Attach additional sheets if necessary.
- If the debris is taken to a transfer station solely for the purpose of reuse/recycling, then list the transfer station as the reuse/recycling facility/site.
- If the debris is taken to a transfer station solely for the purpose of transfer to a disposal facility, then list the transfer station as the disposal facility.

Please email this completed form to: cnd@dpw.lacounty.gov

• **To: C&D Unit, LACDPW** From: _____

ATTACHMENT 2
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
DAILY GREEN WASTE RECYCLING FORM

(Use form only if weight tickets or delivery receipts are not available)

Project Information

Project Name: _____
Project ID No.: _____
Project Location(s): _____
Thomas Guide Grid: _____
County Engineer or Representative: _____

Contractor Information:

Company Name: _____
Project Supervisor: _____
Driver's Name: _____ Driver's License No. _____
Driver's Signature: _____ Date: _____

Equipment

Type of Vehicle: _____ License No.: _____
Vehicle Loading Volume Capacity: _____ Hauler=s Permit No.: _____

Load

Type of Greenwaste _____
is Load Source Separated or Mixed? _____
Volume (cubic yards) _____ Weight (tons) _____

Recycling/Delivery Site Information

Delivery Date _____ Delivery Time _____
Site Address/Location: _____
Delivery Authorized by: _____ Signature: _____ Date: _____

Additional Comments

Submittals

1. Contractor shall submit this form on a daily on a basis to the Engineer for each load delivered to the recycling/delivery site.
2. Contractor shall provide the Engineer proof of permission letter(s) issued by landowner and site operator and acceptable to the Engineer, authorizing the Contractor to deliver the greenwaste to the recycling/delivery site.
3. Contractor shall provide to the Engineer proof form the landowner or site operator and acceptable to the Engineer, to show that the greenwaste delivered to the recycling/delivery site will be recycled or reused in accordance with the Contract Specifications.

**ATTACHMENT 3
APPROXIMATE EXCAVATION AND HAUL CALCULATIONS**

APPROXIMATE EXCAVATION AND HAUL	BASIN 6
Basin Fill (CY)	475,667
Excavation And Transportation of Material	
Fine Grained Material (TON)	531,581
Excess Material (TON)	2,629
Delineated (TON)	9,444

APPROXIMATE EXCAVATION AND HAUL	BASIN 1 & 2
Basin Fill (CY)	628,692
Excavation And Transportation of Material	
Fine Grained Material (TON)	761,835
Excess Material (TON)	34,324
Delineated (TON)	12,625

APPROXIMATE EXCAVATION AND HAUL	BASIN 4 & 5
Basin Fill (CY)	906,008
Excavation And Transportation of Material	
Fine Grained Material (TON)	565,686
Excess Material (TON)	-93,786
Delineated (TON)	0

APPROXIMATE EXCAVATION AND HAUL	BASIN 3, WEST S.B & EAST S.B.
Basin Fill (CY)	75,585
Excavation And Transportation of Material	
Fine Grained Material (TON)	54,012
Excess Material (TON)	171,898
Delineated (TON)	24,833

Approximate Project Totals:

- Basin Excavation – **2,085,952 CY**
- Excavation, Transportation and Disposal of Excess Basin Material from SH 9-12
(Excess Material + Fine Grained Material) – 2,028,179 TON
 - Compacted Fill required at Intake Canal – 8,716 CY (*1.5) = 13,074 TON
- Total Excavation, Transportation and Disposal of Excess Basin Material – **2,135,590 TON**
- Excavation, Transportation and Disposal of Delineated Soil – **46,902 TON**

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION D - DRAINAGE STRUCTURES AND UNDERGROUND CONDUIT CONSTRUCTION

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.



Prepared By:

Rafael Piamonte

2/23/2021

Date

Reviewed By:

Steven Dickson

2/23/2021

Date

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PART 2 CONSTRUCTION MATERIALS

SECTION 201 - CONCRETE, MORTAR, AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE.

201-1.1 Requirements. (Page 55 of the SSPWC)

201-1.1.1 General.

Add the following as the third paragraph:

High early strength concrete for underground structures shall conform to 201-1.1.7.

201-1.1.4 Concrete Specified by Compressive Strength.

Replace the first paragraph with the following:

The Contractor shall determine the mix proportions of concrete specified by compressive strength shown on the Plans. Unless otherwise specified, the minimum compressive strength of concrete at 28 Days shall be 4000 psi. The proposed concrete mix design and aggregate gradations shall be submitted in accordance with 3-8.4 of Section G. The concrete shall contain not less than 560 pounds of cement per cubic yard. The concrete shall contain an Agency-approved water-reducing admixture. The combined aggregate grading shall be Grading C except for 4000 psi or higher compressive strength concrete to be used for inverts shall be Grading B.

Replace the third paragraph with the following:

The proposed mix design for 4000 psi or higher compressive strength concrete shall be evaluated from field tests of a trial batch conforming to the size of load, materials, proportions, slump, mixing and placing equipment, and procedures to be used in the Work.

The placing of said concrete shall not begin until a trial batch of the mix design to be used has been produced by the Contractor and sampled and tested by the Engineer. The

exact proportions of the materials to be used in the trial batches shall be determined by the Contractor, and sampled and tested by the Engineer.

For each trial batch, the materials (brand and type of cement; admixture; source, size and gradation of aggregate), proportions, procedures, size of load, and slump shall be the same as that to be used in the Work. The trial batch shall be representative of the concrete to be used in the Work. Should the materials or procedures be changed, new trial batches will be required.

The Contractor's attention is directed to the time required to test trial batches. The Contractor shall be responsible for production of trial batches at a sufficiently early date so that the progress of the Work is not delayed.

The trial batch procedure herein may be waived by the Engineer if the Contractor complies with the following:

- a) Test data of prior performance of the proposed mix design is presented by the Contractor as described above and approved by the Engineer. The Contractor may, at its option, utilize any strength data on file with the Agency for this purpose. Submitted data shall include recent 7-Day and 28-Day compressive strength test data for the proposed concrete mix design. In addition, the data shall include the brand name and type of any admixtures used; the type and brand of cement; aggregate source and gradation; mix proportions; procedures; load size; and slump.
- b) A concrete mix design which includes an Agency-approved water-reducing admixture and a minimum of 610 pounds of cement per cubic yard for 4000 psi compressive strength concrete, or 660 pounds of cement per cubic yard for 5000 psi compressive strength concrete.

The Contractor is responsible for submitting mix designs with higher cement contents, as necessary, to meet any cement content requirements.

For both alternates to trial batching, the proposed mix design and aggregate gradation shall be submitted in accordance with 3-8.4 of Section G. In the case of alternate "a)", the compressive strength data shall be submitted at the same time.

201-1.1.5 Tests for Portland Cement Concrete.

Delete the following tests from the first paragraph:

- e) Flexural Strength..... C78

- h) Unit Weight Yield..... C138
- i) Setting of Mortar..... C191 or C266
- k) Drying Shrinkage (with admixture).....California Test 530

Add the following:

The Contractor shall furnish all materials required by ASTM C31, C39-90a, C143-90a, C172-90, C470, C539, C540 and C1064 for sampling and testing fresh concrete including a slump cone, proper scoop, required rod for rodding samples, temperature gauge, concrete cylinder molds with caps, wheel barrow, shovel and a laborer to assist the Engineer.

Add the following subsection:

201-1.1.8 High Early Strength Concrete for Underground Structures. Under paved streets, high early strength concrete shall be used in the construction of all cast-in-place structures in open trenches, except invert slabs, junction structures per Standard Plans 332 and 334, and sewer manholes.

The Contractor shall provide concrete mix designs for all high early strength concrete applications which meet the specified strength requirements. The proposed mix designs and aggregate gradations shall be submitted in accordance with 3-8.4.

High early strength in 3250 psi compressive strength concrete shall be attained by using an Agency-approved water-reducing admixture, or by using a concrete mix which has a minimum of 660 pounds of either Type II Portland cement or Type V Portland cement per cubic yard. Rapid hardening hydraulic cement conforming to 201-1.2.1 may also be used.

The following requirements apply to high early strength in 4000 psi compressive strength concrete:

- a) The concrete shall attain a 7-Day (9-Day where Type V Portland cement is required) strength such that the average of any 3 consecutive compressive strength tests shall be equal to or greater than 4000 psi, and not more than 10 percent of the tests shall be less than 4000 psi. No test shall be less than 85 percent of 4000 psi.
- b) The concrete shall include a minimum of 610 pounds to a maximum of 750 pounds of either Type II Portland cement or Type V Portland cement per cubic yard and an Agency-approved water-reducing admixture.

- c) Prequalification of the mix for high early strength in 4000 psi compressive strength concrete by trial batching will not be required.

201-1.2 Materials. (Page 61 of the SSPWC)

201-1.2.1 Cement.

Add the following:

The Certificate of Compliance shall be sent to the Materials Analysis Unit, Geotechnical and Materials Engineering Division, 4th Floor, Los Angeles County Department of Public Works, 900 South Fremont Avenue, P.O. Box 1460, Alhambra, CA 91802-1460.

201-1.3 Proportioning. (Page 65 of the SSPWC)

201-1.3.3 Concrete Consistency.

Add the following as the last paragraph:

Any concrete specified by compressive strength per 201-1.1.4 having a slump greater than 6 inches will be rejected. If the Engineer determines that a slump greater than 6 inches is required, it shall be accomplished using an Agency-approved high range, water-reducing admixture (ASTM C494, Type F) which shall be submitted to the Engineer for approval.

201-2 REINFORCEMENT FOR CONCRETE

201-2.2 Steel Reinforcement. (Page 69 of the SSPWC)

201-2.2.1 Reinforcing Steel.

Replace the first sentence with the following:

All steel, except longitudinal steel, for design pipe, box conduit, open channels, tunnel lining, transition structures to be constructed per Standard Plans 341, 342, 343, 344, 345 or 346; open channel transition structures, and special structures shall be Grade 60. Longitudinal steel shall be Grade 40. Steel conforming to ASTM A706 shall be used if so noted on the Plans.

201-2.4 Samples for Testing. (Page 69 of the SSPWC)**201-2.4.1 General.**

Add the following:

Unless otherwise specified, certified mill test reports along with a Certificate of Compliance conforming to 4-5 and truck bills of lading are required in lieu of a physical test. The Contractor shall submit the aforementioned documents to the Engineer in accordance with 3-8.4 of Section G. The certified mill test reports shall include the name and location of the mill at which the steel was produced. An additional report shall be furnished to the Engineer prior to installation for each heat or size of reinforcing steel.

SECTION 206 – MISCELLANEOUS METAL ITEMS

Add the following subsection:

206-7 SECURITY GATE AND FENCE.**206.7.1 Protective Coatings.**

All steel, miscellaneous metal and hardware shall be galvanized and conformed to Subsection 210-3 "Galvanizing" of the Standard Specifications. The coating will be inspected and approved by the Engineer. All field welds and cuts shall in accordance with Section 210–3.5.

206-7.2 Galvanized Steel Security Fence.

The galvanized steel picket fence shall be of the dimensions shown in the Plans. The dimensions shall be field verified by the Contractor prior to ordering the materials and fabricating the fence.

Concrete footing, 18-inches by 18-inches by 4 feet-2 inches deep shall be provided.

206-7.3 Galvanized Steel Slide Gate.

The galvanized steel slide gate shall be of the dimensions shown in the Plans. The dimensions shall be field verified by the Contractor prior to ordering the materials and fabricating the slide gates. The Contractor shall submit Shop Drawings per 3-8.3 (typ) for approval.

The leading edge of the slide gate shall have a safety reversing edge installed. The gate is to roll on two machined 4-inch V-groove Power Wheels with sealed bearings, and through one set of machined UHMW guide rollers with sealed bearings.

A concrete ground track base, 36-inches wide by 12-inches deep shall be provided. The groundtrack shall be anchored to the concrete with 5/8" wedge concrete anchors.

The operator for the slide gate shall be the LiftMaster® CSL24U (UL 325), Ramset RAM5500, DoorKing 9200 Series or Agency approved equal. The slide gate operator is to be DC powered with an integrated full time battery backup, a one (1) horse power 24 VDC Brushless DC Motor, built in loop rack, heavy duty frame, two 7 Ah Batteries 12VDC, and 120/230 VAC Single Phase. A backdrive switch shall be integrated to allow the gate to be manually pushed open or closed if there is a loss of AC and battery power. A concrete pad shall be constructed for the gate operator in accordance to its dimension. The concrete pad shall be a minimum of 24 inches thick, with at least 6-inches above the surrounding grade. All slide gate operators shall be enclosed in a vandal-proof steel protection cages. The Contractor shall submit Shop Drawings for review and approval of the Engineer prior to fabrication of the steel cages.

The operator shall include a Radio Receiver and transmitter. Ten (10) single button transmitters shall be provided for each gate.

The safety loop detectors (1) and exit loop detector (1) shall be installed. Installation includes saw cutting, installation of the loops, and patching the saw cut.

206-7.4 Lock-box and Keypad.

A 3200 Knox-Box lock-box, Suprasafe 2HS lock-box or Agency approved equal with room for 4 key electric switches shall be mounted on the goosneck post. A Best Lock 1W7B3-626 or Agency approved equal equivalent (small format interchangeable core) shall be mounted in the aforementioned lock box, allowing for 3 additional key switches for future expansion. The Best Lock key switch shall be operated by the standard A1 Agency key. Removable covers shall be provided for the empty key switches. Additionally, a DoorKing #1506-10 Industrial Strength model Digital Keypad, American Access Systems Advantage DK, Liftmaster MK500GS or Agency approved equal shall be installed on the gooseneck post.

For emergency fire and police personnel entry, a Knox Dual Switch Model 3503 electric override key switches shall be installed on the gooseneck post. The key switches

have shall highly reflective operation detail decal labels, colored red for the Fire Department and colored blue for the Police Department.

Bollard posts for protection of the gooseneck post shall be installed. The bollard posts shall be painted with high visibility yellow. Apply 2 rows of reflectorized tape 4" apart as shown on the Plan.

206-7.5 Electromagnetic Gate Lock.

Electromagnetic gate lock shall be furnished and installed in all gates with automated gate operator. The electromagnetic gate lock shall be MagLock – SDC Gate EMLock Series 1575 or 1576, Liftmaster MG1300, DoorKing Inc. 1216-080 Lock Kit, or Agency approved equal.

206-7.6 Installation.

The existing gates and fences shall be removed and the new security gates and fences shall be installed in the locations shown on the Plans.

The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

The Contractor shall call DIGALERT at 1-800-227-2600 at least two Working Days prior to excavating. The Contractor shall exercise extreme caution during all excavation and trenching operations. Excavations shall be hand exposed to the point of no conflict within the tolerance zone. Damage to any underground pipes or utilities must be repaired by the Contractor at no cost to the County. Any repairs must be inspected by the County prior to being covered.

Digging for fence posts, asphalt and concrete saw cutting, conduit trenching, and other necessary work is the responsibility of the Contractor. Consideration for difficulties at the site while completing the work shall be taken and included in the Bid.

As needed asphalt repair of missing or damaged asphalt will be the responsibility of the Contractor. The base shall be re-compacted (and additional base rock used if needed) and hot mix asphaltic concrete shall be placed and compacted.

Electrical/wiring work are shown on the Plans. The contractor will be responsible for making all electrical connections and testing/verifying all functions for the security gate.

All equipment must be tested and fully operational at completion. County verification will be necessary. The Contractor shall submit the Shop Drawings showing details of manufactured or assembled products proposed for security gate work for the Engineer's approval. The Shop Drawings shall be submitted in accordance with Subsection 2-5.3. The operational and manufacturer's manual of equipment installed shall be provided to the Engineer at the end of the Work.

206-7.7 Payment.

Full compensation for furnishing all necessary materials, tools, equipment, and labor for the installation of the new security fence and swing gate, including all mechanical hardware, connections, footing in 206-7.2 and all other costs involved in the work not specifically covered by other items of work shall be considered as included in the Contract Unit Price in the Bid for "GALVANIZED STEEL PICKET FENCE- 6-FEET HIGH." or "GALVANIZED STEEL DOUBLE SWING GATE-6-GEET HIGH, 16- FEET LONG."

Full compensation for furnishing all necessary materials, tools, equipment, and labor for the installation of the new slide gate, including all mechanical hardware, steel gate frame, steel gate posts, rubber stop, concrete post foundations, and a concrete ground track base in 206-7.3 shall be considered as included in the Contract Unit Price in the Bid for "GALVANIZED STEEL SLIDE GATE- 6-FEET HIGH."

Full compensation for furnishing all necessary materials, tools, equipment, and labor for the lock-boxes, electric override key switches, keypad, bollards, and the concrete foundation, including all electrical and mechanical hardware in 206-7.4 shall be considered as included in the Contract Unit Price in the Bid for "KEYPAD PER DETAIL "K"."

Full compensation for furnishing all necessary materials, tools, equipment, and labor for the installation of automatic gate operator, loop detectors, concrete pad, and steel protection cage including all electrical and mechanical hardware shall be considered as included in the Contract Unit Price in the Bid for "AUTOMATIC SLIDE GATE OPERATOR."

Full compensation for furnishing all necessary materials, tools, equipment, and labor for the installation of electromagnetic gate lock including electrical and mechanical hardware shall be considered as included in the Contract Unit Price in the Bid for "ELECTROMAGNETIC GATE LOCK."

SECTION 207 - GRAVITY PIPE

207-2 REINFORCED CONCRETE PIPE (RCP).

207-2.2 Materials. (Page 142 of the SSPWC)

Add the following to the first paragraph:

- d) Reinforcing steel samples may be required to be tested in accordance with 201-2.4.
- e) Reinforcing steel for reinforced concrete pipe 108 inches and greater in diameter shall be Grade 60 billet steel conforming to ASTM A615.

207-2.4 Reinforcement. (Page 143 of the SSPWC)

207-2.4.2 Location of Reinforcement.

Add the following after the third paragraph:

The required covers and permitted tolerances shown in Table 207-2.4.2 are applicable to wet cast and spun pipe only. The reinforcement for machine made pipe shall be at the location designated by the manufacturer per their standard details which shall be furnished to the Engineer. The actual location shall not vary more than $\pm 3/8$ inch from the designated location; however, in no case shall the cover over the circumferential reinforcement be less than $5/8$ inch. The minimum cover over longitudinal steel shall be as shown in Table 207-2.4.2.

If the joint is of the bell and spigot type similar in shape to that shown on LACDPW Standard Plan 3095, additional reinforcement shall conform to Standard Plan 3095.

Add the following as the last paragraph:

Where single circular reinforcement is used in wet cast or spun pipe, it shall be placed in the center of the wall.

207-2.9 Basis of Acceptance. (Page 147 of the SSPWC)

207-2.9.1 General.

Replace the first paragraph with the following:

The basis of acceptance will be:

The D-load bearing strength test, compliance with the requirements of the Contract Documents, inspection of the pipe during manufacture, and inspection of the completed pipe.

The structural design details, materials, tests, inspection of the pipe during manufacturing, and inspection of the completed pipe.

Add the following as the last paragraph:

In addition to the above, rubber-gasketed pipe shall be subjected to the hydrostatic pressure test specified in 207-2.9.6.

207-2.9.3 Structural Design Basis.

Replace the second paragraph with the following:

Concrete used in reinforced concrete pipe for which structural details are shown on the Plans shall attain the following 28-Day compressive strength:

The average of any 3 consecutive tests shall be equal to or greater than 4500 psi, and not more than 10 percent of the tests shall be less than 4500 psi. No test shall be less than 85 percent of 4500 psi.

A strength test shall consist of the average strength of 2 test cylinders molded from material taken from a single batch of concrete. The cylinders shall be cured in the same manner as the pipe for the entire 28 Days, including removal from the cylinder molds when the pipe is stripped.

Add the following:

207-2.9.6 Hydrostatic Pressure Test. The pipe to be tested will be selected in accordance with 207-2.9.2.

The pipe and joint shall be tested concurrently by attaching 2 pipes together or a pipe and a standard joint section together. At the Contractor's option, the test section may be filled with water and placed under a hydrostatic pressure of 10 psi for a 24-hour period prior to the tests. The hydrostatic pressure in the test section shall be gradually increased until it reaches 13 psi.

The test section shall not show measurable leakage when kept under the test pressure for 20 minutes. Damp spots or water condensing on the surface of the pipe shall not be considered as leakage nor cause for rejection. The joint shall show no leakage at the test pressure.

If the test pipe passes the test, the lot will be accepted.

If the test pipe fails the hydrostatic test, 2 additional pipes from the same lot will be selected for testing. If both pipes pass the test, the lot, except for the first test pipe, will be accepted. If either of the 2 additional pipes fails the test, the lot will be rejected. The Contractor may elect to individually test each pipe in a rejected lot for acceptance.

Repair of leaks in rejected test pipe may be made if so approved by the Engineer. The repaired pipe shall be retested.

SECTION 217 - BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL.

217-1.1 General. (Page 262 of the SSPWC)

Add the following:

For the proposed water main and appurtenances on Sheets 62 to 66 of the Plans, the trench/project excavation material is not suitable for use as bedding. Unless otherwise specified, bedding material shall be sand conforming to 200-1.5 except the minimum sand equivalent shall be 30.

If the Contractor elects or is required by the Special Provisions to import material from a source outside the Project limit for use as bedding, representative samples of imported material for use as bedding must be approved by the Engineer.

For all other proposed conduit in the Plans, the material obtained from the open trench excavations *can be used* as bedding material subject to the provisions specified herein,

and provided that all organic material, rubbish, debris, and other objectionable materials are first removed.

Trench excavation material permitted for use as bedding shall conform to LACDPW Standard Plan 3080-3, provided rocks, Portland cement concrete and asphalt concrete chunks larger than 1 inch are first removed. Bedding material for reinforced concrete mainline and lateral pipe installed as shown on Case 3 of LACDPW, Standard Plan 3080-3, shall conform to Note (d). Note (d) does not apply to connector pipe.

217-2 TRENCH BACKFILL.

217-2.1 General. (Page 262 of the SSPWC)

Add the following:

The material obtained from the open trench excavations *can be used* as trench backfill, subject to the provisions specified herein, and provided that all organic material, rubbish, debris, and other objectionable materials are first removed.

217-2.2 Imported Backfill. (Page 263 of the SSPWC)

Add the following:

If imported backfill is required or if the Contractor elects to import material from a source outside the Project limits for use as backfill, said material shall be clean soil, free from organic material, trash, debris, rubbish, broken Portland cement concrete, bituminous pavement, or other objectionable substances, and shall have a minimum sand equivalent of 20.

The Contractor shall inform the Engineer of the actual street address or location from which the intended material will be furnished not less than 15 Days prior to its proposed use. The Agency will perform testing as deemed appropriate by the Engineer.

SECTION 218 - IMPORTED FILL MATERIAL

218-1 GENERAL. The Contractor shall implement the following sampling and analysis requirements prior to importing fill material (imported borrow, structure backfill, and imported backfill) to the Project site.

218-2 SAMPLING FREQUENCY AND LOCATION. The Contractor shall collect discrete soil samples that are representative of the material to be imported. The

Contractor shall establish a grid system over the potential borrow site or stockpile. The Contractor shall collect and analyze one soil sample from each grid. The grid and soil sampling frequency shall be as follows:

TABLE 218-2

Volume of Soil	Number of Grids/Samples
1 to 20 cubic yards	1 sample
21 to 500 cubic yards	1 sample every 50 cubic yards
501 to 1,000 cubic yards	1 sample every 100 cubic yards
>1,000 cubic yards	1 sample every 200 cubic yards

All sampling shall be conducted by qualified personnel under strict chain-of-custody procedures, and analyzed by a State of California Environmental Laboratory Accreditation Program (ELAP)-certified laboratory in accordance with the testing procedures specified in 40 CFR 136.

218-3 SOIL SAMPLE ANALYSIS. Soil sample analysis, containers, preservation methods, and holding times for soil samples shall be in accordance with test procedures provided by 40 CFR 136 and EPA Publication SW-846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” Third Edition, November 1986.

Soil samples shall be transported, under strict chain-of-custody procedures, to an ELAP-certified analytical laboratory within 24 hours of collection. The soil samples shall be analyzed for the following constituents:

TABLE 218-3

Constituent	EPA Method
Total Recoverable Petroleum Hydrocarbons (TRPH)	EPA Test Method 418.1
Total Petroleum Hydrocarbons (TPH-G) -Gasoline Range C4-C12	Modified EPA Test Method 8015
Total Petroleum Hydrocarbons (TPH-D) -Diesel Range C10-C24	Modified EPA Test Method 8015
Volatile Organic Compounds (VOCs)	EPA Test Method 8260
CCR Title 22 Metals (TTLC)	EPA Method 6010
Simulated Distillation – Hydrocarbon Distribution. Hydrocarbon Chain	EPA Test Method 3550

If the Contractor is aware of other potential contaminants, or the borrow site or stockpile history may indicate other potential contaminants not listed above, the Contractor shall analyze all samples for all other potential contaminants.

Based on the results of the tests, the Engineer may require additional or supplemental soil samples be collected and tested in order to determine whether the proposed imported fill material is acceptable.

218-4 QUALITY CONTROL. One duplicate soil sample shall be collected and analyzed for every ten-soil samples collected and analyzed. If less than ten samples are collected, a minimum of one duplicate sample is required. Duplicate samples shall be collected in separate containers and located immediately adjacent to the original sample location(s).

Any soil samples having a dilution factor of greater than one will be rejected by the Engineer. The Agency reserves the right to approve and observe all sampling, loading, and transportation of soil proposed to be imported.

218-5 REPORTING AND DOCUMENTATION. Prior to the acceptance of the imported fill material, the Contractor shall submit to the Engineer a summary report of all analytical data from soil sampling activities conducted on the proposed fill material. The report shall include a table summarizing all analytical data and observations, a sketch drawing or diagram of the borrow/stockpile site and sample locations, general soil conditions or classification, description of the borrow/stockpile site, signed laboratory analytical data sheets, signed laboratory analytical QA/QC data sheets, signed/completed chain-of-custody forms, field logbook, and all other pertinent information.

The Contractor shall maintain a bound sample documentation logbook. The logbooks will be used for documenting data collection and work activities. Entries shall be made in ink and shall include sufficient detail to reconstruct site activities without reliance on memory. All samples collected shall be recorded in the logbook.

218-6 APPROVAL. The Engineer will evaluate the data submitted in this report and determine if the proposed material may be imported and used on the Project. The Contractor shall not import any soil on to the Project site until the Agency has reviewed the summary report and written approval has been received from the Engineer.

218-7 PAYMENT. Payment for sampling and analysis of imported fill material shall be considered as included in the Contract Unit Price for the Bid item(s) for imported fill material.

PART 3 CONSTRUCTION METHODS

SECTION 301 - TREATED SOIL, SUBGRADE PREPARATION, AND PLACEMENT OF BASE MATERIALS

301-2 UNTREATED BASE.

301-2.4 Measurement and Payment. (Page 281 of the SSPWC)

Add the following:

Payment for crushed miscellaneous base will be made at the Contract Unit Price for "CRUSHED MISCELLANEOUS BASE."

SECTION 302 - ROADWAY SURFACING

302-5 ASPHALT CONCRETE PAVEMENT.

302-5.1 General. (Page 316 of the SSPWC)

Add the following:

AC pavement for temporary patchback shall be D2-PG 64-10.

302-5.5 Distribution and Spreading. (Page 316 of the SSPWC)

Replace the fourth paragraph with the following:

Asphalt concrete shall not be placed until the atmospheric temperature is a minimum of 55°F and rising, and the surface temperature of the underlying material is a minimum of 55°F. Asphalt concrete shall also not be placed during unsuitable weather.

302-5.9 Measurement and Payment. (Page 320 of the SSPWC)

Add the following:

Payment for the adjustment of survey monument lids shall be considered as included in the Bid item(s) for asphalt concrete pavement.

302-5.10 Asphalt Concrete Curb.

302-5.10.1 General. Asphalt concrete curb shall be constructed of D2-PG 70-10 asphalt concrete conforming to 203-6, and shall be placed on new or existing asphalt concrete or Portland cement concrete pavement. The dimensions and configuration shall be as shown on the Plans or Standard Plans.

302-5.10.2 Tack Coat. A tack coat conforming to 302-5.4 shall be applied to the existing pavement prior to placing the curb.

302-5.10 Asphalt Concrete Curb.

302-5.10.3 Measurement and Payment. Asphalt concrete curb will be measured by the linear foot. Payment for asphalt concrete curb will be made at the Contract Unit Price and shall include payment for tack coat.

302-5.11 Temporary Access Road.**302-5.11.1 General.**

The Contractor shall install a temporary access road and temporary access ramp along the central levee at the project site per SH 1 of PLAN TM. which will be used by all vehicles and equipment required for the excavation, transport and disposal of sediment.

302-5.11.2 Tack Coat. A tack coat conforming to 302-5.4 shall be applied to the existing pavement prior to placing the temporary access road.

302-5.11.3 Performance Criteria.

The temporary access road shall preform in order to prevent loose soil and sediment from traveling in the air and shall be designed per the Plans. Please see Special Provisions Section D, 302-5 "ASPHALT CONCRETE PAVEMENT" for material specifications.

If during the progress of the Work, the Agency determines that segments of the temporary access road and ramp are inadequate, the Contractor shall apply AC pavement for temporary patch back in the required locations.

The temporary access road and ramp shall be removed once all hauling operations are complete and prior to construction of the AC pavement access as shown on SH 9-12 of the Plans.

302-5.11.4 Payment.

Costs for the installation and material of the temporary access road and ramp and all other related incidental costs will be made at the Contract Unit Price in the Bid for “AC PAVEMENT (TEMPORARY ACCESS ROAD AND RAMP)”.

Costs for maintenance of the temporary access road and ramp all other related incidental costs will be made at the Contract Unit Price in the Bid for “AC PAVEMENT (TEMPORARY ACCESS ROAD MAINTENANCE)”.

Costs for removal of the temporary access road and ramp will be under the Contract Unit Price in the Bid for “UNCLASSIFIED EXCAVATION”

SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION**303-1 CONCRETE STRUCTURES.**

303-1.5 Removal of Forms for Cast-In-Place Reinforced Concrete Box (CIPRCB) Sections. (Page 336 of the SSPWC)

Add the following subsection:

303-1.5.1 General. The Contractor shall furnish all equipment, material, supplies and labor for performing field tests which will be used as a basis of determining when forms may be removed or stripped. Forms shall not be removed until approval therefor has been given by the Engineer.

The Contractor shall be responsible for determining when concrete placed in the forms has attained the compressive strength specified for form removal by means of tests on specimens made from the concrete placed in the forms. The Contractor shall make such number of 6-inch diameter by 12-inch high cylindrical test specimens as may be required to determine whether the specified strength has been attained; however, the number of specimens shall be such as to allow a minimum of 3 specimens to be tested at any one age. The equipment, materials and supplies to be furnished shall include, but not be limited to, molds, tamping rods, sulfur capping compound, capping compound warmer, a capping device and a compression testing machine.

The specimens shall be made in the presence of the Engineer, during every concrete pour for which stripping strengths are required, by taking representative samples of fresh concrete, directly from the mixer, and placing such concrete into suitable molds where it

shall be rodded into place. The specimens shall be made in accordance with ASTM C31. Specimens shall be made and stored on a casting board made of 5/8-inch plywood measuring 21 inches x 21 inches.

The specimens shall be covered by a box fabricated of 1/2-inch plywood measuring 21 inches x 21 inches x 15 1/2 inches high, outside dimensions. During the period of November 1 to May 31, inclusive, said casting board and box shall be insulated with an inside covering of 1/2-inch thick styrofoam or Agency-approved equal. No insulation shall be used during the period of June 1 to October 31, inclusive. The use of plastic sheets, light bulbs or other heating devices, inside or outside of the box, will not be permitted. Not more than 3 specimens shall be stored within the box at any one time.

The box and board containing the 3 specimens shall be stored near the point of sampling, either on hardened concrete adjacent to the freshly placed concrete, or on the ground surface adjacent to the freshly placed concrete.

At an appropriate time, prior to loading, the specimens shall be removed from the box and moved to the location where the capping equipment and compression testing machine are kept; however, under no circumstances shall specimens be stored in the box for a period greater than 24 hours. At the aforementioned location, the specimens shall be removed from the molds and capped with a sulfur capping compound in accordance with the methods of ASTM C31. After the caps have hardened, the specimens shall be loaded to failure in a compression testing machine, in the presence of the Engineer, in accordance with ASTM C39. The compressive strength of each specimen shall be calculated by dividing the maximum load carried by the specimen during the test by the average cross sectional area, and the result expressed to the nearest 10 psi. The compressive strength of the concrete represented by the specimens shall be taken as the average compressive strength of 3 specimens tested at the same age except that if one specimen in a test shows manifest evidence of improper sampling, molding or testing, it shall be discarded and the remaining 2 strengths averaged. Should more than one specimen representing a given test show definite defects due to improper sampling, molding or testing, the entire test shall be discarded.

In the event specimens are to be tested at ages greater than 24 hours, the specimens shall be taken from the box at an age of 24 hours, removed from the molds when the forms are stripped, and stored at the location where the capping equipment and compression testing machine are kept, where they shall receive, insofar as is practicable, the same exposure and/or protection from the elements as the portions of the structure which they represent, until the time of testing.

The equipment, materials and supplies to be furnished by the Contractor shall conform to the following requirements:

- a) **Molds.** Molds for compression test specimens shall be 6 inches inside diameter by 12 inches high, made of nonabsorbent material, watertight and shall conform to the requirements of ASTM C470.
- b) **Tamping Rod.** Tamping rods shall be round, straight steel rods, 7/8 inch in diameter and 24 inches long, having one end rounded to a hemispherical tip of the same diameter.
- c) **Sulfur Capping Compound.** Capping compound shall be plasticized, contain at least 55 percent refined sulfur and not more than 45 percent graded silica aggregate, and shall be free of sodium chloride or other water soluble salts, clay, shale, brick, dust, iron filings or similar fillers. It shall have an absorption of less than 0.5 percent by weight, a compressive strength of not less than 5,000 psi, and a melting point between 265°F and 290°F.
- d) **Capping Compound Warmer.** The capping compound warmer shall be capable of melting the capping compound and maintaining a temperature between 265°F and 290°F. The capacity of the warmer shall be sufficient to allow at least 3 specimens to be capped on both ends from one filling of the warmer with capping compound.
- e) **Capping Device.** The capping device shall be suitable for use with the capping compound. It may hold the cylindrical specimens in either the vertical or horizontal position, and allow both ends of the specimen to be capped simultaneously, or each end may be capped individually. The device shall produce thin caps with plane end surfaces at right angles to the axis of the specimen.
- f) **Compression Testing Machine.** The compression testing machine shall contain a hydraulic loading unit with a capacity of not less than 200,000 pounds. The loads may be developed by means of a hand-operated pump or a motor driven pump. The machine shall be capable of loading specimens at the rate specified in ASTM C39.

The machine shall accommodate 6-inch by 12-inch cylindrical specimens between the upper and lower steel bearing blocks. The upper block shall be spherically seated, adjustable for specimen height, not less than 6.18 inches in diameter, and have a hardened bearing face. The lower block shall be removable, have a hardened bearing face, and be not less than 6.18 inches in diameter.

The testing machine shall have a hydraulic pressure gauge reading directly in pounds of load applied to the specimen. The capacity of the gauge shall not exceed 200,000 pounds. The gauge shall be not less than 8 inches in diameter, be equipped with a maximum load pointer, and contain a quick coupler which will prevent leakage of hydraulic fluid from the system whenever the gauge is removed.

The testing machine shall be accurate to within one percent of the indicated load and shall be calibrated at intervals not to exceed 6 months by an agency approved by the Engineer.

The completed specimens may be tested by a certified testing laboratory; however, forms shall not be stripped until the Engineer has been furnished with the results of the tests and until approval has been given by the Engineer to remove the forms.

In the event that the compressive strength as determined from the cylinder tests is less than that required for form removal, and the Contractor does not have sufficient specimens to perform additional tests, then the Contractor shall wait 4 hours for each 100 psi that the compressive strength is below that required before removing the top slab forms.

303-1.7 Placing Reinforcement. (Page 336 of the SSPWC)

303-1.7.1 General.

Delete the first paragraph.

303-1.8 Placing Concrete. (Page 338 of the SSPWC)

303-1.8.2 Grouting.

Delete the entire subsection.

303-1.8.4 Consolidating.

Replace the first sentence of the third paragraph with the following:

The number of vibrators employed shall be of sufficient size to consolidate the concrete being placed within 15 minutes after it has been placed into the forms.

303-1.12 Payment. (Page 345 of the SSPWC)

Add the following before the first paragraph:

303-1.12.1 General.

Replace the fifth, sixth, and seventh paragraphs with the following:

No separate or additional payment will be made for reinforcing steel. Payment shall be considered as included in the Contract Unit Price for the structure.

Add the following:

Should the Contractor request and obtain permission to use admixtures for its own benefit, the Contractor shall furnish such admixtures and incorporate them in the concrete mixture at its own expense and no additional payment will be made therefor.

Should the Engineer direct the Contractor to incorporate any admixtures in the concrete mixture when their use is not required by the Specifications, furnishing the admixtures and incorporating them in the concrete mixture will be paid for as Extra Work.

Payment for modifying structures to be constructed per Standard Plans in accordance with the notes and/or details of the modifications shown on the Plans shall be considered as included in the Contract Unit Prices for the various structure items to be constructed per Standard Plans.

Add the following subsections:

303-1.12.2 Payment for Reinforced Concrete Box (RCB) Conduit.

The Contract Unit Price in the bid for “8’ – 6” W X 3’ – 0” H DBL RCB” and “ 8’ – 0” W X 4’ – 0” H RCB” shall include

- a) all clearing;
- b) removal of interfering existing improvements (excluding utilities, except those abandoned in place);
- c) structure excavation;
- d) temporary supports for existing facilities crossing over the box;

- e) formwork;
- f) joining to existing structures; furnishing and placing of all materials;
- g) structure backfill;
- h) grading;
- i) disposal of excess excavated and removed materials;
- j) temporary resurfacing;
- k) and all other costs involved in the work not specifically covered by other Bid items of work.

Payment for construction of windows for box conduits shall be considered as included in the Contract Unit Price for the applicable RCB item. For purposes of payment, no additions or deductions in RCB quantities will be made for windows.

Measurement for payment will be to the nearest foot measured in the plane of the invert.

303-1.12.3 Payment for Reinforced Concrete Outlet Structures for West/East Settling Basin.

The Contract Unit Price in the Bid for "REINFORCED CONCRETE OUTLET STRUCTURE FOR WEST SETTLING BASIN" AND "REINFORCED CONCRETE OUTLET STRUCTURE FOR EAST SETTLING BASIN" shall include all costs involved for

- a) Formwork;
- b) furnishing and placing of all materials;
- c) structural concrete;

- d) reinforcing steel;
- e) metal hand railing;
- f) backfill;
- g) compacting;
- h) removal and disposal of existing interfering improvements;
- i) removal and disposal of excess excavated materials;
- j) and all other costs involved in this work not specifically covered by other items of the Work per sheet 35 of the Project Plans.

303-1.12.4 Payment for Reinforced Concrete Overflow Structures.

The Contract Unit Prices in the Bid for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 1", for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 2", for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 3", for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 4", for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 5", for "REINFORCED CONCRETE OVERFLOW STRUCTURE NO. 6", for "REINFORCED CONCRETE OVERFLOW STRUCTURE WEST SETTLING BASIN", and for "REINFORCED CONCRETE OVERFLOW STRUCTURE EAST SETTLING BASIN" shall include all costs involved for constructing each corresponding structure in place including

- a) the reinforced concrete overflow structure;
- b) 5' wide 4" AC on 6" CMB approach;
- c) reinforced concrete stairway where required;
- d) 4' and 6' high reinforced concrete retaining walls;

- e) 5' high chain link fence with gates;
- f) structural steel;
- g) 36" RCP, 1250D
- h) metal hand railing;
- i) steel grating;
- j) steel connections;
- k) reinforcing steel;
- l) steel steps;
- m) formwork;
- n) furnishing and placing of all materials;
- o) compacting;
- p) removal and disposal of excess excavated materials;
- q) stockpiling;
- r) backfill with 450-C-2000 concrete
- s) costs involving the reinforced concrete inlet structure(s) "I" per details sheet 33
- t) and all other costs involved in this work not specifically covered by other Bid items of the Work per sheets 8, 30 to 33, and 40 of the Project Plans.

303-1.12.5 Payment for Reinforced Concrete Weirs West/East

The Contract Unit Price in the Bid for "REINFORCED CONCRETE WEIR STRUCTURE WEST" AND "REINFORCED CONCRETE WEIR STRUCTURE EAST" shall include all costs involved for

- a) Formwork;
- b) furnishing and placing of all materials;
- c) structural concrete;
- d) reinforcing steel;
- e) backfill;
- f) compacting;
- g) removal and disposal of existing interfering improvements;
- h) removal and disposal of excess excavated materials;
- i) and all other costs involved in this work not specifically covered by other items of the Work per sheet 20 of the Project Plans.

303-1.12.6 Payment for Reinforced Concrete Basins West/East

The Contract Unit Price in the Bid for "REINFORCED CONCRETE BASIN WEST" AND "REINFORCED CONCRETE BASIN EAST" shall include all costs involved for

- a) Formwork;
- b) furnishing and placing of all materials;
- c) structural concrete;
- d) reinforcing steel;
- e) backfill;

- f) steel steps;
- g) compacting;
- h) removal and disposal of existing interfering improvements;
- i) removal and disposal of excess excavated materials;
- j) and all other costs involved in this work not specifically covered by other items of the Work per sheet 20 of the Project Plans.

303-1.12.7 Payment for Reinforced Concrete Intake Canal.

The Contract Unit Price in the Bid for "REINFORCED CONCRETE INTAKE CANAL" shall include all costs involved for

- a) Formwork;
- b) joining to existing structures
- c) furnishing and placing of all materials;
- d) structural concrete;
- e) reinforcing steel;
- f) drill and bond dowels
- g) backfill;
- h) steel steps;
- i) compacting;
- j) removal and disposal of existing interfering improvements;

- k) removal and disposal of excess excavated materials;
- l) and all other costs involved in this work not specifically covered by other items of the Work per sheet 17 of the Project Plans.

303-1.12.8 Payment for Reinforced Concrete Access Ramp.

The Contract Unit Price in the Bid for "REINFORCED CONCRETE ACCESS RAMP" shall include all costs involved for

- a) Formwork;
- b) furnishing and placing of all materials;
- c) structural concrete;
- d) reinforcing steel;
- e) backfill;
- f) steel steps;
- g) compacting;
- h) removal and disposal of existing interfering improvements;
- i) removal and disposal of excess excavated materials;
- j) and all other costs involved in this work not specifically covered by other items of the Work per sheet 19 of the Project Plans.

303-1.12.9 Payment for Reinforced Concrete Outlet Structure.

The Contract Unit Price in the Bid for "REINFORCED CONCRETE OUTLET STRUCTURE" shall include all costs involved for constructing the outlet structure in place including

- a) the concrete energy dissipator blocks;
- b) concrete end sill;
- c) reinforcing steel;
- d) metal hand railing;
- e) formwork;
- f) furnishing and placing of all materials;
- g) backfill;
- h) compacting;
- i) removal and disposal of excess excavated materials;
- j) and all other costs involved in this work not specifically covered by other items of the Work per sheet 34 of the Project Plans.

303-1.12.10 Payment for Basin Down Drain.

The Contract Unit Price in the Bid for "BASIN DOWN DRAIN" shall include all costs involved for constructing the drain in place including

- a) the concreted riprap (light class);
- b) grading formwork;
- c) furnishing and placing of all materials;
- d) backfill;
- e) compacting;
- f) removal and disposal of excess excavated materials;

- g) and all other costs involved in this work not specifically covered by other items of the Work per Sheet 39 of the Project Plans.

303-1.12.11 Payment for Concrete Down Drain Inlet.

The Contract Unit Price in the Bid for “CONCRETE DOWN DRAIN INLET” shall include all costs involved for constructing the down drain inlet in place including

- a) the mountable curb and gutter;
- b) formwork;
- c) furnishing and placing of all materials;
- d) backfill;
- e) compacting;
- f) removal and disposal of excess excavated materials;
- g) and all other costs involved in this work not specifically covered by other items of the Work per sheet 39 of the Project Plans.

303-1.12.12 Payment for Gauge Board.

The Contract Unit Price in the Bid for “GAUGE BOARD” shall include all costs involved for the furnishing and placing of all materials including the concrete footing, galvanized steel pipes and fittings, excavation, removal and disposal of excess excavated materials, and all other costs involved in this work not specifically covered by other items of the Work per sheets 5 and 41 of the Project Plans.

303-2 AIR PLACED CONCRETE.**303-2.4 Tests.** (Page 347 of the SSPWC)

Replace the third sentence of the fifth paragraph with the following:

All of the core test specimens shall be obtained at 14 Days, with one tested at 16 Days. The tests shall be conducted in the presence of the Engineer. A final report shall be submitted to the Engineer within one week of completion of the tests.

Replace the sixth paragraph with the following:

The minimum strength of test specimens shall be:

16-Day (cores).....	2,500 psi
28-Day (cores).....	3,250 psi

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.

303-5.1 Requirements. (Page 357 of the SSPWC)

303-5.1.1 General.

Add the following:

To facilitate access to properties, the Contractor may be directed to include admixtures or additional cement in the concrete mix for driveway aprons.

303-5.3 Placing Concrete. (Page 359 of the SSPWC)

Add the following:

Concrete for walk, driveways, and access ramps (curb ramps) shall not be placed monolithically with curbs, integral curbs and gutters or gutters. Concrete for such shall not be placed until a minimum of 4 hours after concrete for the adjoining curb or gutter has been placed.

Add the following after the second paragraph:

At locations where new sidewalk will join a wall, the sidewalk shall be placed in two separate pours. The first pour shall include the portion of the walk from the back of the curb to approximately 6 inches off the face of the wall or as directed by the Engineer. The second pour shall be between the wall and the edge of the walk previously placed. Full compensation for complying with these requirements shall be considered as included in the Contract Unit Prices for the various items of work.

303-5.5 Finishing.**303-5.5.3 Walk.** Replace the second paragraph with the following:

After concrete has been deposited in place, it shall be thoroughly tamped in such a manner that coarse aggregate will be forced down and a layer of free mortar approximately 1/4-inch-thick covers the surface. The concrete shall be screeded to the required grade and floated to a smooth, flat, uniform surface. Immediately after the initial set has taken place, the surface shall be broom-finished. Broom-finishing shall be accomplished by a fine-hair broom and shall be performed perpendicular to the centerline of the adjacent roadway as directed by the Engineer.

303-5.8 Backfilling and Clean-Up. (Page 361 of the SSPWC)*Add the following:*

All parkway areas which will not be covered with new walk, driveways, or curb ramps shall be backfilled with clean native soil as directed by the Engineer. Such material will not be considered as Selected Material.

303-5.9 Measurement and Payment. (Page 361 of the SSPWC)*Add the following:*

Payment for the placement and removal of forms (including excavation), backfilling, grading, shaping, preparation of subgrade, root pruning not requiring the use of root control barriers, and other incidental costs connected with the construction of walk and driveway shall be considered as included in the Contract Unit Price for “PCC Walk, 4” Thick” and “Driveway Per Std Plan S-440-4”, respectively.

SECTION 304 - METAL FABRICATION AND CONSTRUCTION**304-3 CHAIN LINK FENCE.** (Page 376 of the SSPWC)**304-3.4 Measurement and Payment.***Replace the second paragraph with the following:*

Full compensation for clearing the line of the fence or walk gates and disposing of the resulting material, excavating high points in the existing ground between posts, excavating and furnishing and placing concrete footings, connecting new fences to structures and existing fence as shown on Plans and any other related work shall be

considered as included in the Contract Unit Price, "Chain Link Fence, 5' High (Intake Canal)" per linear foot (lf) of fence and "5' High Walk Gate" per gate (ea) and no additional compensation will be made therefore.

Add the following subsections:

304-5 EXPANDED METAL CAGE ENCLOSURE.

304-5.1 General. The expanded metal cage enclosure shall consist of woven-wire complete partitions with roof, as manufactured by McMaster-Carr, Direct Metals or Agency approved equal. Dimensions shall be as indicated on the Plans. All exposed metal and fasteners shall be galvanized per 210-3.

304-5.2 Installation.

Deliver, store, and handle hollow metal work per manufacture's recommendations.

Exercise care in setting frame to maintain scheduled dimensions. Hold head level and maintain jambs plumb and square. Where possible, leave frame spreader bars intact until frames are set perfectly square and plumb.

Install hardware in accordance with manufacturer's templates and instructions. Adjust operable parts for correct function.

All hockey puck locks shall be furnished and installed in all expanded metal enclosures. The hockey puck lock shall be Paclock KT2173/810, Toledo TBK64S, Master Lock M736XKAD or Agency approved equal.

304-5.3 Payment.

The Contract Unit Prices in the Bid for "EXPANDED METAL CAGE ENCLOSURE FOR REINFORCED CONCRETE OVERFLOW STRUCTURE", "EXPANDED METAL CAGE ENCLOSURE FOR WEIR", and "EXPANDED METAL CAGE ENCLOSURE FOR LOW FLOW AND CONCRETE LINED BASINS" shall be considered full compensation for furnishing all labor, materials, and equipment required to install the cages, including all hockey puck locks, connections to the structures as shown on the Plans; and all other costs involved not specifically covered by other items of the Work per sheet 23, 24 and 40 of Project Plans.

SECTION 306 - OPEN TRENCH CONDUIT CONSTRUCTION**306-3 TRENCH EXCAVATION.****306-3.2 Removal of Surface Improvements.** (Page 389 of the SSPWC)

Add the following:

Sewer lines and water lines shall be jacked or tunneled under all concrete curbs, gutters, cross gutters, driveways and sidewalks, or upon approval of the Engineer, such surface improvements may be removed and replaced in accordance with the appropriate Standard Plans and 400-1 unless otherwise specified.

306-3.3 Removal and Abandonment of Existing Conduits and Structures.
(Page 389 of the SSPWC)

Add the following after the last paragraph:

All salvageable storm drain manhole frames and covers and other metal appurtenances shall be delivered by the Contractor at its own expense to one of the following Flood Maintenance Division yards:

5525 E. Imperial Highway, South Gate, California 90280,
(310) 861-0316

10179 Glenoaks Blvd, Sun Valley, California 91352,
(818) 896-0594

160 E. Longden Drive, Irwindale, California 91706,
(626) 445-7630

2986 New York Dr., Pasadena, California 91107,
(626) 798-6761

5520 W. 83rd St., Los Angeles, California 90045,
(323) 776-7610

306-3.5 Maximum Length of Open Trench. (Page 391 of the SSPWC)

Replace the entire subsection with the following:

Open trench, as referred to herein, shall be defined as all trench excavations which have not been completely backfilled (including attaining required relative compaction) as required elsewhere in these Specifications and in which neither temporary nor permanent resurfacing has been placed.

For purposes of this subsection, pavement breaking in advance of trench excavation is considered a part of the trench excavation and, as such, is a part of the open trench.

- a) Case 1, Prefabricated Pipe:** The maximum length of open trench along any one heading shall not exceed the following:

Depth of Cover in Feet	Maximum Allowable Trench Length in Multiples of Length of Pipe Actually Placed in a Single Day
0 to 5	7
Over 5 to 10	8
Over 10 to 15	9
Over 15	10

In the event additional curing time is necessary for poured-in-place concrete structures, such structures will not be considered in the calculation of the maximum allowable open trench length but shall be backfilled and the trench restored using either temporary or permanent resurfacing as soon as the required concrete compressive strengths have been attained.

- b) Case 2, Reinforced Concrete Box:** The maximum length of open trench along any one heading shall not exceed the following:

Depth of Cover in Feet	Maximum Allowable Trench Length in Multiples of Length of RCB Actually Poured in a Single Day
0 to 5	7
Over 5 to 10	8
Over 10 to 15	9
Over 15	10

In the event the Contractor elects to delete the temporary resurfacing and place permanent resurfacing immediately, 2 additional multiples may be added to the

above table if so approved by the Engineer. However, the actual length of open trench may be limited by the Engineer due to adverse Project site conditions.

The length completed in a single day as used in both cases above shall be defined as the daily average length completed during the 5 immediately preceding Working Days exclusive of placement of resurfacing (temporary or permanent) and restoration of other existing improvements. Where more than one line is shown on the Plans, an operation which moves progressively from one line to another shall be considered a single heading. The depth of cover, as referred to in this subsection, shall be the average distance from the top of the completed structure to the ground surface computed from measurements at equal intervals along the conduit constructed during the 5 immediately preceding Working Days.

Additional length of open trench may be permitted by the Engineer Failure by the Contractor to comply with the parameters specified herein, or as may be specifically authorized by the Engineer, may result in a written order from the Engineer to halt progress of the Work until the Contractor complies with this subsection.

306-4 SHORING AND BRACING. (Page 391 of the SSPWC)

Add the following before the first paragraph:

306-4.1 General.

Replace the first paragraph with the following:

For the purpose of shoring or bracing, a trench is defined as an excavation in which the depth is greater than the width. Shoring and bracing are required when the depth is greater than 5 feet. In cases where there are unstable soil conditions, shoring or bracing may be required for depths less than 5 feet.

Add the following after the last paragraph:

Open trenches shall be protected by protective and security fencing or plates in accordance with LACDPW Standard Plan 6008. If an exception as specified on LACDPW Standard Plan 6008, Sheet 2 exists, barricades conforming to LACDPW Standard Plan 6009 shall be placed in accordance with the California MUTCD. The maximum spacing of barricades shall not exceed 25 feet. Such open trench areas shall not be opened for vehicular use by the public until temporary or permanent resurfacing has been placed to provide a smooth surface for vehicular travel. Areas that are opened

for use of the public shall be maintained by the Contractor to provide a smooth surface until the permanent resurfacing is placed.

306-4.2 Additional Requirements. The Contractor shall be fully responsible for securing the design, and for furnishing and installing adequate shoring, fencing, and covers to protect all excavations from slides and cave-ins, and the public from hazardous conditions. The excavations and shoring therefor shall be such as to protect all existing improvements and utilities from any damage and to be fully compatible with all requirements for traffic and access and the safe performance of the Work.

Except as otherwise specified herein, excavations 5 feet or more in depth shall be shored such that the sides will be supported in accordance with the requirements set forth in LACDPW Standard Plan 3090. Where the use of shields is proposed in lieu of shoring, their use shall conform to LACDPW Standard Plan 3090 and shall be subject to the restrictions shown thereon. When a utility is in Zone A, the restrictions on the use of shields may be waived if:

- a) the Contractor submits written approval from the owner of the utility for its proposed construction method, and
- b) the Contractor complies with any support or protection method the utility owner requires and submits such requirements to the Engineer for enforcement.

Materials excavated from the trench shall be placed away from the edge of the trench so as not to overstress the shoring or bracing in accordance with LACDPW Standard Plan 6008.

The design shall be based on "Kw" values and soil parameters not less than those specified plus a uniform surcharge of at least 72 psf from the walls of the trench. If these items are not included, they shall be determined by the designer of the shoring system. Structural steel design shall be in accordance with the current edition of the AISC Manual of Steel Construction. Timber design shall be in accordance with the National Specification for Stress-Grade Lumber and Its Fastenings.

Allowable stresses specified in the listed publications may be increased by 1/3. The maximum allowable timber flexural stress shall not exceed 2,000 psi. This includes the 1/3 increase.

The "Kw" value(s) and soil type(s) for use in the design of shoring of excavations are as follows:

<u>Line</u>	<u>Station Limits</u>	<u>"Kw" (pcf)</u>	<u>Soil Type</u>
ALL	ALL	45	SM, SC, CL

Excavations 5 feet or more in depth for catch basins and connector pipes may be shored with a support system designed in accordance with the criteria set forth on LACDPW Standard Plan 3090 or with a system that meets the requirements in Paragraph 1541 of the Construction Safety Orders of the State of California, Department of Industrial Relations, except that where aluminum rails or wailers are used for hydraulic shoring, they shall be heavy duty. Use of shields shall be as specified above. If the support system is designed in accordance with LACDPW Standard Plan 3090, the plans shall be prepared by a Civil or Structural Engineer, registered as such in the State of California. The design shall be based on "Kw" values not less than those specified above.

The criteria set forth on LACDPW Standard Plan 3090 are the minimum for the conditions shown thereon. In addition to shoring the excavations as specified above, it shall be the Contractor's responsibility to provide all additional shoring required to support loads which may exceed those derived by using the criteria set forth. It shall also be the Contractor's responsibility to provide adequate shoring for the protection of existing improvements in the vicinity of any excavation. The design and details of the shoring system, as submitted, shall reflect the additional shoring necessary to provide for these loads and the required protection. The Contractor shall be solely responsible for any damages which may result from its failure to provide adequate shoring to support the excavations under any or all of the conditions of loading which may exist or which may arise during the construction of the Project.

The provisions of this subsection shall not apply to the support of excavations required for tunneling, boring, jacking or other similar underground excavations. However, shoring for jacking pits or similar open excavations used in connection with such work shall be governed by these Specifications. Support of excavations for boring, jacking or other similar underground excavations shall be in accordance with the Tunnel Safety Orders of the State of California, Department of Industrial Relations.

Prior to the beginning of work, the Contractor shall designate in writing to the Engineer someone whose responsibility it is to supervise the installation and removal of sheeting, shoring and bracing.

306-4.3 Submittals. The Contractor shall prepare and submit in accordance with 3-8.2 Working Drawings and supporting information for its proposed shoring system showing the reaches, design criteria, calculations, sketches, sequence of placement and removal, and other data required in order to shore the excavation for the appropriate cases of shoring expected to be used on the Project. Where shields are to be used, the Working Drawings shall include a typical cross section of the proposed conduit showing adjacent

utilities. If a previously approved shield is to be used, submittal of calculations for the shield are not required if the current calculated load does not exceed the load for which the shield was previously approved. If it is requested that the limitation on the use of shields in the vicinity of existing utilities be waived, the submittal shall also include the written statements from the affected utility owners and Working Drawings and calculations of the required utility support. The submitted Working Drawings shall be of the same format as that shown on LACDPW Standard Plan 3091. The Working Drawings shall indicate the methods of sheeting, shoring and bracing which will be used, applicable reaches, and the installation and removal sequence. The Working Drawings shall also show the positioning of said sheeting, shoring and bracing with respect to the planned location of the proposed structures. Existing improvements which may be affected by the proposed excavation shall also be shown. It is the Contractor's responsibility to submit to the Agency all test data and calculations required to substantiate the load supporting ability of special components of shoring systems such as screw jacks, speed shores, etc.

Partial submittals will be rejected. Submittals shall include the following:

- a) Shoring plans which show on each sheet the Project title, sheet number, total number of sheets, and wet stamp and signature of the California Registered Civil or Structural Engineer responsible for the design.
- b) Limits of application for the shoring design, with beginning station and end station.
- c) Working Drawings (plans, sections, elevations, and details), material specifications, notes, construction and removal procedures, etc. necessary for the construction and inspection of the shoring system.
- d) Supporting calculations prepared by the responsible Registered Civil or Structural Engineer, who will wet stamp and sign the first sheet of these calculations. The calculations shall show and justify the design loads on the shoring. The calculations shall also show the capacity of the shoring system is adequate to withstand the imposed loads.
- e) Shoring design criteria. A sample of some of the information required is shown on LACDPW Standard Plan 3091.
- f) Notes as shown on LACDPW Standard Plan 3091.
- g) A statement confirming the Contractor has reviewed the proposed shoring Working Drawings and found them compatible with the site conditions and proposed construction methods.

- h) If shields are proposed, the shoring Working Drawings shall show the limits of Zone A and Zone B offset from the toe of excavation as delineated on LACDPW Standard Plan 3090 Case 4. The shoring designer shall verify the field condition and state on the Working Drawings that the design conforms to the requirements shown in Section D “SHIELDS” on Sheet 4 of LACDPW Standard Plan 3090.

The submittal package shall also include:

- i) Manufacturer's specifications and other data necessary for the review of the proposed shoring as applicable.
- j) Traffic Control Plan, *if not included with the Plans*, if it affects the live load surcharge or the aforementioned Zone A requirements on the shoring system.

306-4.4 Agency Review. A detailed review of the submitted Working Drawings and supporting information will be performed by the Agency. The review will be for the purpose of determining that the following items have been considered and are in accordance with the specified criteria.

- a) Soil Loads.
- b) Surcharge Loads, including effect of existing improvements.
- c) Method of Analysis.
- d) Allowable Stresses, including soil stresses where applicable.
- e) Protection of Existing Improvements.
- f) Feasibility of Construction.
- g) Delineation of Criteria.
- h) Calculations.
- i) Statement of Applicable Reaches.
- j) Original wet stamp and signature of the California Registered Civil or Structural Engineer responsible for the shoring design.

If the submittal is in conformance with the shoring criteria and the Specifications, the Agency will sign the submitted Working Drawings.

Acceptance of the Contractor's submitted Working Drawings shall not be construed to invalidate other provisions of these Specifications which may be affected by the accepted method of shoring such as, but not limited to, the requirements concerning street closures, detours, barricades and utilities.

Acceptance of shoring for excavations with either vertical or sloping banks shall not be construed to have altered any pay lines shown on the Plans.

306-4.5 Construction. As construction progresses, should a type of soil be encountered which requires a different method of shoring or shoring of greater strength than previously accepted by the Agency, or should a situation or condition arise which in the opinion of the Engineer and/or California Division of Occupational Safety and Health requires additional shoring, then the Contractor shall submit for acceptance revised shoring details, and work in the affected excavations shall be discontinued until the revised shoring details have been accepted by the Agency. The preparation and furnishing of such revised details shall be done as specified above for the Contractor's proposed method of sheeting, shoring and bracing for the Project excavations. All of the above-specified provisions concerning submittal by the Contractor, commencement of work on sheeting, shoring and bracing by the Contractor, and action to be taken by the Engineer and the Contractor shall apply in the event a different type or additional sheeting, shoring and bracing is required beyond that originally contemplated by the Contractor.

The Contractor's attention is directed to the trench width, "W", distances shown on LACDPW Standard Plan 3080. The design of the conduit and the shoring is based on this maximum width. If the trench width exceeds the maximum design width, the pipe bedding, pipe D-Load and the shoring shall be redesigned.

If excavations are supported employing used materials, such materials shall be free from defects which may impair their protective function. Used materials which are damaged, fatigued, or are otherwise defective to the extent that they will not safely perform their intended function, shall not be used in supporting excavations. It shall be solely the Contractor's responsibility to furnish sheeting, shoring, and bracing of such grades and stresses as specified on the accepted Working Drawings.

306-4.6 Vertical Shores for Supporting Trench Excavations. H-beams, piles or other similar supports for trench excavations shall be placed in holes drilled to the bottom of the excavation and then driven the remainder of the required depth. Sonic pile drivers

may not be used. Drilled holes shall be filled with jetted sand having a minimum sand equivalent of 30.

In lieu of the above method, vertical supports may be placed in holes drilled to the full depth required and backfilled to subgrade. Backfill shall be trench backfill slurry conforming to 201-1.1.2. However, where the in-situ material is granular and free-draining, the backfill may be sand conforming to 200-1.5. Trench backfill slurry shall be placed 72 hours prior to excavating and sand shall be flooded 24 hours prior to excavating. Calculations for embedment depth shall be based on beam width, not hole diameter.

When driving the vertical supports, as well as when drilling the holes, the Contractor shall take care to avoid damage to any and all existing improvements and utilities.

The Engineer may, upon request of the Contractor, approve in writing the use of means other than drilling for the purpose of placing the vertical supports at locations where the drilling of such holes is impractical because of the existence of running sand, rocks or other similar conditions, and provided impracticability is demonstrated to the satisfaction of the Engineer by actual drilling operations by the Contractor. Such other means, however, must be of a nature which will accomplish, as nearly as possible, the purpose of drilling, namely, the prevention of damage to existing surface or subsurface improvements, both public and private.

The above specifications shall not apply to driven sheet piling where such piling is necessary, because of the type of material being excavated, to adequately and safely support the excavation.

Immediately after the drilling for, or extraction of, a pile, the Contractor shall place a steel cover over the hole which shall be left in place until the pile is inserted or the hole is filled, as applicable. The cover shall be heavy enough to withstand traffic, be anchored to prevent lateral movement and have a minimum weight of 75 pounds. Drilling or pile extraction will not be permitted until covers are on the Project site and available for immediate use.

The minimum required depth of penetration for vertical shores below the bottom of the excavation shall be determined using soil resistance based on the following equations, the resultant of which shall be applied at a distance "X" below the bottom of the excavation.

<u>Case No.</u>	<u>Equation</u>	<u>X</u>	<u>D_{min}</u>
1	$F_p = E (D-D_1)^2$	$2D/3$	$D_1 + 2'$
2	$F_p = A (D)^2$	$2D/3$	$2'$
3	$F_p = A (D)^2 + B (D)$	$(D/2) + \{D(0.167)/[1 + (B/AD)]\}$	$2'$
4	$F_p = A (D-D_1)^2$	$2D/3$	$D_1 + 2'$

- Where F_p = Resultant force in pounds per foot of width of vertical shore.
 D_{min} = Minimum depth of penetration in feet below the bottom of the excavation.
 D_1 = Distance in feet between bottom of excavation and point of zero pressure.
 X = Distance in feet between bottom of excavation and line of action of F_p .
 A, B & E = Soil parameters for continuous abutting vertical shores. (Values may be doubled for single or spaced vertical shores.) Unitless.

The parameters for determining the minimum penetration for vertical shores are as follows:

<u>Line</u>	<u>Station Limits</u>	<u>Case No.</u>	<u>Soil Parameters</u>			<u>Distance (feet)</u>
			<u>A</u>	<u>B</u>	<u>E</u>	
ALL	ALL	1	114	-	-	2.8

Applicable Case Nos., D_1 and soil parameters are provided in the Special Provisions and are to be used in conjunction with LACDPW Standard Plan 3090. It should be noted that this type of system is subject to the restriction that the distance from the bottom of the excavation to the lowest strut shall not exceed 15 feet. It should be further noted that this information is not applicable to the design of cantilevered shoring or sheet piling.

306-5 DEWATERING. (Page 391 of the SSPWC)

Add the following to the end of the first paragraph:

Dewatering shall be performed to a level sufficiently below the structure subgrade to ensure a firm and stable subgrade for the construction of the structure.

306-6 BEDDING.

306-6.1 General. (Page 392 of the SSPWC)

Replace the entire subsection with the following:

Pipe bedding for storm drain construction shall conform to LACDPW Standard Plan 3080-3.

The subgrade upon which the pipe is to be constructed shall be true to grade. Bedding material shall be so loosely placed and shaped as to provide uniform bearing for the bottom of the pipe for a width equal to at least $D/3$ times the outside diameter and for the entire length of the pipe.

Bedding material for any section of pipe conduit shall first be placed such that, after densification, the top of the bedding material will be approximately at the elevation of the spring line of the pipe. A second lift of bedding shall then be placed such that, after densification, the top of the bedding material will be 1 foot over the top of the pipe. However, bedding for all pipe 51 inches or less in diameter may be placed in one lift such that, after densification, the top of the bedding material will be 1 foot over the top of the pipe.

306-7 PREFABRICATED GRAVITY PIPE.

306-7.3 Reinforced Concrete Pipe (RCP). (Page 395 of the SSPWC)

306-7.3.2 Joints.

306-7.3.2.1 Tongue and Groove Self-Centering Joints.

Replace the fourth paragraph with the following:

When RCP is under 30 inches in diameter, the outer joint space shall be filled with mortar.

Replace the first sentence of the fifth paragraph with the following:

When RCP is 30 inches or greater in diameter, the interior annular space of each joint shall be filled with mortar.

306-7.8.5 Rubber-Gasketed Pipe Testing.

- a) Plant Test. Pipe and joints shall be tested at the manufacturing plant in accordance with 207-2.9.6.
- b) Field Test. The field test for leakage, shall be performed in accordance with 306-7.8.4. The test pressure (P) shall be equal to 7 psi. In lieu of the water pressure test, the Contractor may, at its option, pressure test each pipe joint individually

using a joint tester. The joint shall be subjected to a test pressure of 7 psi for a period of one minute and shall not leak. Details of the joint tester shall be submitted in accordance with 3-8.4 of Section G.

In either case, testing shall be performed prior to the mortaring of the joints.

306-7.9 Temporary Bulkheads for Storm Drains. If for its convenience or protection, the Contractor elects to use temporary bulkheads that are not detailed on the Plans, the Contractor shall submit for approval detailed calculations and Working Drawings of the bulkheads in accordance with 3-8.2, whenever the span exceeds 4 feet (1.2 m) or the depth of cover above the bottom of the bulkhead exceeds 20 feet (6.2 m).

Bulkheads for which a submittal is not required shall have the following minimum structural sections, or the Contractor at its option may submit lesser sections for approval in the manner specified hereinabove.

<u>Material</u>	<u>Grade</u>	<u>Section</u>
Timber	D.F. No. 2	3" thick
Concrete	$f_c' = 2500$ psi	6" thick w/ #4 @ 10" parallel to span and #4 @ 18" perpendicular
Brick	2500 psi solid units	12" thick w/ #4 @ 9" parallel to span 1/2" from inside course and #4 @ 18" perpendicular to span
Steel Plate	A36 Steel	1/2" thick

All costs involved in temporary bulkhead work for the Contractor's convenience or protection shall be considered as included in the prices in the Bid for the various items of work unless otherwise specified.

306-12 BACKFILL.

306-12.1 General. (Page 436 of the SSPWC)

Add the following after the first paragraph:

Whenever fill or backfill is specified to be placed and no method of placement is indicated, it shall mean that the material may be placed either by mechanical compaction methods in accordance with 306-12.3, or jetted in accordance with 306-12.4 or by a combination of the two methods; however, the option to use jetting does not ensure that

the required relative compaction can be attained by that method alone, and the Contractor shall not be relieved of the responsibility for attaining the specified relative compaction.

Add the following after Table 306-12.1:

The Contractor may, at its option and at its own expense, furnish all equipment, material, supplies and labor for making field tests of the compressive strength of concrete, and such tests may be used as a basis for determining the time at which backfill operations may be started as described below. Backfill shall not be commenced until approval therefor has been given by the Engineer. The use of tests by the Contractor for determining compressive concrete strengths is permissive only and is subject to the Contractor assuming all risks that may be involved in backfill operations based on the Contractor's tests. Concrete test cylinders shall be prepared and tested in accordance with the applicable provisions of 306-11.7.2.2. This includes removal from the molds at the time of form stripping and storing at the location where the capping equipment and compression testing machine are kept. Test cylinders shall receive, insofar as practicable, the same exposure and/or protection from the elements as the portions of the structure which they represent, until the time of testing. For placement of backfill against the sides and top of concrete structures, the required strengths for structures designed for 3000 psi concrete shall be a minimum of 3000 psi. For structures designed for 4000 psi concrete, the average of any three consecutive tests shall be equal to, or greater than, 4000 psi and not more than 10 percent of the tests shall be less than 4000 psi. No test shall be less than 85 percent of 4000 psi.

Note: A test shall consist of the average strength of 3 concrete cylinder specimens tested at the same age. If less than 3 tests are available, the individual tests shall be equal to, or greater than, 4000 psi.

When high early strength concrete is specified, the Contractor shall make concrete test cylinders as described above to determine the time at which backfill operations may be started.

306-12.3 Mechanically Compacted Trench Backfill. (Page 437 of the SSPWC)

306-12.3.1 General.

Add the following after the first paragraph:

During the placement of backfill by mechanical compaction methods around utilities, the use of other than hand-held vibratory plates or tamping equipment within 1 foot of any utility.

Mechanical compaction methods of placement below 1 foot over the top of pipe conduits shall be limited to the use of hand-held vibratory plates or tamping equipment. The use of impact or roller type compaction equipment will not be allowed for placement of the backfill below 1 foot over the top of the pipe.

Mechanical compaction methods of placement shall not include a sheepsfoot wheel mounted on a backhoe within the top 3 feet of the pipe or one-half of the internal diameter of the pipe, whichever is greater.

Add the following:

Unless otherwise directed by the Engineer, at the beginning of mechanically compacted backfill operations, test sections shall be constructed as follows:

- a) The test section may be any length sufficient, in the opinion of the Engineer, to conclusively demonstrate that the type of compaction equipment, lift thickness and moisture content used will result in the specified relative compactions being met or exceeded. A sufficient number of lifts shall be placed in the test section to conclusively demonstrate that adequate placement is being attained. The Agency will perform the necessary testing, and if the results are in conformance with the specifications and satisfactory to the Engineer, the type of compaction equipment, lift thickness, moisture content and compaction effort used in the test section shall be used thereafter in the placing and compacting of backfill. However, when backfill material different from that previously tested is used, or when tests indicate that placement is not in conformance with the Specifications, a new test section shall be constructed and the type of compaction equipment, lift thickness, moisture content and compaction effort shall be adjusted or changed as necessary
- b) to attain the specified relative compaction. Approval of equipment, thickness of layers, moisture content and compaction effort shall not be deemed to relieve the Contractor of the responsibility for attaining the specified relative compaction. The Contractor, in planning its work, shall allow sufficient time to perform the work connected with the test sections, and for the Agency to perform the necessary testing for determining compliance.
- c) Each lift shall be evenly spread, moistened and worked by disc harrowing or other means approved by the Engineer, and then mechanically compacted until the specified relative compaction has been attained.

306-12.3.2 Compaction Requirements.

Replace the entire subsection with the following:

Mechanically compacted trench backfill shall be densified to the following minimum relative compaction:

- a) 90 percent relative compaction.
- b) 95 percent relative compaction where required by 301-1.3.

306-12.4 Jetted Trench Backfill. (Page 438 of the SSPWC)

306-12.4.1 General.

Replace the second sentence of subparagraph "a)" with the following:

The jet pipe shall be of sufficient length to reach the bottom of the lift being jetted.

Replace subparagraph "c)" with the following:

- c) The lift of backfill shall not exceed that which can be readily densified by jetting, but in no case, shall the un-densified lift exceed 5 feet.

306-12.4.2 Compaction Requirements.

Replace the entire subsection with the following:

Trench bedding and backfill densified through jetting shall be densified to the following minimum relative compaction:

- a) 90 percent relative compaction.
- b) 95 percent relative compaction where required by 301-1.3.

Bedding material shall be densified by jetting. Jetting shall provide enough water to thoroughly saturate and densify, without voids, the bedding material around the pipe. The jet pipe shall be inserted at intervals of 3 feet maximum, contiguous along each side of the pipe. Neither flooding, nor free standing water will be permitted. Unless the sheeting or shoring is to be cut off and left in place, densification of bedding for pipe shall be accomplished after the sheeting or shoring has been removed from the bedding zone, and prior to the placement of backfill.

The placement of backfill shall not begin until the Agency has completed Quality Assurance compaction testing and the Contractor has attained the required relative compaction.

Add the following subsections:

306-12.7 Concrete Backfill. Concrete backfill will be measured by the cubic yard, based upon the volume calculated to the following limits:

- a) The lateral limits shall be vertical planes on each side of the pipe located a distance away from the outside barrel equal to the minimum value of "W" as specified on LACDPW Standard Plan 3080.
- b) The upper limit shall be 4 inches above the top of the pipe.
- c) The lower limit shall be the bottom of the pipe. The length will be determined in the field by the Engineer, and shall meet the requirements of the general note on the Plans.
- d) No deduction in quantities will be made for the space occupied by the bells of concrete pipe or the sheeting, if any, left in place.
- e) For the purpose of computing the volume of concrete backfill, the wall thickness of reinforced concrete and non-reinforced concrete pipe shall be assumed to be the following regardless of the actual wall thickness:

<u>Pipe Size, inches</u>	<u>Wall Thickness, inches</u>
12	2
15	2
18	2-1/4
21	2-3/8
24	2-1/2
27	2-5/8
30	2-3/4
33	2-7/8
36	3-1/8

306-13 TRENCH RESURFACING.

306-13.1 Temporary Resurfacing. (Page 439 of the SSPWC)

Add the following:

Temporary resurfacing or permanent pavement shall be in place before the traveled way is opened for vehicular traffic.

Temporary resurfacing shall be placed as soon as the backfill is densified or immediately when so directed by the Engineer. If further densification of backfill is necessary due to settlement, failure to achieve the specified compaction, or any other reason, the temporary resurfacing shall be removed and replaced at the Contractor's expense.

Prior to placing the temporary resurfacing, the street and surrounding area shall be cleared of rubbish and debris, the street swept, and the surrounding area cleaned thoroughly.

The finished surface of said temporary resurfacing shall be placed flush with the adjoining pavement grade.

Immediately after placement of temporary resurfacing, the surface and surrounding area shall be swept clean of all dust and debris utilizing a self-loading motorized sweeper with spray nozzles (pick-up broom).

The Contractor shall stockpile enough temporary resurfacing material on the Project site to insure a ready supply at all times for necessary repairs to the temporary resurfacing already placed.

Temporary resurfacing shall not be left in place longer than 30 Days unless otherwise permitted by the Engineer. Permanent resurfacing shall be placed immediately following the removal of the temporary resurfacing.

Delete the last two paragraphs.

306-15 PAYMENT.

306-15.1 General. (Page 442 of the SSPWC)

Replace the entire subsection with the following:

Payment for pipe and conduit will be made at the Contract Unit Price per linear foot. The Contract Unit Price shall include payment for

- a) the control of ground and surface waters;

- b) trench excavation;
- c) removal and dewatering of interfering portions of existing conduits and improvements;
- d) the sealing or removal and dewatering of abandoned conduit and structures;
- e) subgrade preparation;
- f) bedding;
- g) all wyes, tees, bends, monolithic catch basin connections, and specials shown on the Plans;
- h) furnishing and placing prefabricated or precast conduit;
- i) erection and removal of forms;
- j) furnishing and placing reinforcing steel;
- k) construction of cast-in-place conduit;
- l) joining and connecting to existing pipe or conduit;
- m) sealing open ends of pipe or cast-in-place conduit;
- n) drying, blending, transporting, and importing backfill;
- o) backfilling the trench, including compaction;
- p) temporary resurfacing;
- q) asphalt concrete pavement within the trench clear width as shown on the Pipe Trench Detail and permanent resurfacing;
- r) pressure testing and dewatering of the pipeline for pressure testing;
- s) disinfection, sample collection and delivery, and dewatering of the pipeline for disinfection;
- t) providing and placing facility identification tape;

- u) all required and necessary thrust blocks;
- v) the removal and replacing of existing pavement;
- w) the transportation of salvaged materials;
- x) video inspection; and
- y) all other work necessary to construct the pipe or conduit, complete in-place, except as otherwise specified as a separate Bid item.

No separate or additional payment will be made for additional bedding or a higher strength of pipe necessitated by the Contractor exceeding the maximum trench width.

306-15.2 Shoring and Bracing. (Page 442 of the SSPWC)

Replace the entire subsection with the following:

Payment for shoring of open excavations will be made at the lump sum Bid price for "SHORING OF OPEN EXCAVATIONS"

Payment for the support of underground excavations which are required in tunneling, boring or jacking shall be considered as included in the prices in the Bid for the applicable items.

No additional payment will be made as a result of any required revisions in the shoring details.

No additional payment will be made for the use of means other than drilling for the purpose of placing vertical shores, if such other means is approved by the Engineer.

306-15.9 Temporary Resurfacing. (Page 443 of the SSPWC)

Replace the entire subsection with the following:

No separate payment will be made for temporary resurfacing. The cost of temporary resurfacing shall be considered as included in the prices in the Bid for the items of Work which require removal of pavement for their construction or for which the Contractor, at its option, intends to place temporary resurfacing.

SECTION 307 - JACKING AND TUNNELING

307-1 JACKING OPERATIONS.

307-1.1 General. (Page 444 of the SSPWC)

Add the following at the end of the ninth paragraph:

- i) Estimated maximum jacking force.
- j) Number of jacks.
- k) Size of jacks.
- l) Rated capacity of the jacks.

The tunnel classification for the jacked conduits between Station 0+00 and Station 2+57 for the RCP from Basin 4 to 5 and Station 10+00 and Station 11+94 for the RCP from Basin 1 to the East Settling Basin is "soft ground".

Add the following as the last sentence of the seventh paragraph:

The use of aluminum pipe and equipment will not be permitted for transporting or pumping grout.

307-1.2 Jacking Reinforced Concrete Pipe. (Page 444 of the SSPWC)

Add the following after the first paragraph:

When jacking rubber-gasketed pipe, the Contractor shall ensure that the rubber gasket rings are not damaged or unseated during jacking operations. The jacking load shall be applied evenly to the driving ends of the pipe, and the use of mortar packing as shims will not be permitted.

307-1.7 Payment. (Page 446 of the SSPWC)

Replace the first paragraph with the following:

The Contract Unit Price for jacked conduit shall include full compensation for:

- a) the removal, where required, of all existing improvements (exclusive of utilities) which interfere with construction;
- b) excavation;

- c) the control of groundwater and dewatering of excavations;
- d) constructing, supporting, and removing pilot tunnels;
- e) constructing reinforced concrete cradles where required;
- f) furnishing and jacking the reinforced concrete conduit;
- g) providing grout holes, grout, and grouting where necessary;
- h) backfilling; the disposal of all excess excavated or removed materials;
- i) and all other work appurtenant to jacking conduit within the limits shown on the Plans and as specified herein.

Add the following:

307-3 JACKING RCB SECTIONS.

307-3.1 General. The leading and trailing 5 feet of the reinforced concrete box to be jacked shall include additional reinforcement per LACDPW Standard Plan 3096.

Any material increase in jacking limits may require design changes of the structure to withstand the additional stresses. The Contractor shall be responsible for such design changes and shall submit the design changes in accordance with 3-8.2. A concrete slab may be poured outside the jacking limits as a base upon which to construct the precast concrete box and provide initial guidance. If used, such a slab must extend the full width and length of the concrete box section which is to be jacked in place. The use of pilot tunnels and guide rails or slabs will not be permitted without the prior written approval of the Engineer.

The details of any such pilot tunnels or guides shall be submitted by the Contractor in accordance with 3-8.2. The use of guides may require structural revisions in the precast concrete box to withstand uneven bearing. Where RCB conduit is specified to be constructed by open trench operations, the Contractor may construct the RCB conduit by tunnel or jacking methods, if written approval by the Engineer is first obtained. Solid supports are required for pilot tunnels.

307-3.2 Measurement. Measurement will be made in accordance with 307-1.6.

307-3.3 Payment. Payment will be made in accordance with 307-1.7.

PART 4 EXISTING IMPROVEMENTS

SECTION 400 - PROTECTION AND RESTORATION

400-1 GENERAL. (Page 479 of the SSPWC)

Add the following:

The Contractor will be required to maintain the pavement within construction areas. Any pavement damaged by the Contractor or its subcontractors and all pavement constructed on the Project which becomes damaged shall be repaired or replaced, as directed by the Engineer.

Where curb or sidewalk in a pedestrian crosswalk area is damaged by the Contractor or must be removed to construct underground improvements, the Contractor shall construct a curb ramp as part of the restoration required by this subsection. At an intersection, the crosswalk area shall be considered as including, but not necessarily limited to, the entire curb return area. If the damaged or removed curb is in an area where no sidewalk exists, the curb ramp will not be required. The curb ramp shall be constructed in accordance with the Standard Plan referenced on the Plans or as directed by the Engineer.

In the event field conditions necessitate a change of plan which requires the removal of curb or sidewalk not previously requiring removal within a pedestrian crosswalk area as specified above, the Contractor shall construct a curb ramp. The curb ramp shall be constructed in accordance with the Standard Plan referenced on the Plans or as directed by the Engineer.

Should any operation of the Contractor cause damage to a sewer or storm drain not delineated on the Plans to be removed, relocated or reconstructed which, in the opinion of the Engineer, cannot be properly restored, replaced or reconstructed without a special plan being prepared, the Contractor and the owner of the sewer or storm drain will be so advised by the Engineer. The Contractor shall prepare and submit a suitable reproducible plan for the restoration, replacement or reconstruction of the facility. The Contractor shall obtain a permit for such work from the owner of the facility. In performing the restoration, replacement or reconstruction of the facility under permit, the owner of the facility will furnish the required inspection in order that the facility may be restored, replaced or reconstructed in a manner satisfactory to the owner.

Areas to be excavated for storm drains, waterlines, or sewer lines that are neither presently covered nor scheduled to be permanently covered under the Contract by some type of material, such as asphalt concrete, Portland cement concrete, grouted rock, stonework or rubble, which renders such areas as unsuitable for planting, shall be considered for the purposes of these Specifications to be suitable and shall be covered with a 6-inch layer of topsoil. Unless otherwise specified, the top 6 inches of all such suitable areas shall be restored with imported Class A Topsoil conforming to 800-1.1.2. In lieu of importing such topsoil the Contractor may, at its option, reuse the existing top 6 inches of soil from such areas, provided it has been segregated during excavation and construction operations, and is approved for use by the Engineer. These requirements do not apply to permanent access roads and beach areas.

On storm drain, water line, and sewer line construction projects, the Contractor shall be responsible for the relocation, reconstruction, or modification of traffic control, police and fire signal installations, safety lighting, and street lighting.

The following provisions shall apply for storm drain, water line, and sewer line construction:

- a) Concrete pavement removal shall conform to 401-3.1 and replacement shall conform to 302-6 and Standard Plan 132, unless otherwise specified.
- b) In the event a portion of curb, gutter or monolithic curb and gutter is damaged by the Contractor's operations, a minimum of 10 feet of curb, gutter or curb and gutter shall be removed and replaced regardless of how short a length is damaged. One end of said 10-foot section may be taken at a joint or scoring line and the other end shall be measured the minimum distance of 10 feet therefrom. If said 10 feet falls within 3 feet of a joint or scoring line, then the removal shall extend to said joint or scoring line.
- c) When concrete local depressions are to be constructed at locations where there is an existing monolithic curb and gutter, the existing monolithic curb and gutter shall be removed to the limits of the local depression, or to the next joint or scoring line beyond the local depression if such joint or scoring line is less than 3 feet away. The new curb shall then be reconstructed monolithic with the local depression or with the gutter if the curb was removed beyond the limits of the local depression.
- d) When concrete local depressions are to be constructed using existing finished street surface as the vertical control for the outer edge of the local depressions, the local depression shall be constructed on a straight grade from outer corner to outer corner.

- e) Unless otherwise specified on the Plans, the removal and replacement of concrete cross gutters and spandrels shall conform to LACDPW Standard Plan 3082.
- f) The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the Engineer. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the Contractor, or a licensed tree contractor which employs a certified arborist,

to the satisfaction of the Engineer. Tree trimming and replacement shall be accomplished in accordance with the following requirements:

- 1) **Trimming.** Symmetry of the tree shall be preserved; no shrubs, splits or torn branches shall be left. Clean cuts shall be made close to the trunk or a large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with a tree sealant approved by the Engineer.
- 2) **Replacement.** The Contractor shall immediately notify the Engineer and the jurisdictional city involved if a tree is damaged by its operations. If, in the opinion of the Engineer, the damage is such that replacement is necessary, the Contractor shall replace the tree at its own expense. The tree shall be of a like variety as the damaged tree and shall be subject to the approval of the Engineer. The size of the tree shall be 24-inch box and not less than 3/4-inch in diameter measured 3 feet above the root ball, nor less than 6 feet in height.

400-3 PAYMENT. (Page 479 of the SSPWC)

Replace the entire paragraph with the following:

The Protection and Restoration Bid items listed on the Schedule of Prices shall constitute full payment for protection and restoration of existing improvements. Payment for protection or restoration of existing improvements not specifically described in the aforementioned Bid item (s), and compliance with all other requirements, shall be considered as included in the prices in the Bid for the various items of work. No separate or additional payment will be made for restoration of existing improvements damaged by the Contractor. Permanent survey markers will be restored by the Agency at its own expense.

SECTION 401 - REMOVAL

401-7 PAYMENT. (Page 480 of the SSPWC)

Add the following:

Payment for the removal and disposal of existing chain link fence, walk gate and all other appurtenant Work as indicated on the Plans will be made at the Contract Unit Price for "REMOVE EXISTING CHAIN LINK FENCE".

PART 8 LANDSCAPING AND IRRIGATION

SECTION 800 - MATERIALS

800-1 LANDSCAPING MATERIALS.

800-1.1 Topsoil. (Page 591 of the SSPWC)

800-1.1.1 General.

Add the following:

a) Agronomic Soil Report.

- 1) Prior to the delivery of imported topsoil to the Work site, the Contractor shall submit an agronomic soil report(s) and growth (herbicide) test results in report form (test report) for every 150 cubic yards of soil to the Engineer. The test reports shall include the name, location, history and description of the source/site from which the soil was excavated and the depth of harvesting. If imported topsoil is obtained from more than one source/site, the Contractor shall submit the name and location of each source/site and submit test reports per source/site at the aforementioned frequency. Test reports shall be prepared specifically for the Project and shall be dated no earlier than the date of execution of the Contract. Soil test performance and test report submittal shall be shown as individual activities on the Contractor's baseline schedule in accordance with 6-1 of Section G.

The Contractor shall submit the test reports in accordance with the following:

- i) If existing site soil is used for the Project, the Contractor shall submit test reports for the existing soil after the completion of the grading operations and prior to soil preparation. Soil shall be sampled at a minimum frequency

of 1 test per acre of Project size. A minimum of 3 samples shall be tested for Projects less than 1 acre in size.

The test reports shall be prepared by one of the following agronomic soils testing laboratories:

Wallace Laboratory
365 Coral Circle
El Segundo, CA 90245
(310) 615-0116
Email: gaw@wlabs.net

Waypoint Analytical
4741 East Hunter Ave. Suite A,
Anaheim, CA 92807
(714) 282-8777
Email: supportca@waypointanalytical.com

- 2) Additional agronomic soils and growth testing may be required at any time during construction. Areas of testing shall be as directed by the Engineer.
- 3) Unless otherwise approved by the Engineer, soil samples shall be collected and sampled by the testing laboratory as a part of their services.
- 4) For imported topsoil, at the time of sampling 2 samples (one pint each) shall be collected by the testing laboratory. One sample shall be for testing and the other delivered to the following within one week of the date the sample was taken:

Los Angeles County Department of Public Works
Architectural Engineering Division, 8th Floor
Attention: Stephen Zurek
900 S. Fremont Avenue
Alhambra, CA 91803

- 5) The report shall indicate soil analysis for plant growth suitability, including permeability rate, and recommendations for soil preparation in all planting areas and soil mix for backfill of planting container material.

- 6) The recommendations of the agronomic soil report(s) shall take precedence over the quantities of soil amendments and material mix specified in the backfill mix; and only when those recommendations exceed the minimum requirements specified.

- 7) Germination and growth of monocots and dicots shall not be restricted more than 20 percent without the addition of activated charcoal when compared to the reference soil. Total petroleum hydrocarbons shall not exceed 50 mg/kg when tested in accordance with modified EPA Test Method 8015. Total aromatic volatile organic hydrocarbons (benzene, toluene, xylene, and ethylbenzene) shall not exceed 0.5 mg/kg when tested in accordance with EPA Test Method 8020.

- 8) The Contractor shall not begin any planting work until the agronomic soil report(s) has been reviewed and approved by the Agency.

800-1.1.2 Class “A” Topsoil.

Replace the entire subsection with the following:

Class “A” topsoil shall be imported from a source outside the limits of the Work selected by the Contractor and shall conform to the following requirements:

- a) Soil shall be free of roots, clods, pockets of coarse sand, noxious weeds, sticks, brush, litter, and stones larger than 1 inch in greatest dimension.

- b) Soil shall not be infested with nematodes or other undesirable disease-causing organisms

- c) Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

- d) Mechanical Analysis and Permeability Rate(s). Topsoil shall be a sandy loam, loam, clay loam, or clay. The selection shall be made by the Engineer or else be similar to the Work site soil. The definition of soil texture shall be based on the United States Department of Agriculture (USDA) classification scheme. Gravel over 1/4 inch in diameter shall be less than 10 percent by weight. The hydraulic conductivity rate shall be not less than 1 inch per hour nor more than 10 inches

per hour when tested in accordance with the USDA Handbook Number 60, Method 34b.

- e) Organic Matter Content. Organic matter (loss of ignition) shall be 7 to 10 percent by weight minimum based on the weight of the sample dried to constant weight at 100 to 110 °C, or as determined by the sulfuric acid test. Soil organic matter shall not cause toxicity or cause excessive reduction in the volume of soil due to decomposition. The carbon/nitrogen ratio shall be 9.5 to 10.5. When topsoil otherwise complies with the requirements but shows a slight deficiency in organic matter content, humus, peat moss or other approved organic matter may be incorporated when approved by the Engineer.
- f) pH. The soil pH range measured in the saturation extract (Method 21a, USDA Handbook Number 60) shall be 6.0 - 7.9.
- g) Fertility. The range of the essential elemental concentration in soil shall be as follows:

Ammonium Bicarbonate/DTPA Extraction
Parts Per Million (mg/kilogram)
Dry Weight Basis

Phosphorus	2 - 40
Potassium	40 - 220
Iron	2 - 35
Manganese	0.3 - 6
Zinc	0.6 - 8
Copper	0.1 - 5
Boron	0.2 - 1
Magnesium	50 - 150
Sodium	0 - 100
Sulfur	25 - 500
Molybdenum	0.1 - 2

- h) Salinity – Electrical Conductance. The salinity range measured in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 0.5-3.0 dS/m.
- i) Chloride. The maximum concentration of soluble chloride in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 150 mg/kg (parts per million).

- j) Boron. The maximum concentration of soluble boron in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 1 mg/kg (parts per million).
- k) Sodium Absorption Ratio (SAR). The maximum SAR (Method 20b, USDA Handbook Number 60) shall be 3.
- l) Aluminum. Available aluminum measured with the ammonium bicarbonate/DTPA extraction shall be less than 3 parts per million.
- m) Calcium Carbonate Content. Free calcium carbonate (limestone) shall not be present.
- n) Heavy Metals. The maximum permissible elemental concentration in the soil shall not exceed the following:
- 1) Ammonium Bicarbonate/DTPA Extraction
Parts Per Million (mg/kilogram)
Dry Weight Basis

Arsenic	2
Cadmium	2
Chromium	10
Cobalt	2
Lead	30
Mercury	1
Nickel	5
Selenium	3
Silver	0.5
Vanadium	3
 - 2) pH. If the soil pH is between 6 and 7, the maximum permissible elemental concentration shall be reduced 50 percent. If the soil is less than 6.0, the maximum permissible elemental concentration shall be reduced 75 percent. No more than three metals shall be present at 50 percent or more of the above values.

Add the following subsection:

800-1.1.5 Class “D” Bioswale Soil. Bioswale soil (soil) shall conform to 800-1.1.2 except as follows:

a) **Mechanical Analysis and Permeability Rate(s).** Soil shall be a sandy loam unless compatibility with the adjacent existing soil type necessitates a modification. The definition of soil texture shall be in accordance with the USDA classification scheme. Based on the non-gravel fraction, clay shall be less than 20 percent by weight, silt plus 2 times the concentration of clay shall be over 30 percent by weight, and the concentration of sand plus the concentration of clay shall be over 50 percent by weight. Gravel over 1/4-inch in diameter shall be less than 20 percent by weight. Hydraulic conductivity rate shall be not less than 5 inches per hour nor more than 10 inches per hour when tested in accordance with the USDA Handbook Number 60, method 34b.

b) **Fertility.** The range of the essential elemental concentration in soil shall be as follows:

Ammonium Bicarbonate/DTPA Extraction
Parts Per Million (mg/kilogram)
Dry Weight Basis

Phosphorus	10 - 40
Potassium	100 - 220
Iron	4 - 35
Manganese	0.6 - 6
Zinc	1 - 8
Copper	0.3 - 5
Boron	0.2 - 1
Magnesium	50 - 150
Sodium	0 - 100
Sulfur	25 - 500
Molybdenum	0.1 - 2

c) **Organic Matter Content.** Organic matter content shall be 7 to 10 percent.

800-1.2 Soil Fertilizing and Conditioning Materials. (Page 591 of the SSPWC)

800-1.2.4 Organic Soil Amendment.

Replace the entire subsection with the following:

Organic soil amendment shall conform to the following requirements:

a) Humus material shall have an acid-soluble ash content of no less than 6 percent and no more than 20 percent. The organic matter content shall be 50 percent or more when determined on a dry weight basis.

- b) The pH shall be between 6 and 7.5.
- c) The salt content shall be less than 10 millimho/cm at 25 °C in a saturated paste extract.
- d) Boron content of the saturated extract shall be less than 1.0 part per million.
- e) Silicon content (acid-insoluble ash) shall be less than 50 percent.
- f) Calcium carbonate shall not be present if to be applied on alkaline soils.
- g) Composted wood products are conditionally acceptable (stable humus must be present). Wood-based products based on redwood or cedar are not acceptable. When applying nitrogen-stabilized wood shavings, fine grade with 1 percent nitrogen added per pound of shavings.
- h) Sludge-based materials are not acceptable.
- i) Carbon/nitrogen ratio shall be less than 25:1.
- j) Compost shall be aerobic without malodorous presence of decomposition products.
- k) The maximum particle size shall be 0.5 inch. Eighty percent or more shall pass a No. 4 sieve.
- l) Agricultural gypsum shall be composed of a minimum of 92 percent calcium sulfate particles of which a minimum of 85 percent by weight must pass a No. 100 sieve.
- m) Sulfur shall be 99 percent pure. Not more than 1 percent by weight shall be retained on a No. 8 sieve.
- n) Activated charcoal shall be "Gro-Safe" as manufactured by NORIT Americas, Inc. or Agency-approved equal.
- o) Peat shall be free from alkali.
- p) The maximum total permissible pollutant concentrations in parts per million on a dry weight basis shall be as follows:

arsenic	20	molybdenum	20
cadmium	15	nickel	100
chromium	300	selenium	50
cobalt	50	silver	10
copper	100	vanadium	500
lead	200	zinc	200
mercury	10		

q) Prepared backfill mix shall consist of the following:

- 1) Imported top soil: 60 percent by weight.
- 2) Humus soil amendment: compost, washed steer manure, mushroom compost, composted wood products (not including redwood or cedar): 40 percent by weight.
- 3) Urea formaldehyde (38-0-0): 1/3 pound per cubic yard.
- 4) Potassium sulfate (0-0-50): 1/3 pound per cubic yard.
- 5) Triple superphosphate (0-45-0): 1/3 pound per cubic yard.
- 6) Agricultural gypsum: 1 pound per cubic yard.

800-1.4 Plants. (Page 593 of the SSPWC)

800-1.4.1 General.

Add the following:

The Contractor shall obtain approval from the Engineer and secure all plants required for the Project after issuance of the Part 1 Notice to Proceed.

The Contractor shall submit a list of plant materials (sizes and quantities), sample photographs of plants including size reference (e.g. known container size, yard sticks), and the name, address, contact person, and phone number of the nursery or nurseries where the plants are to be purchased.

Once the plant submittal has been approved by the Engineer, no plant substitutions will be allowed unless such substitutions are deemed necessary due to an unforeseen cause as approved by the Engineer.

Plant materials 15 gallons and larger in size will be inspected and tagged at the nursery by the Engineer no later than 2 weeks prior to the start of planting operations. The Contractor shall coordinate the tagging of plants with the nursery and the Engineer. The provisions of 4-1.3.3 shall be applicable to the nursery location.

Plants 5 gallons in size and smaller will be inspected and approved at the Project site by the Engineer at the time of delivery.

Plants not approved by the Engineer shall be removed from the Project site and replaced with approved plants.

800-1.4.2 Trees and 800-1.4.3 Shrubs.

Replace the entire subsections with the following:

800-1.4.2 Trees and Shrubs. Refer to the list of plants and respective quantities shown on the Plans. The quantity listed shall only be used as a guide. The Contractor is responsible for providing all plants shown or implied on the Plans.

The plants sizes and conditions shown on the list of plants on the Plans conforms to the most current American Nursery Standards,

http://americanhort.org/documents/ansi_nursery_stock_standards_americanhort_2014.pdf.

One of each variety of plant shall be labeled with the proper botanical name, identifying genus, species and if applicable, cultivar or variety.

800-1.4.3 Not Used.

800-1.5 Headers, Stakes, and Ties.

800-1.5.3 Tree Stakes.

Replace the first sentence of the first paragraph with the following:

Tree stakes shall be constructed of pressure-treated lodge pole pine, 2 to 2-1/2 inches in diameter.

SECTION 801 - INSTALLATION**801-1 GENERAL.** (Page 596 of the SSPWC)

Add the following:

- a) **Root Zone Protection.** The adjoining soil should be maintained at the same grade as the root zone before and after construction. No soil shall be in contact with the

trunk of the tree above the root flare. Where lowering the grade is unavoidable, roots may be clean cut at right angles to the root with a sharp tool. No more than 25 percent of the root zone shall be impacted. Roots greater than 1-1/2 inches in diameter within 5 feet of the trunk shall not be cut without a Certified Arborist's report of tree conditions including the probability of survival, and the Engineer's approval.

The Contractor shall protect the tree and root zone during construction by conforming to the following:

- 1) Chain link fencing with an access gate shall be furnished and installed if needed to protect the root zone. The location of the fencing shall be approved by the Engineer. Clippings from pruning mounded up to 3 feet high may be used to protect the root zone but must still effectively irrigate the root zone. Clippings shall be removed after construction is completed.
- 2) The root zone shall be irrigated with clean potable water.
- 3) No trenching or cutting of roots will be allowed in the root zone without the presence of the Engineer and a Certified Arborist. Pipes or cables shall be relocated outside the dripline of trees. Roots may be bored or tunneled under. Trenches shall be radial to the trunk. The same trench shall be used for multiple utilities unless otherwise approved by the Engineer.
- 4) Exposed and bridging tree roots shall be wrapped with 3 layers of burlap and kept moist. Trenches within driplines shall be closed within 24 hours of opening.
- 5) Work shall be accomplished with hand tools within the root zone. Heavy equipment shall not pass over the root zone.

- 6) No construction staging, storage and disposing of materials will be allowed within the root zone.
- 7) Light pruning in the presence of the Agency's Landscape Architect or a Certified Arborist may be performed to avoid damage to branches from construction vehicles or cranes.

801-2 EARTHWORK AND TOPSOIL PLACEMENT.**801-2.1 General.** (Page 596 of the SSPWC)

Add the following:

Site grading shall include:

- a) Excavating, sloping, rounding tops and ends of excavations, erosion control, and loading, unloading, and stockpiling native and imported soils.
- b) Areas where changes of grade are shown on the Plans by contours, elevations, dimensions, or as otherwise noted.
- c) Compaction of planting areas a maximum of 75 to 85 percent relative compaction.
- d) Stockpiling of native topsoil for re-use.

801-2.2 Topsoil Preparation and Conditioning. (Page 596 of the SSPWC)**801-2.2.2 Fertilizing and Conditioning Procedures.**

Delete the *third paragraph* and *add the following:*

- a) Planting areas shall include all lawn, sod, ground cover, vine, shrub and tree planting areas.
- b) All planting areas except slopes steeper than 3:1 shall be thoroughly cultivated to a depth of 12 inches using a ripper with teeth no wider than 12 inches on-center. Cultivation shall be performed in at least 2 directions at right angles.
- c) Prior to incorporating soil amendments, thoroughly moisten soil and grade all planting areas to within 0.1 of a foot of finished grades.

- d) During the cultivation process, irrigation equipment shall be protected from damage. The Contractor shall replace damaged irrigation equipment.
- e) Prior to cultivating existing soil, all vegetation not shown to remain, stumps, roots, rocks, stones larger than 1 inch in diameter, and all other deleterious material shall be removed.
- f) Where shown on the Plans, fumigate with a fumigant approved by the Engineer in accordance with the recommendations of the applicable regulatory agencies and the manufacturer.

801-2.3 Finish Grading. (Page 597 of the SSPWC)

Delete the second paragraph and add the following:

The finish grade of all planting areas where mulch is shown on the Plans shall be 3 inches below the adjacent paving, curbs and mowing strips. The finish grade of all sod areas shall be 1 inch below the adjacent paving, curbs and mowing strips. The Contractor shall furnish and place additional approved topsoil if so required to meet the aforementioned requirements.

801-4 PLANTING.

801-4.1 General. (Page 597 of the SSPWC)

Add the following:

- a) **Plants.** Plants shall not be allowed to dry out either before or during planting. Exposed roots shall be kept moist by means of wet sawdust, peat moss or burlap at all times during planting operations. Roots shall not be exposed to the air except while being placed in the ground. Wilted plants, whether in place or not, will not be accepted.
- b) **Watering.** Plants shall be watered immediately after planting and in accordance with 801-4.9.5.
- c) **Mulching.** Trees, shrubs and ground covers shall be mulched in accordance with the following:
 - 1) All ground cover areas shall receive 1-1/2 cubic yards per 1000 square feet. Stabilized slopes and slopes steeper than 3:1 shall not be mulched.

- 2) Each container plant shall have a 3-inch layer of mulch placed in its watering basin.
- 3) Except for sod or lawn areas, all planted areas shall have a 3-inch layer of mulch.

d) Inspection. In addition to the provisions of 2-11, the Contractor shall conform to the following:

- 1) Written notice requesting an inspection shall be submitted to the Engineer at least 10 Days prior to the anticipated date.
- 2) Prior to scheduling an inspection for the purpose of determination of the completion of the Work by the Engineer as specified in 6-8, and determination of the start of the Plant Establishment Period, the Contractor shall ensure that landscaping and irrigation improvements are placed in accordance with the Contract Documents, all plants in-place are in a healthy condition, landscaped areas are clean and free of weeds and debris, and the Work site is in a neat condition.
- 3) The following inspections are required:
 - i) Inspections will be performed by the Engineer with the assistance of the Agency Landscape Architect.
 - ii) Plants (5 gallons and smaller) after delivery to the Work site.
 - iii) Plants and specimen plants (15 gallons and larger) at the source before delivery to the Work site.
 - iv) Plant locations on-site prior to excavation of plant pits.
 - v) Lawn areas, fine graded, prior to seeding or sod installation.
 - vi) Prior to the start of the 180-Day Plant Establishment Period.
 - vii) During required fertilizer application within the Plant Establishment Period.
 - viii) Upon completion of the 180-Day Plant Establishment Period.

801-4.5 Tree and Shrub Planting. (Page 598 of the SSPWC)

Replace the first paragraph with the following:

Plant containers up to and including 15-gallon shall be placed in planting pits having vertical sides; a width 2 times wider than the width of the root ball; and a height equal to that of the root ball.

Plant containers 24 inches and larger shall be placed in planting pits having vertical sides; a width 3 times wider than the width of the root ball; and a height equal to that of the root ball.

Planting pits for flat-sized plants are to be at least 6 inches x 6 inches x 6 inches.

Planting shall be in moistened soil.

Replace the fourth paragraph with the following:

Planting pits shall be backfilled with backfill mix. Backfill mix shall be placed at the bottom of pit and foot-tamped so that the plant rootball will be approximately 1 inch higher than the adjacent grade after settlement. The trunk flare of trees (increased diameter of trunk where roots and trunk meet) shall be visible. No soil shall be placed on top of the rootball.

Add the following to the fifth paragraph:

- h) Existing trees or shrubs shown on the Plans to be relocated (moved) or to be changed in elevation shall be moved utilizing a box of sufficient size to encompass the roots. Equivalent trees or plants of the same size may be furnished and planted by the Contractor in lieu of transplanting existing plants if so approved by the Engineer. Plants that die within the Plant Establishment Period shall be replaced by the Contractor.

801-4.6 Plant Staking and Guying. (Page 598 of the SSPWC)

Replace 801-4.6.1 and 801-4.6.2 with the following:

Trees shall be staked in 2 locations at the time of planting by driving a stake at the outside edge of the rootball perpendicular to the prevailing winds. Fasten the tree to the upper end of each stake with tree ties in 2 places. Staking shall be uniform throughout the entire Project.

801-4.9 Erosion Control Planting. (Page 600 of the SSPWC)

801-4.9.1 General.

Add the following:

On slopes steeper than 3:1 or slopes with non-tillable soil, cultivation and incorporation of fertilizer are not required.

801-4.9.5 Watering.

Add the following:

- a) All plantings which cannot be watered efficiently with the irrigation system shall be hand-watered.
- b) Immediately after planting all plants, water shall be applied by means of a hose discharging in a moderate stream until the material around the roots is completely saturated from the bottom of the planting pit to the finished grade.
- c) Water shall be applied as often as seasonal conditions require to keep the ground moist below the root systems.

Add the following subsection:

801-4.9.6 Jute Matting. Jute matting installation shall conform to the following requirements:

- a) Jute matting shall completely cover the areas shown on the Plans where installation is required.
- b) Installation shall use staples made from 12-inch lengths of No. 8 gauge wire.
- c) Jute matting shall be installed in accordance with the following:
 - 1) Construct check slots before the matting is rolled out. A narrow trench shall be dug across the channel perpendicular to the direction of the flow. Fold jute, the same length as the trench, and press together. Locations of check slots shall be a maximum of 50 feet apart.
 - 2) Roll in the direction of the flow of water in drainage channels. Smooth and secure in place as shown on the Plans. The material shall be applied without stretching and lie smoothly but loosely on the soil surface. In cases where one roll of matting ends and a second roll starts, the up channel piece shall be

brought over the buried end of the second roll so that there is a 12-inch overlap. Where 2 or more widths of matting are applied, side by side, the overlap should be not less than 4 inches. Edges shall be stapled every 10 feet. At critical points such as inlets and check slots staple closer as required.

- 3) Overlaps which run parallel to the direction of the flow in channel bottoms shall be stapled at 2-foot intervals. Outside edges, centers and overlaps on banks shall be stapled across the channel at 6-inch intervals.
 - 4) Roll with a smooth roller having a weight of 50 to 75 pounds per foot of drum width.
 - 5) Any clods, etc. which hold the jute matting off the ground shall be tamped into the soil. Force jute matting down into any depressions and hold there with a staple.
 - 6) Spread loose topsoil over outside edges to allow for smooth entry of water.
 - 7) Top-dress jute area with a thin layer of topsoil. After top dressing, the yarn shall still be visible.
- d) Maintain jute matting until the Work has been completed in accordance with 6-8. Maintenance shall consist of the repair of eroded areas and the repair or replacement and re-stapling of loose or undermined jute matting, including re-seeding and bedding.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT. (Page 607 of the SSPWC)

Replace the second sentence of the fifth paragraph with the following:

The plant establishment period shall be for a period of **180 Days** and will be extended by the Engineer if the planted areas are improperly maintained, appreciable plant replacement is required, or other corrective work becomes necessary.

Add the following as the sixth paragraph:

The Contractor shall perform the following during the plant establishment period:

- a) Keep all plants and planting areas watered, trash-free, and weed-free (except sloped areas).

- b) Control insects and fungi using appropriate insecticides and fungicides.
- c) Apply fertilizer in the presence of the Engineer at the beginning of the plant establishment period and after 180 Days.
- d) Apply commercial fertilizer, analysis 10-6-4, at the rate of 10 pounds per 1000 square feet uniformly over all shrub, ground cover and lawn areas except for slopes steeper than 3:1.
- e) Apply soil conditioner-fertilizer, controlled release (12-8-8) at the rate of 20 pounds per 1000 square feet uniformly over all shrub, ground cover and lawn areas.
- f) Repair planting areas.
- g) Fill depressions caused by erosion, vehicles, bicycles or foot traffic with topsoil and level.
- h) Re-seed damaged lawn areas.
- i) Replace all plant materials which, for any reason, die, are unhealthy or are damaged. Trees or other plant materials that die-back and lose the form and size as originally specified shall be replaced even if they have taken root and are growing after the die-back. Replacement shall be made with the same tree or plant as originally specified or shown on the Plans.
- j) Prior to completion, cultivate all ground cover and shrub areas and apply an additional application of pre-emergent herbicide in accordance with manufacturers recommendations.

801-7 MEASUREMENT. (Page 607 of the SSPWC)

Replace with the following:

Measurement will be made in accordance with the units shown on the Schedule of Prices for the various landscaping and irrigation Bid items.

801-8 PAYMENT. (Page 607 of the SSPWC)

Replace with the following:

Payment for performance of tree protection as shown on Sheet 46 of the Plans and any work incidental will be made at the lump sum price Bid price for “TREE PROTECTION”

Payment for performance of sub grade preparation, transport, installation, and any work incidental to the installation at the lump sum price in the Bid for “PLANT ESTABLISHMENT PERIOD.”

No separate or additional payment will be made for plants which require replacement during the plant establishment period.

____:____

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ATTACHMENT 1
OSHA UNDERGROUND CLASSIFICATION



State of California
Department of Industrial Relations
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Van Nuys Office R5D2

Underground Classification

C040-037-21T

Pacoima Spreading Grounds Basin Enhancement Project- Alignment P3-P3
Los Angeles County Department of Public Works
(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of P.O. Box 1460
Alhambra, CA 91802-9974
(MAILING ADDRESS)

at Devonshire Street approx. 1400 ft. west of Arleta Avenue
Mission Hills, California
(LOCATION)

has been classified as ***POTENTIALLY GASSY***
(CLASSIFICATION)
as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

A 72-inch diameter tunnel, approximately 257 feet in length, to be installed under Devonshire Street approximately 1400 feet west of Arleta Avenue, between Basin 4 and Basin 5 in the Pacoima Spreading Grounds, in Mission Hills (City of Los Angeles), California.

December 3, 2020
Date

Matt Switzer,
Acting District Manager



State of California
Department of Industrial Relations
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Van Nuys Office R5D2

Underground Classification

C041-037-21T

Pacoima Spreading Grounds Basin Enhancement Project- Alignment P5-P5
Los Angeles County Department of Public Works

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of P.O. Box 1460
Alhambra, CA 91802-9974
(MAILING ADDRESS)

at Devonshire Street approx. 400 ft. west of Arleta Avenue
Mission Hills, California
(LOCATION)

has been classified as ***POTENTIALLY GASSY***
(CLASSIFICATION)

as required by the California Labor Code Section 7955.

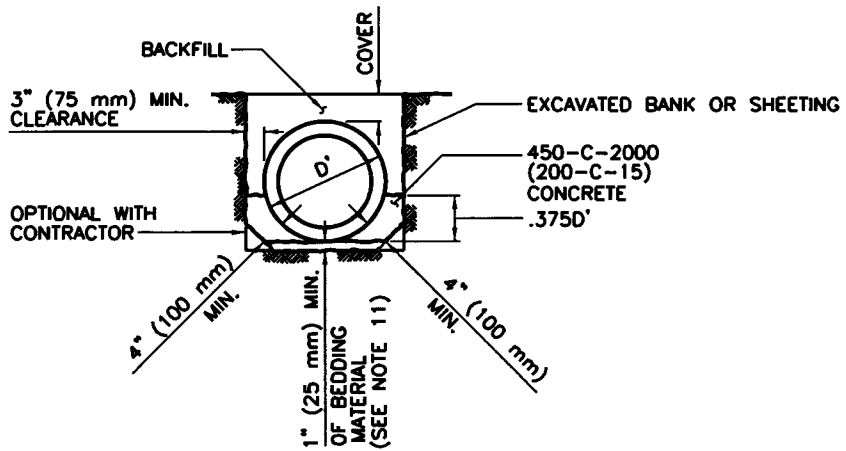
The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground.
Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

A 72-inch diameter tunnel, approximately 193 feet in length, to be installed under Devonshire Street approximately 400 feet west of Arleta Avenue, between East Settling Basin and Basin 1 in the Pacoima Spreading Grounds, in Mission Hills (City of Los Angeles), California.

December 3, 2020
Date

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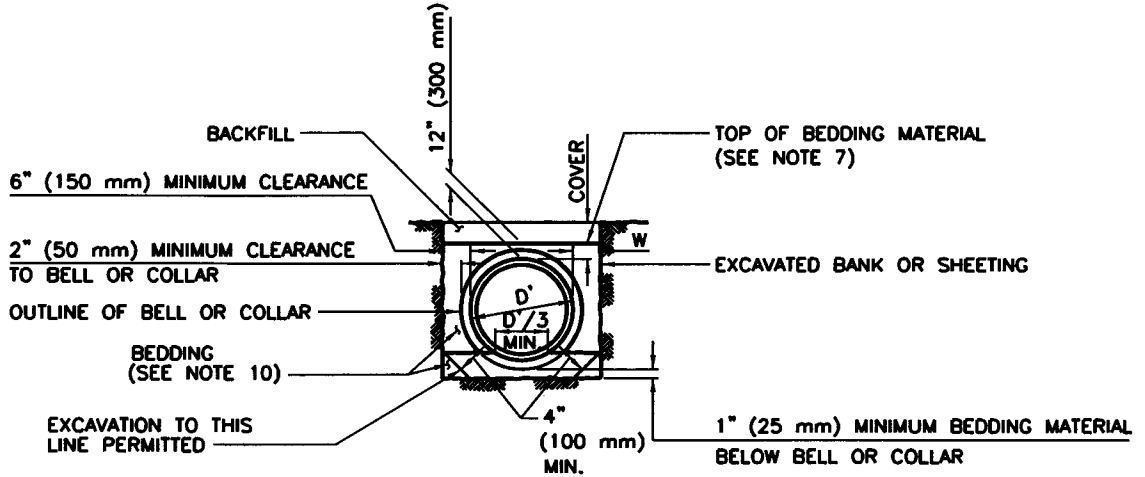
Matt Switzer,
Acting District Manager



CASE 1

NOTE:

CASE 1 BEDDING (LOAD FACTOR 2.1)
 SHALL BE USED WHERE SPECIFIED ON THE PLANS OR WHERE REQUIRED AS AN ALTERNATIVE TO CASE 2 OR CASE 3 BEDDING AS PROVIDED HEREON AND ON SH. 2. CASE 4 BEDDING SHALL BE USED INSTEAD OF CASE 1 AGAINST SHEETING OR UNSTABLE TRENCH SIDES IF SO REQUIRED BY THE ENGINEER.



CASE 2

VITRIFIED CLAY AND PLAIN CONCRETE PIPE

NOTES:

- CASE 2 BEDDING & BACKFILL AROUND PIPE (LOAD FACTOR 1.8)
- (a) W AT SPRING LINE SHALL NOT BE LESS THAN 6" (150 mm) FOR ANY DEPTH OF TRENCH. THIS DIMENSION MAY INCLUDE THE THICKNESS OF ANY SHEETING.
 - (b) WHERE COVER IS GREATER THAN 8'-0" (2.5 m), W MEASURED AT TOP OF PIPE SHALL NOT BE GREATER THAN 8" (200 mm) UNLESS THE CONTRACTOR AT ITS OWN EXPENSE PROVIDES CASE 1 BEDDING OR STRONGER PIPE. THE STATED 8" (200 mm) INCLUDES THE THICKNESS OF ANY SHEETING.
 - (c) SCREED BEDDING MATERIAL TO FIT CURVATURE AND GRADE OF PIPE. TYPE OF SCREED AND THE METHOD OF USE TO BE APPROVED BY THE ENGINEER.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PIPE BEDDING IN TRENCHES

STANDARD PLAN

3080-3

APPROVED

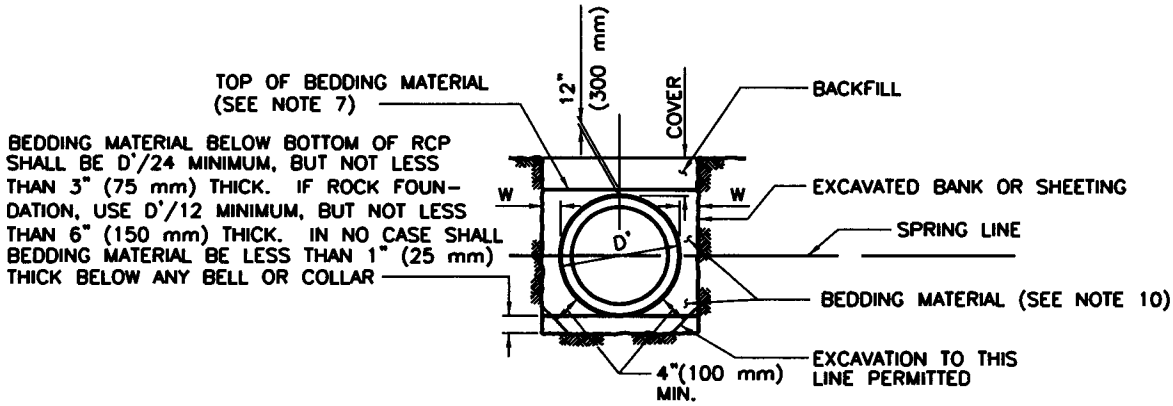
Thomas A. Robinson
 DIRECTOR OF PUBLIC WORKS

5/31/1992
 DATE

1995, 1999, 2007

REVISIONS

SHEET 1 OF 3

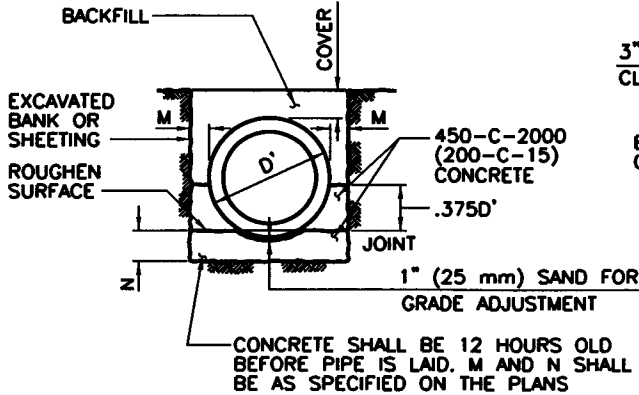


CASE 3 REINFORCED CONCRETE PIPE

NOTES:

CASE 3 BEDDING & BACKFILL AROUND RCP (LOAD FACTOR 2.2 TO 2.5)

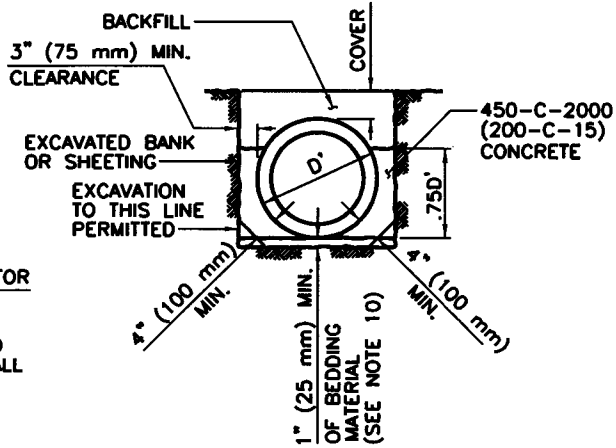
- (a) W AT SPRING LINE SHALL NOT BE LESS THAN THE FOLLOWING: 6" (150 mm) FOR RCP 60" (1500 mm) OR LESS IN DIAMETER, 10" (250 mm) FOR RCP 63" (1575 mm) TO 108" (2700 mm) INCLUSIVE IN DIAMETER, AND 12" (300 mm) FOR PIPE LARGER THAN 108" (2700 mm) IN DIAMETER. THESE DIMENSIONS MAY INCLUDE THE THICKNESS OF ANY SHEETING.
- (b) WHERE COVER IS GREATER THAN 10'-0" (3 m), W MEASURED AT TOP OF PIPE SHALL NOT BE GREATER THAN 10" (250 mm) FOR RCP 108" (2700 mm) IN DIAMETER OR LESS, OR 12" (300 mm) FOR RCP OVER 108" (2700 mm) IN DIAMETER. THESE DIMENSIONS INCLUDE THE THICKNESS OF ANY SHEETING.
- (c) SCREED BEDDING MATERIAL TO FIT CURVATURE AND GRADE OF RCP. TYPE OF SCREED AND THE METHOD OF USE TO BE APPROVED BY THE ENGINEER.
- (d) BEDDING MATERIAL BELOW THE SPRING LINE FOR RCP 54" (1350 mm) OR LARGER SHALL BE COMPACTED BEFORE PLACING BEDDING MATERIAL ABOVE THE SPRING LINE.



CASE 4

NOTE:

CASE 4 BEDDING (LOAD FACTOR 3.0) WHERE REQUIRED BY THE ENGINEER AS AN ALTERNATIVE TO CASE 1 OR CASE 5 TO MEET CONDITIONS ARISING DURING CONSTRUCTION.



CASE 5

NOTE:

CASE 5 BEDDING (LOAD FACTOR 2.7) SHALL BE USED WHERE SPECIFIED ON THE PLANS. CASE 4 BEDDING SHALL BE USED INSTEAD OF CASE 5 AGAINST SHEETING OR UNSTABLE TRENCH WALLS IF SO REQUIRED BY THE ENGINEER.

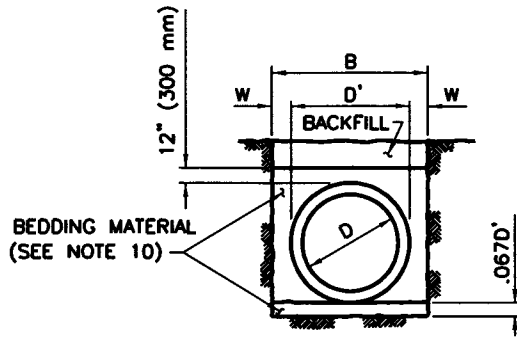
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PIPE BEDDING IN TRENCHES

STANDARD PLAN

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CASE 6

NOTES:

CASE 6 BEDDING (LOAD FACTOR 1.5)

- (a) NOTES (a), (b), AND (c) FROM CASE 3 SHALL APPLY.
- (b) WHERE SUBGRADE IS COMPOSED OF OTHER THAN GRANULAR OR SANDY MATERIAL, THE TRENCH SHALL BE EXCAVATED TO DEPTH OF AT LEAST 3" (75 mm) BELOW THE PIPE AND BACKFILLED WITH BEDDING MATERIAL OR OTHER MATERIALS AS MAY BE SPECIFIED OR OTHERWISE APPROVED BY THE AGENCY.

NOTES

1. USE CASE 3 FOR RCP, CASE 2 FOR VITRIFIED CLAY, AND PLAIN CONCRETE PIPE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PLANS. SEE PLANS FOR BEDDING DETAILS FOR PIPE OF OTHER MATERIALS.
2. BEDDING MATERIAL SHALL CONFORM TO TABLE 3080-3.1

TABLE 3080-3.1	
PARTICLE SIZE (MAX.)	3/4"
% PASSING NO. 4 SIEVE (MIN.)	50
% PASSING NO. 16 SIEVE (MIN.)	15
SAND EQUIVALENT (MIN.)	20

3. CONCRETE BACKFILL SHALL BE POURED FROM WALL TO WALL OF THE TRENCH AND FROM THE BOTTOM OF THE TRENCH TO A MINIMUM DEPTH OF 4" (100 mm) OVER THE TOP OF THE PIPE.
4. CONCRETE BACKFILL SHALL BE PROVIDED FOR RCP 21" (525 mm) IN DIAMETER OR LESS WHERE THE COVER IS EQUAL TO OR LESS THAN 24" (600 mm), FOR RCP GREATER THAN 21" (525 mm) IN DIAMETER BUT LESS THAN 39" (975 mm) WHERE THE COVER IS LESS THAN 15" (375 mm) AND FOR RCP 39" (975 mm) OR GREATER WHERE THE COVER IS LESS THAN 12" (300 mm). CONCRETE BACKFILL SHALL CONFORM TO NOTE 3.
5. 3-EDGE BEARING TEST LOAD FACTOR (D-LOAD) = 1.0.
6. DIMENSIONS SHOWN ON THIS STANDARD PLAN FOR ENGLISH AND METRIC UNITS ARE NOT EQUIVALENT. IF METRIC UNITS ARE USED, ALL UNITS SHALL BE METRIC, IF ENGLISH UNITS ARE USED, ALL UNITS SHALL BE ENGLISH.
7. TOP OF BEDDING MATERIAL AS SHOWN, UNLESS OTHERWISE SHOWN ON THE PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS.
8. D-LOADS FOR RCP TO BE PLACED IN ACCORDANCE WITH THIS STANDARD PLAN MUST BE DESIGNED FOR AN EMBANKMENT CONDITION, EVEN WHEN PLACED IN A TRENCH.
9. FOR WORK WITHIN THE JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS, REFER TO PERMIT REQUIREMENTS.
10. BEDDING MATERIAL BELOW THE PIPE SHALL BE LOOSELY PLACED TO AVOID STRESS CONCENTRATIONS AT THE BOTTOM OF THE PIPE. BEDDING MATERIAL BELOW THE SPRING LINE, UNLESS CONCRETE, SHALL BE COMPACTED AFTER PLACEMENT OF THE PIPE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PIPE BEDDING IN TRENCHES

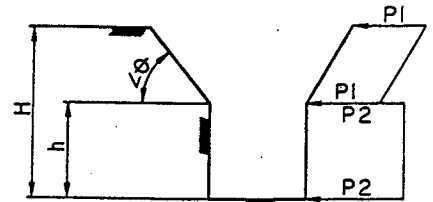
STANDARD PLAN
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 SHEET 3 OF 3



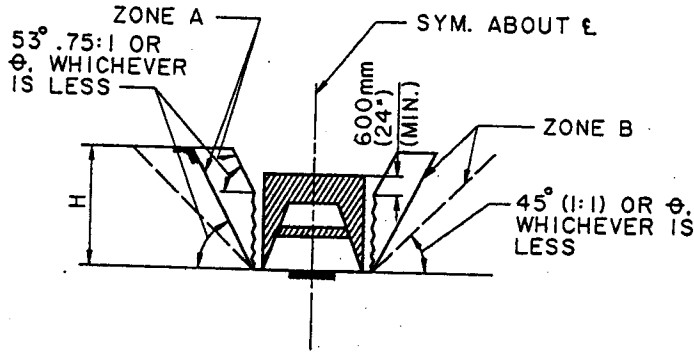
CASE 1
VERTICAL



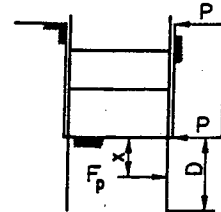
CASE 2
SLOPING



CASE 3
COMBINED



CASE 4
SHIELD



CASE 5
BEAM PENETRATION

NOTE:

IF THE TRENCH WALLS ARE SLOPED, $K_w = 25$ VALUES MAY BE REDUCED BY THE PERCENTAGES TABULATED BELOW. FOR K_w VALUES OTHER THAN 25 THE PERCENTAGE REDUCTION SHALL VARY UNIFORMLY FROM 0 AT A VERTICAL SLOPE TO 100 AT A SLOPE EQUAL TO THE ANGLE OF REPOSE OF THE SOIL BUT NOT GREATER THAN THE REDUCTION SHOWN FOR $K_w = 25$.

<u>SLOPE RATIO</u> <u>(HORIZONTAL TO VERTICAL)</u>	<u>PERCENTAGE</u> <u>REDUCTION</u>
1:5.1 TO VERTICAL	0
1:2.1 TO 1:5	33
.75:1.1 TO 1:2	67
HORIZONTAL TO .75:1	100

LEGEND

- P = UNIT PRESSURE IN PSF
- P1 = UNIT PRESSURE IN PSF
(USE K_w VALUE REQUIRED BY THE SLOPE)
- P2 = UNIT PRESSURE IN PSF (VERTICAL PORTION), VARIED FROM A VALUE EQUAL TO $.8K_w H$ WHEN $\phi = 90^\circ$ TO A VALUE EQUAL TO $.8K_w [h + (.25(H-h)) \tan \phi]$ WHEN $\phi = 53^\circ$
- K = COEFFICIENT OF ACTIVE EARTH PRESSURE
- w = UNIT WEIGHT OF SOIL IN PCF
- H = DEPTH OF EXCAVATION IN FEET
- h = DEPTH OF VERTICAL PORTION OF EXCAVATION IN FEET
- ϕ = EXCAVATION ANGLE. NO SHORING IS REQUIRED AT THE ANGLE OF REPOSE AT WHICH THE SOIL WILL SAFELY STAND, BUT IN NO CASE SHALL THIS ANGLE BE GREATER THAN 53°
- D = DEPTH OF PENETRATION IN FEET
- F_p = RESULTANT FORCE IN POUND PER FOOT OF BEAM WIDTH
- x = DISTANCE TO F_p FROM SUBGRADE IN FEET

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRITERIA FOR THE DESIGN
OF SHORING FOR EXCAVATIONS

STANDARD PLAN
METRIC

3090-1

APPROVED

Thomas A. Gulmanian
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

SHEET 1 OF 4

GENERAL MINIMUM REQUIREMENTS

NOTES

DESIGN

- I. A SHORING SYSTEM SHALL CONSIST OF MAIN HORIZONTAL AND VERTICAL BRACING THAT WILL FUNCTION AS A TEMPORARY EARTH SUPPORTING STRUCTURE, SUPPORT FOR EXISTING IMPROVEMENTS, AND FOR PROTECTION OF WORKERS. SHORING FOR EXCAVATIONS SHALL BE DESIGNED TO WITHSTAND NOT LESS THAN THE LOADS INDICATED ON SH. 1 AND SHALL COMPLY WITH THE STATE OF CALIFORNIA, DEPARTMENT OF INDUSTRIAL RELATIONS, CONSTRUCTION SAFETY ORDERS UNLESS MODIFIED ON THIS DRAWING OR IN THE SPECIAL PROVISIONS OF THE SPECIFICATIONS.

A. SOIL PARAMETERS K_w

K_w IS THE PRODUCT OF THE COEFFICIENT OF ACTIVE EARTH PRESSURE (K) AND THE UNIT WEIGHT OF SOIL (w). VALUES OF K_w SHALL NOT BE LESS THAN NOTED IN THE SPECIAL PROVISIONS OF THE SPECIFICATIONS.

B. VERTICAL OR HORIZONTAL SHORES

SHORES SHALL BE DESIGNED FOR $P = 0.8K_wH$ UNLESS SOLID SUPPORT SHORES ARE USED IN WHICH CASE $P = 0.6K_wH$ MAY BE USED. SHORES SHALL NOT BE LESS THAN 50mm(2") THICK AND 200mm(8") WIDE, SPACED A MAXIMUM OF 2.5m (9'-0") OC HORIZONTALLY, AND EXTEND FROM TOP TO BOTTOM OF EXCAVATION. WHEN PILES ARE USED FOR VERTICAL SHORES, THE EMBEDMENT LENGTH AND ANY ANCHOR DETAILS SPECIFIED MUST BE SUPPORTED BY CALCULATIONS. RESULTANT FORCE F_p SHALL BE PER SUBSECTION 306-1.1.6.2 AS AMENDED.

DEFINITIONS

1. SHEETING - A WALL OF PLANKS PLACED AGAINST THE TRENCH EARTH FACE, SPANNING VERTICALLY BETWEEN HORIZONTAL SUPPORTS.
2. LAGGING - A WALL OF PLANKS PLACED AGAINST THE TRENCH EARTH FACE, SPANNING HORIZONTALLY BETWEEN VERTICAL SUPPORTS.
3. TYPE A SOLID SUPPORT SHORES - EITHER CONTINUOUS ABUTTING SHEETING OR LAGGING (LAGGING MAY BE INTERMITTENTLY SPACED IF THE LOAD CONDITIONS PERMIT) PLACED IMMEDIATELY AFTER THE EXCAVATION REACHES THE SUBGRADE.
4. TYPE B SOLID SUPPORT SHORES - EITHER ABUTTING SHEETING OR ABUTTING LAGGING PLACED IMMEDIATELY SUBSEQUENT TO EXCAVATION AND ESTABLISHMENT OF THE TRENCH WALL. IN NO CASE SHALL THE DEPTH OF THE UNSUPPORTED TRENCH WALL EXCEED 600mm(24").

C. HORIZONTAL BRACES OR STRUTS

STRUTS SHALL BE DESIGNED FOR $P = 0.8K_wH$ AND A 1780N(400 LB.) CONCENTRATED LOAD AT THE CENTER LINE. HORIZONTAL SPACING OF BRACES OR STRUTS SHALL NOT EXCEED 2.5m(9'-0") OC, UNLESS AN APPROVED WALER SYSTEM IS UTILIZED. THE WALERS MUST BE OF SUFFICIENT STRENGTH TO SUSTAIN THE REACTIONS FROM THE VERTICAL MEMBERS, AND BE OF SUFFICIENT STIFFNESS TO MINIMIZE DEFLECTIONS OF THE VERTICAL MEMBERS. TO FACILITATE PLACEMENT OF PIPE THE CONTRACTOR MAY:

1. REMOVE THE CROSS BRACING BELOW THE LEVEL OF THE TOP OF THE PIPE. REMOVAL OF BRACES SHALL BE LIMITED TO A DISTANCE OF 4m(14'-0") IN ADVANCE OF THE PLACEMENT OF PIPE.
2. REMOVE AN ENTIRE VERTICAL SHORING SET PROVIDED THAT THE MAXIMUM SPACING BETWEEN THE REMAINING SETS DOES NOT EXCEED 4m(14'-0") OC.
3. IF ITEMS 1 OR 2 ABOVE ARE USED, WORKERS WILL NOT BE PERMITTED IN THAT PORTION OF THE TRENCH WHERE THE SUPPORT HAS BEEN REMOVED.

IMMEDIATELY SUBSEQUENT TO PLACEMENT OF THE PIPE THE CONTRACTOR SHALL REPLACE THE VERTICAL SHORING SET PREVIOUSLY REMOVED WITH A SET DESIGNED TO SUPPORT THE EXCAVATION WALL FROM THE TOP OF THE PIPE TO THE GROUND SURFACE. TO FACILITATE CONSTRUCTION OF POURED-IN-PLACE STRUCTURES THE 1.5m(5') LIMITATION NOTED IN THE CONSTRUCTION SAFETY ORDERS ON SPACING OF CROSS BRACING WILL BE WAIVED FOR THE AREA BELOW THE TOP OF THE STRUCTURE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRITERIA FOR THE DESIGN
OF SHORING FOR EXCAVATIONS

STANDARD PLAN
METRIC

3090-1

SHEET 2 OF 4

GENERAL MINIMUM REQUIREMENTS (CONT.)

D. WALERS OR STRINGERS

WALERS SHALL BE DESIGNED FOR $P = .8kwh$. SPECIAL ATTENTION SHALL BE EXERCISED IN DESIGNING FOR HORIZONTAL SHEAR AND FOR THE CONDITION WHERE INTERMEDIATE WALERS AND/OR CROSS BRACING ARE REMOVED.

E. EXISTING IMPROVEMENTS AND SURCHARGE LOADS

ALL EXISTING IMPROVEMENTS MUST BE CONSIDERED IN THE DESIGN OF THE SHORING SYSTEM AND PROTECTED IN PLACE UNLESS OTHERWISE INDICATED ON THE PROJECT DRAWINGS OR SPECIFICATIONS. PARALLEL UTILITIES EXCEPT FOR METALLIC CONDUITS USED FOR THE PURPOSE OF CONTAINING ELECTRICAL CABLES AND PIPES 100mm(4") OR LESS IN DIAMETER USED FOR LOW PRESSURE GAS DISTRIBUTION SYSTEMS OUTSIDE OF THE LIMITS OF VERTICAL EXCAVATIONS MUST NOT BE EXPOSED BY USING SLOPING EXCAVATIONS. ALSO, EXISTING IMPROVEMENTS SHALL NOT IMPOSE ADVERSE LOADS ON THE SHORING OR BE SUBJECTED TO ADVERSE LOADS CAUSED BY THE SHORING IN ADDITION TO THE EARTH LOADS. THE SHORING SYSTEM MUST SUSTAIN LOADS IMPOSED BY TRAFFIC, CONSTRUCTION EQUIPMENT, ADJACENT STRUCTURES, OR ANY OTHER SURCHARGE LOADS. THE LOAD IMPOSED ON THE SHORING SYSTEM BY NORMAL STREET VEHICULAR TRAFFIC MAY BE ASSUMED TO BE EQUAL TO THE LOAD IMPOSED BY 600mm(24") OF EARTH.

2. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACT EQUAL VALUES. IF METRIC VALUES ARE USED. ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED. ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH UNITS.

MATERIALS GENERAL

ALL MATERIALS USED FOR SHORING, SHEETING, AND LAGGING IN COMPLYING WITH THE PROVISIONS OF THIS STANDARD DRAWING, MAY BE NEW OR USED BUT SHALL BE FREE FROM DEFECTS AND DAMAGE THAT MIGHT IN ANY WAY IMPAIR THEIR PROTECTIVE FUNCTION. ALLOWABLE STRESSES SPECIFIED IN THE PUBLICATIONS LISTED HEREON MAY BE INCREASED BY 1/3.

A. LUMBER

DESIGN FOR LUMBER SHALL BE IN ACCORDANCE WITH NATIONAL DESIGN SPECIFICATIONS FOR STRESS-GRADE LUMBER. THE GRADE OR STRUCTURAL PROPERTIES OF LUMBER USED FOR SHORING, SHALL CORRESPOND TO THAT SPECIFIED IN CURRENT STANDARD GRADING AND DRESSING RULES OR THE WEST COAST LUMBER INSPECTION BUREAU. ALL LUMBER MUST BEAR THE GRADE STAMP. USED MATERIAL MAY BE DESIGNED IN ACCORDANCE WITH THE STANDARD GRADING AND DRESSING RULES IN EFFECT AT THE TIME THE LUMBER WAS GRADED. THE MAXIMUM PERMISSIBLE FLEXURAL STRESS SHALL NOT EXCEED 15MPa(2000 PSI). THE 15MPa(2000 PSI) STRESS LIMITATION INCLUDES THE 1/3 INCREASE NOTED HEREINABOVE. NON-STRESS GRADE LUMBER FOR SOLID SUPPORT SHORES MAY BE USED WHEN $K_w \leq 4710N/m^3(30 PCF)$ PROVIDING THE FOLLOWING THICKNESS AND SPACING REQUIREMENTS ARE OBSERVED.

<u>MINIMUM ROUGH THICKNESS OF SHEETING OR LAGGING</u>	<u>MAXIMUM VERTICAL SPACING OF WALERS FOR SOLID SHEETING</u>	<u>MAXIMUM HORIZ. SPACING OF UPRIGHTS FOR LAGGING</u>
50mm(2")	1m(4'-0")	1m(4'-0")
80mm(3")	2m(7'-0")	2m(7'-0")

HOWEVER, THE MINIMUM ROUGH THICKNESS AND MAXIMUM SPACING TABULATED ABOVE FOR NON-STRESS GRADE LUMBER MAY BE DISREGARDED PROVIDED STRESS GRADE LUMBER OR STEEL IS DESIGNED TO BE USED FOR SOLID SUPPORT SHORES.

B. STRUCTURAL STEEL

DIMENSIONS, PROPERTIES, AND DESIGN SHALL BE IN ACCORDANCE WITH THE CURRENT AISC MANUAL OF STEEL CONSTRUCTION.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRITERIA FOR THE DESIGN
OF SHORING FOR EXCAVATIONS

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GENERAL MINIMUM REQUIREMENTS (CONT.)

C. SPECIAL SHORING SYSTEMS

SYSTEMS SUCH AS SPEED-SHORE, TREN-SHORE, ETC., WILL BE ALLOWED ONLY IF THE CONTRACTOR FILES OR HAS FILED WITH THE DEPARTMENT SUBSTANTIATING CERTIFIED TESTS CLEARLY DENOTING THE CAPACITY OF THE SYSTEM. UNTESTED MEMBERS OF SPECIAL SYSTEMS, COMPOSITE MEMBERS, BUILT-UP MEMBERS, ETC., MUST BE THEORETICALLY DESIGNED. VERTICAL SHORES MUST BE AT LEAST 200mm(8") WIDE. STRUTS TESTED UNDER IDEAL OR LABORATORY CONDITIONS SHALL BE USED WITH A MINIMUM SAFETY FACTOR OF 1.5.

D. SHIELDS

1. SHIELDS ARE ACCEPTABLE AS A MEANS OF SHORING EXCAVATIONS, AS SHOWN ON CASE 4, WITH THE FOLLOWING RESTRICTIONS.

- a. ZONE A SHALL NOT INTERCEPT PROPERTY LINES OR INTERCEPT AN AREA REQUIRED BY THE SPECIFICATIONS FOR TRAFFIC.
- b. ZONE A SHALL NOT CONTAIN ANY EXISTING UTILITY OTHER THAN METALLIC ELECTRIC CONDUITS OR PIPE 100mm(4") OR LESS IN DIAMETER USED FOR LOW PRESSURE GAS DISTRIBUTION.
- c. ZONES A AND B SHALL NOT SUPPORT SURCHARGE DEAD LOADS SUCH AS PILING OR BUILDINGS.

THE RESTRICTIONS STATED IN b ABOVE WILL BE WAIVED PROVIDED THE CONTRACTOR SUBMITS WRITTEN APPROVAL FROM THE OWNER OF THE UTILITY FOR THE PROPOSED CONSTRUCTION METHOD. THE CONTRACTOR COMPLIES WITH ANY SUPPORT OR PROTECTION METHODS REQUIRED BY THE UTILITY COMPANY, AND THE OWNER OF THE UTILITY STATES, IN WRITING, THAT THEY WILL ACCEPT RESPONSIBILITY FOR ALL CLAIMS FOR DAMAGES THAT MAY ARISE AS A RESULT OF DISTURBANCE TO THE UTILITY. AN ACCEPTABLE SHORING SYSTEM MUST BE INSTALLED WHEN THE SHIELD IS REMOVED.

2. THE LENGTH OF UNSUPPORTED TRENCH IN FRONT OF THE SHIELD SHALL BE 2.5m(9'-0") MAXIMUM FROM THE FORWARD EDGE OF THE SHIELD TO THE TOE OF SLOPE BEING EXCAVATED.
3. SHIELDS SHALL CONFORM TO THE DESIGN CRITERIA NOTED HEREON.

E. TEMPORARY BRIDGES

PLANS AND CALCULATIONS FOR SHORING SYSTEMS AT TEMPORARY BRIDGES SHALL MEET THE REQUIREMENTS OF SUBSECTION 7-10.3.6(7) AS AMENDED.

CALCULATIONS AND DRAWINGS

SHORING SYSTEMS SHALL BE DESIGNED BY A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

- A. COMPLETE CALCULATIONS MUST BE SUBMITTED TO THE DEPARTMENT NOTING ALL ASSUMPTIONS AND REFERENCES. CALCULATIONS SHALL BE BASED ON STANDARD METHODS AND PROCEDURES BY RECOGNIZED AUTHORITIES. COMPUTER PRINTOUTS AND OTHER SUBMITTALS THAT DO NOT CLEARLY INDICATE THE COMPUTATION METHOD WILL NOT BE ACCEPTED. CROSS-SECTIONS OR SKETCHES SHOWING THE LOCATION OF EXISTING IMPROVEMENTS AND UTILITIES SHALL BE INCLUDED WHEN THE TYPE OF SHORING IS AFFECTED.
- B. DEPARTMENT STANDARD PLAN 3091 SHOWS THE FORMAT THAT IS TO BE USED. HOWEVER, THE SUPPORTING CALCULATIONS MAY BE ATTACHED ON LETTER-SIZED PAPER.

ACCEPTANCE

IF FOUND IN CONFORMANCE WITH THIS DRAWING AND THE SPECIFICATIONS, THE DEPARTMENT WILL INDICATE ACCEPTANCE BY SIGNING THE SUBMITTED DRAWINGS. IF THE METHOD SELECTED AND ACCEPTED BY THE DEPARTMENT DOES NOT PROVIDE ADEQUATE SUPPORT UNDER ACTUAL FIELD CONDITIONS, IT SHALL BE REPLACED WITH AN ACCEPTED ALTERNATE. THE DETAILS ARE ALSO SUBJECT TO THE REVIEW OF THE DIVISION OF INDUSTRIAL SAFETY. ANY DEVIATION FROM THE ACCEPTED DESIGN MUST BE APPROVED BY THE DEPARTMENT.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRITERIA FOR THE DESIGN
OF SHORING FOR EXCAVATIONS

STANDARD PLAN
METRIC

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SHEET 4 OF 4

SKETCH

DETAILS OF SHORING INDICATING SIZE AND SPACING OF ALL MEMBERS.

SEQUENCE OF PLACEMENT AND REMOVAL OF MEMBERS SHALL BE NOTED AS REQUIRED TO INSURE SAFETY OF WORKERS.

DESIGN CRITERIA

1. DESIGN LOADS BASED ON LACFCD *CRITERIA FOR THE DESIGN OF SHORING FOR EXCAVATIONS.
2. SOIL TYPE _____
K.w = _____ N/m³(pcf)
ϕ = _____ °
3. ALL TIMBER SHALL BE _____ GRADE.
4. ALLOWABLE STRESSES:

STRESS	WOOD	STEEL
FLEXURAL	_____	_____
AXIAL COMPRESSION	_____	_____
SHEAR	_____	_____
MODULUS.E.	_____	_____
5. MAXIMUM EXCAVATION DEPTH _____ METERS (FEET).

CALCULATIONS

CASE _____ : SHORING FOR EXCAVATIONS

APPLICABLE REACHES:

STA. _____ TO STA. _____
STA. _____ TO STA. _____

NOTES:

REACHES GIVEN ARE APPROXIMATE. IF A TYPE OF SOIL IS ENCOUNTERED WITHIN THE ABOVE REACHES WHICH IN ACCORDANCE WITH THE CRITERIA SET FORTH ON STANDARD PLAN 3090. REQUIRES THE USE OF A DIFFERENT METHOD OF SHORING. THEN SHORING DETAILS WILL BE REVISED AS PROVIDED IN THE PROJECT SPECIFICATIONS.

CALCULATIONS BY

NAME _____
R.C.E.NO. _____
ADDRESS _____
PHONE _____
DATE _____
SIGNATURE _____

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	
ACCEPTED BY _____	PROJECT NO. _____
DATE _____	EXCAVATION SHORING SYSTEM

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SAMPLE SHEET
FOR USE AS A GUIDE IN PREPARING CALCULATIONS
FOR SHORING OF EXCAVATIONS

STANDARD PLAN
METRIC

3091-1

SHEET 1 OF 1

APPROVED

Thomas A. Gulmanian
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

**UNIFIED SOIL CLASSIFICATION
(INCLUDING IDENTIFICATION AND DESCRIPTION)**

MAJOR DIVISIONS		GROUP SYMBOLS	TYPICAL NAMES	FIELD IDENTIFICATION PROCEDURES (EXCLUDING PARTICLES LARGER THAN 80mm (3") AND BASING FRACTION ON ESTIMATED WEIGHTS)		
1	2	3	4	5		
COARSE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN 75 μ m (NO. 200) SIEVE SIZE.	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN 4.75mm (NO. 4) SIEVE SIZE. (FOR VISUAL CLASSIFICATION, THE 6mm (1/4") SIZE MAY BE USED AS EQUIVALENT TO THE 4.75mm (NO. 4) SIEVE SIZE)	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.	WIDE RANGE IN GRAIN SIZES AND SUBSTANTIAL AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES.	
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.	PREDOMINATELY ONE SIZE OR A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING.	
			GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES.	NONPLASTIC FINES OR FINES WITH LOW PLASTICITY. (FOR IDENTIFICATION PROCEDURES SEE ML BELOW)	
		CLEAN SANDS (LITTLE OR NO FINES)	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES.	PLASTIC FINES (FOR IDENTIFICATION PROCEDURES SEE CL BELOW)	
			SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.	WIDE RANGE IN GRAIN SIZES AND SUBSTANTIAL AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES.	
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.	PREDOMINANTLY ONE SIZE OR A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING.	
			SM	SILTY SANDS, SAND-SILT MIXTURES.	NONPLASTIC FINES OR FINES WITH LOW PLASTICITY. (FOR IDENTIFICATION PROCEDURES SEE ML BELOW)	
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES.	PLASTIC FINES (FOR IDENTIFICATION PROCEDURES SEE CL BELOW)	
		FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN 75 μ m (NO. 200) SIEVE SIZE.	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50 LIQUID LIMIT GREATER THAN 50			IDENTIFICATION PROCEDURES ON FRACTION SMALLER THAN 450 μ m (NO. 40) SIEVE SIZE
				ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.	NONE TO SLIGHT
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.			MEDIUM TO HIGH	NONE TO VERY SLOW	MEDIUM
OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.			SLIGHT TO MEDIUM	SLOW	SLIGHT
MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.			SLIGHT TO MEDIUM	SLOW TO NONE	SLIGHT TO MEDIUM
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.			HIGH TO VERY HIGH	NONE	HIGH
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.			MEDIUM TO HIGH	NONE TO VERY SLOW	SLIGHT TO MEDIUM
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.			READILY IDENTIFIED BY COLOR, ODOR, SPONGY FEEL AND FREQUENTLY BY FIBROUS TEXTURE.		

(1) BOUNDARY CLASSIFICATIONS: SOILS POSSESSING CHARACTERISTICS OF TWO GROUPS ARE DESIGNATED BY COMBINATIONS OF GROUP SYMBOLS. FOR EXAMPLE GW-GC, WELL-GRADED GRAVEL-SAND MIXTURE WITH CLAY BINDER. (2) ALL SIEVE SIZES ON THIS CHART ARE U.S. STANDARD.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PLAN
METRIC

APPROVED

Thomas A. Johnson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

3093-1

SHEET 1 OF 3

UNIFIED SOIL CLASSIFICATION
(INCLUDING IDENTIFICATION AND DESCRIPTION)

INFORMATION
REQUIRED FOR
DESCRIBING SOILS

LABORATORY
CLASSIFICATION CRITERIA

GROUP
SYMBOLS

6

7

8

FOR UNDISTURBED SOILS ADD INFORMATION ON STRATIFICATION, DEGREE OF COMPACTNESS, CEMENTATION, MOISTURE CONDITIONS AND DRAINAGE CHARACTERISTICS.

GIVE TYPICAL NAME: INDICATE APPROXIMATE PERCENTAGES OF SAND AND GRAVEL, MAX. SIZE, ANGULARITY, SURFACE CONDITION, AND HARDNESS OF THE COARSE GRAINS: LOCAL OR GEOLOGIC NAME AND OTHER PERTINENT DESCRIPTIVE INFORMATION: AND SYMBOL IN PARENTHESIS.

EXAMPLE:

SILTY SAND, GRAVELLY: ABOUT 20% HARD, ANGULAR GRAVEL PARTICLES 10mm (1/2") MAX. SIZE: ROUNDED AND SUBANGULAR SAND GRAINS COARSE TO FINE: ABOUT 15% NONPLASTIC FINES WITH LOW DRY STRENGTH: WELL COMPACTED AND MOIST IN PLACE: ALLUVIAL SAND: (SM).

USE GRAIN SIZE CURVE IN IDENTIFYING THE FRACTIONS AS GIVEN UNDER FIELD IDENTIFICATION.

DETERMINE PERCENTAGES OF GRAVEL AND SAND FROM GRAIN-SIZE CURVE. DEPENDING ON PERCENTAGE OF FINES (FRACTION SMALLER THAN 75 μm(NO. 200) SIEVE SIZE) COARSE-GRAINED SOILS ARE CLASSIFIED AS FOLLOWS:

LESS THAN 5%
MORE THAN 12%
5% TO 12%
GW, GP, SW, SP,
GM, GC, SM, SC,
BORDERLINE CASES REQUIRING
USE OF DUAL SYMBOLS.

$$C_u = \frac{D_{60}}{D_{10}} \text{ GREATER THAN 4}$$

$$C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}} \text{ BETWEEN ONE AND 3}$$

GW

NOT MEETING ALL GRADATION REQUIREMENTS FOR GW

GP

ATTERBERG LIMITS BELOW "A" LINE OR PI LESS THAN 4

ABOVE "A" LINE WITH PI BETWEEN 4 AND 7 ARE BORDERLINE CASES REQUIRING USE OF DUAL SYMBOLS.

GM

ATTERBERG LIMITS ABOVE "A" LINE WITH PI GREATER THAN 7

GC

$$C_u = \frac{D_{60}}{D_{10}} \text{ GREATER THAN 6}$$

$$C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}} \text{ BETWEEN ONE AND 3}$$

SW

NOT MEETING ALL GRADATION REQUIREMENTS FOR SW

SP

ATTERBERG LIMITS BELOW "A" LINE OR PI LESS THAN 4

LIMITS PLOTTING IN HATCHED ZONE WITH PI BETWEEN 4 AND 7 ARE BORDERLINE CASES REQUIRING USE OF DUAL SYMBOLS.

SM

ATTERBERG LIMITS ABOVE "A" LINE WITH PI GREATER THAN 7

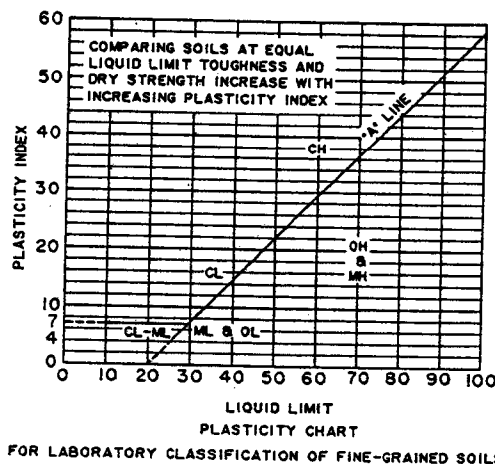
SC

GIVE TYPICAL NAME, INDICATE DEGREE AND CHARACTER OF PLASTICITY, AMOUNT AND MAX. SIZE OF COARSE GRAINS, COLOR IN WET CONDITION, ODOR IF ANY, LOCAL OR GEOLOGIC NAME, AND OTHER PERTINENT DESCRIPTIVE INFORMATION: AND SYMBOL IN PARENTHESIS.

FOR UNDISTURBED SOILS ADD INFORMATION ON STRUCTURE, STRATIFICATION, CONSISTENCY IN UNDISTURBED AND REMOLDED STATES, MOISTURE AND DRAINAGE CONDITIONS.

EXAMPLE:

LAYEY SILT, BROWN, SLIGHTLY PLASTIC, SMALL PERCENTAGE OF FINE SAND, NUMEROUS VERTICAL ROOT HOLES, FIRM AND DRY IN PLACE, LOESS, (ML).



(1) BOUNDARY CLASSIFICATIONS: SOILS POSSESSING CHARACTERISTICS OF TWO GROUPS ARE DESIGNATED BY COMBINATIONS OF GROUP SYMBOLS. FOR EXAMPLE GW-GC, WELL-GRADED GRAVEL-SAND MIXTURE WITH CLAY BINDER. (2) ALL SIEVE SIZES ON THIS CHART ARE U.S. STANDARD.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PLAN
METRIC
3093-1
SHEET 2 OF 3

GENERAL NOTE

1. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACT. EQUAL VALUES. IF METRIC VALUES ARE USED. ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED. ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH UNITS.

FIELD IDENTIFICATION PROCEDURES FOR FINE-GRADED SOILS OR FRACTIONS

THESE PROCEDURES ARE TO BE PERFORMED ON THE MINUS 450 μm (NO. 40) SIEVE SIZE PARTICLES, APPROXIMATELY .4mm (1/64"). FOR FIELD CLASSIFICATION PURPOSES, SCREENING IS NOT INTENDED; SIMPLY REMOVE BY HAND THE COARSE PARTICLES THAT INTEREFERE WITH THE TESTS.

DILATANCY (REACTION TO SHAKING)

AFTER REMOVING PARTICLES LARGER THAN 450 μm (NO. 40) SIEVE SIZE, PREPARE A PAT OF MOIST SOIL WITH A VOLUME OF ABOUT 6.504mm³ (1/2 CUBIC INCH). ADD ENOUGH WATER IF NECESSARY TO MAKE THE SOIL SOFT BUT NOT STICKY. PLACE THE PAT IN THE OPEN PALM OF ONE HAND AND SHAKE HORIZONTALLY, STRIKING VIGOROUSLY AGAINST THE OTHER HAND SEVERAL TIMES. A POSITIVE REACTION CONSISTS OF THE APPEARANCE OF WATER ON THE SURFACE OF THE PAT WHICH CHANGES TO A LIVELY CONSISTENCY AND BECOMES GLOSSY. WHEN THE SAMPLE IS SQUEEZED BETWEEN THE FINGERS, THE WATER AND GLOSS DISAPPEAR FROM THE SURFACE, THE PAT STIFFENS AND FINALLY IT CRACKS OR CRUMBLES. THE RAPIDITY OF APPEARANCE OF WATER DURING SHAKING AND OF ITS DISAPPEARANCE DURING SQUEEZING ASSIST IN IDENTIFYING THE CHARACTER OF THE FINES IN A SOIL. VERY FINE CLEAN SANDS, GIVE THE QUICKEST AND MOST DISTINCT REACTION WHEREAS A PLASTIC CLAY HAS NO REACTION. INORGANIC SILTS SUCH AS A TYPICAL ROCK FLOUR, SHOW A MODERATELY QUICK REACTION.

DRY STRENGTH (CRUSHING CHARACTERISTICS)

AFTER REMOVING PARTICLES LARGER THAN 450 μm (NO. 40) SIEVE SIZE, MOLD A PAT OF SOIL TO THE CONSISTENCY OF PUTTY, ADDING WATER IF NECESSARY. ALLOW THE PAT TO DRY COMPLETELY BY OVEN, SUN, OR AIR DRYING AND THEN TEST ITS STRENGTH BY BREAKING AND CRUMBLING BETWEEN THE FINGERS. THIS STRENGTH IS A MEASURE OF THE CHARACTER AND QUANTITY OF THE COLLOIDAL FRACTION CONTAINED IN THE SOIL. THE DRY STRENGTH INCREASES WITH INCREASING PLASTICITY. HIGH DRY STRENGTH IS CHARACTERISTIC FOR CLAYS OF THE CH GROUP. A TYPICAL INORGANIC SILT POSSESSES ONLY VERY SLIGHT DRY STRENGTH. SILTY FINE SANDS AND SILTS HAVE ABOUT THE SAME SLIGHT DRY STRENGTH, BUT CAN BE DISTINGUISHED BY THE FEEL WHEN POWDERING THE DRIED SPECIMEN. FINE SAND FEELS GRITTY WHEREAS A TYPICAL SILT HAS THE SMOOTH FEEL OF FLOUR.

TOUGHNESS (CONSISTENCY NEAR PLASTIC LIMIT)

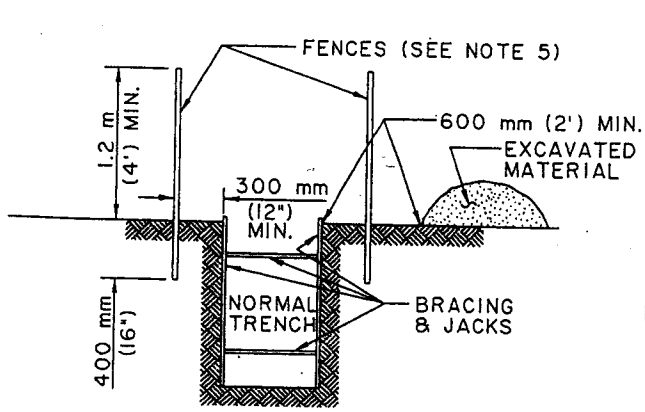
AFTER REMOVING PARTICLES LARGER THAN THE 450 μm (NO. 40) SIEVE SIZE, A SPECIMEN OF SOIL ABOUT 6.504mm³ (1/2 CUBIC INCH) IN SIZE IS MOLDED TO THE CONSISTENCY OF PUTTY. IF TOO DRY, WATER MUST BE ADDED AND IF STICKY, THE SPECIMEN SHOULD BE SPREAD OUT IN A THIN LAYER AND ALLOWED TO LOSE SOME OF ITS MOISTURE BY EVAPORATION. THEN THE SPECIMEN IS ROLLED OUT BY HAND ON A SMOOTH SURFACE OR BETWEEN THE PALMS INTO A THREAD ABOUT 3mm (1/8") IN DIAMETER. THE THREAD IS THEN FOLDED AND REROLLED REPEATEDLY. DURING THIS MANIPULATION THE MOISTURE CONTENT IS GRADUALLY REDUCED AND THE SPECIMEN STIFFENS, FINALLY LOSES ITS PLASTICITY, AND CRUMBLES WHEN THE PLASTIC LIMIT IS REACHED. AFTER THE THREAD CRUMBLES, THE PIECES SHOULD BE LUMPED TOGETHER AND A SLIGHT KNEADING ACTION CONTINUED UNTIL THE LUMP CRUMBLES. THE TOUGHER THE THREAD NEAR THE PLASTIC LIMIT AND THE STIFFER THE LUMP WHEN IT FINALLY CRUMBLES, THE MORE POTENT IS THE COLLOIDAL CLAY FRACTION IN THE SOIL. WEAKNESS OF THE THREAD AT THE PLASTIC LIMIT AND QUICK LOSS OF COHERENCE OF THE LUMP BELOW THE PLASTIC LIMIT INDICATE EITHER INORGANIC CLAY OF LOW PLASTICITY, OR MATERIALS SUCH AS KAOLIN-TYPE CLAYS AND ORGANIC CLAYS WHICH OCCUR BELOW THE A-LINE. HIGHLY ORGANIC CLAYS HAVE A VERY WEAK AND SPONGY FEEL AT THE PLASTIC LIMIT.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

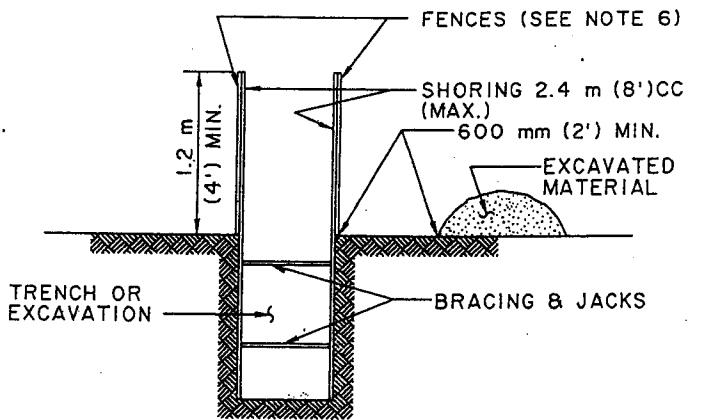
UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PLAN
METRIC
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SHEET 3 OF 3

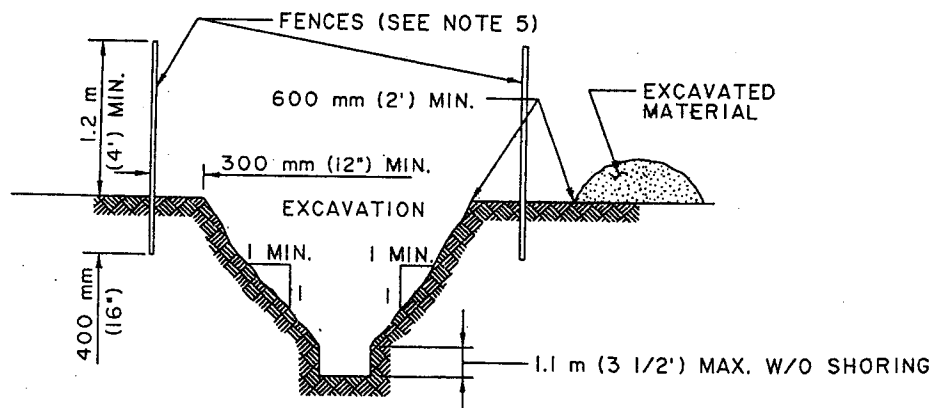
PRIOR TO THE END OF EACH WORKDAY, AND WHENEVER WORKERS ARE NOT WITHIN VISUAL SIGHT OF THE EXCAVATION, THE CONTRACTOR SHALL EITHER BACKFILL THE EXCAVATION OR ERECT AND MAINTAIN FENCES AROUND THE EXCAVATION OR COVER THE EXCAVATION. THE FOLLOWING ARE MINIMUM ACCEPTABLE MEASURES ONLY AND COMPLIANCE WITH THIS STANDARD DOES NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO PROTECT THE PUBLIC BY ALL NECESSARY MEANS.



CASE A

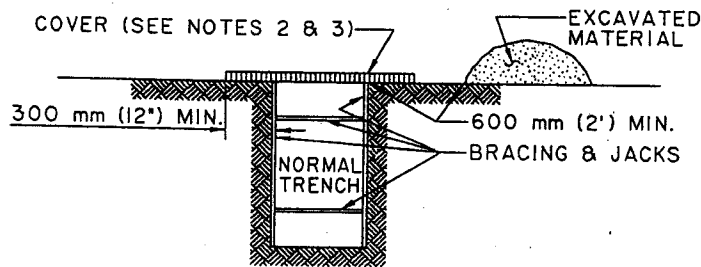


CASE C



CASE B

FENCES



COVER

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

MINIMUM PUBLIC SAFETY REQUIREMENT
FOR OPEN EXCAVATIONS

STANDARD PLAN
METRIC

6008-1

APPROVED

Thomas A. Richardson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

SHEET 1 OF 2

NOTES

1. EXCEPTIONS: FENCES OR COVERS WILL BE OPTIONAL WITH THE CONTRACTOR IF THE EXCAVATION IS EITHER:
 - A. LESS THAN 900 mm (3') DEEP UNLESS UNUSUALLY HAZARDOUS CONDITIONS EXIST.
 - B. LESS THAN 1.5 m (5') DEEP WITH SUFFICIENT WARNING DEVICES SUCH AS LANTERNS, FLASHERS, OR BARRICADES.
 - C. FOR CASE B, LESS THAN 1.1 m (3 1/2') DEEP IN THE VERTICAL PORTION WITH UPPER SIDE SLOPES OF 1:1 OR FLATTER.
 - D. IN AN AREA THAT IS NOT ACCESSIBLE TO THE PUBLIC.
2. COVERS FOR NON-VEHICULAR TRAFFIC MAY BE:
 - A. 6 mm (1/4") STEEL PLATES.
 - B. 50 mm (2") PLANKS.
 - C. 19 mm (3/4") PLYWOOD.
3. STEEL PLATE COVER FOR VEHICULAR TRAFFIC REQUIRES PROPER TRENCH BRACING AND STEEL PLATES WITH SUFFICIENT STRENGTH TO WITHSTAND TRAFFIC LOADING IN ACCORDANCE WITH THE REQUIREMENTS OF THE EXCAVATION PERMIT.
4. POSTS FOR FENCES SHALL BE 50 mmx100 mm (2"x4") WOOD OR EQUIVALENT STEEL OR PIPE. IN PAVED AREAS, POSTS MAY BE FLUSH WITH SURFACE IF SUFFICIENTLY ANCHORED AND BRACED. RAILS SHALL BE 25 mmx100 mm (1"x4") WOOD.
5. FOR CASE A AND B, FENCES MAY BE:
 - A. WOOD PICKETS TIED WITH WIRE AND POSTS 2.4 m (8') CC.
 - B. 50 mmx100 mm (2"x4") POSTS 2.4 m (8') CC AND WIRE MESH.
 - C. 50 mmx100 mm (2"x4") POSTS 2.4 m (8') CC WITH TOP AND BOTTOM RAIL AND CHICKEN WIRE.
 - D. SAME AS NOTE 6 ITEM C.
6. FOR CASE C, FENCES MAY BE:
 - A. WOOD PICKETS TIED WITH WIRE AND BOTTOM RAIL.
 - B. TOP AND BOTTOM RAIL WITH CHICKEN WIRE.
 - C. THREE RAILS EQUALLY SPACED WITH BOTTOM RAIL 150 mm (6") ABOVE GROUND.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORING, BRACING AND/OR COVERS OVER ANY EXCAVATION IN ACCORDANCE WITH SECTIONS 7-10.4 AND 306-I.1.6 OF THE STANDARD SPECIFICATIONS.
8. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACT EQUAL VALUES. IF METRIC VALUES ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH UNITS.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

MINIMUM PUBLIC SAFETY REQUIREMENT
FOR OPEN EXCAVATIONS

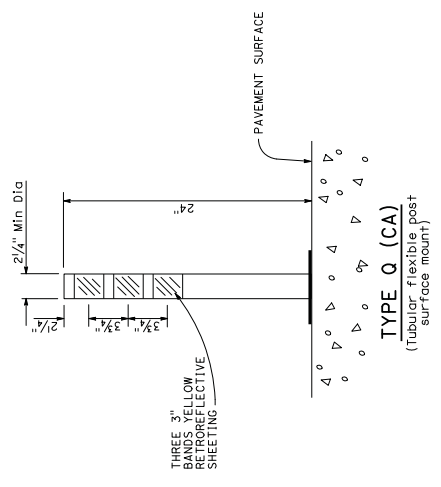
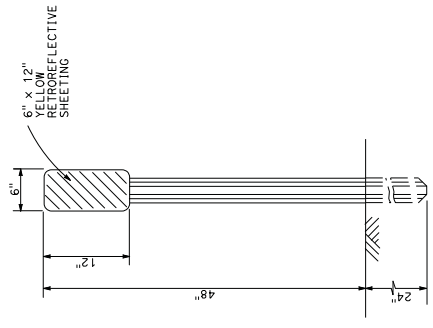
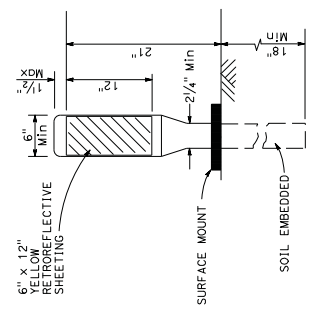
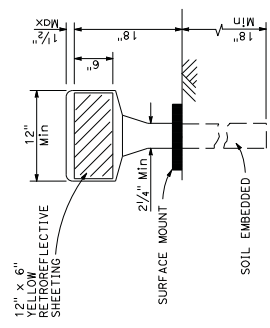
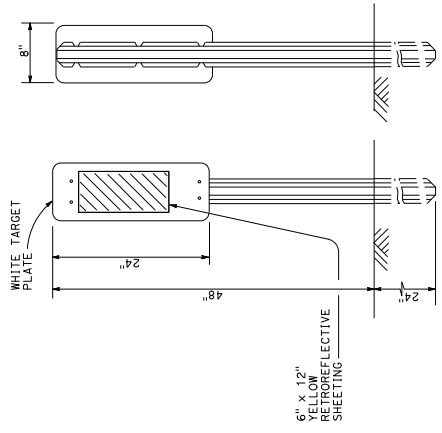
STANDARD PLAN
METRIC
6008-1
SHEET 2 OF 2

2018 STANDARD PLAN A73A

DATE	COUNTY	ROUTE	POST MILEAGE	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER
David L. Johnson
 No. 45802
 STATE OF CALIFORNIA
 PROFESSIONAL ENGINEER

PLANS APPROVAL DATE: MAY 31, 2018
 THE STATE OF CALIFORNIA OR ITS OFFICERS
 DO NOT WARRANT OR GUARANTEE THE
 ACCURACY OR COMPLETENESS OF DRAWINGS
 EXCEPT AS SHOWN ON THIS PLAN SHEET.

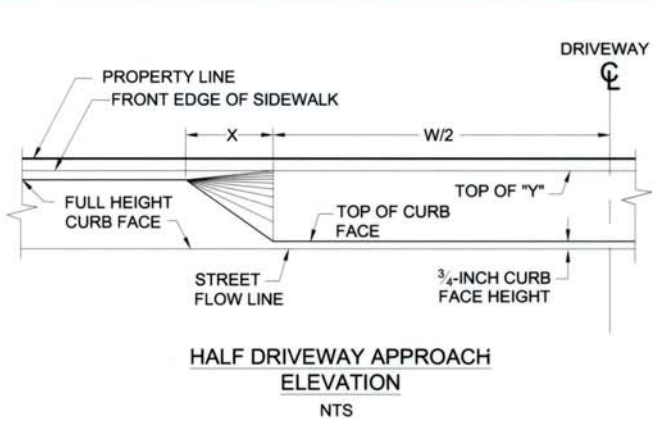
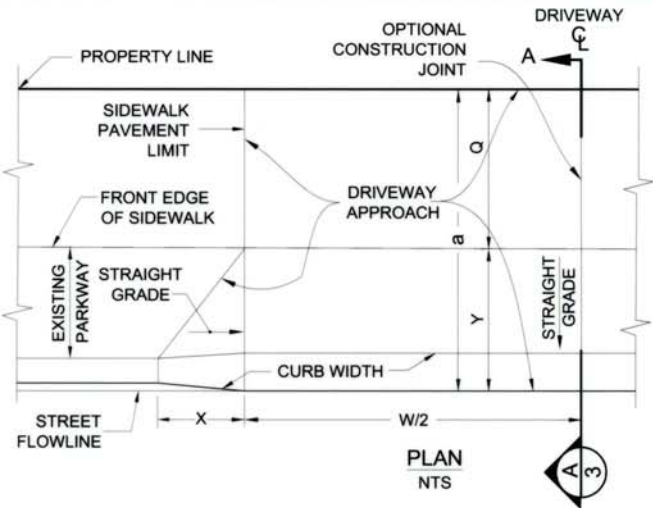


NOTE:
1. See Standard Plan A73B for metal post details and additional markers.

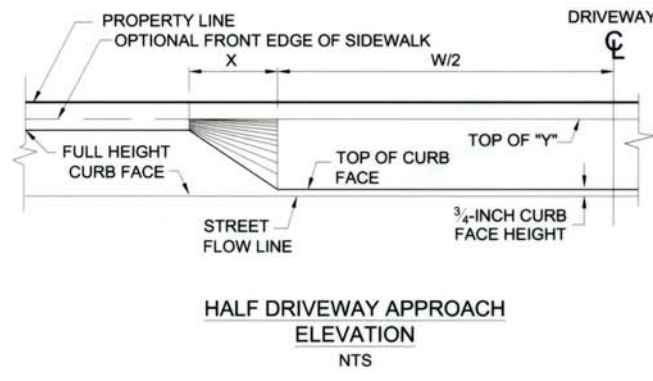
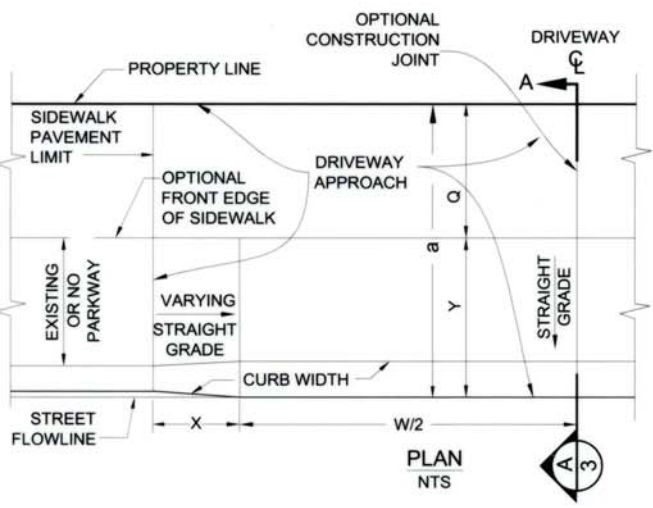
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
OBJECT MARKERS
NO SCALE

A73A

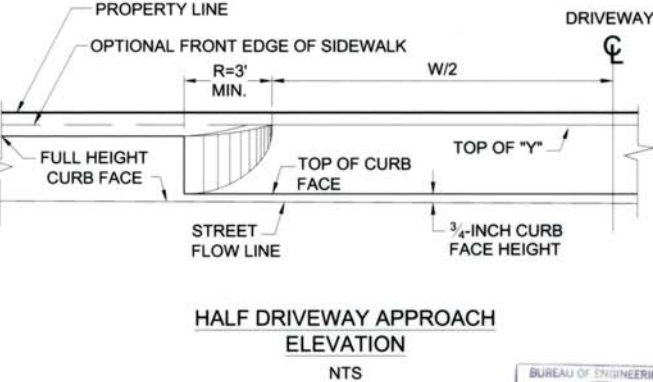
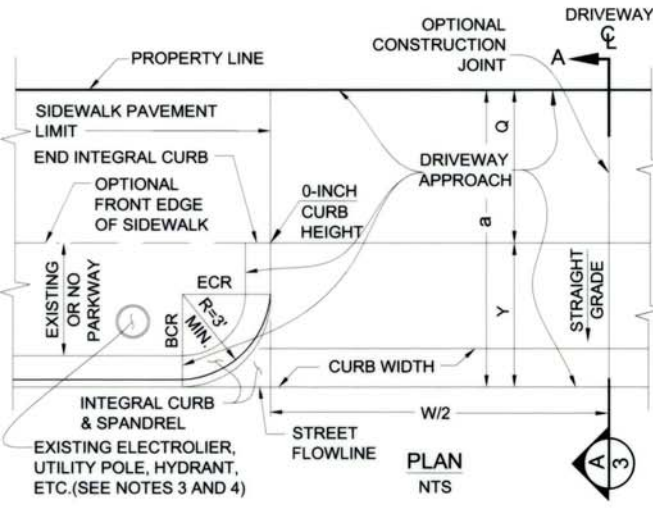
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CASE 1



CASE 2

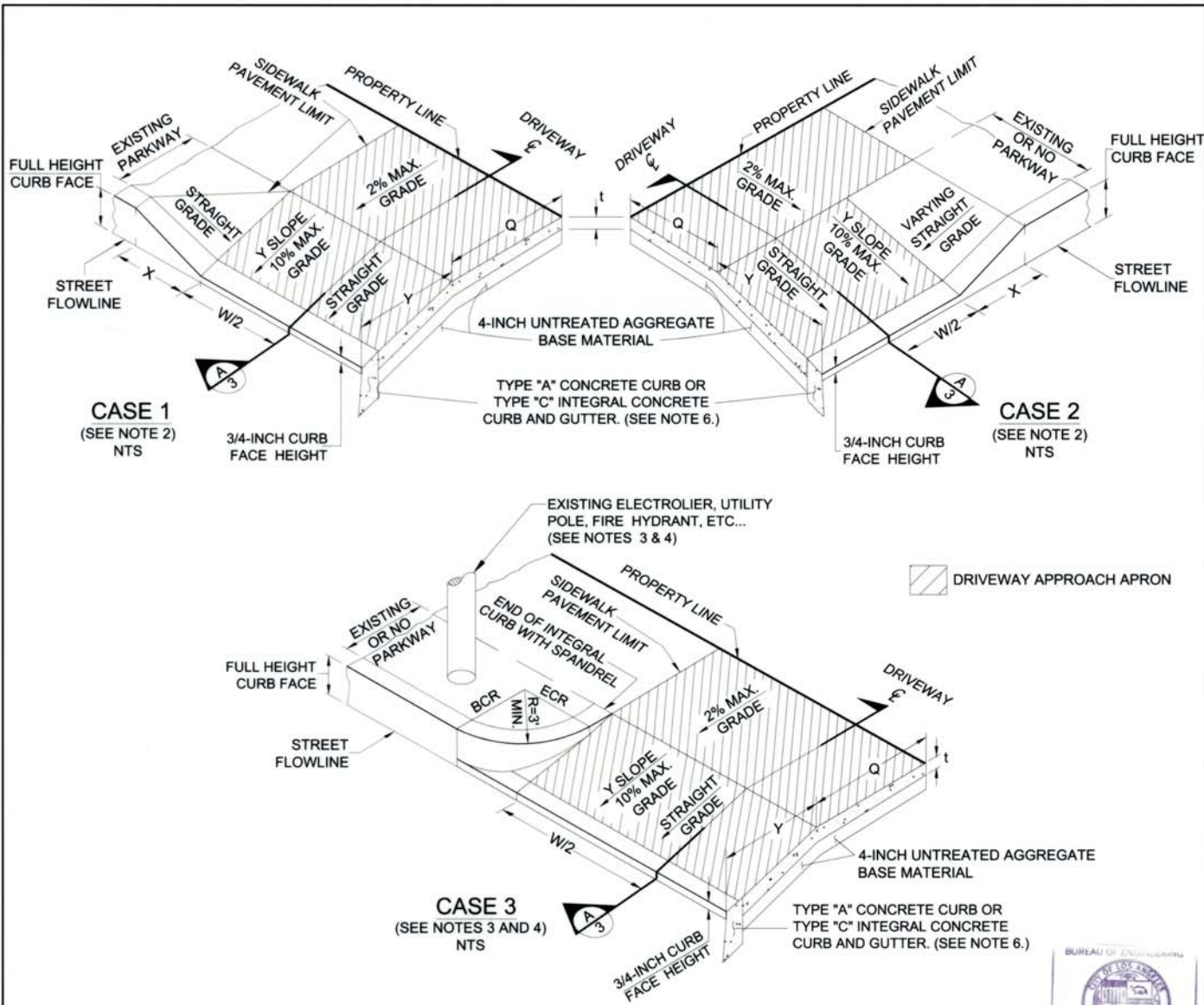


CASE 3



BUREAU OF ENGINEERING		DEPARTMENT OF PUBLIC WORKS		CITY OF LOS ANGELES	
DRIVEWAYS				STANDARD PLAN S-440-4	
PREPARED	SUBMITTED	APPROVED	SUPERSEDES	REFERENCES	
MARK CHMIELOWIEC, P.E. BUREAU OF ENGINEERING	<i>Edmond...</i> 6-24-14 SAMARA ALI-AHMAD, P.E. ENGINEER OF DESIGN BUREAU OF ENGINEERING		B-3890	S-410 S-444	
CHECKED			VAULT INDEX NUMBER: B - 473		
RAFFI MASSABKI, P.E. BUREAU OF ENGINEERING	<i>K.R.M.</i> 6/25/14 KENNETH REDD, P.E. DEPUTY CITY ENGINEER	<i>Gary Lee Moore</i> 6-25-14 GARY LEE MOORE, P.E. CITY ENGINEER	SHEET 1 OF 4 SHEETS		





NOTES

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ADOPTED BY THE BOARD OF PUBLIC WORKS AS MODIFIED BY THE CORRESPONDING ISSUE OF THE CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BROWN BOOK.
2. CASE 2 SHALL BE USED IN MOST CIRCUMSTANCES EXCEPT THAT CASE 1 MAY BE USED TO SERVICE R-1 OR R-2 PROPERTY WITH A PARKWAY AND PROVIDED THE Y-SLOPE DOES NOT ENCRoACH INTO THE PORTION OF THE DRIVEWAY APPROACH APRON FOR PEDESTRIANS TO CROSS THE DRIVEWAY.
3. CASE 3 SHALL BE USED IN LIEU OF CASE 1 OR CASE 2 RESPECTIVELY TO PRECLUDE THE FOLLOWING CONDITIONS:
 - A. A DISTANCE OF LESS THAN 5 FEET BETWEEN A PROPOSED TOP OF "X" AND THE CENTER LINE OF AN ELECTROLIER OR FIRE HYDRANT.
 - B. TRAFFIC SIGNALS, UTILITY POLES AND SIGN POSTS IN THE "X" AREA OF A PROPOSED DRIVEWAY.
4. WHERE CASE 3 IS USED, AN ELECTROLIER OR HYDRANT SHALL NOT BE CLOSER THAN 18-INCHES FROM THE DRIVEWAY BCR, AND A TRAFFIC SIGNAL, UTILITY POLE OR SIGN POST SHALL NOT BE CLOSER THAN THE DRIVEWAY BCR.
5. WHERE THERE IS EXISTING INTEGRAL CONCRETE CURB AND GUTTER, BOTH CURB AND GUTTER MUST BE REMOVED. OPTIONAL, IF THE GUTTER IS IN GOOD CONDITION, THE GUTTER MAY BE SAW CUT 4 INCHES TO 6 INCHES FROM THE STREET FLOW LINE AND THE OUTSIDE PORTION LEFT IN PLACE, PROVIDING THAT IT IS NOT LESS THAN 18 INCHES.
6. EITHER TYPE "A" CONCRETE CURB OR TYPE "C" INTEGRAL CONCRETE CURB AND GUTTER SHALL BE EXISTING OR CONSTRUCTED FOR ALL DRIVEWAY APPROACHES. SEE THE LATEST STANDARD PLAN S-410 FOR TYPES OF CURBS. IF EXISTING CURB REQUIRES REMOVAL AND REPLACEMENT, RECONSTRUCT CURB TO MATCH EXISTING CURB TYPE. CITY ENGINEER SHALL DETERMINE THE TYPE OF CURB FOR ALL NEW CURB CONSTRUCTION.
7. WEAKENED PLANE CONTROL JOINTS SHALL BE INSTALLED ALONG BOTH SIDES OF A DRIVEWAY APPROACH APRON AND AT APPROXIMATELY 10 FEET INTERVALS WITHIN THE DRIVEWAY. WHERE THE DISTANCE BETWEEN THE SIDES OF THE DRIVEWAY APPROACH APRON DOES NOT EXCEED 15 FEET, AN INTERMEDIATE WEAKENED PLANE CONTROL JOINT WILL NOT BE REQUIRED.
8. THE AREA INCLUDED WITHIN THE "X" AND "Y" SLOPES (INCLUDING TOP OF CURB) OF THE DRIVEWAY APPROACH SHALL BE FINISHED WITH A WOOD FLOAT. THE BALANCE OF THE DRIVEWAY APPROACH SHALL BE FINISHED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FOR SIDEWALK.

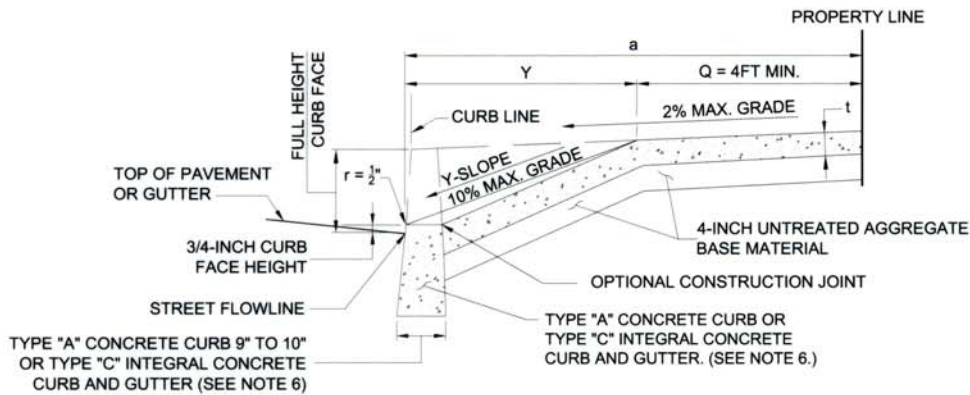


9. DEFINITIONS AND DIMENSIONS:

- DRIVEWAY APPROACH : AREA OF A DRIVEWAY LYING IN THE PUBLIC RIGHT OF WAY BETWEEN THE STREET FLOW LINE AND THE PROPERTY LINE, INCLUDING THE APRON, SIDE SLOPES AND CURB RETURNS WITH SPANDRELS.
- DRIVEWAY APPROACH APRON : PORTION OF A DRIVEWAY APPROACH, EXCLUDING THE SIDE SLOPES AND CURB RETURNS WITH SPANDRELS EXTENDING FROM THE STREET FLOW LINE TO THE PROPERTY LINE AND BETWEEN THE ADJOINING SIDEWALK PAVEMENTS.
- a = HORIZONTAL LENGTH OF DRIVEWAY APPROACH APRON MEASURED ALONG THE CENTERLINE FROM THE STREET FLOW LINE TO THE PROPERTY LINE.
- Q = PORTION OF THE APPROACH APRON FOR PEDESTRIANS TO CROSS THE DRIVEWAY HAVING 4 FEET MINIMUM TRANSVERSE WIDTH AND MAXIMUM TRANSVERSE GRADE OF 2 PERCENT TOWARD THE STREET, INCLUDING THE 1/4-INCH VERTICAL CONSTRUCTION TOLERANCE.
- R = DRIVEWAY CURB RETURN RADIUS, 3-FEET MINIMUM, PROVIDING TRANSITION FROM FULL HEIGHT CURB TO THE GRADE OF THE APPROACH APRON.
- t = THICKNESS OF CONCRETE DRIVEWAY PAVEMENT, INCLUDING SIDE SLOPES AND CURB RETURN SPANDRELS. A "1" OF 4-INCHES MAY BE USED FOR DRIVEWAYS SERVING NOT MORE THAN FOUR RESIDENTIAL UNITS AND A "1" OF 6 INCHES SHALL BE USE FOR ALL OTHER DRIVEWAYS.
- W = WIDTH OF DRIVEWAY APPROACH APRON MEASURED ALONG THE STREET FLOW LINE, EXCLUDING SIDE SLOPES AND CURB RETURNS WITH SPANDRELS. FOR THE "W" WIDTH OF DRIVEWAYS, SEE SECTION 62.105.2 OF THE LOS ANGELES MUNICIPAL CODE.
- X = HORIZONTAL LENGTH OF THE SIDE SLOPING PORTION OF THE DRIVEWAY APPROACH, MEASURED ALONG THE STREET FLOW LINE PROVIDING TRANSITION FROM FULL HEIGHT CURB TO THE GRADE OF THE APPROACH APRON.
- Y = HORIZONTAL LENGTH OF THE RAMPED PORTION OF THE APPROACH APRON MEASURED ALONG THE DRIVEWAY CENTERLINE FROM THE STREET FLOW LINE TO THE FRONT EDGE OF THE 2 PERCENT TRANSVERSE GRADE FOR PEDESTRIANS.
- Y-SLOPE = DIFFERENCE IN ELEVATION ALONG THE DRIVEWAY CENTERLINE BETWEEN THE TOP OF CURB FACE AND THE FRONT EDGE OF THE 2 PERCENT TRANSVERSE GRADE FOR PEDESTRIANS DIVIDED BY THE HORIZONTAL LENGTH OF THE RAMPED PORTION OF DRIVEWAY APPROACH APRON (Y).

FULL HEIGHT CURB FACE (INCHES)		5 (or Less)	6	7	8	9	10**	11**	12** (or more)
MINIMUM DIMENSIONS (FEET)									
CASE 1	X	3	3	3	3	3	3	3	3
CASE 2		3	3	3.5	4	4.5	5	5.5	6
CASE 3	R	3	3	3	3	3	3	3	3
ALL CASES	Y	4.5	5.5	6.5	7.5	8.75	9.75	10.75	11.75
	Q	4	4	4	4	4	4	4	4
	a	8.5	9.5	10.5	11.5	12.75	13.75	14.75	15.75

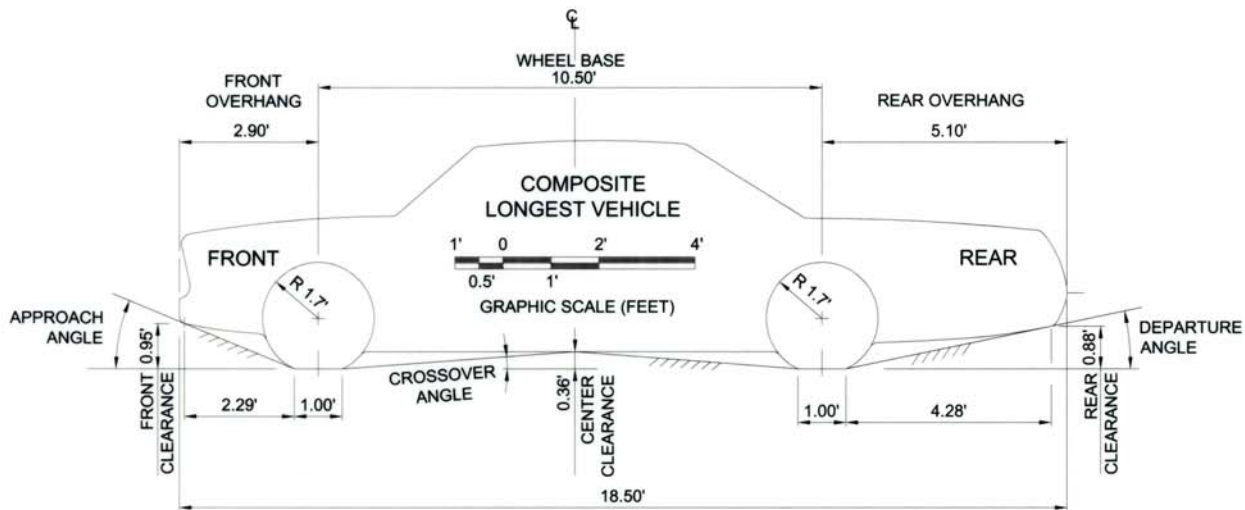
** FOR EXISTING FULL HEIGHT CURB FACE ONLY



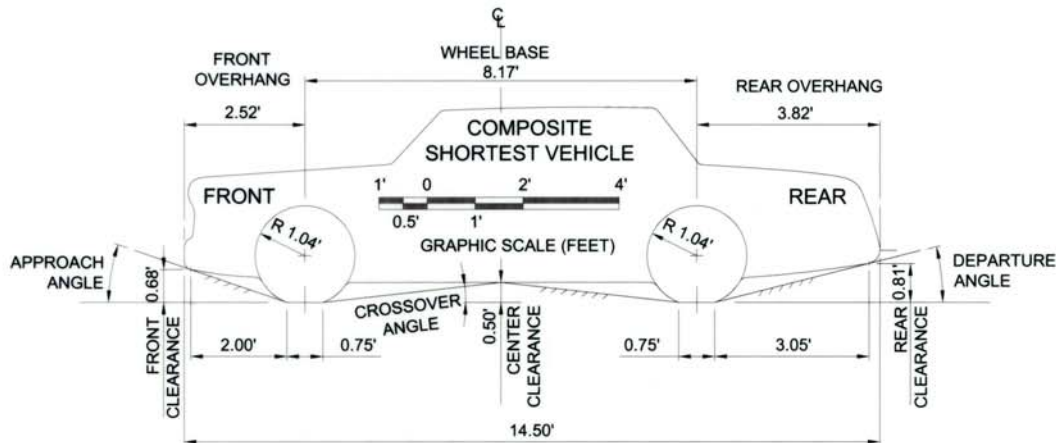
TYPICAL DRIVEWAY SECTION @ CENTERLINE
NTS



10. THE DEPRESSED CURB FACE HEIGHT ALONG THE DRIVEWAY APPROACH APRON SHALL BE 3/4-INCH WITH NEGLIGIBLE BATTER.
11. 4-INCH UNTREATED AGGREGATE BASE MATERIAL SHALL BE INSTALLED UNDER NEW CONCRETE DRIVEWAYS.
12. THE PORTION OF THE APPROACH APRON FOR PEDESTRIANS TO CROSS THE DRIVEWAY SHALL HAVE A MINIMUM WIDTH "Q" OF 4 FEET AND BE GRADED TOWARD THE STREET FLOW LINE. THE MAXIMUM TRAVERSE GRADE SHALL BE 2 PERCENT AND THE MINIMUM SHALL BE 0.5 PERCENT BOTH INCLUDING THE 1/4-INCH VERTICAL CONSTRUCTION TOLERANCE. "Q" LESS THAN 4 FEET SHALL REQUIRE APPROVAL BY THE CITY ENGINEER.
13. THE RAMPED PORTION OF THE DRIVEWAY APPROACH APRON (Y) SHALL HAVE A MAXIMUM GRADE OF 10 PERCENT. GRADES STEEPER THAN 10 PERCENT SHALL REQUIRE APPROVAL BY THE CITY ENGINEER. (SEE AUTOMOBILE TEMPLATES ON SHEET 4)
14. FOR DRIVEWAY DESIGNS EXTENDING ON PRIVATE PROPERTY SEE LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY INFORMATION BULLETIN P/ZC2002-001. THIS STANDARD PLAN SHALL GOVERN WHERE INFORMATION IN THIS BULLETIN CONFLICTS WITH INFORMATION FROM THIS STANDARD PLAN.
15. DEPRESSED SIDEWALKS ADJACENT TO DRIVEWAY APPROACH APRONS SHALL REQUIRE APPROVAL BY THE CITY ENGINEER.
16. AT LOCATIONS WHERE ANY S-440-4 REQUIREMENTS CANNOT BE MET, THE DESIGNER AND/OR CONTRACTOR SHALL REQUEST DIRECTION FROM THE CITY ENGINEER PRIOR TO THE COMPLETION OF DESIGN.



COMPOSITE LONGEST VEHICLE



COMPOSITE SHORTEST VEHICLE

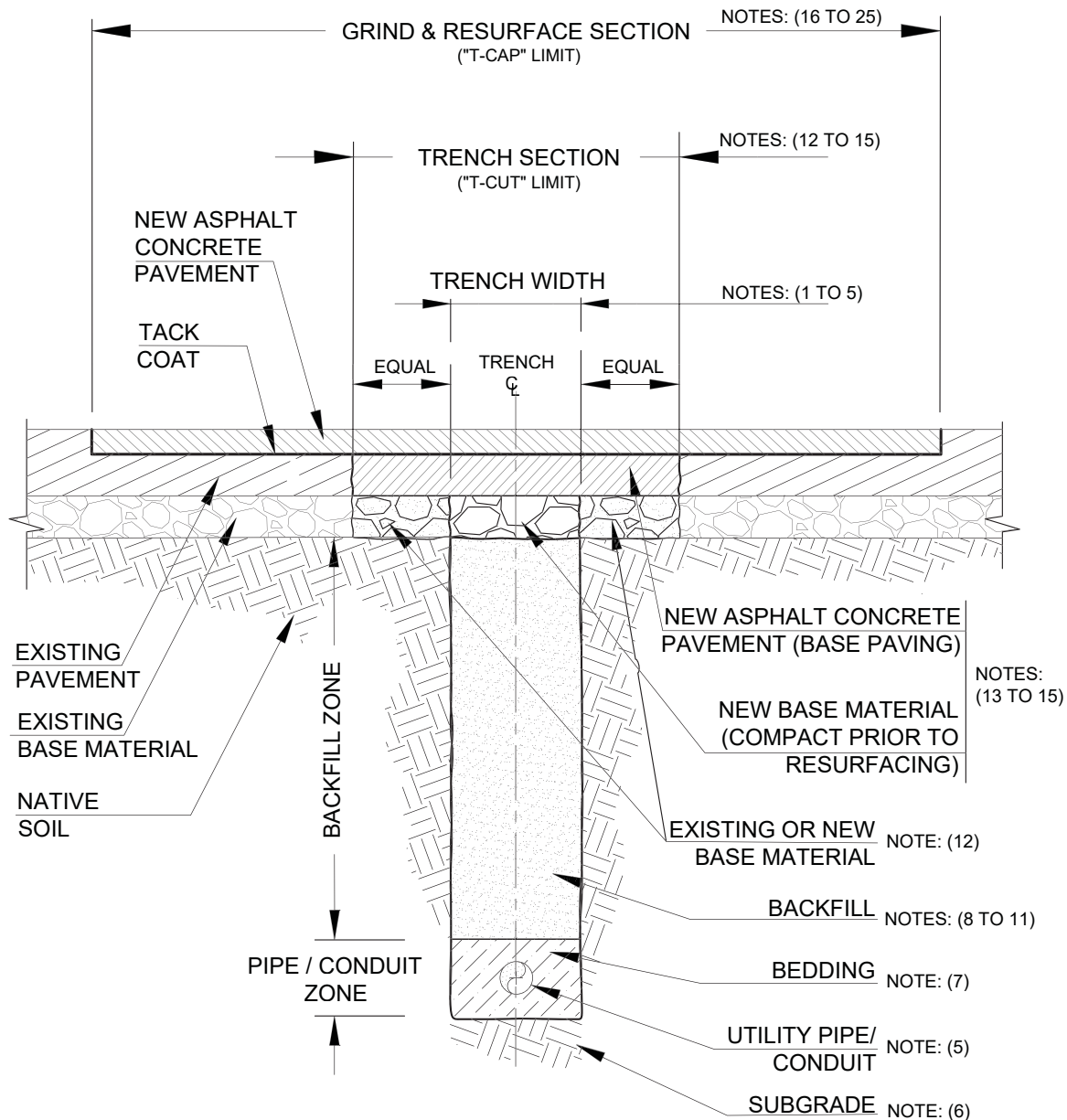
AUTOMOBILE TEMPLATES

FOR CHECKING VERTICAL CLEARANCE ALONG DRIVEWAY CENTERLINE

NOTES

THE DRIVEWAY CENTERLINE SHOULD BE PLOTTED TO SCALE (1-INCH EQUALS 2- FEET BOTH HORIZONTALLY AND VERTICALLY) AND EXTEND FROM THE STREET CENTERLINE TO A SUFFICIENT LENGTH BEYOND THE PROPERTY LINE ONTO THE ABUTTING PROPERTY.





**T-TRENCH AND RESTORATION DETAIL
ASPHALT CONCRETE STREETS**



NOT TO SCALE

BUREAU OF ENGINEERING		DEPARTMENT OF PUBLIC WORKS		CITY OF LOS ANGELES	
T-TRENCH AND PAVEMENT RESTORATION - ASPHALT CONCRETE STREETS				STANDARD PLAN S-477-2	
PREPARED	SUBMITTED	APPROVED		SUPERSEDES	REFERENCES
AURORA R. GADBURY BUREAU OF ENGINEERING	 EDWARD ARRINGTON, S.E. ENGINEER OF DESIGN			B-4768	
CHECKED				VAULT INDEX NUMBER: B-4778	
MATI LAAN BUREAU OF ENGINEERING	 KENNETH R. REDD, P.E. DEPUTY CITY ENGINEER	 GARY LEE MOORE, P.E. CITY ENGINEER	02/07/2019	SHEET 1 OF 4 SHEETS	



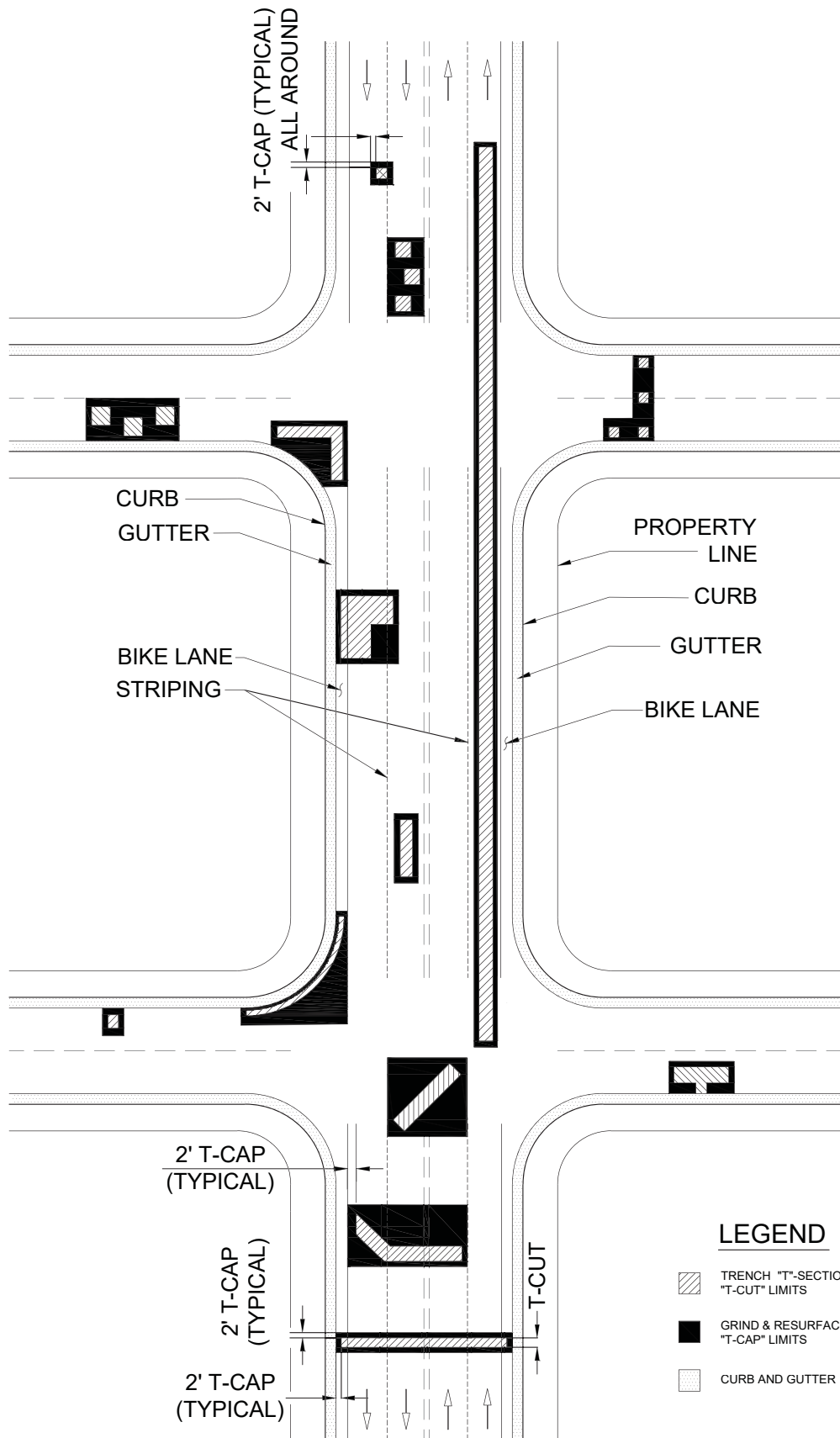


FIGURE 1
EXAMPLES OF GRIND AND RESURFACE "T-CAP" LIMITS



NOT TO SCALE

NOTES:

ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) "GREENBOOK" ADOPTED BY THE BOARD OF PUBLIC WORKS AS AMENDED BY THE LATEST CORRESPONDING CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS "BROWNBOOK".

LIMITS OF REMOVALS, TRENCH WIDTH:

1. ALL PAVEMENT REMOVED SHALL HAVE STRAIGHT EDGES. CUTS SHALL BE MADE TO A MINIMUM DEPTH OF ONE AND A HALF (1-1/2) INCHES. ALL CUTS SHALL BE NEAT, STRAIGHT, VERTICAL CUTS WITH NO BROKEN EDGES.
2. ALL LONGITUDINAL PAVEMENT CUTS SHALL BE UNINTERRUPTED APPROXIMATELY PARALLEL TO THE TRENCH (MAX. 1:6 LONGITUDINAL VARIANCE).
3. IF A SAW CUT IN PAVEMENT FALLS WITHIN 1 FOOT OF AN EXISTING CURB, GUTTER, OR EDGE OF PAVEMENT, THE ADDITIONAL PAVEMENT SHALL BE REMOVED AND RECONSTRUCTED.
4. WHEN SAW CUTTING PAVEMENT, THE MAXIMUM OVERRUN ALLOWED FOR ANY SAW CUT BEYOND THE BOUNDARY REMOVAL LIMITS OF EXISTING PAVEMENT SHALL BE 2 INCHES.
5. TRENCH WIDTH SHALL BE MINIMUM 24 INCHES, UNLESS SLURRY BACKFILL AND BEDDING IS USED, IN WHICH CASE MINIMUM SHALL BE 4 INCHES. MINIMUM 3 INCH SEPARATION SHALL BE MAINTAINED BETWEEN ALL CONDUITS, PIPES, AND TRENCH WALLS. IF SLURRY BEDDING MATERIAL IS USED, 1 INCH IS ACCEPTABLE IN A SINGLE LAYER INSTALLATION, OTHERWISE 2 INCH SEPARATION IS REQUIRED. UNDERCUTTING TRENCH WALLS TO ACQUIRE CLEARANCES IS NOT PERMITTED.

BEDDING:

6. BEDDING MATERIAL SHALL BE PLACED ON FIRM AND UNYIELDING SUBGRADE PER GREENBOOK SECTION 306. SOFT, SPONGY, UNSTABLE, UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED.
7. BEDDING SHALL CONFORM TO GREENBOOK REQUIREMENTS AND OTHER APPLICABLE STANDARDS.

BACKFILL:

8. EXCAVATIONS SHALL BE BACKFILLED WITH AN APPROVED SLURRY MIX, CLSM, CMB, OR CAB. NATIVE SOIL MAY ONLY BE USED WITH CITY ENGINEER'S APPROVAL. CMB, CAB, SOIL SHALL BE COMPACTED TO 90% RELATIVE DENSITY. CMB, CAB SHALL BE WELL GRADED AND HANDLED IN A MANNER TO PREVENT SEGREGATION BY PARTICLE SIZE. SOIL TESTING MAY BE REQUIRED TO BE PROVIDED TO THE FIELD INSPECTOR ON A CASE-BY-CASE BASIS.
9. BACKFILL SLURRY MATERIAL SHALL BE PROPERLY CONSOLIDATED. SLURRY MATERIAL FOR TRENCHES DEEPER THAN 5 FEET AND/OR NARROWER THAN 12 INCHES SHALL BE CONSOLIDATED WITH VIBRATION.
10. BACKFILL MATERIAL SHALL BE MADE SMOOTH AND LEVEL BEFORE PLACING BASE AND PAVEMENT.
11. JETTING IS NOT AN APPROVED DENSIFICATION METHOD.

TRENCH SECTION:

12. AFTER THE EXCAVATION HAS BEEN BACKFILLED, THE EXISTING PAVEMENT SHALL BE REMOVED TO A LINE AT LEAST 12-INCHES BACK OF THE FIRM BANKS OF THE TRENCH ("T-CUT"). EXISTING CMB OR CAB BASE MATERIAL IN THIS AREA SHALL BE COMPACTED TO 95% RELATIVE DENSITY AND NEW BASE MATERIALS SHALL BE PROVIDED TO MATCH THE SURROUNDING BASE THICKNESS AS NECESSARY. WHERE NO BASE MATERIAL EXISTS IN THIS AREA, THE NEW BASE MATERIAL SHALL EXTEND BEYOND THE TRENCH WIDTH TO COVER THE ENTIRE TRENCH "T-CUT" AREA.



NOTES: (CONTINUED)

13. NEW BASE MATERIAL OF CMB, OR CAB, SHALL MATCH THE EXISTING BASE THICKNESS, OR 4-INCHES, WHICHEVER IS GREATER AND SHALL BE COMPACTED TO 95% RELATIVE DENSITY. THIS REQUIREMENT SHALL ALSO APPLY OVER SLURRY BACKFILLS UNLESS OTHERWISE APPROVED BY THE ENGINEER. "T-CUT" IS NOT REQUIRED IF AN APPROVED SLURRY MIX BACKFILL IS USED, UNLESS UNDERMINING OF ADJACENT PAVEMENT IS PRESENT. IF SLURRY TRENCH WIDTH IS LESS THAN 12 INCHES, EXISTING PAVEMENT SHALL BE REMOVED TO PROVIDE AT LEAST A 12 INCH WIDE TRENCH SECTION FOR PROPER COMPACTION OF THE BASE MATERIAL.
14. NEW ASPHALT CONCRETE SECTION SHALL MATCH EXISTING PAVEMENT THICKNESS, OR 6 INCHES, WHICHEVER IS GREATER.
15. ASPHALT CONCRETE PAVING WILL OCCUR NO SOONER THAN 42 HOURS AFTER SLURRY BACKFILL OF TRENCH.

GRIND AND RESURFACE SECTION:

WITHIN 30 CALENDAR DAYS AFTER BACKFILLING, ASPHALT CONCRETE SHALL BE COLD MILLED AND RESURFACED AS FOLLOWS:

16. EXISTING ASPHALT CONCRETE SHALL BE GROUND DOWN ONE AND ONE HALF (1-1/2) INCHES, OR ONE HALF THE EXISTING PAVEMENT THICKNESS, WHICHEVER IS LESS, TO THE "T-CAP" LIMITS.
17. WHERE POSSIBLE, "T-CAP" LIMITS SHALL BE FROM FIGURE 1, "EXAMPLES OF GRIND AND RESURFACE "T-CAP" LIMITS". "T-CAP" IS NOT REQUIRED IN STREETS THAT HAVE NOT BEEN RESURFACED WITHIN THE PAST 8 YEARS AND DO NOT IMPACT BIKE LANES.
18. "T-CAP" LIMITS SHALL EXTEND AT LEAST 2 FEET BEYOND THE TRENCH SECTION ("T-CUT" LIMITS). MINIMUM "T-CAP" DIMENSIONS SHALL BE 5 FEET x 5 FEET.
19. "T-CUT" AND CORRESPONDING "T-CAP" (AS APPLICABLE) IS REQUIRED FOR ALL EXCAVATIONS WITH A SURFACE AREA OF 3 SQ. FT OR GREATER.
20. WHERE LIMITS OF "T-CUT"S, "T-CAP"S, POT HOLES OR CORED HOLES ARE WITHIN 4FT OF EACH OTHER, THE PAVEMENT SURFACE RESTORATION SHALL BE COMBINED, BLENDED AND SQUARED USING "T-CAP"S TO ENCOMPASS ALL AREAS IN BETWEEN AS SHOWN IN FIGURE 1. "T-CAP" LIMITS FOR POT HOLES AND CORE HOLES SHALL EXTEND A MINIMUM OF 1-FOOT ALL AROUND BEYOND THE HOLES.
21. IMPACTED BIKE LANES - "T-CAP" LIMITS SHALL FULLY ENCOMPASS ANY BIKE LANE IMPACTED BY THE TRENCH, AND SHALL HAVE A LENGTH THAT EXTENDS AT LEAST 2 FEET BEYOND THE ASPHALT REMOVAL LIMITS IN THE DIRECTION OF BIKE TRAFFIC.
22. WHEN THE "T-CAP" LIMIT IS WITHIN 2 FEET OR LESS FROM A CURB OR GUTTER, THE "T-CAP" LIMIT SHALL EXTEND TO THE CURB OR GUTTER.
23. PAVEMENT SHALL BE LEVEL WITH ADJACENT ROADWAY ELEVATIONS AND SHALL PROVIDE A SMOOTH SURFACE PER GREENBOOK SECTION 302-5 AND SUBJECT TO ACCEPTANCE BY THE CITY PUBLIC WORKS INSPECTOR.
24. "T-CAP" AND PERMANENT BASE PAVING MAY BE PERFORMED ON THE SAME DAY WHEN FEASIBLE.

IDENTIFICATION:

25. EACH RESURFACING SHALL BE IDENTIFIED WITH A METAL IDENTIFICATION TAG IDENTIFYING THE OWNER, AND YEAR OF CONSTRUCTION. IF THE RESURFACING IS MORE THAN 50 FEET IN LENGTH, PLACE THE TAG NEAR EACH END OF THE RESURFACING AND AT INTERVALS NOT TO EXCEED 50 FEET.



PUBLIC WORKS LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION W – WATER SYSTEMS

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.

Prepared By:

Date

Reviewed By:

Robert Hartonian

11/19/2020

Date



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PART 2 – CONSTRUCTION MATERIALS

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201–1 PORTLAND CEMENT CONCRETE.

201–1.1 Requirements. (Page 55 of the SSPWC)

Add the following subsections:

201–1.1.7 Air-Entrained Concrete for Piles, Anchor Blocks, Pipe Supports and Thrust Blocks.

Concrete for cast-in-place piles, anchor blocks, pipe supports, grooved coupling supports, and thrust blocks shall be class 560-C-3250 (U.S. Standard Measures) in accordance with Subsection 201–1.1.1, with Type V Portland cement in accordance with Subsection 201–1.2.1, and shall contain air-entraining and low range water reducing admixtures.

201–1.3 Proportioning.

201–1.3.2 Combined Aggregate Gradings.

Replace Table 201–1.3.2 with the following:

Sieve Size	Percentage Passing Sieves						
	Grading A	Grading B	Grading C	Grading CSP	Grading D	Grading E	Grading S
2" (50 mm)	100	100	-	-	-	-	-
1-1/2" (37.5 mm)	95–100	95–100	100	100	-	-	-
1" (25.0 mm)	64–80	80–96	95–100	98–100	-	-	-
3/4" (19.0 mm)	55–71	64–80	77–93	85–98	100	100	-
3/8" (9.5 mm)	37–53	40–52	50–70	67–80	92–100	90–100	100
No. 4 (4.75 mm)	32–42	35–46	39–51	46–65	42–60	60–80	95–100
No. 8 (2.36 mm)	25–35	28–38	31–41	38–54	33–47	50–70	75–90
No. 16 (1.18 mm)	18–28	21–31	22–32	27–40	22–38	33–53	55–75
No. 30 (600 µm)	10–18	10–20	12–22	15–27	17–25	19–35	30–50
No. 50 (300 µm)	3–9	3–10	3–15	3–15	6–15	5–15	10–25
No. 100 (150 µm)	0–4	0–4	0–15	0–7	1–6	2–7	2–10
No. 200 (75 µm)	0–2	0–2	0–2	0–3	0–3	0–4	0–5

201–5 CEMENT MORTAR.

201–5.1 General. (Page 73 of the SSPWC)

Add the following after the last paragraph:

Unless specified otherwise, cement mortar for water distribution facilities shall be Class "E" and Class "A", respectively.

SECTION 206 – MISCELLANEOUS METAL ITEMS

206–1 STRUCTURAL STEEL, RIVETS, BOLTS, PINS, AND ANCHOR BOLTS.

206–1.1 Requirements. (Page 128 of the SSPWC)

206–1.1.1 General.

Replace the entire subsection with the following:

All steel, the class of which is not definitely designated in the Specifications or on the Plans, shall be structural steel and shall conform to the following requirements:

- 1) Structural tubing shall conform to ASTM A 53, Grade B.
- 2) All other structural steel shall conform to ASTM A 36.
- 3) Anchor bolts shall conform to ASTM A 36 or A 307. Carbon Steel stud bolts shall comply with ANSI/ASTM A 193, Grade B7. Carbon steel stud nuts shall comply with ASNI/ASTM A 194, Class 2H, Oil Quenched.
- 4) All exposed bolts shall be coated per subsection 212-12 of these Specifications.

Steel manufactured by the acid Bessemer process shall not be used.

All structural steel and miscellaneous metal shall be coated per Section 310-PAINTING of these Special Provisions. Surfaces shall be prepared by power tool cleaning or abrasive blasting. The final color shall be approved by the Engineer.

206-6 CHAIN LINK FENCE.

206-6.1 General. (Page 133 of the SSPWC)

Add the following after the first sentence of the second paragraph:

The caps shall be secured by spot welding or riveting.

SECTION 209 – PRESSURE PIPE

209-2 STEEL PIPE AND FITTINGS.

209-2.1 General. (Page 194 of the SSPWC)

Replace the first sentence with the following:

This subsection specifies steel pipe, 4-inch diameter and larger, for the transmission and distribution of water under pressure.

Refer to Los Angeles County Waterworks Districts (LACWD) Standard Plan W-35 for steel pipe joint details.

Refer to LACWD Standard Plan W-36 for service tap details on steel water mains.

209–2.2 Fabricated Steel Pipe and fittings.

209–2.2.1 Materials.

Replace the Table 209–2.2.1 with the following table:

TABLE 209–2.2.1

Ite	Material	Reference Specification/
Pipe	Manufacturing Standards	Butt or offset-butt electrically welded straight- or spiral-seam steel cylinders, shop fabricated from steel or plates conforming to AWWA C200 for pipe 6" (150mm) and larger 4", when required shall conform to the requirements of AWWA C200
	Design Standards	Conform to AWWA M11
	NSF Certification	NSF 61 certification required for potable water pipe
	Material	Steel plates used to manufacture fabricated steel pipe shall conform to the physical and chemical properties listed in <i>ASTM A283 Grade D</i> . <i>Design stress shall not exceed 16,500 psi.</i> Steel sheets used to manufacture fabricated steel pipe shall conform to the physical and chemical properties listed in <i>ASTM A1011 Grade 33 or 36</i> . <i>Design stress shall not exceed 16,500 psi.</i>
	Size	As shown on the Plans Net inside diameter after interior lining shall equal or exceed nominal pipe diameter with tolerance of minus 1/4"
Minimum Wall Thickness	Where the Plans do not show thickness, submit design and supporting calculations prepared by the manufacturer in accordance with AWWA M11 using a maximum design working stress of 1/2 the yield stress for the grade of steel used in pipe fabrication. Compute wall thickness using pressure equal to 150 psi.(1.0MPa) or the design pressure shown on the plans, whichever is greater. No pipe 4" (100mm) and larger outside buildings or vaults shall have a wall thickness less than <i>10 gauge (3.4mm)</i> No pipe 4" (100mm) and larger inside buildings or vaults shall have a wall thickness less than 3/8" (9.5mm)	

	<p>Markings</p>	<p>Mark each special and each length of straight pipe at bell end to identify:</p> <ul style="list-style-type: none"> • Manufacturer’s name or mark • Type of steel • Design pressure • Diameter and weight of pipe or special
	<p>Lengths</p>	<p>Maximum pipe length of 42’ (13m). Shorter lengths may be used to facilitate curves or fit horizontal or vertical alignment.</p>
<p>Lining and Exterior Coating (Required on exposed steel surfaces and ring joints)</p>	<p>Cement-Mortar Interior Lining and Exterior Coating</p>	<p><i>Conform to AWWA C205 and AWWA C602 using Type II/V cement with the following exceptions.</i></p> <p><i>§4.2.1.3, “Ribbon Mesh Reinforcement” shall not apply.</i></p> <p><i>§4.3.1, “Cleaning Surfaces” shall be amended as follows “The interior and exterior surfaces of pipe to which cement mortar will be applied shall be cleaned immediately before applying mortar. Remove loose scale, loose rust, and accumulations of dirt and debris. Remove oil and grease using a volatile solvent.</i></p> <p><i>§4.4.2 “Thickness” shall be amended to read “The cement-mortar thickness shall be no less than the following: 5/16” for</i></p> <p><i>20”</i></p> <p><i>§4.5.3 “Thickness” shall be amended to read “Thickness shall be at least 1 inch with no minimum tolerance.”</i></p> <p><i>§4.5.5.2 “Spiral Wire” shall apply except the wire reinforcing shall be held as near taut as permits uniform mid-coating thickness embedment while the cement-mortar coating is being applied.</i></p> <p><i>§4.7.2.1 “Material shall apply except that cement shall be a fast-curing cement such as “Speedcrete”, “Rapidset” or Agency-accepted equal.</i></p> <p><i>§6.1 “General” shall be amended to read “Repair portions of lining or coating damaged during delivery in accordance with §4.4.6.”</i></p> <p><i>Where a curing compound is used to facilitate curing of cement-mortar lining or coating, the curing compound shall be applied to the cement mortar immediately after placing the mortar. The curing time of cement mortar so cured shall be 7 days. Curing compound used shall conform to AWWA C205 Section 4.2.6. Curing compounds for linings shall be NSF61-listed.</i></p> <p><i>One test sample shall be taken for each 25 lengths of pipe lined, but no less than 3 test samples. Cure test samples under conditions identical to curing of pipe lining from which they were taken.</i></p> <p>Prior to pipe manufacture, submit documentation showing calibration of cement-mortar batching equipment (including water measurement) has occurred during the previous 6 months.</p> <p>Trim lining as necessary to allow full operation of butterfly or check valves at connections to steel pipe.</p> <hr/> <p>Line exposed portions of pipe interior with hand-applied epoxy conforming to 212–12.</p>

		Trim coating 6" to 12" (150mm-300mm) above grade on spools penetrating to daylight or vault interiors.
	Cold-Applied Tape Exterior Coatings	Conform to AWWA C209 for exterior coating of specials, connections, and fittings Conform to AWWA C214 for steel pipeline coatings
	Liquid-Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C210 and 212-12
	Fusion-Bonded Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C213 and 212-12
	Extruded Polyolefin Exterior Coatings	Conform to AWWA C215 for extruded coatings Conform to AWWA C216 for heat-shrinkable cross-linked coatings
Joints	Field Welded Lap Joints are required for steel pipe except where otherwise shown on Plans)	Conform to AWWA C200 Section 4.13. Design for maximum interior pipe lining gap joint of 1/2" (12.5mm) after joint assembly measured from ends of interior lining of pipe sections being joined.
	Bell and Spigot Ends with Rubber Gaskets	Conform to AWWA C200 Section 4.13. Design for maximum interior pipe lining gap joint of 1/2" (12.5mm) after joint assembly measured from ends of interior lining of pipe sections being joined. <i>Where bell-and-spigot gasket joints are used, welding for thrust restraint may be reduced to 240° of arc centered on the soffit.</i>
	Ends Prepared for Mechanical-Coupled Field Joints	Conform to AWWA C200 Section 4.13. Square cut or beveled with no burrs. Outside surfaces where coupling seats shall be free of indentations, projections, or roll marks to ensure watertight seal. Pipe ends shall have tolerances within limits required by mechanical coupling manufacturer. <i>Grooved-end steel pipe nipples shall be at least 12" long, and shall be welded to the pipe cylinder before applying lining and coating materials. Field welding of grooved-ended nipples is prohibited. Dimensions of grooves shall conform with requirements of coupling manufacturer.</i>

	Plain Ends with Butt Straps for Field Welding	Conform to AWWA C200 Section 4.13. Design for maximum interior pipe lining gap joint of ½" (12.5mm) after joint assembly measured from ends of interior lining of pipe sections being joined. For pipe less than 24" (600mm) nominal diameter, furnish butt straps with a 4" (100mm) diameter hand hole, complete with screwed cap or plug, suitable for use in "pointing" the interior joint lining after installation of the joint.
	Flanged Joint	Conform to AWWA C207 Faced and dimensioned in accordance with ASME/ANSI B16.5 for the pressure class shown on the Plans or specified in the Special Provisions <i>Flanges installed below ground shall be flat-faced or plain-faced and suitable for use with full-faced gaskets.</i>
Bell Joint Gaskets	Material	Conform to AWWA C300 Section 4.4.11 and 4.5.4
	Material for Hydrocarbon Applications and Contaminated Soils	NBR (Nitrile) (acrilobutadiene), Fluorel or FKM (Viton) fluorocarbon
	Gasket Age	<180 Days old or < 2 years old but retested prior to installation
Flange Gaskets	Material	Refer to 212–2.7
Fittings	Material	Same steel as pipe
	Standards	Conform to AWWA C208 <i>Special sections shall be of same material, size, joint type, and pressure class as adjoining pipe.</i>
	Flanged Fittings	Conform to ASTM/ANSI B16.5 <i>For flange drilling patterns refer to 212–2.3.</i>
	Collar, Wrapper Plate, or Crotch Plate Design for Outlets	Conform to AWWA M11
	Exterior Coatings	Use same coating as adjacent pipe, as specified above
	Interior Linings	Use same linings as adjacent pipe, as specified above

209–2.2.2 Submittals.

Add the following:

A Certificate of Compliance conforming to 4–1.5 shall be submitted to the Engineer with each delivery. The certificate shall include the reference specification(s) and/or requirements that are applicable to the item(s).

Add the following subsections:

209–2.2.7 Fittings.

Welding fittings shall conform to ANSI B-16.9. Minimum thickness shall be greater than or equal to the thickness of the adjoining pipe.

Screwed fittings shall be steel and shall comply with ANSI B-16.4.

Steel flanged fittings shall be butt-welding type (with companion weld-on flanges) conforming in all respects to AWWA C207 and ANSI B-16.1 or B-16.2. Fittings to be installed in soil or concrete shall have flat or plain-faced flanges. Flanges shall be ANSI Class 300, unless otherwise shown on the Plans.

Cast steel fittings shall have protective linings and coatings as set forth in Table 209–2.2.1. Cast-steel fittings shall be exterior coated with enamel or the manufacturer's recommended coating prior to being cement-mortar coated.

209–2.3 Mill-Type Steel Pipe. (Page 196 of the SSPWC)

209–2.3.1 Materials.

Replace the Table 209–2.3.1 with the following table:

TABLE 209–2.3.1

Item	Material	Reference Specification/ Requirements	
Pipe	Manufacturing Standards	Furnace-welded electrically welded, or seamless steel pipe conforming to AWWA C200 for pipe 6" (150mm) and larger or ANSI B36.10 for pipe smaller than 6" (150mm) or for pipe with wall thickness specified by strength or schedule on the Plans.	
	Design Standards	Conform to AWWA M11	
	NSF Certification	NSF 61 certification required for potable water pipe	
	Material	ASTM A53 Grade A or B, ASTM A134 (steel plate per ASTM A283 Grades C or D or A36), ASTM A135, or ASTM A139	
	Size		As shown on the Plans
			Conform to dimensional tolerances of AWWA C200 for pipe ≥6" (150mm) identified on plans by class, gauge, or decimal wall thickness.
			Conform to <i>API 5L</i> or ANSI B36.10 for pipe smaller than 6" (150mm) or for pipe with wall thickness specified on the Plans by strength or wall-thickness schedule.
Minimum Wall Thickness		Where the Plans do not show thickness, submit design and supporting calculations prepared by the manufacturer in accordance with AWWA M11 using a maximum design working stress of ½ the yield stress for the grade of steel used in pipe fabrication. Compute wall thickness using pressure equal to 150 psi.(1.0MPa) or the design pressure shown on the plans, whichever is greater.	

		No pipe 4" (100mm) and larger outside buildings or vaults shall have a wall thickness less than 10 gauge (3.4mm)
		No pipe 4" (100mm) and larger inside buildings or vaults shall have a wall thickness less than 3/8" (9.5mm)
	Markings	Mark each special and each length of straight pipe at bell end to identify: <ul style="list-style-type: none"> • Manufacturer's name or mark • Type of steel • Design pressure • Diameter and weight of pipe or special • Proper location of pipe by reference to layout schedule
	Lengths	Furnish in single random lengths, double random lengths, or in specified cut lengths For single random lengths, average length shall be not less than 17.5' (5.3m) and no piece shall be shorter than 9' (2.7m) For double random lengths, average length shall be not less than 35' (5.3m), not less than 10% of pieces shall be shorter than 26.25' (8.0m), and no piece shall be shorter than 14' (2.7m) specified cut lengths, the actual pipe length shall not vary from the specified length by more than 1/8" (3mm)
Lining and Exterior Coating (Required on exposed steel surfaces and ring joints)	Cement-Mortar Interior Lining and Exterior Coating	Conform to AWWA C205 and AWWA C602 using Type II/V cement. Refer to Table 209-2.2.1 for exceptions to AWWA C205.
		Trim lining as necessary to allow full operation of butterfly or check valves at connections to steel pipe
		Line exposed portions of pipe interior with hand-applied epoxy conforming to 212-12
		Trim coating 6" to 12" (150mm-300mm) above grade on spools penetrating to daylight or vault interiors
	Cold-Applied Tape Exterior Coatings	Conform to AWWA C209 for exterior coating of specials, connections, and fittings Conform to AWWA C214 for steel pipeline coatings
	Liquid-Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C210 and 212-12
Fusion-Bonded Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C213 and 212-12	
Extruded Polyolefin Exterior Coatings	Conform to AWWA C215 for extruded coatings Conform to AWWA C216 for heat-shrinkable cross-linked coatings	

Joints	Ends Prepared for Mechanical-Coupled Field Joints	<p>Conform to AWWA C200 Section 4.13.</p> <p>Square cut or beveled with no burrs. Outside surfaces where coupling seats shall be free of indentations, projections, or roll marks to ensure watertight seal. Pipe ends shall have tolerances within limits required by mechanical coupling manufacturer.</p> <p><i>Grooved-end steel pipe nipples shall be at least 12" long, and shall be welded to the pipe cylinder before applying lining and coating materials. Field welding of grooved-ended nipples is prohibited. Dimensions of grooves shall conform with requirements of coupling manufacturer.</i></p>
	Field- Butt Welded Joints	<p>Pipe with wall thickness 15/64" (6.0mm) or greater intended for field butt welding. Bevel pipe on outside, inside, or both sides as shown or specified.</p> <p>Bevel angle shall be 30° to 35° measured from plane perpendicular to pipe axis. Width of root face at pipe end shall be 1/32" to 3/32" (0.8mm - 2.3mm)</p>
	Flanged Joint	<p>Forged steel conforming to ASTM A181. Faced and dimensioned in accordance with ASME/ANSI B16.5 for the pressure class shown on the Plans or specified in the Special Provisions.</p> <p><i>Flanges installed below ground shall be flat-faced or plain-faced and suitable for use with full-faced gaskets.</i></p> <p>Threads for screwed flanges and companion pipe ends shall conform to ASME/ANSI B1.20.1.</p> <p>Pipe ends for welding neck flanges shall be beveled.</p>
Flange Gaskets	Material	Refer to 212-2.7
Fittings	Material	Same steel as pipe.
	Standards	<p>Manufacture from mill-type steel pipe in accordance with ASME/ANSI B16.9.</p> <p><i>Minimum thickness shall be equal to or greater than adjoining pipe thickness.</i></p>
	Flanged Fittings	<p>Conform to ASTM/ANSI B16.5</p> <p><i>For flange drilling patterns refer to 212-2.3.</i></p>
	Steel Butt-Welding Fittings	Conform to ASTM/ANSI B16.9
	Forged Steel Fittings, Socket Welded and Threaded	Conform to ASTM/ANSI B16.11
	Exterior Coatings	<p>Use same coating as adjacent pipe, as specified above</p> <p>For cement-coated fittings, coat with enamel or manufacturer's recommended coating prior to cement-mortar coating.</p>
	Interior Linings	Use same linings as adjacent pipe, as specified above

Steel plates or sheets used in the manufacture of fabricated steel pipe shall comply with ASTM A-1011/1011M or ASTM A-283 Grade D with a minimum yield point strength of 33,000 psi. Design Stress shall not exceed 16,500 psi.

209-2.3.2 Submittals.

Replace the entire subsection with the following:

Prior to fabricating pipe, the Contractor shall submit, in accordance with 3–8, a certified laboratory report stating the type of steel, and the physical and chemical properties for each heat number of the steel used in fabricating the pipe.

A Certificate of Compliance conforming to 4–1.5 shall be submitted to the Engineer with each delivery. The certificate shall include the reference specification(s) and/or requirements that are applicable to the item(s).

209–7 PIPELINE IDENTIFICATION.

209–7.2 Requirements.

Replace the entire subsection with the following:

Warning tape shall be metal detectable with a minimum width of 6 inches. The tape shall be blue with the following message printed in a contrasting color, repeated at intervals not to exceed 5 feet:

CAUTION LACFCD
WATER LINE BELOW

SECTION 210 – PAINT AND PROTECTIVE COATINGS

210–1 PAINT.

210–1.5 Paint Systems. (Page 206 of the SSPWC)

Add the following after Table 210–1.5:

Zinc-Rich Primer, Organic Vehicle Type

Zinc-rich primer shall conform to State Specification 8010–31A-36.

Pre-Treatment, Vinyl Wash Primer

Vinyl wash primer shall conform to State Specification 8010–31A-27.

White Tint Base Vinyl Finish Coat

Finish coat shall conform to State Specification 8010–31A-35, tinted a gray color. A sample of the paint color or a color chip shall be submitted to the Engineer in accordance with 3–8 of Section G.

SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENANCES

212–1 GENERAL.

212–1.1 Submittal Package.

Replace the first row of the Table 212–1.1 with the following:

TABLE 212–1.1

Submittal	Description
Shop Drawings	Required for all valves and stops

212–2 FLANGED AND THREADED CONNECTIONS.

212–2.3 Flange Drilling.

Replace Table 212–2.3 with the following table:

TABLE 212–2.3

Working Pressure	Material	Required Drilling Pattern
150–250 psi	Ductile Iron Flanges	ASME/ANSI B16.42 Class 150
	Steel Flanges	AWWA C207 Class E
250–300 psi	Ductile Iron Flanges	ASME/ANSI B16.42 Class 300
	Steel Flanges	AWWA C207 Class F or ASME/ANSI B16.5 Class 300

212–2.5 Flange Coupling, and Harness Bolts, Nuts, and Washers.

212–2.5.3 Applications in Corrosive, High-Chloride, or Saltwater Environments.

Add the following after Table 212–2.5.3:

Specially coated bolts (blue bolts) for corrosive environments shall conform to the following:

Surface preparation shall include the following:

- Blasting with 120 grit aluminum oxide
- Application of aerocote (nickel) primer
- Baking

Coating shall be multiple coats of one mil thick fluoropolymer with the following physical properties:

Tensile Strength	2,000 – 4,000 psi
Elongation	35 to 50%
Water Absorption	0.03%
Continuous Service Temperature	500° F / 260° C
Intermittent Service Temperature	550° F / 285° C
Pencil Hardness	H to 6H
Dielectric Strength	1,200 to 2,000 V/MIL
Coefficient of Friction	0.02 to 2.00
Wear Resistance (K-Factor)	6 to 8
Salt Spray (ASTM B-117)	Up to 3000 Hrs. (no effect)

Coated Bolts shall be “Tripac 2000 Blue Coating System”, “Metal Coatings Corp. Fluorokote#1”, or Agency approved equal.

Add the following subsection:

212–2.5.6 General.

Stud bolts and nuts may be used for all flanges instead of bolts and nuts.

All washers shall be of the same material as the nuts. Stainless steel fasteners shall not be used unless otherwise shown on the plans.

Bolts threaded by more than 1 inch shall be No. 8 pitch thread series.

Coated bolts (blue bolts) shall be used on all above ground flanges, combination air valves and hydrants per Subsection 212–2.5.

Stud bolts and bolts shall be of such length that after assembly the threaded end extends not less than two threads and not more than $\frac{3}{4}$ -inch beyond the outward face of the nut.

Underground bolting shall be protected against corrosion in accordance with Subsection 306–8.12.

212–2.7 Flange Gaskets. (Page 222 of the SSPWC)

212–2.7.1 General.

Replace the second, third, and fourth paragraph with the following:

Gaskets for use with flat-faced flanges shall be full-faced. All gaskets for flanged joints shall be cloth-inserted rubber 1/16-inch thick with boltholes punched. Gaskets subject to WWP above 150 psi shall be 1/8 inch thick cloth-inserted Neoprene with tensile strength of 1500 psi and a “Shore A” hardness of 70 with boltholes punched.

Add the following:

Gaskets shall be:

"Crane Company, Cloth-Inserted Rubber", "Biltrite", "Garlock", "Thermoseal", "Tripac", or Agency approved equal. For high-pressure installations, "Tripac 2000" or Agency approved equal.

212–2.8 Dissimilar Materials. (Page 222 of the SSPWC)

212–2.8.2 Insulation of Threaded Connections.

Add the following:

Insulating bushings for use on service connection clamps or weld-on couplings shall be a nylon dielectric, with a heavy hexagon head and type Iron Pipe Straight (I.P.S.) thread.

Insulating bushings shall be as manufactured by "Corrosion Control Products Co"., "Mayco", or Agency approved equal.

212-3 PIPE HANGERS AND SUPPORTS, CASING SPACERS, AND WALL PENETRATIONS.

212-3.1 Pipe Hangers and Supports.

212-3.1.1 General.

Add the following:

Refer to LACWD Standard Plan W-17 for adjustable pipe support requirements.

212-4 VALVE ACTUATORS, EXTENSIONS, AND VALVE BOXES.

212-4.2 Valve Operators for Buried or Submerged Valves.

212-4.2.3 Valve Cans and Covers for Buried Valves.

212-4.2.3.2 Materials. (Page 228 of the SSPWC)

Add the following:

Unless otherwise indicated on the Plans, a valve box shall be provided for every main line, flush out, and fire hydrant valve installed below ground. Valve boxes as shown on Standard Plan W-15 shall be galvanized split-telescoping steel cylinders with sharply flared top shoulder. The bottom sleeve shall be PVC Schedule 40 cut to the appropriate length.

Refer to Los Angeles County Waterworks Districts Standard Plan W-15 for adjustable valve box requirements.

The following valve boxes are acceptable:

"Parkson" - Valve Box Sleeve, "Western Water Works" - Valve Box, or Agency approved equal.

Each valve box shall be fitted with a valve box cap. Valve box caps shall be epoxy painted cast iron loosely fitted inside the top of the valve box and marked "Water" on top, as shown on Standard Plan W-15.

The tops of valve boxes in paved areas or areas soon to be paved shall be adjusted to snugly retain the cap, the top of which shall be flush with finish grade.

The tops of valve boxes and caps in untraveled areas shall be adjusted to ground surface. If the traveled surface is ungraded or graded earth, the valve box cap shall be set 6-inches below ground surface and covered with a plug of asphaltic concrete until such time that grade is restored.

The following valve box caps are acceptable:

"Rich Manufacturing Company", Figure 930; "Reliable Iron Foundry"; "Parkhurst" No. 6-1D-4; or Agency approved equal.

212-5 VALVES. (PAGE 230 OF THE SSPWC)

Add the following:

All valves and stops shall be of the size, joint type, and pressure class shown on the Plans.

The Contractor shall submit to the Agency the manufacturer's Shop Drawings of all valves and stops in accordance with Subsection 3-8. Shop Drawings shall include a schedule of parts and materials of which they are made in sufficient detail to verify that the valves comply with these Special Provisions. The Contractor shall submit the manufacturer's certification that all valves comply with pertinent AWWA specifications in accordance with Subsection 4-1.5.

Size, WWP, end types, whether flat or raised face (if flanged), class of flange, whether Outside Screw & Yoke (OS & Y) or Non-Rising Stem (NRS), and a description of any special requirements such as bypass size and mounting, position indicator, gears and cases, trucks and rollers, and any deviations from the standard requirements for flanges, operating nuts, hand wheels, etc., shall be as shown on Plans.

If flange ends are required, they shall be flat-faced for the WWP shown on the Plans and for pressures below 250 psi and shall conform in dimension and drilling to ANSI B16.1 Class 125.

212-5.1 Resilient Wedge Gate Valves. (Page 230 of the SSPWC)

Replace the entire subsection with the following:

212-5.1.1 Gate Valves – General.

Gate valves shall meet the following general requirements, except for those 2-½ inch and smaller:

Valves 4-inch and larger installed above ground in well-drained areas shall be OS & Y type, with hand wheels.

Valves installed below grade shall have non-rising stems, O-ring stem seals, and 2-inch square AWWA operating nuts on vertical stems. The operating nuts shall be between 24 and 36 inches below finished grade and shall be protected in accordance with Subsection 212-5.13 of these Special Provisions. The use of approved fiberglass or stainless steel valve stem extensions is permitted.

Ductile iron shall conform to ASTM A536 Grade 65-45-12.

Cast iron shall meet the requirements of ANSI/ASTM A 126, Class B.

Stems shall be made of "Ni-Vee", "NDZ", or other bronze of equal strength, be corrosion resistant, and shall have a minimum tensile strength of 60,000 psi, minimum yield strength of 30,000 psi, and not over five percent zinc nor over two percent aluminum.

When flanged ends are provided, the dimensions shall be ANSI Class 125 for WWP below 250 psi and ANSI Class 250 for WWP of 250 psi and above, unless otherwise specified.

212-5.1.4 Gate Valves 4-inch Through 12-inch (Resilient-seated).

Resilient-seated gate valves provided and installed under these Special Provisions shall comply with AWWA C515 as augmented and modified below:

Valves shall have iron or steel bodies, solid wedge, resilient seat, epoxy resin interior lining, nonrising stem, and shall be counterclockwise opening.

The stem seal shall incorporate two O-rings made of synthetic rubber per ASTM D2000. A bronze thrust bearing washer shall be located at the thrust collar to reduce friction.

The wedge shall be cast iron or ductile iron, with guide bars or channels for controlled movement, and may have a bronze stem nut cast integrally. The wedge shall be ruggedly constructed for resistance to deflection. Rubber seats shall be bonded or mechanically

attached to the wedge. The wedge shall be fully encapsulated. If bonded, the method used for rubber to metal shall be in accordance with ANSI/ASTM D 429. The peel strength shall not be less than 75 psi. If mechanically attached, devices and hardware used to retain the resilient seat shall be of a corrosion resistant material. The wedge shall be precisely machined to receive the resilient seat.

Ductile iron shall meet the requirements of ANSI/ASTM D 395, Grade 65–45–12.

Rubber for the valve seat shall be new, natural or synthetic, and of a compound designed for water service application, and shall be resistant to attack by microbiological organisms, copper salt, and ozone.

Rubber seat compounds shall have a maximum compressive set value at 18 percent when tested in accordance with ANSI/ASTM D 395, Method B for 22 hours at 158°F. Reclaimed rubber shall not be used.

Rubber material shall conform to 212–17.

Each valve shall be tested hydrostatically after application of epoxy resin interior lining in accordance with Section 5.1 of AWWA C509 for cast iron and Section 5.1 of AWWA C515 for ductile iron.

The following valves, or Agency approved equal, are acceptable when manufactured in accordance with these Special Provisions:

Manufacturer	Model
Kennedy Valve Co.	<u>Kenseal II</u>
Clow Valve Co.	<u>Clow Valve R/W</u>
American Flow Control	<u>Series 2500</u>

212–7 BACKFLOW PREVENTION DEVICES. (Page 237 of the SSPWC)

Add the following:

Refer to Los Angeles County Waterworks Districts Standard Plan W-6 for backflow prevention detector assembly requirements and materials.

212–7.1 General.

Add the following:

Unprotected cross-connections with public water supply are prohibited. Any backflow prevention assembly required herein shall be a model and size approved by the District.

Water service shall be contingent upon testing and certification of the assembly by a Los Angeles County certified backflow tester. Subsequent to the initial certification, the District shall be responsible for submitting an annual test certification to the County of Los Angeles Department of Health Service – Public Health. Certification must also take place immediately after replacement, relocation, or repairs and any testing period as determined necessary by the District. All testing procedures and certification shall be conducted at the owner's expense.

212-7.3 Reduced-Pressure (RP) Backflow Prevention Assemblies.

Add the following:

The approved reduced pressure principle backflow prevention assembly shall be installed on the property owner's side of and as close to the service connection as is practical. The assembly shall be installed a minimum of 12 inches above grade and not more than 24 inches above grade measured from the bottom of the assembly as shown per Plans. The side clearances shall be at a minimum of 24 inches between the side of the assembly that the test cock is on and 12 inches for the other side of the assembly as shown on the Plans. The assembly shall be installed so that is readily accessible for maintenance and testing. Any water use from any point between the service connection and the RP assembly shall be protected in a manner approved by the District.

All reduced pressure principle backflow prevention assemblies shall be fully protected using the approved steel enclosure. The steel enclosure shall be comprised of minimum 3/16" steel welded frame with minimum 9 gauge diamond mesh on all sides. The steel enclosure shall cover the entire assembly and shall be installed based on manufacturer's recommended clearance from the proposed assembly. The steel enclosure shall include all the proper anchors or bolts per the manufacturer specification. The Agency will provide the padlocks.

212-8 COUPLINGS.

212-8.4 Grooved and Shouldered Couplings and Joints. (Page 239 of the SSPWC)

212–8.4.2 Materials.

Replace the entire subsection with the following:

212–8.4.2 Materials.

Grooved and shouldered couplings shall be constructed of the following:

TABLE 212–8.4.2

Item	Material	Specification
Body	Ductile Iron or Steel to Match Adjacent Pipe	AWWA C606
Coupling Bolts	Stainless Steel	Refer to 212–2.5
Interior Lining	Fusion-Bonded Epoxy or High-Solids Two-Part Epoxy	Refer to 212–12.1.2
Exterior Coating	Fusion-Bonded Epoxy or Epoxy Polyurethane	Refer to 212–12.1.2
Polyethylene Encasement	Polyethylene Film	Refer to 212–12.1.1 Color per 212–12.2

212–8.4.3 Design Options.

Replace the entire subsection with the following:

212–8.4.3 Design Options.

The following design options are required for grooved and shouldered couplings:

TABLE 212–8.4.3

Item	Option	Specification
Grooved Couplings – Mating Ductile Iron Pipe 4”-24” diameter	Radius Grooving	Minimum wall thickness of grooved DIP shall be Class 53 Groove dimensions per AWWA C606 Table 2 for flexible joints
Grooved Couplings – Mating Steel Pipe 4”-24” diameter	Roll Grooving	Minimum wall thickness of grooved steel pipe shall be as shown in AWWA C606 Table 5 Groove dimensions per AWWA C606 Table 5
Grooved and Shouldered Couplings – Mating Steel Pipe 4”-64” diameter	Shouldered	AWWA C606 Type C or D Dimensions per AWWA C606 Table 6

Grooved type couplings shall be "Victaulic" Style 77; "Gruv-Loc", or Agency approved equal.

212-10 SERVICE LATERALS, METERS, AND METER BOXES.**212-10.1 Copper Tubing.** (Page 241 of the SSPWC)

Replace Table 212-10.1 with the following table:

TABLE 212-10.1

Size	Form	Length	Temper
1" (25 mm)	Coils Minimum 24" (600 mm) ID	Maximum 60' (18.3 m) coils	O-60 annealed
1½" (38 mm)	Flexible or rigid straight lengths	20' (6.1 m) (rigid)	O-50 annealed
2" (50 mm)	Flexible or rigid straight lengths	20' (6.1 m) (rigid)	O-50 annealed

Add the following subsection:

212-10.1.1 Materials.

Copper pipe and tubing shall be constructed of the following:

TABLE 212-10.1.1

Item	Standards / Characteristics	Specification/Requirement
Copper Pipe (Seamless)	Seamless Copper (annealed)	Conform to ASTM B42 and ASTM B251
	NSF Certification	NSF 61 certification and NSF 372 certification required for potable water pipe
	Wall Thickness	Type K
	Bend Radius	≥18" for pipe ≤1" Use bend couplings pipe >1"
	Coating	Conform to AWWA C209 35-mil cold-applied coal-tar tape, or PVC or PE coating.
Fittings	Cast Copper Fittings	Conform to ASME/ANSI B16.18 Cast Copper Alloy Solder Joint Pressure Fittings
	Seamless Copper Tube Fittings	Conform to ASTM B75 Seamless Copper Tube Fittings
	Solder-Joint or Flared-Tube Fittings	Conform to ASME/ANSI B16.26 and ASTM B75 with gasket retainer and rubber gasket Do not use compression-type fittings except where accepted by Agency and where joint separation due to high water pressure is prevented independent of soil friction
	Threaded Bronze Fittings	Conform to ASME/ANSI B16.15 125 psi class except where pressures exceed 125 psi.

	Wrought Copper Fittings	Conform to ASME/ANSI B16.22, ASTM B75, and MSS SP104
Joints	Joints $\leq \frac{3}{8}$ "	Flared end or compression joints
	Joints $\geq \frac{1}{2}$ "	Solder end joints
	Solder	Conform to ASTM B32 Alloy Grade Sb5 (95% tin/5% antimony)
		For connections to corporation stops and meter stops use silver-alloy solder and solder-joint fittings conforming to ANSI B16.22
	Solder Joints	Grade 50B

212–10.8 Copper Tubing Pipe Fittings.

Brass fittings for flared copper tubing shall comply with ANSI B16.26. Fittings with compression-type joints shall have all bronze metal parts, body threaded and flared, with gasket retainer and rubber gasket. Compression-type fittings may be used only when approved by the Agency and where joint separation due to high water pressure is positively prevented, independent of pipe to soil friction.

Wrought copper solder fittings shall be made in accordance with ANSI B16.22 and ANSI/ASTM B 75. Cast-bronze solder fittings shall be made in accordance with ANSI B16.88.

Threaded bronze fittings shall be made in accordance with ANSI B16.15 and B16.17, 125 pound class, except where high pressure fittings are required.

Brass pipe and nipples shall be red brass Schedule 40 pipe and shall comply with ANSI/ASTM B 43. Unions shall be ground joint type and rated for at least a WWP of 200 psi.

212–12 PAINTING, INTERIOR LINING, AND EXTERIOR COATING.

212–12.1 Interior Lining and Exterior Coating of Ferrous Valve, Hydrant, Valve Operator, Meter, Coupling, Expansion Joint, Spool, Fitting, and Backflow Preventer Surfaces.

212–12.1.2 Materials. (Page 245 of the SSPWC)

Delete the “interior lining” and the “exterior finish coat” rows from the Table 212–12.1.2 and add the following:

The exterior of buried valves shall be coated twice with a bitumastic coating such as Tarsel Bitumastic 505, fusion bond epoxy, or Agency approved equal.

If above ground valves are not epoxy-coated by the manufacturer, they shall be coated twice with red chromate primer or Agency approved equal.

All interior waterway ferrous metal surfaces of the valves shall be lined. Lining shall be a 12 mils or thicker coat of holiday-free, high-impact, non-shattering, high-adhesion, tasteless, odorless, nontoxic epoxy resin, evenly applied to the surfaces. Lining shall be applied after all irregularities, burrs, and grease have been removed and immediately after surfaces to be coated have been sand blasted to white metal, followed by air blowing to remove dust. The epoxy resin shall be applied in accordance with the manufacturer's instructions and AWWA C550. The epoxy resin shall be either "Scotchcote No. 302", "Keysite 740", or Agency approved equal.

For quality control purposes, install pipe spools to extent possible in order of manufacture. Limit installation of pipe spools on any day to those from same production runs except where necessary to accommodate fabricated elbows and specials.

Add the following subsections:

212-17 PEROXIDE - CURED EPDM RUBBER MATERIAL.

Rubber materials in contact with potable water shall be peroxide cured EPDM. This includes but is not limited to air combination valves, all types of control valves, resilient seat gate valves, butterfly valves, flexible expansion joints, flange coupling adapter joints, sleeve couplings, push-on pipe joints, and pipe fitting joints. The aforementioned paragraph supersedes all other referenced materials for items listed above.

212-18 NATIONAL SANITATION FOUNDATION (NSF) COMPLIANCE.

All products including pipes, fittings, valves, and coatings in contact with potable water shall comply with NSF/ANSI 61 Drinking Water System Components-Health Effects standards and the requirements of the Safe Drinking Water Act.

Add the following:

SECTION 218 – IMPORTED FILL MATERIAL

218-8.1 Imported Backfill.**218-8.1.1 General.**

The material obtained from the open trench excavations can be used as trench backfill, subject to the provisions specified herein, and provided that all organic material, rubbish, debris, and other objectionable materials are first removed. Excavated materials containing rock must be broken down prior to use as backfill as prescribed in the Standards Specifications for Public Works Construction Section Table 217-2.2.

All backfill shall be compacted to a minimum relative compaction of 90 percent of the maximum dry density when tested by ASTM Test Method D1557.

If the Contractor elects or is required by these Special Provisions to import material from a source outside the Project limits for use as backfill, said material shall be clean soil, free from organic material, trash, debris, rubbish, broken portland cement concrete, bituminous pavement, or other objectionable substances, and shall have a minimum sand equivalent of 20.

The Contractor shall inform the Engineer of the actual street address or location from which the intended material will be furnished not less than 15 days prior to its proposed use. The Contractor shall sample and analyze the intended material per this Special Provisions. The Agency will perform other testing as deemed appropriate by the Engineer. The Engineer will determine the suitability of the material for use as imported backfill.

Should the imported backfill material differ substantially from the approved sample, it shall not be used for backfill, and shall be removed from the Work site and replaced with approved imported backfill material at the Contractor's expense.

218-8.1.2 Sampling Frequency and Location.

The Contractor shall collect discrete soil samples that are representative of the material to be imported. The Contractor shall establish a grid system over the potential borrow site or stockpile. The Contractor shall collect and analyze one soil sample from each grid. The grid and soil sampling frequency shall be as follows:

Volume of Soil	Number of Grids/Samples
1 to 20 cubic yards	1 sample
21 to 500 cubic yards	1 sample every 50 cubic yards
501 to 1,000 cubic yards	1 sample every 100 cubic yards
>1,000 cubic yards	1 sample every 200 cubic yards

All sampling shall be conducted by qualified personnel under strict chain-of-custody procedures, and analyzed by a State of California Environmental Laboratory Accreditation Program (ELAP)-certified laboratory in accordance with the testing procedures specified in 40 CFR 136.

218–8.1.3 Soil Sample Analysis.

All sample analysis, containers, preservation methods, and holding times for soil samples shall be in accordance with test procedures provided by 40 CFR 136 and EPA Publication SW-846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” Third Edition, November 1986.

Soil samples shall be transported, under strict chain-of-custody procedures, to an ELAP-certified analytical laboratory within 24 hours of collection. The soil samples shall be analyzed for the following constituents:

Constituent	EPA Method
Total Recoverable Petroleum Hydrocarbons (TRPH).	EPA Test Method 418.1
Total Petroleum Hydrocarbons (TPH-G) – Gasoline Range C4- C12	Modified EPA Test Method 8015
Total Petroleum Hydrocarbons (TPH-D) - Diesel Range C10-C24	Modified EPA Test Method 8015
Volatile Organic Compounds (VOCs)	EPA Test Method 8260
CCR Title 22 Metals (TTLC)	EPA Method 6010
Simulated Distillation – Hydrocarbon Distribution. Hydrocarbon Chain	EPA Test Method 3550

If the Contractor is aware of other potential contaminants, or the borrow site or stockpile history may indicate other potential contaminants not listed above, the Contractor shall analyze all samples for all other potential contaminants.

Based on the results of the tests, the Engineer may require additional or supplemental soil samples be collected and tested in order to determine whether the proposed imported fill material is acceptable.

218–8.1.4 Quality Control.

One duplicate soil sample shall be collected and analyzed for every ten-soil samples collected and analyzed. If less than ten samples are collected, a minimum of one duplicate sample is required. Duplicate samples shall be collected in separate containers and located immediately adjacent to the original sample location(s).

Any soil samples having a dilution factor of greater than one will be rejected by the Engineer. The Agency reserves the right to approve and observe all sampling, loading, and transportation of soil proposed to be imported.

218–8.1.5 Reporting and Documentation.

Prior to the acceptance of the imported fill material, the Contractor shall submit to the Engineer a summary report of all analytical data from soil sampling activities conducted on the proposed fill material. The report shall include a table summarizing all analytical data and observations, a sketch drawing or diagram of the borrow/stockpile site and sample

locations, general soil conditions or classification, description of the borrow/stockpile site, signed laboratory analytical data sheets, signed laboratory analytical QA/QC data sheets, signed/completed chain-of-custody forms, field logbook, and all other pertinent information.

The Contractor shall maintain a bound sample documentation logbook. The logbooks will be used for documenting data collection and work activities. Entries shall be made in ink and shall include sufficient detail to reconstruct site activities without reliance on memory. All samples collected shall be recorded in the logbook.

218-8.1.6 Approval.

The Engineer will evaluate the data submitted in this report and determine if the proposed material may be imported and used on the Project. The Contractor shall not import any soil on to the Project site until the Agency has reviewed the summary report and written approval has been received from the Engineer.

PART 3 – CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300–4 UNCLASSIFIED FILL. (PAGE 270 OF THE SSPWC)

300–4.1 General.

Add the following:

The Contractor is required by the Special Provisions to import material from a source outside the project limit for use as fill and backfill, representative samples of imported material for use as fill and backfill must be approved by the Agency.

300–4.3 Other Fill Materials.

Replace the following:

Material obtained from the Work excavation is not suitable for use as fill or backfill.

300–4.7 Compaction.

Replace the first paragraph with the following:

Relative compaction of all fill and backfill shall be 95 percent, unless otherwise indicated on the Plans.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306–3 TRENCH EXCAVATION.

306–3.1 General. (Page 389 of the SSPWC)

Add the following to the first paragraph:

For the purpose of shoring or bracing, a trench is defined as an excavation in which the depth is greater than the width. Shoring and bracing shall be required when the depth is

greater than 5 feet (1.5 m). In cases where there are unstable soil conditions, shoring or bracing may be required for depths less than 5 feet (1.5 m).

Add the following:

Trenching shall not begin until sufficient labor, materials, and equipment are on hand to continue the Work without delay.

Use of trench digging machinery will be permitted except in places where machine operation may, in the Engineer's option, cause damage to waterways, trees, utilities, surface improvements, buildings, or existing structures above or below ground, in which case hand methods shall be employed.

Handling of materials, laying, blocking, and jointing of pipe shall be in accordance with AWWA C604 and AWWA C600 where applicable. Pipe and accessories shall be handled with care to avoid damage. The Contractor, at no additional cost to the Agency, shall replace damaged pipe which cannot be repaired per 209–2.2. The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times.

Refer to County Waterworks Districts Standard Plan W-46 for pipe trench construction.

Refer to County Waterworks Districts Standard Plan W-49 for public safety requirements around open-trench areas.

Refer to County Waterworks Districts Standard Plan W-50 for minimum separation requirements between water mains and sewers.

306–3.4 Minimum and Maximum Pipe Zone Trench Width.

Add the following:

The minimum and maximum width of trench permitted shall be as indicated on the Plans or Standard Plan W-46. In any case, the trench width shall be ample to allow at least 6 inches of select backfill material to be placed on each side of the pipe and appurtenances, to permit the pipe to be laid and jointed properly, and to allow proper placement and compaction of backfill.

Add the following subsection:

306-3.7 Trench Depth.

Except where necessary to slope the water main upward to join an existing water main, the trench depth shall be as shown on the Plans and in Standard Plan W-46. The following requirements shall also apply:

The bedding underlying the pipe shall be select bedding material. This bedding material shall be deposited in the trench by the Contractor conforming to subsections 217-1 and 306-6. Where rock, caliche, etc., exists in the trench bottom, the Contractor shall over excavate the trench and shall deposit select bedding material to a minimum thickness (after compaction) of 6 inches below the pipe, unless otherwise indicated on the Plans.

Trench bottom, where existing at less than 90 percent relative compaction, shall be densified by the Contractor to at least said 90 percent for a depth of at least 12 inches.

306-6 BEDDING.

306-6.5 Placement and Compaction.

306-6.5.1 General. (Page 393 of the SSPWC)

Replace the first sentence with the following:

The material in the bedding zone shall be placed, and densified by mechanical compaction.

Add the following:

Depressions in the trench bottom shall be used to accommodate valves, fittings, pipe bells, etc., in order that the pipe barrel uniformly rests on bedding material.

Replace the third paragraph with the following:

Water densification methods such as jetting shall not be used to compact bedding.

Add the following subsection:

306-6.5.3 Pipe Laying.

All steel pipes shall be installed with steel fittings.

Bolts shall be tightened with a torque wrench to within either the least upper limits specified by the manufacturers of the various components being bolted, or limits determined by the Contractor which will safely withstand hydraulic test pressures and other forces.

Bolts or stud bolts shall not be used to pull flanges into alignment.

The Contractor shall provide all necessary caulking materials.

306-8 PREFABRICATED PRESSURE PIPE.**306-8.3 Steel Pipe.** (Page 411 of the SSPWC)

Add the following:

Refer to County Waterworks Districts Standard Plan W-35 for steel pipe joint construction.

Refer to County Waterworks Districts Standard Plan W-36 for service tap construction on steel pipes 12" and smaller.

Refer to County Waterworks Districts Standard Plan W-53 for pump well construction on steel pipes.

306-8.3.2 Installation.**306-8.3.2.2 Welded Joints.**

Replace the first paragraph with the following:

Welds to fabricated pipe shall be made in accordance with the requirements of the applicable Reference Specifications under which the pipe is fabricated. All shop and field welding, whether manual or by machine, shall be as specified in AWWA C200 and constructed in accordance with AWWA C206 and the following:

Add the following to g):

The Contractor shall repair cement mortar lining held back for welding operation in accordance with Standard Plan W-35.

When welding joints of weld bell pipe, the cement mortar lining of the joint shall be allowed to cure a minimum of 45 minutes before beginning to weld the joint. Care shall be taken to insure that the heat of welding does not damage the cement mortar lining and coating. If, in the opinion of the Engineer, the interior lining has been damaged during welding, the joints shall be cut out and reconnected using a butt-strap and hand hole in accordance with Standard Plan W-35.

Add the following:

- i) Welds shall develop a tensile strength in kips equal to that of adjoining parent metal.
- j) Tack welds shall be removed if required by the Engineer.
- k) Fillet welds shall have full penetration into the corner of the fillet and shall be obtained with a minimum cutting back of the edge of the outside sheet. Fillet welds shall be of the size specified herein or shown on the Plans, and shall have a thickness of not less than that of the thinnest member to be joined.
- l) Certification of weld test specimens shall be submitted to the Engineer prior to commencing work. Delay in pipe fabrication due to delay in submittal of test specimens shall not be cause for a time extension nor be a basis for Extra Work.

306-8.3.2.3 Butt-Strap Closure Joints.

Add the following:

Butt welding of 10-gauge pipe is not allowed.

Add the following subsections:

306-8.3.2.4 Qualifications For Welding Operators.

Manual welders shall be qualified in accordance with the latest revision of Section IX of the ASME Boiler Construction Code entitled, "Welding Qualifications" or under the Standard Qualification Procedure of the American Welding Society.

All welding operators shall be qualified under paragraph U-69 of ASME Code for Unfired Pressure Vessels, or Paragraph W.451 of API-ASME Code for Unfired Pressure Vessels for Petroleum Liquids and Gases, or under the Standard Qualification Procedure of the American Welding Society.

306–8.3.2.5 Welding Filler Material.

Electrodes for manual welding shall conform to the American Welding Society Standards. All welding electrodes shall be subject to the approval of the Engineer.

306–8.3.4 Acceptance Testing of Mortar Lining.

Prior to acceptance, the Contractor shall repair the following:

- a) Cracks 1/16 to 1/4 inch in width regardless of length.
- b) Failed lining areas less than 100 square inches with no dimension greater than 12 inches in length.
- c) Incomplete or failed joint patches.

The Contractor shall submit to the Engineer the locations and methods of repair in accordance with 3–8. Upon inspection, the Engineer will determine if the repair is acceptable.

Installed pipe spools will be rejected for any of the following:

- a) Cracks wider than 1/4 inch in width.
- b) Failed lining areas of more than 100 square inches or 12 inches in length.
- c) More than one repair, not including joint patches, has been performed on a pipe spool.
- d) Delamination or disbonding from host pipe.
- e) Segregation, honeycombing, voids, slugs, or sand pockets in lining.

The Contractor shall immediately remove and replace rejected pipe spools upon notification by the Engineer.

The Contractor shall perform video inspection in accordance with 313–1 of these Special Provisions for the purposes of progress quality assurance inspection and final inspection.

- a) Be performed in no more than 1,000 foot lengths for all pipe installed unless otherwise approved by the Engineer.
- b) Be performed after installing pipe and compacting backfill but prior to placing base or hot mix asphalt concrete pavement in the trench.
- c) Use inspection equipment that provides the Engineer means to accurately measure crack widths and the dimensions of deficient Work for the full circumference.
- d) Produce a comprehensive inspection video record of the pipe, identifying lining deficiencies, that is submitted to the Engineer.
- e) Allow the Agency 4 Working Days to review the submitted information prior to restarting pipeline construction.

Progress quality assurance inspection acceptance shall be considered a tentative acceptance. Final acceptance will be made only when the Work has been completed pursuant to 6–8.

306–8.8 Valves, Hydrants, and Appurtenances. (Page 419 of the SSPWC)

306–8.8.1 General.

Add the following:

Refer to design Plans for backflow prevention detector assemblies.

Refer to County Waterworks Districts Standard Plan W-17 for adjustable pipe support construction requirements.

Add the following subsection:

306–8.8.1.1 Not Used.

306–8.8.2 Installation.

306–8.8.2.1 General.

Add the following:

Valves shall be installed where indicated on the Plans. Unless otherwise indicated, a valve box shall be provided for every main line, flush out, and fire hydrant valve installed below ground.

306–8.8.3 Thrust Blocks.

Replace the entire subsection with the following:

Thrust blocks of plain concrete or reinforced concrete shall be constructed in accordance with Standard Plan W-21 at all fittings (except blind flanged outlets on water main), at all dead ends, at all valves (except fire hydrant valves, and any valve solidly connected to another valve in the line of pipe where the other valve already has a thrust block). Concrete and steel reinforcement for the thrust block shall comply with Subsection 201–1 and 201–2.

The Contractor shall design and construct the thrust blocks in accordance with conditions encountered in the trench to prevent movement of valves, fittings, dead-end plugs, caps, or adjacent pipe sections when subjected to pressure testing. Thrust blocks for steel pipe shall be in accordance with AWWA M11.

The repair or replacement of pipe and appurtenances damaged during the required test due to insufficient backfill or thrust blocks shall be at the Contractor's expense.

Thrust blocks shall be formed so that the concrete clears all bolts and is only in contact with the bearing surface of the valve, plug, or fitting to be restrained.

Thrust blocks for caps or plugs shall be poured separately from thrust blocks for adjacent fittings, and shall be formed, using 45 pound tar paper so that they can be removed in the future without disturbing the adjacent block.

The Contractor shall submit complete working drawing of all thrust blocks and anchors, as well as calculations for special supports and anchors on all cross country and/or above-ground pipes.

306–8.8.3.1 Design Criteria for Thrust Blocks.

For pipelines 12” diameter and smaller, refer to County Waterworks Districts Standard Plan W-21 Table I for minimum bearing areas.

For dead-end thrust blocks, refer to County Waterworks Districts Standard Plan W-22.

For pipelines larger than 12” diameter, use the following design criteria:

Soil bearing pressure – Use value shown in applicable soils report. If no soils report is available, use maximum allowable soil bearing pressures shown on County Waterworks Districts Standard Plan W-21 Table II.

Pipeline pressure – Use maximum of test pressure or working pressure shown on Plans.

Factor of safety – Use 1.5 factor of safety.

Submit Working Drawings and calculations for thrust blocks designed by Contractor.

306–8.9 Pipeline Pressure Testing, Disinfection, and Commissioning.

306–8.9.2 Hydrostatic Pressure Test. (Page 421 of the SSPWC)

Replace the entire subsection with the following:

Waterworks facilities installed by the Contractor shall be hydrostatically tested, at no additional costs to the Agency, upon completion of laying, jointing, and necessary backfilling and thrust blocking, allowing for a seven day minimum cure of all cement, mortar, and concrete or a two day cure of all cement mortar and concrete made with high early strength Portland cement. A field pressure/leakage test report shall be completed and submitted to the Agency for each section tested.

Pipe shall not be charged with water until the mortar has cured for a minimum of two days.

Prior to applying test pressure, each completed section of pipeline shall be completely flushed in strict compliance with the specifications of AWWA C-651, filled with water using the total available pressure, and allowed to stand 48 hours to allow trapped air to escape and the pipe lining to obtain sufficient water by absorption. The pressure shall thereupon be increased to and maintained as constantly as possible at the required test pressure for the duration of the test.

Where there is a difference in elevation between the ends of a section of pipe being tested, the minimum test pressure for each section of pipe shall apply at the high end of that section being tested. Each section of water main between main line valves shall be individually pressure tested for four hours. No testing will be allowed against existing potable systems or valves. The Contractor shall provide necessary plugs, backflow prevention device, and fittings to avoid cross-connection to existing potable systems. Each section tested shall include all fire hydrants up to the fire hydrant head, all service connections up to the meter stop, all blind flanges, plugs, thrust blocks, and all air vacuum release valves. If there are no convenient permanent outlets required in the design of the section, the Contractor shall provide and install construction plugs, as described in 306–8.9.2.1 to facilitate exhausting air and applying and reading test pressure to the section. Any leakage observed, including leakage through main line valves, which shall remain off during the test, shall be repaired before proceeding with the test.

Allowable leakage shall be computed in conformance with AWWA C600, Section 4.1, for each section tested, by the formula:

$$L = \frac{SD \sqrt{P}}{148,000} \quad \begin{array}{l} \text{(English} \\ \text{Units)} \end{array} \quad \text{or} \quad L = \frac{SD \sqrt{P}}{794,800} \quad \begin{array}{l} \text{(Metric} \\ \text{Units)} \end{array}$$

L = Allowable leakage, in gallons (liters) of water per hour (in section being tested).

S = Length of pipe being tested, in feet (meters).

D = Nominal diameter of main line section being tested, in inches (millimeters).

P = Average test pressure of the main line section being tested, in psi (kPa).

No leakage will be accepted for steel pipe with welded joints.

Leakage shall be determined in the presence of the Engineer by measuring the volume required to be injected to maintain test pressure during the test period.

The Contractor, at their own expense, shall do all work necessary to locate and repair leaks or other defects which may develop during the test. The Contractor shall perform all excavation, backfill, pavement removal, pavement replacement, and other work necessary to attain leakage within acceptable limits.

Steel pipe joints which are determined by the Engineer to have moved during the field pressure test shall be repaired. Such repair shall consist of reinstalling the coating and lining systems so that they are continuous, including field installation of a hand hole to facilitate making lining repairs and fillet welding around the bell with the aid of a welding ring. Said hand hole shall consist of a 4-inch tap into the pipe over which is welded a 4-inch half coupling having internal threads. After the interior mortar joint and lining are repaired and cured, the half coupling shall be fitted with an iron plug (threaded) and the joint and hand hole shall be pressure tested. The exterior coating system shall be extended to cover the hand hole and plug.

No section of water main will be accepted until and unless the leakage from each section of water main tested is less than the above-computed quantity of leakage.

The Contractor shall submit a certificate attesting to the accuracy of the pressure gauge and the volumetric measuring device before and after the test.

The Contractor shall provide all necessary piping, fittings, blind flanges, calibrated pressure and volumetric gauges, filling and air exhaust lines, pressure pumps, power, labor, transportation, and other equipment, materials, and labor necessary to fill, test, or empty the pipeline section being tested. The volumetric gauges shall read in gallons.

The field pressure and leakage test shall be performed prior to disinfecting the pipeline system.

306–8.9.2.1 Construction Plugs.

If required for performing the water pressure and leakage tests, each section of water main between main line valves shall be provided with two construction plugs. These plugs shall be installed immediately adjacent to each valve at the end of a water main section, so that when the valves are closed, all air can be released from the water main section between the valves, the water main section can be flushed, the water can be sampled, pressure can be applied, and water can be added to the water main section. The plug size shall conform to the requirements of AWWA C-651.

Plugs shall be offset from the valve end of the water main section and shall be a proper size, 1½-inch minimum, screw plug installed at the top of the water main using a double strap service clamp or a weld-on (thred-o-let) coupling. Plugs shall be left uncovered until otherwise directed by the Engineer. The plugs, couplings, or straps, shall then be coated with two inches of the same material as for the water main before backfilling.

306–8.9.4 Disinfection.**306–8.9.4.1 General.**

Add the following:

Before being placed in service, all new water mains, service connections, fire hydrants, and appurtenances shall be disinfected in accordance with the provisions of AWWA C651, including Section 4.8, backflow protection, except that the chlorine residual remaining in the water after standing 24 hours in the water main shall not be less than 50 PPM, and water samples shall not be taken until at least 24 hours have elapsed.

After the Contractor has achieved the required chlorine residual at the end of the 24-hour period, they shall promptly dechlorinate the heavily chlorinated water with a proper neutralizing chemical such as sulfur dioxide (see Appendix B of AWWA C651). The Contractor shall flush the waste water from the water main until measurements show the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the source supply. Disposal of the heavily chlorinated water shall comply with all applicable laws and requirements of Federal, State, County, or other local regulatory agencies.

The Agency will be responsible for the collection, transportation, and delivery of the source supply and water main water sample(s) to the Agency's Laboratory for bacteriological analysis(es). The Contractor shall not handle the water samples.

If any of the results of the initial sets of samples from the Work are reported "positive" by the Agency's Laboratory, the Contractor shall then repeat the flushing and disinfection process, and new sets of samples shall be collected by Agency staff for analyses. The process shall be repeated until bacteriological reports of analyses are reported "negative" for two consecutive sets of samples from each location, taken at least 24 hours apart in accordance with provisions of AWWA C651. Following successful bacteriological testing, the Contractor shall make the interconnections within 5 working days. The Contractor shall not connect the Work to the existing water system until permission to proceed is obtained from the Engineer.

The Contractor shall not be liable for the first two "sets of samples" from each location. However, the Contractor shall be liable for the cost of all additional analyses after the first two "sets of samples" for each location. The term "sets of samples", is as interpreted from Section 7.1 "Standard Conditions" of AWWA C651.

Add the following subsections:

306–8.10 Not Used.

306–8.11 Pipe Cutting.

The Contractor shall cut pipe in a neat and workman-like manner, without damage to the pipe and pipe lining and so as to leave a smooth end.

306–8.12 Not Used.

306–8.13 Interconnections.

The Contractor shall completely install and test new water main in accordance with these Special Provisions prior to making the interconnection. All interconnections of new water mains to the existing water system shall be done under observation of the Engineer.

The Contractor shall remove interfering portions of existing water mains, valves, fittings, plugs, blind flanges, thrust blocks, and appurtenances in the presence of the Engineer.

The Contractor shall notify the Engineer in writing, two working days in advance, that they are prepared with all labor, material, equipment, and necessary preliminary work. Agency personnel will close existing valves as needed.

The Contractor shall notify all affected Agency customers and the fire department no less than 24 hours prior to the loss of service. Maximum shutdown shall not exceed three hours.

306–8.14 Valve Operation.

Upon completion of the Work, the Contractor shall verify that all new valves remain fully open unless otherwise noted on the Plans. Valves labeled on the Plans to remain normally closed (NC) shall be accompanied by a piece of redwood lumber 2-inch x 4-inch x length of valve can less 6 inches. The pieces of wood shall be painted red with the letters "NC" painted in white on top. The letters shall be 1 inch or larger in size.

306–8.15 Not Used.

306–8.16 Pipe Hangers and Supports.

Pipe supports shall be in accordance with Standard Plan W-17 or as shown on the Plans. In addition, for single and double pipe supports, the Contractor shall provide two nuts for each anchor bolt for the purposes of leveling and holding down the 3/8-inch plate. One nut shall be installed on each side of the plate. Following the installation of the vertical support pipe, the nuts shall be adjusted so that the plate is held securely and so that the water main is true to both line and grade. Grade and alignment will be verified by the Agency's surveyor, and the leveling adjusted by the Contractor until the water main is held true. No tolerance for misalignment will be allowed. After the alignment has been verified, the Contractor shall fill the void beneath the 3/8-inch plate with non-shrink grout, Embeco 636 or Agency approved equal.

306–15 PAYMENT.**306–15.5 Valves.** (Page 442 of the SSPWC)

Replace the entire subsection with the following:

Payment for structures such as valves shall be made at the Contract Unit Price in the Bid for each valve assembly of the size, class, and type shown on plans and shall be considered full compensation for each valve assembly complete in place, actuator; excavation, backfill; thrust blocks, couplings, gaskets and fasteners, pipe lateral, pipe spools, and fittings; valve cans (boxes), risers, extensions, and lids; coatings and linings; resurfacing, dewatering per 306–5 if required, all other incidentals necessary to complete the work.

Payment for combination air valve assemblies, pump wells, and cathodic protection test stations shall be made at the Contract Unit Price in the Bid for each structure and shall be considered full compensation for each structure complete in place; excavation, backfill; piping, thrust blocks, couplings, fittings, and valves; valve cans (boxes), risers, extensions, and lids; barricades and pipe supports; coatings and linings, painting; permanent resurfacing, all other incidentals necessary to complete the work.

306–15.8 Pipeline Appurtenances. (Page 443 of the SSPWC)

Replace the entire subsection with the following:

Payment for reduced pressure principle assemblies will be made at the Contract Unit Price in the Bid for “4” REDUCED PRESSURE PRINCIPLE ASSEMBLY FROM

APPROVED USC FOUNDATION FOR CROSS-CONNECTION CONTROL LIST WITH 4' BY 8' STEEL ENCLOSURE” and shall include full compensation for furnishing and installing the complete backflow assembly, including valves; all wyes, tees, bends, couplings, fittings, barricades, protective enclosure, and specials shown on the Plans; bolts, joints, welding; painting, coatings, linings, and encasements; the removal of interfering portions of the existing improvements; furnishing, placing, and joining the pipe; providing and placing reinforced concrete pad; furnishing and installing pipe supports; testing and disinfection; and all other incidentals necessary to install the assembly, complete in place, unless otherwise specified.

Payment for air gap adaptor will be made at the Contract Unit Price in the Bid for “FABRICATED STEEL AIR GAP ADAPTOR” and shall include full compensation for providing and installing the air gap adaptor; connection to 4” watermain as shown on plans and all other incidentals necessary to complete the work.

Payment for overhead sign will be made at the Contract Unit Price in the Bid for “OVERHEAD HEIGHT CLEARANCE SIGN” and shall include full compensation for providing and installing the overhead sign, chain and shackle as shown on plans and all other incidentals necessary to complete the work.

Payment for pipe support will be made at the Contract Unit Price in the Bid for “4” STEEL STRUCTURAL SUPPORT PIPE” and shall include full compensation for providing and installing the pipe support, including clamps and pipe end cap plates as shown on the plans, welding and painting and all other incidentals necessary to complete the work.

Payment for flushout head will be made at the Contract Unit Price in the Bid for “2.5” FLUSHOUT HEAD, 200 PSI WWP, WITH HOSE ADAPTER” and shall include full compensation for providing and installing the flushout head, including pipe spools as shown on the plans, welding, painting and all other incidentals necessary to complete the work.

Payment for copper pipe will be made at the Contract Lump Sum Price in the bid for “CONSTRUCT 2” COPPER WATER SERVICE LINE” and shall include full compensation for furnishing and installing the copper pipe, bends, couplings, fittings, including interconnecting to the existing service line, the removal of interfering portions of existing pipe as noted on the plans, dewatering existing water line, and all other incidentals necessary to complete the work.

SECTION 310 – PAINTING

Section 310 of the 2018 Standard Specifications for Public Works Construction shall be replaced in its entirety with the following:

310–1 GENERAL. (PAGE 457 OF THE SSPWC)

This section describes the painting work to be completed by the Contractor. Contractor shall refer to the Plans and all Sections of the Special Provisions.

310–1.1 The Requirements.

- A. This Section applies to the field applied protective coatings on existing and new steel above grade piping. Recoating is being done as part of a preventive maintenance program. Appurtenances attached or connected to the pipe such as, but not limited to, air release valves, pipe hanger support hardware, pipe support brackets, flex couplings, bolted flanges, or couplings, shall also be coated. The pipes are either attached to the side of the gate valves, security gate, bridge, or are supported by concrete columns. The pipes are coated with a zinc primer/epoxy system or a vinyl aluminum system that will be completely removed and replaced. If pitting greater than 25% of the original plate thickness is encountered during the surface preparation, a 1/4 inch thick plate shall be welded to the exterior surface of the pipe. The bid form contains an allowance for the installation of welded plates. Refer to the Contract Plans for the pipeline locations and configuration of the pipe creek crossing.
- B. The scope includes removal of existing exterior coatings, surface preparation, coating application, touch-up, provision of special scaffolding and platforms, ventilation, protection of uncoated surfaces, containment of debris, waste disposal, cleanup and all related work. The specified coating systems shall be applied only to the pipe and miscellaneous surfaces as described in this Section. These surfaces include, but are not limited to, air release valves, pipe hanger support hardware, pipe support brackets, gate valves, security gates, flex couplings, and pipe flanges. The Contractor shall also repair all existing coatings at the project site that are damaged as a result of the construction activities performed under these Contract Documents.
- C. The Contractor shall:

2. Prepare small inaccessible surfaces of pipe per SSPC SP2, SP3, and large straight runs of pipe per SSPC SP10 to the paint manufacturer's recommended profile.
3. Apply an independent stripe coat, by brush only, to all edges, angles, weld seams, flanges, nuts and bolts, and other places where insufficient film thicknesses are likely to be present. Stripe coat shall be of contrasting color and shall be easily identified by the coating inspector.
4. Apply finish coats as required.
5. Provide access for final inspection for dry film thickness. Contractor shall have its own inspection equipment.
6. Restore the site to its original condition as required by 2015 Greenbook Section 7-9 Protection and Restoration of Existing Improvements.

D. The following surfaces shall not be coated hereunder unless indicated elsewhere in this document.

1. Concrete
2. Pipelines not included in this project
3. PVC conduits or pipes
4. Stainless steel
5. Grease fittings
6. Glass
7. Equipment nameplates

E. Fire hydrants shall be protected on the above ground exterior portions with two coats of zinc-rich primer, Rustoleum, or Agency approved equal, and two finish coats of safety yellow paint.

F. Remaining appurtenances, including air release and vacuum valves shall be protected with two coats of zinc-rich primer, Rustoleum, or Agency approved equal and painted with two finish coats of Devguard 4309 Rust Preventative Gloss Enamel, tinted forest green, or Agency approved equal.

310–1.2 Related Work Specified Elsewhere.

A. The following Section applies to the scope of this Section only. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this scope.

1. Section G 2-5.3 of Special Provisions – Shop Drawings and Submittals

310–1.3 Referenced Standards, Codes, and Regulations.

In accordance with requirements of the latest revision of the OSHA Regulations for Construction, the Contractor shall provide and require use of personal protective life-saving equipment for persons working in or about the project site. The Contractor shall be responsible for job safety at all times. The Agency and the Engineer shall not be responsible for job safety at any time during the project.

Equipment shall include protective helmets conforming to the requirements of ANSI Standard Z89.2, and shall be worn by all persons while in the vicinity of the Work. In addition, workers engaged in or near the Work during sandblasting shall wear eye and face protection devices meeting the requirements of ANSI Standard Z87.1 and OSHA Regulations for Sandblasting Operations, and air-purifying, half mask or mouthpiece respirator with appropriate filter.

Whenever occupational noise exposure exceeds the maximum allowable sound levels as set forth in Table D-2 Subpart C, Section 1926.52 of the OSHA Regulations for Construction, the Contractor shall provide and require the use of approved ear protection devices.

Adequate illumination shall be provided while work is in progress. Whenever required by the Inspector, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination necessary for inspection purposes shall be determined by the inspector.

A. Except as otherwise indicated, the current editions of the following codes, specifications, regulations, and standards apply to the scope of this Section:

1. CCR California Code of Regulations Title 8, Industrial Relations:

- a. Section 1637 Scaffolds – General Requirements.
 - b. Section 1670 Personal Fall Arrest Systems, Personal Fall Restraint Systems and Positioning Devices.
2. 29 CFR Code of Federal Regulations Title 29, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor:
- a. 1910.45 Occupation Noise Exposure
3. ANSI/AWWA American National Standards Institute/American Water Works Association
- a. C210 Liquid-Epoxy Coating Systems for the Interior and Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines
4. ASTM American Society for Testing and Materials, International
- a. A36 Standard Specification for Carbon Structural Steel
 - b. A283 Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
 - c. D4414 Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gauges
 - d. D5402 Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs
 - e. D6386 Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
 - f. D7091 Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals

- 5. NACE International National Association of Corrosion Engineers, International
 - a. RP0188 Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
 - b. RP0287 Field Measurements of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using Replica Tape

- 6. SSPC Steel Structures Painting Council, the Society for Protective Coatings
 - a. Guide 6 Guide for Containing Debris Generated During Paint Removal Operations
 - b. Guide 15 Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Substrates
 - c. PA 1 Shop, Field, and Maintenance Painting of Steel
 - d. PA 2 Measurement of Dry Film Thickness with Magnetic Gauges
 - e. PA 11 Protecting Edges, Crevices, and Irregular Steel Surfaces by Stripe Coating
 - f. QP 1 Qualification Procedure 1 for Field Coating
 - g. SP1 Solvent Cleaning
 - h. SP2 Hand Tool Cleaning
 - i. SP3 Power Tool Cleaning
 - j. SP6 Commercial Blast Cleaning
 - k. SP10 Near White Blast Cleaning
 - l. SP11 Power Tool Cleaning to Bare Metal
 - m. VIS 3 Guide and Reference Photographs for Steel Surfaces Prepared by Hand and Power Tool Cleaning
 - n. Vol. 1 Good Painting Practice

- 7. SCAQMD South Coast Air Quality Management District
 - a. 1113 VOC Limits for Industrial Maintenance Coatings
 - b. 1140 Standards for Abrasive Blasting Operations

The Contractor shall be responsible for providing, operating, and maintaining instruments to test the atmosphere quantitatively inside the utility vaults for carbon monoxide, nitrogen dioxide, flammable, or toxic gases, dusts, mists, and/or an oxygen deficiency prior to and during work to be conducted in the utility vaults.

- 8. General Industrial Safety Orders
 - a. Article 112 Labeling of Injurious Substances

B. Whenever the Specifications require a higher degree of workmanship or better quality of material indicated by the above standards, then the Specifications shall prevail.

310–1.4 Submittals.

- A. Submittals shall be in accordance with Subsection 2-5.3.3 of Section G of General Provisions, and shall include the following:
 - 1. Removal/Containment Plan - The Contractor shall provide a written plan for the methods to be employed for surface preparation, containment and collection of debris as outlined in SSPC Guide 6, Sections 4 and 5 for review by the Agency.
 - 2. Product Data: For each coating system to be used, the Contractor shall submit the manufacturer's catalog containing the following data:
 - a. Technical data sheet for each product used, including statements on the suitability of the material for the intended use.
 - b. Instructions and recommendations for surface preparation, thinning, mixing, handling, application and storage. This shall include minimum time requirements for coating, recoating, and surface patches; and ranges of acceptable temperature and humidity required for application. For temperature provide both acceptable

- surface temperature range and acceptable ambient temperature range.
- c. Material safety data sheet for each product used.
 - d. Standard color options.
3. Abrasive Blast Material Data: For each abrasive blast material to be used, the Field Contractor shall submit the manufacturer's catalog containing the following data:
- a. Technical data sheet for each product used, including statements on the suitability of the material to produce the required surface profile and the percentage mixture of grit/shot, and sieve size.
 - b. Material safety data sheet for each product used.
 - c. Country and state of origin.
4. Samples:
- a. During the coating application, three samples of the coating system shall be submitted on a 3 inch by 3 inch steel sample. Each sample shall be completely coated at the specified thickness over one 3 inch by 3 inch surface with the applicable coating system. Samples shall be labeled with the coating type, surface preparation method, application method, and dry film thickness. The samples shall be submitted to the Agency before the end of the project.
 - b. The manufacturer's standard details for coating over pipe flanges and above grade to soil/concrete transitions shall be provided.
5. Qualifications of the Field Applicator:
- a. Field coating applicator shall provide SSPC QP 1 Certification.
 - b. General Contractor shall provide evidence of a valid Class "A", and the coating applicator shall provide evidence of a valid C-33 contractor's license.
 - c. General Contractor or painting subcontractor shall have a valid Class C-33 Contractors license.

- d. General Contractor or painting subcontractor shall possess a current SSPC Qualification Procedure No. 1 Certification.
- e. Three references which verify that the coating contractor has demonstrated successful application of the specified coating systems in the past 3 years, if requested by Agency. Provide the size (area of coating), time of completion, name, the owner's address and telephone number for each installation referenced.
- f. The manufacturer shall provide written certification that the coating contractor's supervisor and each applicator performing WORK on the project have been trained and approved by the manufacturer to apply the selected coating system.
- g. A written certification from the contractor stating that they are qualified and experienced in the application of the specified coating systems.

310-1.5 Quality Assurance.

A. Protective Coating Materials:

1. If requested, the Contractor shall provide the Agency-appointed Inspector with the names of not less than five successful applications of the proposed manufacturer's products demonstrating compliance with this requirement.

B. Substitute Submittals:

1. Materials have been specified from catalogues of manufacturers in most of the cases, to show the type and quality of coatings required. Materials by other manufacturers are acceptable provided they are established as being compatible with and of equivalent quality to the coatings of the companies referenced. The Contractor shall provide satisfactory documentation from the manufacturer of the proposed substitute material that said material meets the requirements and is equivalent to or better than the listed materials in the following properties:
 - a. Suitable to be applied by brush and roller
 - b. VOC Content as measured by EPA Method 24
 - c. Minimum and maximum recoat times with itself and with topcoats
 - d. Resistance to abrasion and physical damage

- e. Life expectancy
 - f. Abrasion Resistance per ASTM D4060 using a CS17 Wheel
 - g. Solids content by volume
 - h. Dry film thickness per coat
 - i. Compatibility with other coatings
 - j. Suitability for the intended service
 - k. Resistance to chemical attack
 - l. Temperature limitations in service and during application
 - m. Type and quality of recommended undercoats and topcoats
 - n. Ease of application
 - o. Ease of repairing damaged areas
 - p. Stability of colors
 - q. Adhesion
2. Three references which verify that the submitted coating system has been used in similar environments and on similar surfaces in the past 3 years. Provide the owner's name, address, contact person, and telephone number for each installation referenced.
3. The cost of all testing and analysis of proposed substitute materials that may be required by the Inspector shall be paid by the Contractor. If the proposed substitution requires changes in the contract scope, the Contractor shall bear all costs involved and the costs of allied trades affected by the substitution.

310-1.6 Delivery, Storage, and Handling.

- A. Coating materials shall be in originally sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer, all of which shall be plainly legible at the time of use. Any products exceeding the manufacturer's recommended shelf life shall not be used.
- B. The Contractor shall be responsible for providing temporary storage facilities to protect materials and equipment stored on-site from the elements and

unauthorized personnel. The storage facility shall be capable of 24 hour climate control to maintain products within the storage temperature limits recommended by the manufacturer. The location of the storage container shall be approved in advance by the Inspector.

- C. The storage facility shall be capable of containing the coating systems within the storage facility in the event of a spill or rupture.
- D. Emulsion type coatings shall be protected from freezing. Stored paints and liquids shall be kept covered and precautions taken for prevention of fire. Flammable coatings or paint must be stored to conform to city, county, and state safety codes for flammable coating or paint materials. Empty or open paint containers, and soiled or oily rags, shall be removed from the site at the end of each day's work.

310-1.7 Inspection and Testing Coordination.

- A. The Contractor shall provide a full time Project Manager/Supervisor at the construction site during working hours for the duration of the project. The supervisor shall have the authority to sign change orders, coordinate construction, and make decisions pertaining to the fulfillment of the contract. The Project Manager/Supervisor shall have a minimum of 5 years of experience in the application of the specified coatings.
- B. All construction relative to preparation for and application of coatings shall be conducted under the supervision of a full time Agency-appointed Inspector. The Inspector shall have the authority to act on behalf of the Agency to shut down any coating construction that does not comply with these Specifications or the manufacturer's written specifications.
- C. The Inspector will be a NACE Level 3 Peer Review Certified Coating Inspector with at least 5 years of coating inspection experience in similar coating environments.
- D. Prior to the start of any construction activities, the Contractor shall establish with the Inspector, schedules and notification procedures to ensure all surface preparation has been inspected prior to the application of any coating.

310–1.8 Records.

- A. The Contractor shall maintain an accurate, written record of the quantity of coating material applied and the corresponding surface area covered, a description of the area coated, the batch number, surface temperature, ambient temperature, relative humidity, dewpoint, and applicator on a daily basis. The Contractor shall furnish a signed copy of said record to the Inspector at the beginning of the next working day. These quantities will be independently verified by the Inspector and reported on the Inspector's log. The Inspector will immediately investigate and resolve any discrepancies between these reported quantities.

310–1.9 Services of Manufacturer.

- A. The Contractor shall require the coating material manufacturers to furnish the following services:
1. The manufacturer's technical representative shall be present for five separate 8 hour days of on-site instruction in the proper surface preparation, equipment use, mixing, application, and curing of the coating systems.
 2. The manufacturer's technical representative shall provide on-site technical support for five separate 8 hour days to resolve field problems associated with the manufacturer's products furnished under this Contract or the application thereof throughout the duration of the project.
 3. The coating manufacturer shall provide written certification that the coating subcontractor's Supervisor and each applicator performing work on the project have been trained and approved to apply the selected coating system.
 4. The coating manufacturer's representative shall be present during the final inspection of the finished coating by the Inspector.

310–1.10 Warranty.

- A. The Contractor and coating manufacturer shall warrant the coating system application against defects and workmanship after final acceptance of the project for a period of 1 year. The Contractor shall perform all construction activities and supply all equipment and materials associated with the repair of failures identified in the warranty inspection at no cost to the Agency. The

warranty bond shall be separate from liability or property damage insurance as required by the Agency.

- B. The material manufacturer shall warrant, for a period of 1 year, that its products meet published physical properties and that they are free of manufacturing defects.
- C. The material manufacturer shall replace any defective product and the Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during the warranty period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the Agency.

310-2 PRODUCTS.

310-2.1 General.

A. Definitions:

1. The terms "paint," "coatings," and "finishes" as used herein, shall mean surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, except galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.
2. The term "DFT" means minimum dry film thickness.

B. Compatibility:

1. In any coating system only compatible materials from a single manufacturer shall be used in the construction activities. Particular attention shall be directed to compatibility of primers and finish coats. The surface will have to be abraded if the recoat window is exceeded.

C. Colors:

1. All colors of all paint coatings shall match the existing coating system, unless directed otherwise by the Agency. Contractor shall obtain written confirmation of color selection from Agency prior to receiving coating materials at the jobsite. Each coat of a multi-coat system shall be of a slightly different shade, to facilitate inspection of surface coverage. Finish colors shall be selected by the Agency from the manufacturer's standard

color samples. Finish colors shall be custom mixed to match color samples furnished by the Contractor.

310-2.2 Coating System.

A. Zinc Rich Primer for Steel (see Subsection 310-3.14 for mil thicknesses):

1. 1-Component, primer with less than 100 grams/liter VOC's as supplied, containing at least 83% by weight zinc content, and capable of being applied by brush and roller.
2. Approved products include the following:
 - a. MC Zinc 100 as manufactured by Wasser Corporation
 - b. or approved equivalent.

B. Urethane Coating for Above Grade Steel (see Subsection 310-3.14 for mil thicknesses)

1. Urethane with less than 100 grams/liter VOC's as supplied, containing micaceous iron oxide, and capable of being applied by brush and roller.
2. Approved Products include the following:
 - a. MC Miomastic 100 as manufactured by Wasser Corporation
 - b. or approved equivalent.

C. Aliphatic urethane Finish Coat for Above Grade UV-Exposed Steel (see Subsection 310-3.14 for mil thicknesses):

1. Aliphatic urethane finish coat with less than 100 grams/liter VOC's as supplied and capable of being applied by brush and roller.
2. Approved products include the following:
 - a. MC Luster 100 as manufactured Wasser Corporation
 - b. or approved equivalent.

D. Coal tar epoxy where shown on Plans:

3. Surface Preparation: SSPC-SP 10, Near White Blast
4. Product and Manufacturer: one of the following shall be provided:
 - a. Carboline:
 - i. Primer: Carboline 893 -- 1 coat, 3.0 to 5.0 dry mils.

- ii. Field Touchup: Carboline 893 -- 1 coat, 3.0 to 5.0 dry mils.
 - iii. Finish: Carboline Bitumastic No. 300-M -- 2 coats, 8.0 to 10.0 dry mils per coat.
- b. Tnemec:
- i. Shop Primer: Series N69 Epoxoline II -- 1 coat, 3.0 to 5.0 dry mils.
 - ii. Field Touchup; Series N69 Epoxoline II -- 1 coat, 3.0 to 5.0 dry mils.
 - iii. Finish: 46H-413 Tmene-Tar -- 2 coats, 8.0 to 10.0 dry mils per coat.
- c. International Paint:
- i. Primer: Bar-Rust 235 -- 1 coat, 3.0 to 5.0 dry mils.
 - ii. Field Touchup: Bar-Rust 235 -- 1 coat, 3.0 to 5.0 dry mils.
 - iii. Finish: Devtar 5-A -- 2 coats, 8.0 to 10.0 dry mils per coat.
- d. or approved equivalent.

310-3 EXECUTION.

310-3.1 Workmanship.

- A. Skilled craftsmen and experienced supervisors shall be used on the project.
- B. All coatings shall be applied under dry and dust-free conditions. Coating shall be done in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to ensure that they have been thoroughly cleaned and that they receive an adequate thickness of coating material. The finished surfaces shall be free from runs, ridges, waves, laps, brush marks, roller marks, and variations in color, texture, and finish. The hiding shall be so complete that the addition of another coat would not increase the hiding.

310-3.2 Environmental Controls.

- A. No coating work shall be performed under the following conditions:

1. Surface or ambient temperatures that exceed the manufacturer's recommended maximum or below the minimum allowable.
 2. Dust or smoke laden atmosphere.
 3. Damp or humid conditions, where the relative humidity is above the manufacturer's maximum allowable.
 4. Substrate and ambient temperatures are less than 5°F above the dewpoint and are decreasing. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce, Weather Bureau psychrometric tables. Elcometer 319 Dew Point meter or equal may also be used.
 5. Ambient temperature that is expected to drop below 50°F or less than 5°F above the dewpoint within 8 hours after application of coating.
- B. At a minimum, the Contractor shall implement an SSPC Guide 6 Class 1A containment plan for abrasive blasting and a Class 1P containment plan for power tool cleaning.
- C. Airborne particulates and debris from the removal of paint shall not be allowed to be discharged into creeks, waterways, or the ground surface around the project pipelines. All particulates and debris shall be contained, collected, and legally disposed of by the contractor.

The day's painting and full curing time, as defined by the paint manufacturer, shall be completed in advance of the forecasted time at which temperatures will reach the dew point, in order to permit the film sufficient drying time prior to the formation of moisture. Dew point and temperature forecasts shall be per NOAA on the following website: <http://graphical.weather.gov/sectors/southcalifornia.php#tabs>.

310–3.3 Dehumidification and Ventilation.

- A. If the work on the pipelines is subject to extended periods of low temperature or high humidity during the project, the Contractor shall be expected to maintain the established production schedule despite these potentially adverse conditions by providing all labor, equipment and materials necessary to maintain a controlled environment in the area where construction activities are to be performed. The substrate and atmospheric conditions within the controlled environment, with respect to temperature and relative humidity,

shall be maintained within the limits established by the manufacturer of the selected coating system to ensure proper application and curing of the coating. If the conditions are not in the specified ranges stated by the manufacturer, the Contractor shall use the following:

1. Humidity Control – Desiccant or Direct Expansion Refrigeration dehumidification will be used to control the environment in the space 24 hours a day during blast cleaning, coating application and coating cure. Equipment will conform to the following requirements:
 - a. Equipment – Desiccant dehumidifiers shall be a solid desiccant design having a single rotary desiccant wheel capable of fully automatic continuous operation. No liquid, granular, or loose lithium chloride drying systems will be accepted. The use of direct expansion (DX) refrigeration type dehumidifiers with reheat may be considered if the expected ambient temperature will remain above 60°F. Heating the space changes relative humidity only and does not change the dew point temperature. Heat alone, therefore, is not a substitute for dehumidification, unless substrate temperature is high enough to meet the dew point differential. The dehumidification system may consist of a combination of desiccant and refrigerant equipment.
 - b. Air Changes – The air change rate for maintaining the required spread of 17°F between inside surface temperature and inside space dew point temperature with a minimum relative humidity of 30% in the space will depend upon the type of equipment to be used and the time of year during the application. There shall be 1 to 4 air changes per hour, depending on the air volume of the space to be controlled, to hold the desired degree of cleanliness of the surface.
2. Temperature Control – Auxiliary cooling or insulation may be necessary to maintain the surface temperature at an acceptable level for the coating manufacturer's application parameters. This auxiliary equipment must be approved for use by the supplier of the dehumidification equipment and shall meet the following requirements:
 - a. Refrigerant type systems must be installed in the process air supply duct between, and/or blended with, the dehumidifier as close to the work space as possible.

- b. Only electric, indirect fired combustion, or steam coil auxiliary heaters will be used. No direct-fired space heaters will be allowed during the blasting, coating, or curing phases.
- c. The space to be controlled shall be sealed off as well as possible, allowing air to escape the work space away from the point where the dehumidified air is being introduced. If it is necessary to filter the air escaping the space, the filtration system must be designed so that it does not interfere with the dehumidification equipment's ability to control the dew point and relative humidity of the work space.

310–3.4 Protection of Surfaces Not To Be Coated.

- A. Remove, mask, or otherwise protect all surfaces not intended to be coated. Provide drop cloths to prevent coating materials from falling on, marring, or overspraying adjacent pipelines and concrete surfaces.
- B. Surfaces not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations.
- C. The Contractor shall remove all misplaced paint, such as splatter on factory finished equipment or concrete work before acceptance of the Work by the Agency.

310–3.5 Preparation of Coating.

- A. The Contractor shall provide and use a truck with an adjustable platform to perform the surface preparation and coating operations. The platform shall be mounted to the bed of the truck and shall allow access to pipes that are between 0.5 feet to 14 feet (horizontal distance) from the concrete barrier at the edge of each bridge. The platform shall allow access to the pipes that are between 10 feet above and 10 feet below the top of the concrete bridge barrier, chain link fence, or nearest point of access at the roadway level. Approved vendors of the truck-mounted adjustable platform include West Coast Under Bridge Platforms of Santa Rosa, CA, Under Bridge Access Platforms of Houston, TX or other approved equal.
- B. If the adjustable platform can not be used, the Contractor shall submit other means and methods for accessing the pipes. Scaffolding that is embedded in,

or supported from the creek bed will not be permitted. For adjustable platforms and any other Agency-approved methods of access, Contractor shall obtain written Caltrans approval of method of access prior to field implementation of method.

- C. The Contractor shall provide a written plan describing the methods to be employed for surface preparation, containment and collection of debris as outlined in SSPC Guide 6 Sections 4 and 5. The program shall identify materials, equipment, and methods to be used when the existing paint system is disturbed and shall include working drawings of any containment system, loads applied to piping or structures by any containment structure, and provisions for ventilation and air movement for visibility and worker safety. Manufacturer's instructions on the proper use of equipment shall be included in the submittal. The Contractor shall provide lighting in the work area or containment structure if necessary.
- D. A heavy-duty, fire retardant, seamless, shrinkwrap polyethylene sheet treated with UV inhibitors shall be installed prior to abrasive blasting per SSPC Guide 6 Class 1A for each pipe to be coated. Under no circumstances shall fugitive dusts or coating particulates be permitted to leave the immediate work area.
- E. The containment system shall consist of a mobile industrial vacuum dust collector, tarps, and other containment materials. Approved dust collector products include DC12000 as manufactured by Industrial Vacuum Equipment Corp., or Agency approved equal. The containment system shall contain all water, resulting debris, and visible dust produced when the existing paint system is disturbed.
- F. Falsework or supports for the ventilated containment structure shall not extend below the vertical clearance level nor to the ground line at any location within the creek bed. There shall be no construction-related objects or materials supported from the creek beds or adjacent beaches.
- G. The minimum total design load of the ventilated containment structure shall consist of the sum of the dead and live vertical loads. Dead load shall consist of the actual weight of the ventilated containment structure. Live loads shall consist of a uniform load of not less than 45 pounds per square foot, which includes 20 pounds per square foot of spent abrasive load, applied over the area supported, and in addition, a moving 1,000 pound concentrated load shall be applied to produce a maximum stress in the main supporting elements.

Horizontal loads need not be included in the design of the ventilated containment structure.

- H. All mating joints between the ventilated containment structure and any bridge, or other existing surface, shall be sealed. Sealing may be by overlapping of seams when using flexible materials or by using tape, caulking, or other sealing measures. Multiple flap overlapping door tarps shall be used at entry ways to the ventilated containment structure to prevent dust or debris from escaping.
- I. Baffles, louvers, flapper seals, or ducts shall be used at make-up air entry points to the ventilated containment structure to prevent escape of abrasives and resulting surface preparation debris.
- J. If at any time during the execution of the work, the containment system fails to contain all abrasives and resulting surface preparation debris, the Contractor shall immediately suspend all operations except those intended to minimize adverse impact to the environment. Operations shall not resume until modifications have been made to correct the cause of the failure. Additional delays or costs associated with the corrective action shall be the responsibility of the Contractor.

310–3.6 Surface Preparation for Coatings.

- A. The minimum surface preparation shall be as specified in the coating system schedules included at the end of this Specification.
- B. The Contractor shall examine all surfaces to be coated, including air release valves, couplings, or flanges, and shall correct all surface defects before application of any coating material.
- C. New steel fasteners and pipe supports shall be installed prior to surface preparation operations and shall be abrasive blasted per SSPC SP7 or abraded to an SP11 surface profile.
- D. Existing pipe hangers shall be adjusted to prepare the pipe surface between the pipe and the hanger.

- E. Damaged or defective coating shall be removed by the specified cleaning method to meet the clean surface requirements prior to recoating and surface cleanliness as per ISO-8502-3.
- F. Surface preparation shall be performed as follows:
1. All sharp flanges, edges, and welds shall be rounded or chamfered (power tool grinding may be required) and all burrs, surface defects, and weld spatter shall be ground smooth prior to blast cleaning per SSPC SP2 and SP3. Areas that are not accessible for abrasive blasting shall be power tool cleaned per SP11 to meet the manufacturer's recommended profile.
 2. Abrasive Blast Cleaning – The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendation for the particular coating and service conditions. Abrasives for submerged and severe service coating systems shall be clean, hard, sharp cutting, crushed slag or approved equal.
 - a. The Field Coating Applicator shall use a minimum blast material mixture of 75% grit and 25% shot material to achieve the specified surface profile per SSPC SP10.
 - b. After abrasive blasting, the Contractor shall test the surfaces for soluble salts with the use of Chlor*Test CSN Salts as manufactured by Chlor*Rid International or approved equivalent. The surfaces shall be tested and shall have a concentration less than 97 micrograms per square inch ($\mu\text{g}/\text{inch}^2$) {(15 micrograms per square centimeter ($\mu\text{g}/\text{cm}^2$))} of chlorides, sulfates, or nitrates. A test shall be conducted for every 50 square feet (ft^2) of surface area to be coated at locations determined by the Inspector.
 - c. If the soluble salt test indicates chloride, sulfate, or nitrate concentrations greater than those outlined in these Specifications, the Contractor shall apply Chlor*Rid, as manufactured by Chlor*Rid International, in only the affected areas to remove the salts from the substrate and shall be allowed to dry for a minimum of 8 hours. The Contractor shall sweep blast the area to remove the contaminants. A substrate's surface preparation will be accepted once the soluble salt concentration is below the amounts outlined in these Specifications.
 - d. The abrasive shall not be reused unless otherwise approved by the Agency-appointed Inspector.

- e. Compressed air for air blast cleaning shall be supplied at adequate pressure from well maintained compressors equipped with oil/moisture separators which remove at least 95% of the contaminants as per ASTM D4285 and ASTM D4417.
 - f. For every 50 square feet, or less, of surface blasted, the surface profile shall be tested with the use of Press-o-Film as manufactured by Testex, or other RPO-287 approved equal, at locations to be determined by the Inspector. The replica tape thickness shall be measured using a dial micrometer manufactured by Testex, or other ASTM D4417 Type C approved equal. For each test area, one replica tape test shall be performed within a single test area 12 inches in diameter. For each test area, the replica tape thickness value shall be recorded and must be within 10% of the coating manufacturer's recommended profile.
 - g. Hand and power tool cleaned surfaces shall match the standard samples shown in SSPC VIS 3 for each product's recommended profile.
- G. The Agency-appointed Inspector will determine if a pitted area requires an epoxy surfacer repair or a welded plate repair based on the size and depth of the pit. The Contractor shall coordinate with the Agency to allow ample time for the repairs to be completed and cured. Exact dimensions of the weld repair plates will be determined in the field by the Agency Engineer. Repair weld plates shall be of 1/4 inch thickness and shall be fabricated of ASTM A36 or ASTM A283 Grade D steel. Welds shall be inspected by an AWS-certified welding inspector. Plates shall be fillet welded all around; effective throat thickness of the fillet welds shall match the existing wall thickness of the pipe being patched. Installed plates shall be surface prepared and coated to match the coating conditions of the surrounding pipe. Minimum patch dimension are 3 inches by 3 inches, but patch dimensions may exceed these dimensions depending on the extent of pitting, as directed by the Agency Engineer.
- H. Prior to painting, surfaces shall be cleaned of all dust and residual particles by dry air blast cleaning, vacuuming, or other approved methods.
- I. All abrasive blasting materials shall be contained and shall not be allowed to be discharged into waterways and flood channels. Temporary storage on the ground of the debris produced when the existing paint system is disturbed will not be permitted. Debris accumulated inside the containment system shall be

removed before the end of each work shift. Debris shall be stored in approved leak proof containers and shall be handled in such a manner that no spillage will occur. Contractor is responsible for legal disposal of all debris.

- J. Galvanizing shall not be removed by this operation.

310–3.7 Mixing and Thinning of Materials.

- A. Unless otherwise specified herein, the coating manufacturer's printed recommendations and instructions for thinning, mixing, and handling coating materials shall be strictly observed. Prepare multiple component coatings using all of the contents of the container for each component packaged by the manufacturer. Do not use partial batches. Do not use multiple component products that have exceeded their shelf life. Provide four touch-up kits for small area work. Mix only the components specified and furnished by the manufacturer. Do not add additional components for color.

310–3.8 Application of Coatings.

- A. The application of protective coatings to steel substrates shall be in accordance with "Paint Application Specification No. 1 (SSPC-PA1)," Steel Structures Painting Council.
- B. Cleaned surfaces and all coats shall be inspected prior to each succeeding coat. The Contractor shall schedule such inspection with the Inspector 24 hours in advance.
- C. The Field Coating Applicator shall not apply a coating on a bare steel surface that has not been prepared to meet the manufacturer's recommended surface profile and SSPC SP2, SP3, and SP10 standards. Small inaccessible surfaces of pipe shall be prepared per SSPC SP2, SP3, and SP11. Large straight runs of pipe shall be prepared per SSPC SP10.
- D. Ferrous metal shall be painted before any rusting, deterioration, or other contamination of the surface occurs. Surface preparation shall be limited to only those surfaces that can be coated in the same work day, unless there are dehumidification and temperature controls.

- E. Coatings shall be applied in accordance with the manufacturer's instructions and recommendations, and this Section. Whichever has the most stringent requirements will prevail.
- F. Pipe hangers that will be overcoated shall be adjusted to paint the pipe surface between the pipe and the hanger.
- G. Pipe surfaces inaccessible to a spray gun shall be coated using a brush and roller.
- H. The Contractor shall use stripe painting techniques for edges, angles, weld seams, flanges, nuts and bolts, and other places where insufficient film thicknesses are likely to be present.
- I. Finish coats, including touch-up and damage repair coats, shall be applied in a manner to present a uniform texture and matched color appearance.
- J. At any location where the specified coating changes from cement mortar to the paint system described herein, the cement mortar shall be extended a minimum of 2-in to overlap the paint.

310-3.9 Curing of Coatings.

- A. The Contractor shall follow the recommended cure time based on the color, ambient temperature, and film thickness as outlined by the manufacturer. The Contractor shall provide curing conditions in accordance with the conditions recommended by the coating material manufacturer prior to placing the completed coating system into service.
- B. For spray applied coatings, the Field Coating Applicator shall, in the presence of the Agency, conduct a Solvent Rub Test in accordance with ASTM D5402 after 7 days of curing. The test area shall be evaluated for appearance, hardness, or any color transfer to the cloth. If there is no change to the coating after the test, it will be considered cured.

310-3.10 Testing and Inspection During and After Application.

- A. The Inspector will provide anchor profile measurements, blast hose pressures, type/percent mixture of the abrasive, and will verify the compressor air cleanliness.
- B. The Inspector will provide a written record of the quantity of coating material applied and the corresponding surface area covered, a description of the area coated, each coating product batch number, dew point temperature, surface temperature, ambient temperature, relative humidity, and names of applicators on a daily basis.
- C. The Inspector will provide wet film and dry film thickness readings, results of the holiday testing, and will note any discrepancies with the coating Specifications.
- D. Surfaces prepared as described in this Specification and per the manufacturer's recommendations will be observed by the Inspector prior to application of coatings to verify compliance.
- E. Adjustable bridge-supported or truck-supported platforms, to facilitate inspection, shall be provided by the Contractor and moved to locations where requested by the Inspector.
- F. Whenever required by the Inspector, the Contractor shall provide additional illumination and ventilation for inspections. Adequate illumination shall consist of explosion-proof lights and electrical equipment required to meet safety standards. The Inspector will determine the level of illumination for inspection purposes.
- G. The inspection devices listed below, or approved equivalents, shall be provided by the Contractor to the Inspector as required in good working condition and with calibration data prior to beginning any WORK. These items shall remain available until final acceptance of the coating applications per the parameters listed below:
 - 1. Film Thickness Testing – The Inspector shall determine where and how often to test for film thicknesses, and as a minimum the requirements of SSPC PA2 will be followed. The Inspector reserves the right to disregard any unusually high or low gauge reading that cannot be repeated consistently. The Inspector will take the average (mean) of the three gauge

- readings as the spot measurement. The average spot measurement shall meet or exceed the specified dry film thickness for each application.
- a. During Application:
 - i. Wet film gauge: Notched gauge approved by ASTM D4414
 - b. After Surfaces are Cured – On ferrous and non-ferrous metals, the dry film coating thickness shall be measured in accordance with the SSPC PA2, using a dry film thickness gauge and recorded by the Inspector:
 - i. PosiTector 6000
 - ii. Elcometer Model 456
 - iii. Or ASTM D7091-approved equal
2. Holiday Testing – After the specified coating has set hard to the touch, the Contractor shall test all the coated steel surfaces for pinholes and holidays using a low voltage spark tester according to NACE RP0188. Testing must be witnessed by the Inspector. The required test voltage shall be established by the manufacturer's recommendations and testing of induced holidays. The electrode movement over the coating surface shall be continuous and shall proceed in a systematic manner, which ensures 100% coverage of the steel coated surfaces. All defects will be clearly marked by the Inspector followed by repair and retesting by the Contractor. Holiday detectors shall be of the following type:
- a. For surfaces having a total dry film coating thickness of 20 mils or less, a low voltage holiday detector with a brass brush, as specified above, shall be used. The unit shall operate at less than 75 Volts. For thicknesses between 10 and 20 mils, a non-sudsing type wetting agent, such as Kodak Photo Flo, or equivalent, shall be added to the water prior to wetting the detector sponge. The following products are approved:
 - i. Tinker & Razor Model M1
 - ii. K D Bird Dog
 - iii. or equivalent
- H. At the completion of all coating construction activities, a final inspection shall be conducted. The Contractor, a coating manufacturer representative, the

Inspector, and an Agency representative shall jointly conduct a final inspection to establish that all work is complete per the Contract Documents. Any deficiencies found shall be documented and corrected before granting final construction acceptance with the Contract Documents. The Contractor shall use video and still photography to thoroughly document each construction area condition during the final inspection. A copy of all photographs and video shall be provided to the Agency, and the Contractor shall keep the originals on file. The photographs and video shall be the basis for condition evaluation of the coating systems at the warranty inspection.

310–3.11 Warranty Inspection.

- A. Warranty inspections shall be conducted in the 10th or 11th month following acceptance of construction activities. All coating applications found deficient or defective during the warranty period shall be repaired or replaced by the Contractor, to the satisfaction of the Agency. These repairs or replacements shall be in accordance with this Specification and the material manufacturer's recommendations at no cost to the Agency. Deficient or defective areas in the coatings include pinpoint rusting, bubbling, blisters, peeling, disbondment or cracking. The final inspection shall be used to assist in determining deficient or defective areas in the coating systems. Repair and replacement of deficient or defective coatings shall be included in the Contractor's bid price.
- B. The Agency shall establish a date for the inspection and provide 30 days' advance notification to the Contractor, so the Contractor and a coating manufacturer representative can be present during the inspection. The Agency will arrange for and cover the cost of the traffic control and encroachment permits. The Contractor shall arrange for and cover all costs for accessing the pipe and any repair work under the warranty.

310–3.12 Repairs.

- A. If an area is found to have an improper finish, insufficient film thickness or other deficiencies; then the Contractor shall clean, prepare, and topcoat the coating surface per the manufacturer's recommendations to obtain the specified finish and coverage. Work shall be free of shadows, runs, bridges, shiners, laps, or other imperfections.

- B. Damaged or defective coating shall be removed by the Contractor and shall be prepared per the manufacturer's recommendations to meet the abraded and clean surface requirements before recoating.

310-3.13 Cleanup.

- A. Upon completion of the WORK, all staging, scaffolding, containers and WORK related material or debris shall be removed from the site to the satisfaction of the Inspector. Coating overspray and oil spots or stains on all surrounding surfaces shall be removed and the job site cleaned. All damage to surfaces resulting from the Contractor's WORK shall be cleaned, repaired or refinished, to the satisfaction of the Inspector at no cost to the Agency.
- B. Disposal of spent solvents, thinners, coating components and other related materials shall be the Contractor's responsibility and shall meet all City, County, State, and Federal regulations for safe disposal.

310-3.14 Coating Schedule.

- A. Field Coating Application of Above Grade, UV-Exposed Steel Pipelines, Air Release Valves, Security Gates, Pipe Supports and Fasteners:
1. The following SCAQMD Rule 1113 compliant, zinc rich primer, urethane, and aliphatic urethane system shall be selected:

Product:	MC Miozinc 100, MC Miomastic 100 and MC Luster 100
Surface Preparation Method:	SP2, SP3 and SP11 on small areas. SP10 on large areas, straight pipe
Surface Profile Required:	1.5 to 2 mils
Application:	Brush, Roller, and Spray Gun

Prime Coat DFT:	MC Miozinc 100 at 3 to 5 mils
Intermediate Coat DFT:	MC Miomastic 100 at 3 to 5 mils
Final Coat DFT:	MC Luster 100 at 2 to 4 mils
Total System DFT:	8 to 14 mils

B. Field Coating Application of Steel As Shown in the Plans:

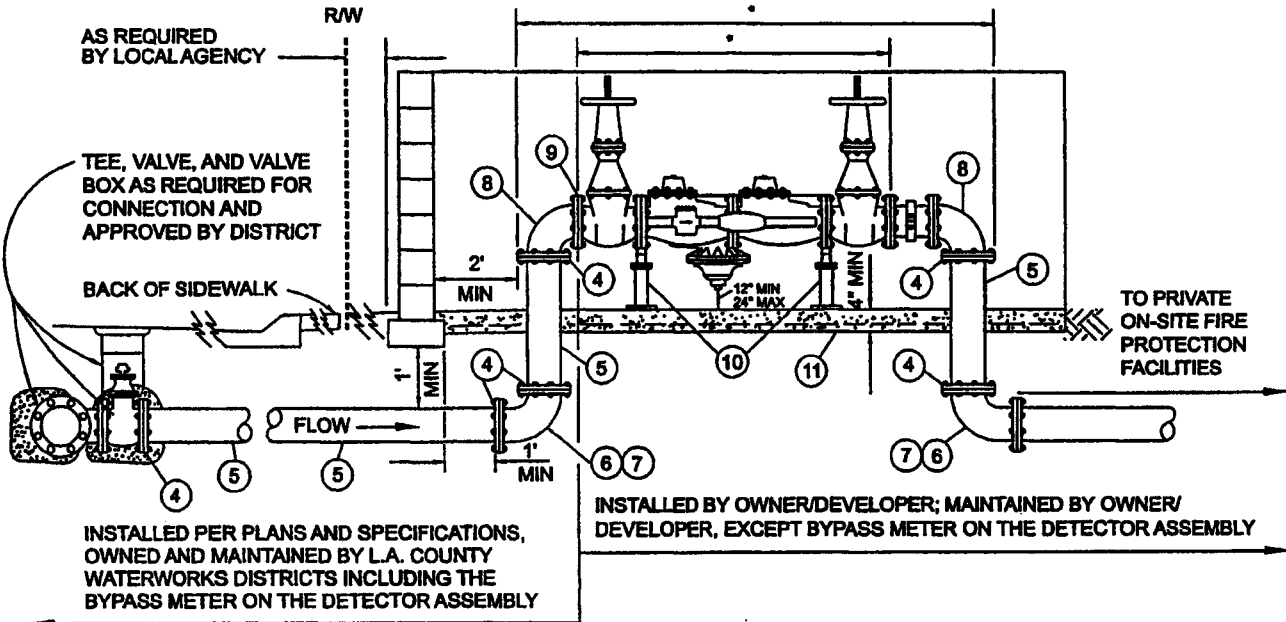
1. One of the following polyamide epoxy-coal tar system shall be selected:

Product:	Carboline 893, Bitumastic 300M	Series N69 Epoxoline II and Series 46H-413 Tneme-Tar	Bar Rust 235 and Devtar 5-A
Surface Preparation Method:	SP2, SP3 and SP11 on small areas. SP10 on large areas, straight pipe	SP2, SP3 and SP11 on small areas. SP10 on large areas, straight pipe	SP2, SP3 and SP11 on small areas. SP10 on large areas, straight pipe
Surface Profile Required:	1.5 to 2 mils	1.5 to 2 mils	1.5 to 2 mils
Application:	Brush, Roller, and Spray Gun	Brush, Roller, and Spray Gun	Brush, Roller, and Spray Gun
Prime Coat DFT:	Carboline 893 at 3 to 5 mils	Carboline 893 at 3 to 5 mils	Carboline 893 at 3 to 5 mils
Field Touch Up DFT(as needed):	Carboline 893 at 3 to 5 mils	Carboline 893 at 3 to 5 mils	Carboline 893 at 3 to 5 mils

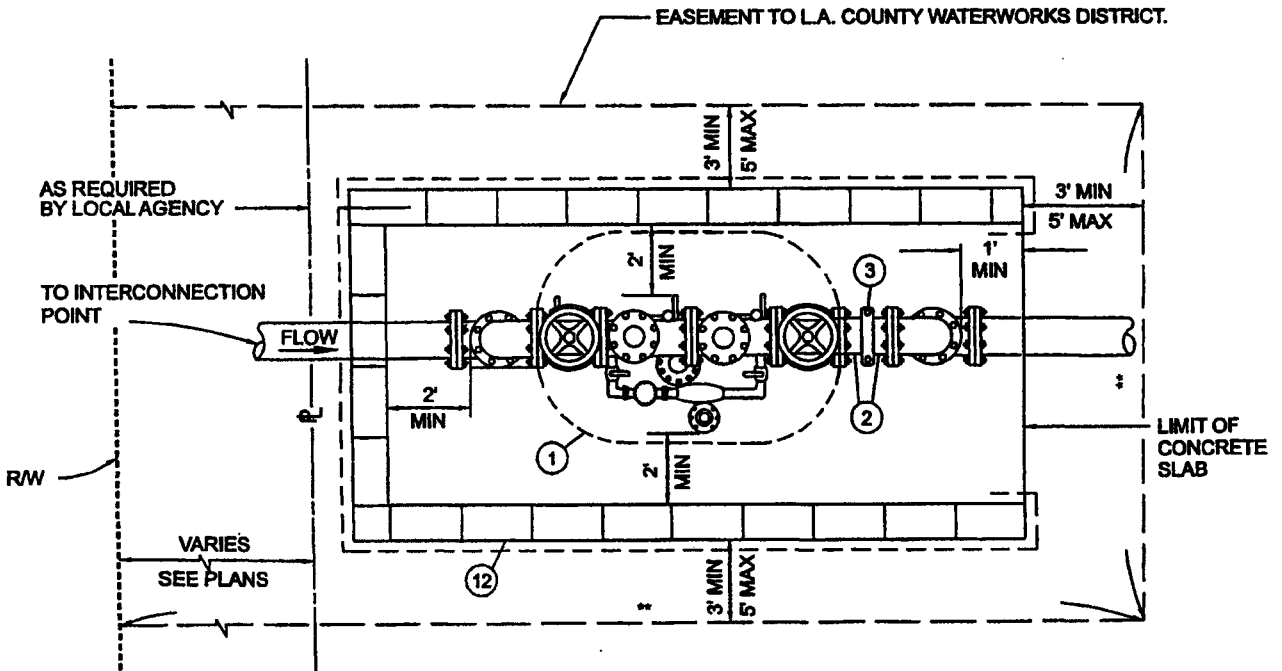
Intermediate Coat DFT:	Bitumastic 300M at 8 to 10 mils	Bitumastic 300M at 8 to 10 mils	Bitumastic 300M at 8 to 10 mils
Final Coat DFT:	Bitumastic 300M at 8 to 10 mils	Bitumastic 300M at 8 to 10 mils	Bitumastic 300M at 8 to 10 mils
Total System DFT:	19 to 25 mils	19 to 25 mils	19 to 25 mils

Epoxy lining application shall be done in accordance with the more stringent of these Special Provisions or paint manufacturer's recommendations. Whenever field welding is applied, the repair of epoxy lining around field welded joints shall be done with butt-strap and 4-in hand hole method in accordance with Standard Plan W-35. The Contractor may submit alternative methods to the Agency for approval.

BACKFLOW PREVENTION DETECTOR ASSEMBLY



ELEVATION
NTS



PLAN
NTS

* PER MANUFACTURER'S SPECIFICATION
** THIS DIMENSION PER APPROVED PLANS

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

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SHEET 1 OF 2

BACKFLOW PREVENTION DETECTOR ASSEMBLY (CONTINUED)

LIST OF MATERIALS:

- ① BACKFLOW PROTECTION ASSEMBLY FROM THE DISTRICT'S APPROVED LIST. LEVEL OF PROTECTION SHALL BE DETERMINED BY THE DISTRICT AND IS DEPENDENT ON THE TYPE OF WATER USE ON-SITE.
- ② VICTAULIC NIPPLE, GROOVED END x FLANGED END, STEEL SCHEDULE 40, CLASS 150 FLANGE (6" LONG EACH), EPOXY LINED.
- ③ VICTAULIC COUPLING STYLE NO. 77 OR OTHER DISTRICT APPROVED COUPLING FOR GROOVED-END PIPE.
- ④ SLIP-ON WELDING FLANGE, CLASS 150.
- ⑤ STEEL PIPE SCHEDULE 40, CML & CMC.
- ⑥ 90° FLANGED ELBOW; STEEL SCHEDULE 40, CLASS 150 FLANGE, CML & CMC.
- ⑦ CONCRETE THRUST BLOCK, PER STANDARD PLAN W-21.
- ⑧ 90° FLANGED ELBOW; STEEL SCHEDULE 40, CLASS 150 FLANGE, CML
- ⑨ INSULATING GASKET KIT WITH BOLT SLEEVES FOR CLASS 150 FLANGE.
- ⑩ ADJUSTABLE PIPE SUPPORT PER STANDARD PLAN W-17. CONCRETE PIER REQUIRED FOR ASSEMBLIES INSTALLED WITHOUT CONCRETE SLAB.
- ⑪ CONCRETE SLAB: 4 INCH MINIMUM THICKNESS, TYPE 520-C-2500 CONCRETE WITH 6-6-10-10 WIRE MESH PLACED AT 1/3 FROM THE BASE OF THE SLAB. SLAB SHALL BE SLOPED TO DRAIN TO THE STREET AND HAVE A LIGHT BROOM FINISH.
- ⑫ CONCRETE BLOCK ENCLOSURE OR OTHER ENCLOSURE/SCREEN AS REQUIRED AND APPROVED BY THE LOCAL AGENCY. THE DISTRICT RESERVES THE RIGHT TO REQUIRE AN ENCLOSURE EVEN IF NOT REQUIRED BY THE PERMITTING AGENCY. SEE NOTE 5.

NOTES:

1. SIZES AS REQUIRED BY THE PLANS AND/OR SPECIFICATIONS.
2. ALL MATERIALS SHALL COMPLY WITH THE SPECIFICATIONS AND/OR "GREENBOOK", AS APPLICABLE.

GENERAL NOTES:

1. THE BACKFLOW PREVENTION ASSEMBLY MUST BE ON THE DISTRICT'S CURRENT LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES. WATER SERVICE SHALL BE CONTINGENT UPON TESTING AND CERTIFICATION OF THE ASSEMBLY BY A LOS ANGELES COUNTY CERTIFIED BACKFLOW TESTER. SUBSEQUENT TO THE INITIAL CERTIFICATION, THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR SUBMITTING AN ANNUAL TEST CERTIFICATION TO THE DISTRICT. ALL TESTING PROCEDURES AND CERTIFICATION SHALL BE CONDUCTED AT OWNER'S EXPENSE.
2. BYPASS METER SHALL BE COMPATIBLE WITH THE DISTRICT'S AUTOMATED METER READING (AMR) SYSTEM. FOR DETAILS, SEE METER SPECS ISSUED AT TIME OF APPLICATION FOR WATER SERVICE. IF AN ENCLOSURE IS TO BE CONSTRUCTED AROUND THE DETECTOR ASSEMBLY, THEN THE BYPASS METER SHALL BE PLACED ON THE SIDE OF THE DEVICE THAT IS CLOSEST TO THE ENTRANCE THROUGH THE ENCLOSURE.
3. ALL ABOVEGROUND PIPING, VALVES, AND FITTINGS SHALL BE PAINTED WITH TWO (2) COATS OF DISTRICT APPROVED HEAVY-DUTY RED PRIMER, AND TWO (2) COATS OF DISTRICT APPROVED DUNES TAN OR FOREST GREEN.
4. THE CONTRACTOR AND/OR OWNER IS RESPONSIBLE FOR INSTALLING AND MAINTAINING INSULATION ON ALL ABOVEGROUND PIPING AND FITTINGS IN AREAS SUBJECT TO FREEZING. THE INSULATION MUST NOT INTERFERE WITH ACCESS TO OR READING OF THE BYPASS METER.
5. IF THE BACKFLOW PREVENTION ASSEMBLY IS TO BE ENCLOSED/SCREENED, THEN THE ENCLOSURE/SCREEN MUST MEET THE FOLLOWING CRITERIA:
 - A. THE CLEARANCE BETWEEN THE ENCLOSURE/SCREEN AND THE ASSEMBLY SHALL BE NO LESS THAN 2 FEET.
 - B. IF A RETAINING WALL IS NECESSARY, IT SHALL BE LOCATED OUTSIDE OF THE DISTRICT EASEMENT.
 - C. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ANY ENCLOSURE/SCREEN.
 - D. THE ENCLOSURE/SCREEN SHALL BE CONSTRUCTED TO ALLOW UNRESTRICTED DRAINAGE TO THE STREET.
6. THE BOLTS AND NUTS CALLED FOR ABOVEGROUND SHALL BE 3/4" COATED "BLUE" BOLTS.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

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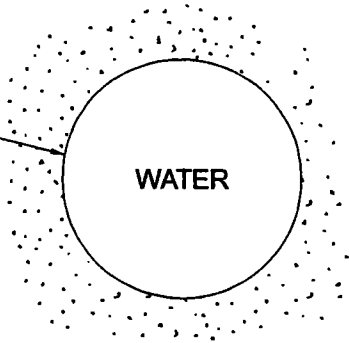
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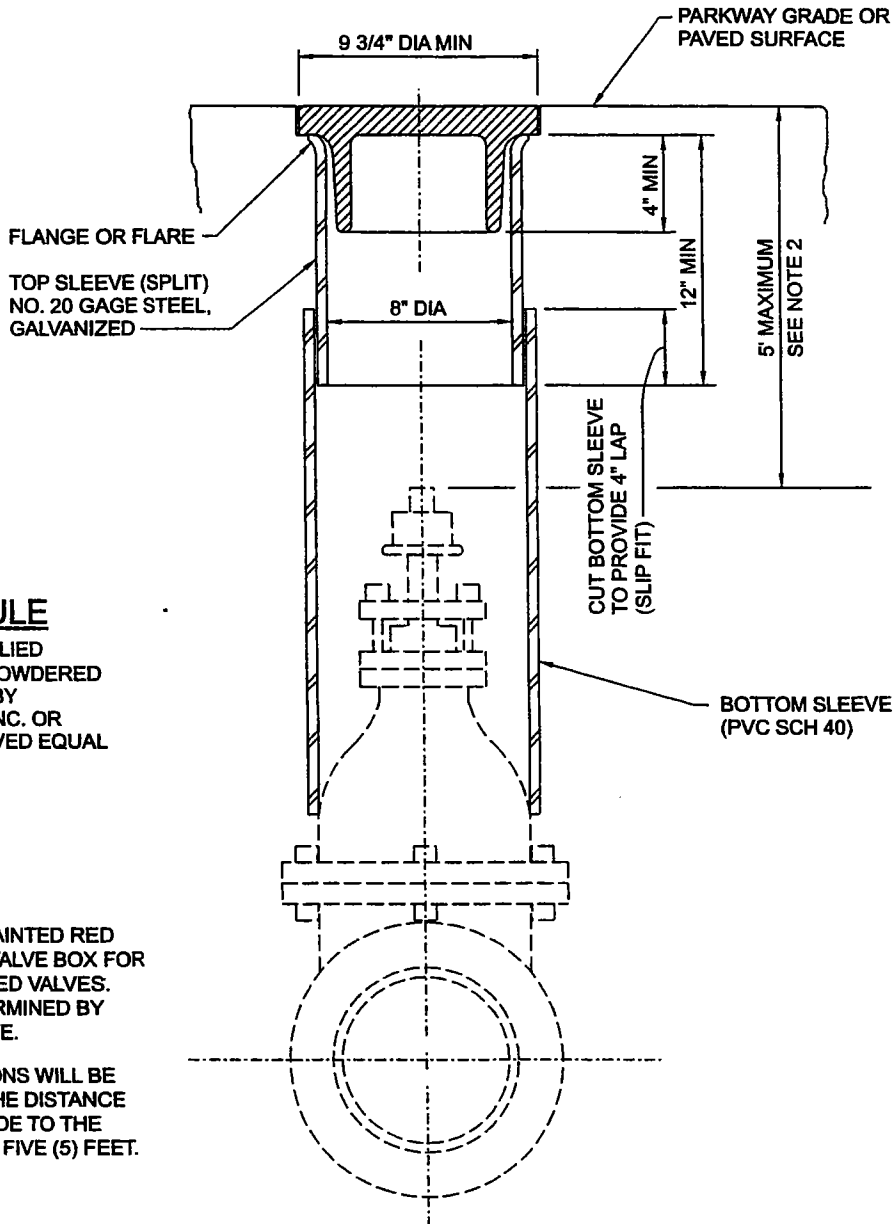
SHEET 2 OF 2

ADJUSTABLE VALVE BOX AND VALVE NUT EXTENSION

PROVIDE HEAVY DUTY CAST-IRON VALVE BOX CAP, MARKED AS INDICATED. PAINT PER SCHEDULE



WHEN VALVE BOX IS IN A DIRT AREA, CONTRACTOR TO CONSTRUCT 2' x 2' x 4" AC PAD AROUND VALVE CAN



PAINT SCHEDULE

BLUE: H.B. FULLER APPLIED BY THE FUSION POWDERED EPOXY METHOD BY FUSECOTE CO., INC. OR DISTRICT APPROVED EQUAL

GENERAL NOTES:

1. A REDWOOD 2" x 4" PAINTED RED IS TO BE PLACED IN VALVE BOX FOR ALL NORMALLY CLOSED VALVES. LENGTH TO BE DETERMINED BY DEPTH OF GATE VALVE.
2. VALVE NUT EXTENSIONS WILL BE REQUIRED WHERE THE DISTANCE FROM FINISHED GRADE TO THE VALVE NUT EXCEEDS FIVE (5) FEET.

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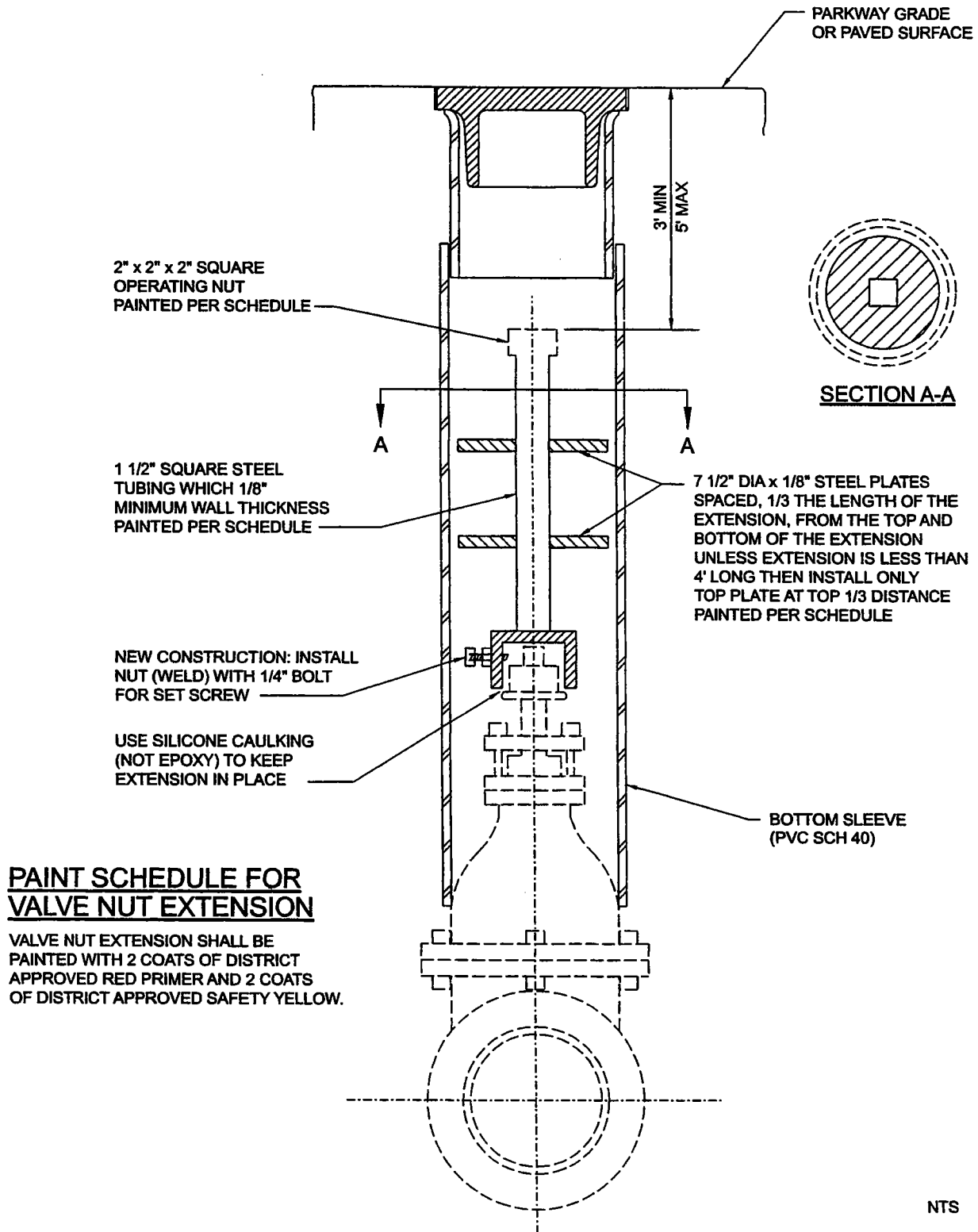
Michael Reed
ASSISTANT DEPUTY DIRECTOR

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ADJUSTABLE VALVE BOX AND VALVE NUT EXTENSION (CONTINUED)



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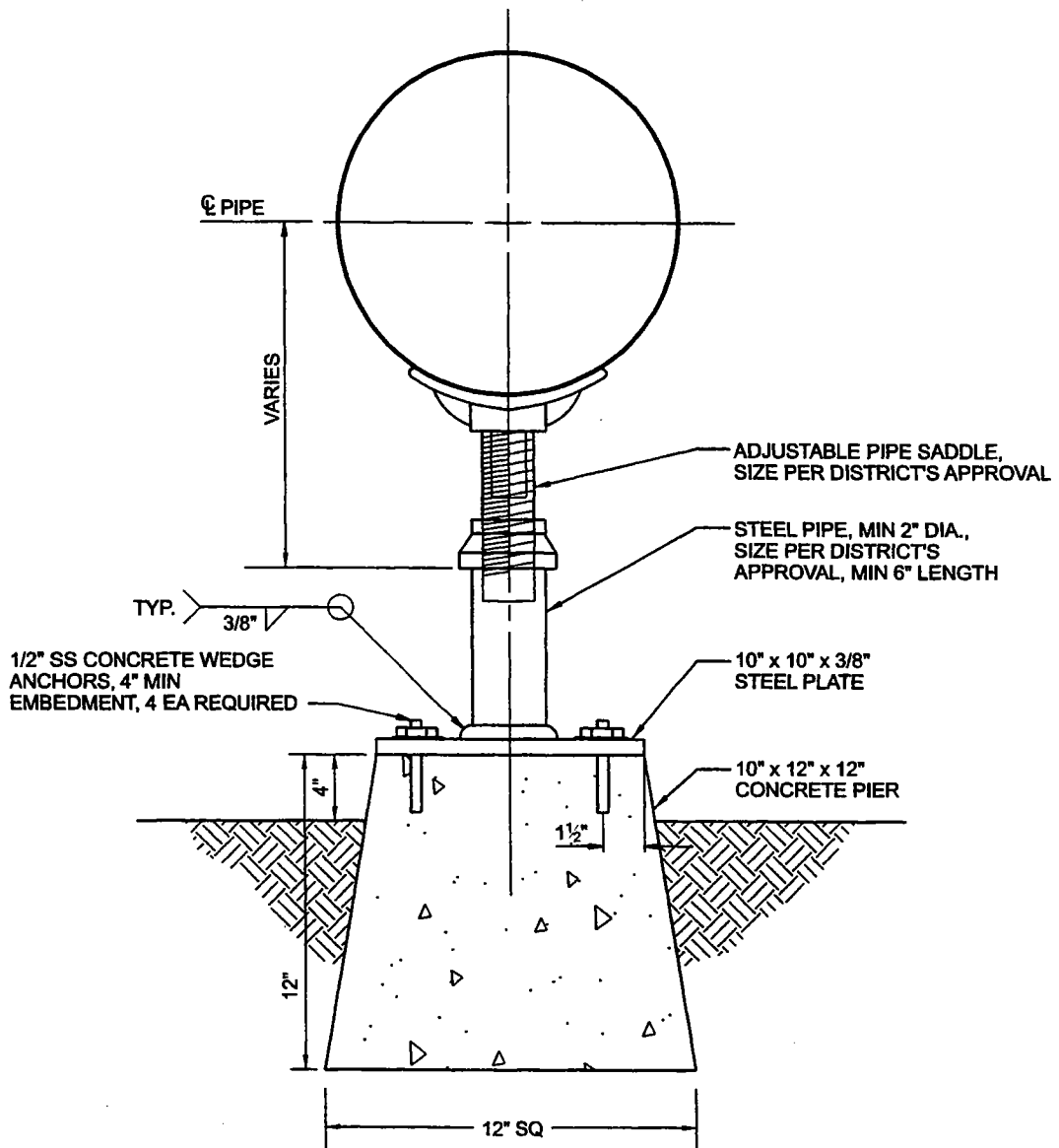
Michael Reed
ASSISTANT DEPUTY DIRECTOR

APRIL 2004

DATE

SHEET 2 OF 2

ADJUSTABLE PIPE SUPPORT



GENERAL NOTES:

1. IF THE SUPPORT IS MOUNTED ON CONCRETE SLAB OR FLOOR, THE PIER IS NOT REQUIRED.
2. ALL EXPOSED METAL SURFACES SHALL BE PROTECTED IN ACCORDANCE WITH THE SPECIFICATIONS, EXCEPT THE THREADS.

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CONCRETE THRUST BLOCKS

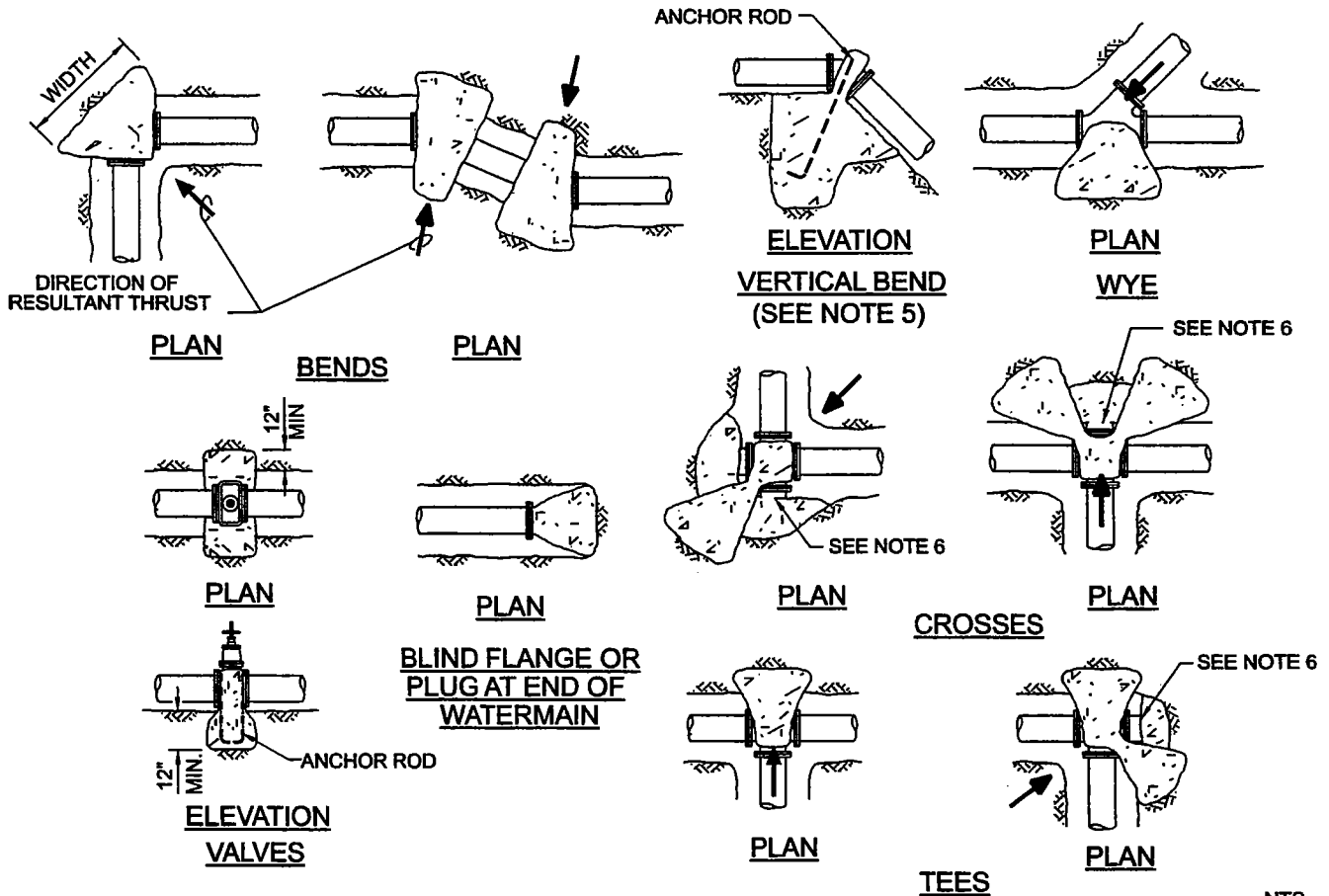


TABLE I

MINIMUM BEARING AREAS IN SQ FT *				
MAIN SIZE	TEE **	90° BEND	45° BEND	22 1/2° BEND
6"	4	4	4	3
8"	5	7	4	3
10"	9	12	6	4
12"	12	16	9	6

* BASED ON 150 PSI WWP PRESSURE & SOIL BEARING LOADS OF 2000 PSF. THE RATIO OF WIDTH TO HEIGHT SHALL NOT EXCEED 1 1/2 TO 1.

** TEES, PLUGS, CAPS, AND HYDRANTS.

TABLE II

*** SOIL TYPE	**** MAX ALLOWABLE SOIL BEARING VALUES	FACTORS FOR INCREASING AREAS IN TABLE 1
LOOSE SAND	500 PSF	4
SOFT SANDY CLAY	1000 PSF	2
ADOBE	1000 PSF	2
COMPACT FINE SAND	2000 PSF	1
COMPACT COARSE SAND	2000 PSF	1
MEDIUM STIFF CLAY	2000 PSF	1

*** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SAFE SOIL BEARING VALUES AND THE POSITION AND SIZE OF BEARING AREAS.

**** BASED ON 2 FEET MINIMUM DEPTH OF COVER OVER THE PIPE.

GENERAL NOTES:

1. ALL ANCHOR AND THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
2. MINIMUM ALLOWABLE WATER PRESSURE FOR DESIGN OF THRUST BLOCKS IS 150 PSI. BEARING AREA INCREASES DIRECTLY WITH INCREASE IN PRESSURE.
3. ALL CONCRETE USED IN THRUST BLOCKS SHALL ATTAIN 2000 PSI STRENGTH.
4. ALL ANCHOR RODS SHALL BE REINFORCING STEEL AND A MINIMUM OF 1/2 INCH IN DIAMETER.
5. USE ANCHOR BLOCKS AT VERTICAL BENDS WHEN PIPE IS ABOVE OR BELOW GROUND. SIZE OF BLOCK AND ROD SHALL BE AS SHOWN ON THE PLANS OR AS DETERMINED BY THE DISTRICT.
6. USE 30 POUND FELT TO INSURE COLD JOINT.
7. CONCRETE SHALL NOT COME INTO DIRECT CONTACT WITH ASBESTOS-CEMENT PIPE.
8. FOR PIPE GREATER THAN 12" IN DIAMETER, ENGINEER IS TO SUBMIT CALCULATIONS FOR APPROVAL.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

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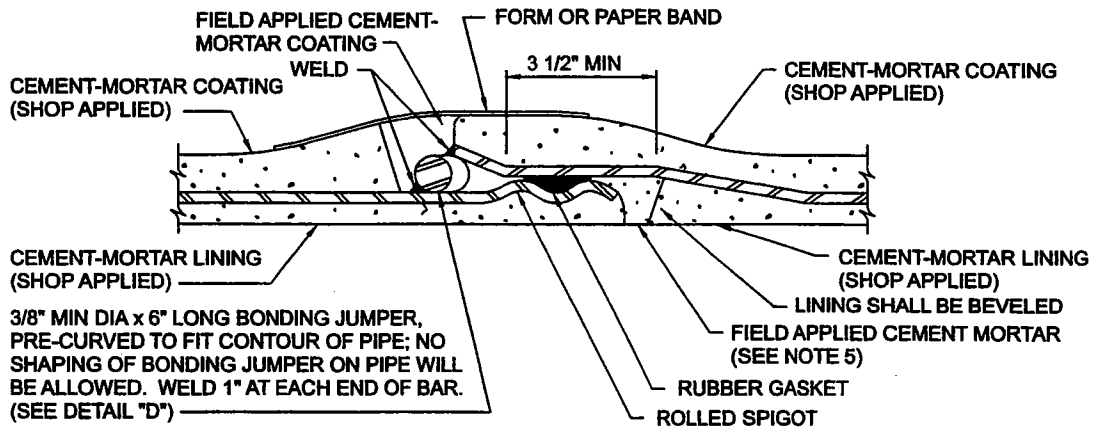
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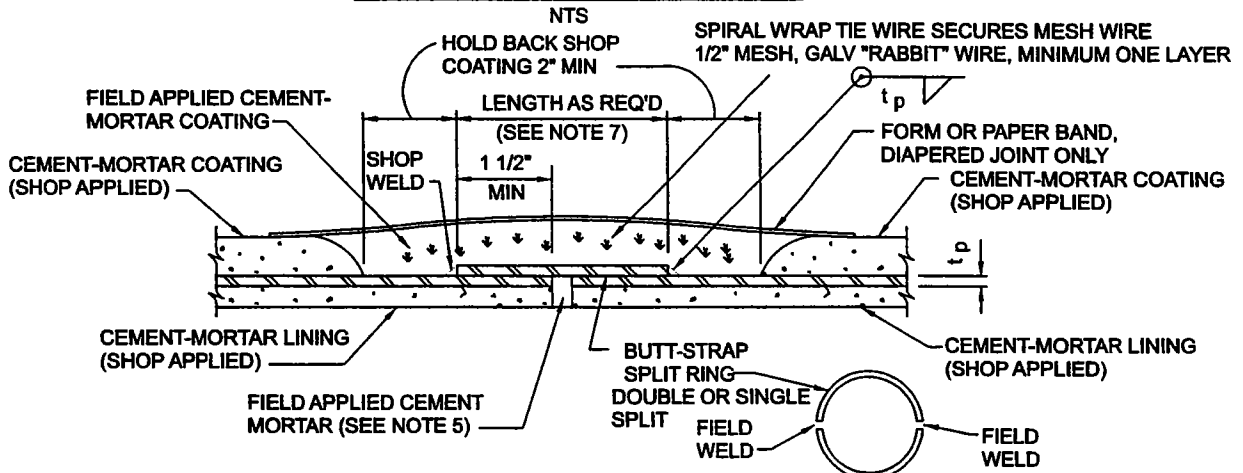
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SHEET 1 OF 1

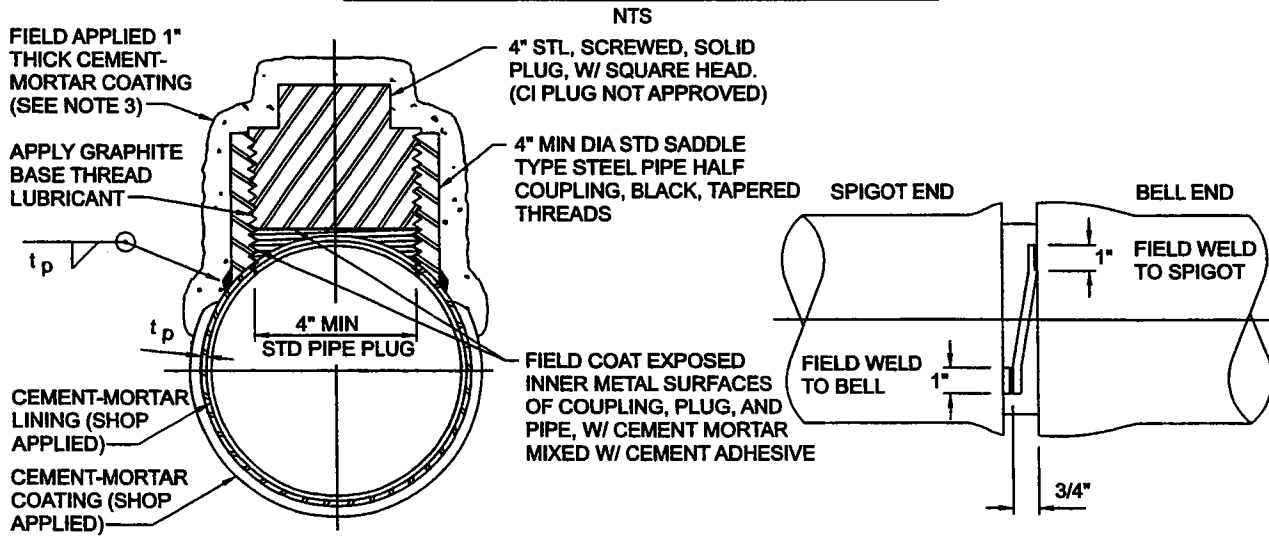
STEEL PIPE JOINT DETAILS



DETAIL A - RUBBER GASKET JOINT



DETAIL B - FIELD WELDED BUTT-STRAP JOINT



DETAIL C - POINTING HANDHOLE

DETAIL D - BONDING JUMPER

LOS ANGELES COUNTY WATERWORKS DISTRICTS

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SHEET 1 OF 2

STEEL PIPE JOINT DETAILS (CONTINUED)

GENERAL NOTES:

1. CEMENT MORTAR SHALL BE APPLIED TO WELDED JOINTS ONLY AFTER THE HEAT OF WELDING HAS DISSIPATED. JOINT WELDS SHALL NOT BE COOLED BY QUENCHING.
2. THE INTERIOR SURFACE OF JOINTS TO BE LINED WITH CEMENT MORTAR SHALL BE CLEANED, AND BRUSHED WITH APPROVED CEMENT ADHESIVE, IMMEDIATELY BEFORE THE MORTAR IS APPLIED.
3. CEMENT MORTAR FOR THE INTERIOR OF JOINTS SHALL CONSIST OF ONE PART CEMENT, ONE PART SAND, WATER, AND AN APPROVED CEMENT ADHESIVE ADDED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. CEMENT MORTAR FOR THE EXTERIOR OF JOINTS SHALL CONSIST OF ONE PART CEMENT, ONE PART SAND, AND WATER, AND SHALL BE POURED INTO ONE SIDE OF FORM ONLY.
5. THE INTERIOR OF ALL JOINTS SHALL BE SWABBED BY MEANS OF A BALL AND ROD.
6. THE POINTING HANDHOLE SHALL BE INSTALLED ADJACENT TO A RUBBER GASKET JOINT, OR CENTERED OVER A BUTT-STRAP JOINT, AND SHALL BE USED AS NOTED ON PLANS OR WHERE A BALL AND ROD SWAB CANNOT BE USED.
7. FOR POINTING HANDHOLE, THE MINIMUM LENGTH OF THE BUTT STRAP SHALL BE 9 INCHES FOR ALL PIPE SIZES LISTED IN TABLE BELOW. WITHOUT HAND HOLE, THE MINIMUM LENGTH OF STRAP SHALL BE AS SHOWN IN THE FOLLOWING TABLE:

PIPE SIZES IN INCHES	MINIMUM LENGTH OF BUTT STRAP REQ'D IN INCHES
6 THRU 18	4
20 THRU 36	6

8. A BOLTED FLANGED JOINT MAY BE USED AS AN ACCEPTABLE ALTERNATE TO THE RUBBER GASKET OR THE BUTT-STRAP JOINT.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

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PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION TC - TEMPORARY TRAFFIC CONTROL

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.



Prepared By:



1/29/19

Date

Reviewed By:



1/29/19

Date

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601-7 (NOT USED).....	TC-5
601-8 (NOT USED).....	TC-5
601-9 (NOT USED).....	TC-5
601-10 PAYMENT	TC-5

PART 6 TEMPORARY TRAFFIC CONTROL

SECTION 600 - ACCESS

600-1 GENERAL. (Page 525 of the SSPWC)

Add the following:

At least 24 hours in advance of closing or restricting access to any property, the Contractor shall notify the owner or resident of said property. A copy of said notification shall be provided to the Engineer. The Contractor shall conduct its operations, including those of its subcontractors and suppliers, so as to provide reasonable access to the adjacent properties and have no greater length or quantity of work under construction than can be properly prosecuted with a minimum of inconvenience to the public and other contractors engaged on adjacent or related work.

600-2 VEHICULAR ACCESS. (Page 525 of the SSPWC)

Add the following:

Unless the Contractor makes other arrangements satisfactory to the Engineer and the owners, the following shall also apply to business establishments:

- a) For each establishment (such as, but not limited to, gas stations, markets and other "drive in" businesses) on the corner of an intersection which has a driveway (or driveways) on each intersecting street, the Contractor shall provide vehicular access to at least one driveway on each intersecting street unless otherwise approved in writing by the Engineer.
- b) For each establishment (such as but not limited to motels, parking lots and garages) which has a one-way traffic pattern with the appropriate entrance driveway and exit driveway, the Contractor shall provide vehicular access to both the entrance driveway and the exit driveway.

SECTION 601 - TEMPORARY TRAFFIC CONTROL FOR MAINTENANCE AND WORK ZONES

601-1 GENERAL. (Page 525 of the SSPWC)

Add the following:

Street closures, detours, lane closures, signs, lights and other traffic control devices shall conform to the latest approved version of the California Manual on Uniform Traffic Control Devices (California MUTCD). The California MUTCD is available at the following address:

<http://www.dot.ca.gov/hq/traffops/engineering/mutcd/>

Unless otherwise approved by the Engineer, the Contractor shall allow passage of public transit coaches through the Work area at all times. For the Metropolitan Transportation Authority (Metro), the Contractor shall notify the Stops and Zones Representative, (213) 922-5190, at least 48 hours prior to construction at bus stop zones to allow Metro to temporarily abandon and relocate bus stop zones within the construction area.

601-2 (NOT USED).

601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES.

601-3.1 General. (Page 527 of the SSPWC)

Add the following:

The Contractor shall provide, install, and maintain all the traffic control devices including signing, striping, marking, barricades, delineators, flashing arrow signs, and other devices deemed necessary for the protection of the vehicular and pedestrian traffic throughout the Project area as required by these Specifications and as directed by the Engineer. The Project area shall include the construction area and areas required for the advance signing and transitions to and from the existing traffic control and the construction traffic control.

Traffic control devices shall conform to latest approved version of the California MUTCD, <http://www.dot.ca.gov/hq/traffops/engineering/mutcd/>, and the Standard Plans.

When no longer required, all temporary traffic control devices installed and/or covered by the Contractor shall be promptly removed and/or restored by the Contractor.

Any action on the part of the Engineer in directing the Contractor's attention to any inadequacy of the required devices and services or any action of the Agency to alleviate the Contractor's inadequacies shall not relieve the Contractor from its responsibility for public safety or abrogate its obligation to provide and maintain these devices and services. If the Contractor fails to provide and maintain these devices and services and the Agency is

required to alleviate said condition, the total charges of labor, equipment and materials, including overhead and transportation, accrued by the Agency for such work will be deducted from any monies due the Contractor.

The Contractor shall be responsible for maintaining traffic control devices in their proper positions at all times. The Contractor shall replace, repair or clean such devices whenever necessary in order to ensure and preserve their appearance and functionality. The Contractor shall remove and dispose of all damaged barricades, including those furnished and placed by the Agency.

601-3.5 Signs and Signage. (Page 527 of the SSPWC)

601-3.5.1 General.

Add the following:

The Agency will furnish any necessary "No Parking" signs (signs) at no cost to the Contractor. Signs shall be installed by the Contractor after approval for such by the Engineer. Signs shall be installed for each construction activity or operation, unless such activities or operations will occur within 2 Working Days of each other. Signs shall be posted a minimum of 48 hours in advance of the start of each "No Parking" restriction.

601-3.5.2 Payment.

Replace the entire sentence with the following:

No separate or additional payment will be made for signs and signage. Payment shall be considered as included in the lump sum Bid price for "TRAFFIC CONTROL."

601-3.6 Channelizing Devices. (Page 528 of the SSPWC)

601-3.7 Traffic Sign Enhancement Devices. (Page 529 of the SSPWC)

601-3.7.5 Portable Changeable Message Signs (PCMS).

Replace the first paragraph with the following:

PCMS shall be furnished, placed, operated, and maintained at the locations shown on the TCP or as directed by Engineer.

601-3.7.6 Flashing Arrow Signs.

Add the following:

Flashing arrow signs (flashing arrow installed, and maintained boards) shall be furnished, placed, operated, and maintained at the locations shown on the TCP or as directed by the Engineer.

601-3.7.8 Measurement.

Replace the second paragraph with the following:

"FLASHING ARROW SIGN" and "CHANGEABLE MESSAGE SIGN" will be measured by "each"

601-3.7.9 Payment.

Replace the first paragraph with the following:

Payment for each flashing arrow sign will be made at the Contract Unit Price for "FLASHING ARROW SIGN." The Contract Unit shall include furnishing, placing, relocating, maintaining, and removing each flashing arrow sign.

Payment for each changeable message sign will be made at the Contract Unit Price for "CHANGEABLE MESSAGE SIGN." The Contract Unit Price shall include furnishing, placing, relocating, maintaining, and removing each changeable message sign.

601-4 (NOT USED).

601-5 TRAFFIC LANE WIDTHS AND CLEARANCES. Revise to read as follows:

601-5 TRAFFIC LANE WIDTHS, CLEARANCES, AND OTHER REQUIREMENTS.

601-5.1 General. (Page 531 of the SSPWC)

Add the following:

Traffic lane requirements shall be as follows:

For installation of traffic control devices during daylight working hours, the contractor shall conform to the latest approved version of the California MUTCD.

Lips greater than one inch created during construction which is to remain overnight shall be ramped with temporary asphalt concrete at a slope not to exceed 1:1.

DEVONSHIRE STREET AND ARLETA AVENUE: Traffic control shall be in conformance with the Traffic Control Plans included as a part of the Project Plans.

601-7 (NOT USED).

601-8 (NOT USED).

601-9 (NOT USED).

601-10 PAYMENT. Payment for:

- a) furnishing, installing, maintaining, and removing traffic control devices not specified as individual Bid items;
- b) furnishing, installing, maintaining, and removing of steel plate covers;
- c) furnishing, installing, maintaining, and removing temporary raised reflective markers;
- d) restoration of traffic striping and markings to their original conditions;
- e) removal and disposal of damaged barricades, including those furnished by the Agency; and
- f) all other work required by Subsections 600 and 601, and the Traffic Control Plans not included as a separate Bid item

shall be considered as included in the lump sum Bid price for "TRAFFIC CONTROL."

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION E - ELECTRICAL

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition.



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12/03/2020

Date

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12/03/2020

Date

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E-1 - BASIC ELECTRICAL METHODS AND REQUIREMENTS

E-1.1 GENERAL

E-1.1.1 DESCRIPTION

- A. Furnish and install electrical wiring, systems, equipment and accessories in accordance with these Plans and Specifications. Capacities and ratings of motors, transformers, cable, panelboards, motor control, and other items are shown on the Plans.
- B. Ampacities specified or shown on the Plans, are based on copper conductors, with the conduit and raceways accordingly sized. Aluminum conductors are prohibited.
- C. Unless otherwise specified in these Specifications or Plans, conduit shall be full weight rigid galvanized steel.
- D. Maintain a legible set of Electrical Plans and Specifications and approved submittals at the Work Site at all times.
- E. The work of this section includes, but is not limited to, furnishing and installing the major items and all work incidental thereto:
 - a. Cables and Conductors. Refer to section E-2.
 - b. Conduit, Boxes and Wiring Devices. Refer to section E-3.
 - c. Controls and Instrumentation. Refer to section E-6.
- F. Work shall comply with the current edition of regulations, codes and standards cited herein and on the Plans that are currently in fact and enforced by the State of California and the County of Los Angeles as of the date of submission of the bid.
- G. Work shall comply with all county and state ordinances, the State of California Administrative Code (including Title 24, Part 3 Electrical Regulations), OSHA, the State Fire Marshall, National Electrical Contractor Association, and all prevailing rules and regulations.
- H. Work and materials shall conform to the latest rules of the National Fire Protection Association and Underwriters Laboratories wherever standards have been established and label service is regularly furnished.
- I. Nothing in these Specifications shall be construed to permit work not conforming to the most stringent of applicable codes.

- J. Should any changes be necessary in the Plans or Specifications to make the work comply with these requirements, the Contractor shall notify the Engineer at once and cease work on all parts of the Contract which are affected.

E-1.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Prior to installing all interior conduits that will penetrate a structure at a location which does not have a design penetration, Contractor shall layout these conduits runs and determine the locations where penetrations will be required. Penetrations shall be located to avoid reinforcing. After locating the penetrations and determining what reinforcing will be affected, Contractor shall prepare a set of Working Drawings showing the proposed center of the penetration with dimensions in vertical and horizontal reference to the structure, and the size of the penetration. Submit these Working Drawings to the Agency for approval. No penetrations are to be made until Contractor has received written approval of these Working Drawings.
- C. The submittals shall include the following:
1. Information that confirms compliance with Contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.
 2. Submittals are required for all equipment anchors and supports. Submittals shall include strengths, weights, dimensions, center of gravity, standard connections, manufacturer's recommendations and behavior problems (e.g., vibration, thermal expansion,) associated with equipment or piping, such that the proposed installation can be properly reviewed.
 3. Submit elementary and interconnection wiring diagrams for control system and equipment assemblies. All terminal points and wiring shall be identified on wiring diagrams.
 4. Submit internal and external elevations of equipment, showing and identifying component layout interior of enclosure and those mounted in the door. Provide dimensions of all equipment enclosures, enclosure fabrication materials, gage sizes, types of latches, hinges, paint and other required information.

5. Start-up and Testing: Submit manuals showing manufacturer's recommended start-up testing procedures.
6. Submit maintenance schedule as required for all equipment that requires routine maintenance in which maintenance checks are recommended to maintain reliability.
7. Furnish six copies, bound in binders or folders, manufacturer's standard binders or an approved equivalent.

E-1.2 PRODUCTS**E-1.2.1 TEST STANDARDS**

- A. All material and equipment shall be listed by UL or labeled by an Agency-approved testing laboratory. The Agency-approved laboratories are UL, CSA Group, Intertek, and QPS Evaluation Services.

E-1.2.2 QUALIFICATIONS (PRODUCTS AND SERVICES)

Not used.

E-1.2.3 MANUFACTURED PRODUCTS

- A. Materials and equipment furnished shall be of current production by manufacturers regularly engaged in the manufacture of such items, for which replacement parts are available.
- B. All materials and equipment shall be the manufacture's latest version or model currently in production. Where materials specified on these Plans or in the Specifications have obsolete model numbers or numbers of earlier models, Contractor shall notify the Engineer immediately of such circumstance and shall provide the latest materials of the manufacturer's latest model of which is in current production.
- C. When more than one unit of the same class of equipment is required, such units shall be the product of a single manufacturer (e.g., units housing circuit breakers, panelboards, and the like shall be of a single manufacturer).
- D. Factory wiring shall be identified on the equipment being furnished and on all wiring diagrams, and consistent with installed products.

E-1.2.4 EQUIPMENT REQUIREMENTS

- A. Where variations from the Contract requirements are requested, the connecting work and related components shall include, but not be limited to additions or changes to branch circuits, circuit protective devices, conduits, wire, feeders, controls, component and equipment sizes, phasing adjustments, and installation methods.

E-1.2.5 EQUIPMENT PROTECTION

- A. The Contractor shall be entirely responsible for all electrical materials, appliances, fittings, fixtures, assemblages, and parts delivered to the site of the work to be installed by him and shall provide for their storage and protection during storage and during construction. Damaged materials shall be removed and replaced at the Contractor's expense before the final inspection and approval.
- B. Equipment and material shall be protected during shipment and storage against physical damage, dirt, moisture, extreme temperature and rain.
- C. During installation, enclosures, equipment, controls, controllers, conduit, circuit protective devices, and other items required as a part of this Contract, shall be protected against entry of foreign matter; and be vacuumed or otherwise made clean both inside and outside before testing, operating and painting.
- D. Damaged equipment shall be, as determined by the Agency, placed in first class operating condition or be returned to the source of supply for repair or replacement, as directed by the Agency.
- E. Painted surfaces shall be protected with factory installed removable heavy Kraft paper, sheet vinyl or equal.
- F. Damaged paint on equipment and materials shall be refinished with the same quality of paint and workmanship as used by the manufacturer so repaired areas are not obvious.

E-1.2.6 DRAWINGS AND INTENTION

- A. The electrical Plans are diagrammatic and do not show all offsets, bends, fittings, junction boxes, pull boxes, expansion fittings and conduit seals required to meet field conditions. Locations shown on the Plans are based on

equipment specified on the Plans or in this Specification and are reasonably correct but their absolute accuracy cannot be implied or assumed. The exact locations, levels, and distances shall be governed by the equipment and materials furnished by the Contractor and actual construction and field measurements made by the Contractor.

- B. It is the intention of these Specifications and Plans to secure an electrical installation complete in every detail. The Contractor shall not omit or fail to furnish any necessary or required element or part because of failure of Agency to specify or name such element or part.
- C. Where inconsistencies occur in these Plans and Specifications, the most stringent conditions, largest size, greatest quantity, lowest tolerance, and most durable equipment or device shall apply.

E-1.3 EXECUTION

E-1.3.1 WORK PERFORMANCE

- A. Arrange phases and perform work in a manner to assure coordination with all other trades. It is the Contractor's responsibility to coordinate and install the work at all times, such that disruptions and delays are minimized.
- B. New work shall be installed and connected to existing systems (e.g., utility system) neatly and carefully per utilities' requirements. Disturbed or damaged work shall be replaced or repaired to its prior conditions, with all cost borne by the Contractor.
- C. Coordinate location of equipment and conduit with other trades to minimize interference and ensure functionality.

E-1.3.2 STRUCTURAL PENETRATION CONTROL

- A. To the fullest extent possible, ensure that conduit sleeves, conduits, boxes and the like are properly placed for casting in concrete walls, ceilings and floors. Where conduit, sleeves, and/or boxes are not cast in concrete where required, Contractor shall core drill and provide proper fireproofing and waterproofing and boxes shall be cut into concrete walls.
- B. Provide and install all sleeves, inserts, anchor bolts, and similar items required for the installation of the work as the general construction work proceeds. If cutting, boring, or notching of the structure is required, due to failure to install

the work at the proper time, the operation shall be carried out under the direction of the Engineer and at no cost to the Agency.

E-1.3.3 STRUCTURAL STRUT SUPPORT CHANNEL

- A. Where mounting support channel is required in these Specifications and Plans, materials strut channel system. Requirements for channel shall also include all fittings.
- B. Channel shall be 1-5/8" 12GA Hot Dipped Galvanized ASTM A123, 2.6MIL zinc coating.
- C. Strut Channel system nuts, bolts and springs shall be 304 stainless steel.
- D. Structural strut system shall be P1000 Unistrut system or Agency approved equal.

E-1.3.4 STRUCTURAL ANCHORS

- A. Mounting bolts and anchors shall be 304 stainless steel Hilti Kwik Bolt II listed/approved by Federal Specification FF-S-325, Group 4, type 4, class1; U.L. Std #203 Pipe hangers (3/8-3/4" dia); ICBO report 4627; City of Los Angeles Research Report 24946. See General Electrical Notes on Electrical Plans.

E-1.3.5 EQUIPMENT INSTALLATION AND REQUIREMENTS

- A. Equipment location shall be as close as practical to locations shown on the Plans. Equipment sizes shall also be as close as possible, but not less than that indicated on the Plans. Where actual equipment sizes exceed sizes indicated on the Plans, the Contractor shall immediately notify the Engineer of such discrepancy and wait for resolution to such issues.
- B. Inaccessible Equipment:
 - 1. Where the Engineer determines that the Contractor has installed equipment not conveniently accessible for operation and maintenance, equipment shall be removed and reinstalled as directed by the Engineer at no additional cost to the Agency.
 - 2. "Conveniently accessible" is defined as being capable of being reached without the use of ladders, or without climbing or crawling under or over obstacles such as motors, pumps, belt guards, transformers, junction

boxes with conductors splices and other equipment, piping, and ductwork

E-1.3.6 EQUIPMENT IDENTIFICATION

- A. In addition to the requirements of the CEC, install an identification sign/label which will clearly indicate information required for use and maintenance of items such as panelboards, cabinets, motor controllers (starters), safety switches, separately enclosed circuit breakers, individual breakers and controllers in panelboards and motor control assemblies, control devices and other significant equipment.
- B. All cabinets, safety switches, without exception, shall have nameplates of laminated black phenolic resin with a white core with engraved lettering, a minimum of 3/8-inch high. Attach nameplate with permanent glue and stainless steel screws or aluminum rivets.

E-1.3.7 RECORD DRAWINGS

- A. Provide and maintain in good order a complete set of electrical Contract Plans. All changes to the Contract Plans shall be clearly recorded on this set of prints. At the end of the Project, the Contractor, in a professional manner, shall transfer all changes, in ink, to two sets of prints for submission to the Agency. The first sheet of each set shall be signed by the Contractor and the Engineer as being a correct and accurate record of the installation. Prints will be furnished to the Contractor by the Agency when requested.

E-1.3.8 TRAINING

- A. Provide training on all equipment. Only manufacturers of the equipment or certified representatives of the manufacturer shall perform training. Training shall be as indicated in other sections of this Specification.

E-1.4 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on the Plans and required in these Special Provisions for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for "ELECTRICAL WORK".

E-2 - CABLES, LOW VOLTAGE (600 VOLTS AND BELOW)**E-2.1 GENERAL****E-2.1.1 DESCRIPTION**

- A. This section specifies the furnishing, installation, and connection of the low voltage power and lighting wiring.
- B. All work shall be performed and materials shall be furnished in accordance with the latest NEC - National Electrical Code, the NESC - National Electrical Safety Code, California OSHA Construction of Safety Orders, LA County Code Title 27, and the following standards where applicable:
- ANSI - American National Standards Institute.
 - ASTM - American Society for Testing and Materials.
 - Fed Spec - Federal Specification.
 - ICEA - Insulated Cable Engineers Association.
 - IEEE - Institute of Electrical and Electronics Engineers.
 - IES - Illuminating Engineering Society.
 - NEMA - National Electrical Manufacturers Association.
 - NFPA - National Fire Protection Association.
 - UL - Underwriters' Laboratories.
- C. Equipment covered by this section shall be listed by an Agency-approved testing laboratory per Subsection E-1.2.1 of Section E. All costs associated with obtaining the listing shall be the responsibility of the Contractor. If no Agency approved testing laboratory provides the required listing, an independent test shall be performed at the Contractor's expense. Before the test is conducted, the Contractor shall submit to the Engineer a copy of the testing procedure to be used for approval.

E-2.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Submit the following for approval by Agency in sets of six (6):
1. Manufacturer's Literature and Data: Showing each cable type and rating.
 2. The Contractor shall deliver to the Agency 6-copies of Certificates of

Compliance to certify that the materials used are in accordance with the Plans and Specifications and has been properly installed.

3. Splice and Joint Materials.

E-2.2 PRODUCTS

E-2.2.1 CABLE AND WIRE (POWER AND LIGHTING)

A. Single Conductor:

1. Annealed copper.
2. Stranded for sizes No. 8 and larger. Solid for sizes No. 10 and smaller.
3. Minimum size No. 12, except where smaller is indicated or for controls.

B. Insulation:

1. Dual rated THHN THWN, per U.L. standards. Insulation 600 volt.

C. Color code:

1. Secondary service, feeder, and branch circuit conductors, be color coded as follows:

<u>208/120 volt</u>	<u>Phase</u>	<u>480/277 volt</u>
Black	A	Brown
Red	B	Orange
Blue	C	Yellow
White	Neutral	Gray *

* or white with colored (other than green) tracer.

2. Use solid color compound or solid color coating for No. 10 branch circuit conductors inclusive of neutral and ground.
3. Phase conductors No. 6 and larger color code using one of the following:
 - a. Colored as specified using 3/4 inch wide tape. Apply tape in half overlapping turns for a minimum of three inches for terminal points, and in junction boxes, pull boxes, troughs, manholes, and handholes. Apply the last two laps of tape with no tension to prevent possible unwinding. Where cable markings are covered by tape, apply tags to cable stating size and insulation type.
4. For modifications and additions to existing wiring systems, color coding shall conform to the existing wiring system.

E-2.2.2 SPLICES AND JOINTS

- A. In accordance with U.L. standards and CEC.
- B. Branch circuits (No. 12 and smaller):
 - 1. Connectors: Solderless, screw on, reusable pressure cable type, 600 Volt, 105 degree Celsius with integral insulation, approved by the Agency for copper conductors. Wet location rating when exposed to moisture.
 - 2. The integral insulator shall have a skirt to completely cover the stripped wires.
 - 3. The number, size, and combination of conductors, as listed on the manufacturers packaging shall be strictly complied with.
- C. Feeder Circuits: Connectors shall be boltless compression butt type connector, or bolt-clamp type of high conductivity and corrosion-resistant material.
 - 1. Field installed compression connectors for cable sizes 250 MCM and larger shall have not less than two clamping elements per wire.
 - 2. Insulate splices and joints with materials approved for the particular use, location, voltage, and temperature. Insulate with not less than that of the conductor level that is being joined.
 - 3. Plastic electrical insulating tape: Shall be, flame retardant, cold and weather resistant, rated 600VAC, 7 mil vinyl tape having a minimum operating range of -18 degrees Celsius to 105 degrees Celsius and complying with U.L. standards.

E-2.2.3 CONTROL WIRING

- A. Unless otherwise specified in other sections of these Specifications, size control wiring as specified for power and lighting wiring, except the minimum size shall be not less than No. 14, unless specified otherwise on Plans.
- B. Size wire large enough so that the voltage drop under inrush conditions does not adversely affect operation of the controls.

E-2.2.4 COMMUNICATION AND SIGNAL WIRING

- A. Shall conform to the recommendations of the manufacturers of the communication and signal systems; however, not less than what is shown on

Plans.

- B. Wiring shown is for typical systems. Provide wiring as required for the systems being furnished.
- C. Multi-conductor cables shall have the conductors color-coded.
- D. Low signal level instrumentation cables shall consist of #16 AWG stranded copper conductors with 600 Volt 15 mil PVC insulation, paired or triad as required, twisted, over all aluminized 1.35 mil (minimum) polymer tape shield overlapped for 100% coverage, copper shield drain wire, 4 mil PVC over all jacket, U.L. Type TC.
- E. Thermocouple extension cables shall consist of solid #16 AWG conductors of ANSI/ISA alloys matching the thermocouples furnished, 300 Volt 15 mil PVC insulation, pair twisted, over all aluminized polymer tape shield overlapped for 100% coverage, copper shield drain wire, PVC over all jacket, U.L. Type PLTC.
- F. Multi conductor signal cable used in the 12 Volt DC telemetry system shall consist of #24 AWG stranded, tinned copper conductors, 300 Volt PVC color coded insulation, over all polymer tape wrap under a PVC jacket.

E-2.2.5 GROUNDING AND BONDING CONDUCTORS

- A. Grounding and bonding conductors shall be copper. Equipment ground and bonding conductors may be bare or covered with green TW or THW insulation.

E-2.2.6 WIRE MARKERS

- A. Conductors shall be identified with Brady "EZ Code" or Panduit "Insta-Code" wire markers or Agency-approved equivalent.

E-2.3 EXECUTION

E-2.3.1 MATERIALS DELIVERY

- A. All wire and cable shall be delivered to the site in unbroken packages, which shall be inspected and approved by the Engineer before opening. Packages shall be plainly marked or tagged as follows:
 - a. Underwriters' labels.
 - b. Kind, Size, and insulation.

- c. Name of manufacturing company and trade name.
- d. Month and year when manufactured, which date shall not exceed eight (8) months prior to the date of delivery at the site.

E-2.3.2 INSTALLATION

- A. Install in accordance with the CEC, and as specified.
- B. Install all wiring in raceway.
- C. Splice cables and wires only in outlet boxes, junction boxes, pull boxes, manholes, or handholes.
- D. For panelboards, cabinets, wireways, switches, and equipment assemblies, neatly form train, and tie the cables in individual circuits.
- E. Wire Pulling:
 - a. Provide installation equipment that will prevent the cutting or abrasion of insulation during pulling of cables.
 - b. Use ropes for pulling feeders made of nonmetallic material.
 - c. Attach pulling lines for feeders by means of either woven basket grips or pulling eyes attached directly to the conductors.
 - d. Pull in together multiple cables in a single conduit.

E-2.3.3 SPLICE INSTALLATION

- A. Splices and terminations shall be mechanically and electrically secure.
- B. Where the Agency determines that unsatisfactory splices or terminations have been installed, remove the devices and install approved devices at no additional cost to the Agency.

E-2.3.4 FEEDER IDENTIFICATION

- A. In each interior pullbox and junction box, install metal tags on each circuit cables and wires to clearly designate their circuit identification and voltage.
- B. In manholes and handholes, provide tags of the embossed brass type, and show the cable type and voltage rating. Attach the tags to the cables with slip-free plastic cable lacing units.

E-2.3.5 FIELD TESTING

- A. Feeders and branch circuits shall have their insulation tested after installation and before connection to utilization devices such as fixtures, motors, or appliances.
- B. Test the insulation resistance of low voltage conductors using a 500-Volt "Megger." (Do not test milliVolt/milliAmp signal instrumentation conductors.) Insulation resistance, corrected to 60 degrees Fahrenheit, shall not be less than the following values:

600 VOLT INSULATION, SINGLE CONDUCTORS, PER 1,000 FEET:

No. 14 and No. 12 AWG	150 megOhms
No. 10 thru No. 6 AWG	100 megOhms
No. 4 thru No. 4/0 AWG	50 megOhms
250 thru 750 kcmil	50 megOhms

- C. Record resistance readings, temperature and weather conditions on the test form. Submit to the Agency for approval.
- D. Test conductors phase-to-phase and phase-to-ground.
- E. Megger motors after installation but before start-up and test free from grounds. Megger motor windings prior to and, after winding connection (but before start-up testing).
- F. The Contractor shall furnish the instruments, materials, and labor for these tests. Provide 6-copies of written test results to the Agency.

E-2.4 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for "ELECTRICAL WORK".

E-3 - CONDUIT SYSTEMS, BOXES, AND WIRING DEVICES

E-3.1 GENERAL

E-3.1.1 DESCRIPTION

- A. This section includes the furnishing, installation, and connection of conduit, fittings, and boxes to form complete, coordinated, grounded raceway systems. Raceways are required for all wiring unless shown or specified otherwise.
- B. Definitions: the term conduit, as used in these Specifications, shall mean any or all of the raceway types specified.

E-3.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Submit the following in (six 6 sets required) for approval:
 - 1. Working Drawings.
 - a. Layout of required conduit stubs shown in relation to the equipment that it serves. Equipment that conduit serves shall be shown with proper dimensions and manufacturer's recommended conduit entry locations.
 - b. Size and location of underground pull boxes and slab boxes.
 - 2. Supporting Information.
 - a. The Contractor shall submit all type of conduit to be furnished. The submittal shall include the conduit manufacturer and type, and sufficient data to indicate that the conduit meet the specific requirements.
 - 3. The Contractor shall deliver to the Agency one copy of the Certificate of Compliance that the materials are in accordance with the Plans and Specifications and have been properly installed.

E-3.2 PRODUCTS

E-3.2.1 CONDUIT

- A. Conduit Size: In accordance with the NEC, but not less than $\frac{3}{4}$ inch unless otherwise shown on the Plans.

B. Conduit type:

1. Rigid Steel Conduit: Rigid steel conduit shall be heavy wall, hot-dip galvanized, and shall conform to Fed Spec WW-C-581 and ANSI C80.1. Rigid steel conduit shall be manufactured in accordance with UL 6.
2. Liquid-tight Flexible Metal Conduit: Liquid-tight flexible metal conduit shall be hot-dip galvanized steel, shall be covered with a sunlight resistant, moisture-proof polyvinyl chloride jacket, shall be suitable for use indoors or out, and shall be UL labeled.
3. PVC-Coated Rigid Steel Conduit: The conduit shall be rigid steel. Before the PVC coating is applied, the hot-dip galvanized surfaces shall be coated with a primer to obtain a bond between the steel substrate and the coating. The PVC coating shall be bonded to the primed outer surface of the conduit. The bond on conduit and fittings shall be stronger than the tensile strength of the PVC coating. The thickness of the PVC coating shall be at least 40 mils.

A chemically cured two-part urethane coating, at a nominal 2 mil thickness, shall be applied to the interior of all conduit and fittings. The coating shall be sufficiently flexible to permit field bending the conduit without cracking or flaking of the coating.

Every female conduit opening shall have a PVC sleeve extending one conduit diameter or 2 inches, whichever is less, beyond the opening. The inside diameter of the sleeve shall be the same as the outside diameter of the conduit before coating. The wall thickness of the sleeve shall be at least 40 mils.

All fittings, condulets, mounting hardware, and accessories shall be PVC-coated. All hollow conduit fittings shall be coated with the interior urethane coating described above. The screw heads on condulets shall be encapsulated by the manufacturer with a corrosion-resistant material.

PVC-coated rigid steel conduit shall be manufactured by Ocal, Perma-Cote, or Robroy. An acceptable alternate to the above is Robroy "L2 Bond.

4. Non-metallic conduit shall conform to U.L. standards: Schedule 40 and schedule 80 PVC shall conform to NEMA TC 2. Type EB shall conform to NEMA TC6.

E-3.2.2 CONDUIT FITTINGS

- A. Rigid steel: Standard threaded couplings, locknuts, bushings, and elbows. Only material of steel or malleable iron is acceptable. Bushings and locknuts and similar devices shall be hot dipped galvanized steel. Aluminum die-cast or pot metal fittings will not be accepted.
1. Locknuts: Bonding type with sharp edges for digging into the metal wall of an enclosure.
 2. Bushings: Metallic insulating type, consisting of an insulating insert molded or locked into the metallic body of the fitting.
 3. Erickson (union-type) and set screw type couplings shall not be used.
- B. **Class I Division 1 and Other Areas:** Conduit fittings shall be U.L. approved for Class I, Group D, Division 1 locations. In other areas, conduit fittings shall be Form 7 condulets in sizes 1-inch and smaller, Form 8 for all sizes above 1-inch. Sizes 1-1/2 inch to 4-inch shall have "Corrosion Resistant" covers with neoprene gaskets and four stainless steel or monel cover screws. Conduit parts and hardware shall be stainless steel type 304 or ASTM A240 or A276. Pipe straps and conduit hangers shall be as indicated in SMACNA as approved by the Agency of State Architect.
- C. All conduit seals shall be U.L. approved for Class I, Group D, Division 1. Fiber packing and sealing compounds shall be approved for use with the seal.
- D. Expansion and deflection couplings:
1. Conforming to U.L. standards.
 2. Accommodate, 1.9 cm (0.75 inch) deflection, expansion, or contraction in any direction, and allow 30 degrees angular deflections.
 3. Include external flexible metal braid sized to guarantee conduit ground continuity in accordance with U.L. standards, and the CEC code tables for ground conductors.
 4. Watertight, seismically qualified, corrosion resistant, threaded and compatible with rigid metal conduit.
- E. Conduit Supports:
1. Parts and hardware Hot Dip Galvanized complying with Stainless Steel Type 304 or ASTM A304 or A276, Unistrut P1000 or provide equivalent approved channel.
 2. Pipe Straps and Conduit Hangers: Shall be as indicated in SMACNA as

approved by the Agency of State Architect.

3. Sheet metal boxes: Galvanized steel, except where otherwise shown on the Plans.
- F. Wireways: Equipped with hinged covers, except where removable covers are shown.

E-3.2.3 ENCLOSURES, BOXES AND WIRING DEVICES

A. Outlet Boxes:

1. Outlet boxes shall be cast with drilled, tapped, and plugged hubs and shall be hot-dipped galvanized. All boxes shall be code-sized for the number of wires passing through or terminating.
2. Light fixture outlet boxes shall be equipped with fixture supporting devices as required by the unit to be installed. Fixture weight in excess of 6 pounds shall not be supported by outlet box cover screws. Boxes cast in concrete walls shall be listed or labeled as suitable for the application.
3. Outlets for exterior mounting shall have weatherproof connections all around; covers shall have suitable gaskets.

B. Junction and Pull Boxes:

1. Pull boxes shall be installed in all conduit runs wherever indicated and/or where necessary to facilitate the pulling of wires or cables. Exposed boxes shall be 14GA, provided with removable covers, secured with matching screws. Junction box covers shall be identified with the system that it houses.
2. All surfaces of boxes and covers, inside and out, shall be given a primer coat and one coats of gray epoxy paint. Stainless steel boxes shall remain unfinished. Conduit shall enter the boxes through tight fitting, bored or punched holes, and shall be secured to the boxes with double locknuts and bushings.
3. Underground pull boxes shall be pre-cast concrete with traffic covers suitable for H-20 bridge loading, pulling irons and conductor supports. Covers shall have raised engraved lettering.

C. Wiring Devices:

1. Duplex convenience outlets shall be grounding type, ivory, and shall

have two current-carrying parallel contacts and one "U" shaped grounding contact which is internally connected to the receptacle frame, and shall be rated 20 Amperes, 125 Volts. The duplex convenience outlets shall be Specification grade and conform to Federal Specification W-C-596 (D4 and D8). Receptacles shall be Hubbell, Arrow-Hart, Bryant or approved equivalent.

2. Local switches shall be AC "T" rated Specification grade, "Quiet", ivory, totally enclosed, of Bakelite base toggle type and shall conform to Federal Specification W-S-896. Switches shall be rated 20A, 120-277 VAC. Local switches shall be as manufactured by Hubbell, Arrow-hart, General Electric, Bryant, Sierra or approved equivalent.

D. Wiring Device Plates:

1. Plates shall be supplied for every local switch, receptacle, and similar items. All switch plates shall be furnished with engraved or etched designations where the equipment or circuit controlled cannot readily be seen at the switch location. Plates shall be .040" satin-finish 304-Stainless Steel. Install weatherproof plates where exposed to the weather.

E-3.3 EXECUTION

E-3.3.1 PENETRATIONS

A. Cutting or Holes:

1. In general, where passing through concrete walls or concrete floor, cast into concrete.
2. Should core drilling be required: Locate holes in advance where they are proposed in walls. Obtain the approval of the Agency Inspector prior to drilling.
3. Cut holes through concrete and masonry with a diamond core drill or concrete saw. Pneumatic hammer, impact electric, hand or manual hammer type drills are not allowed, except where permitted by the Agency Inspector as required by limited working space.

- B. Fire Stop: Where conduits, wireways, and other electrical raceways pass through fire partitions, fire walls, smoke partitions, or floors, install a fire stop that provides an effective barrier against the spread of fire, smoke and gases. Completely fill and seal clearances between raceways and openings with the

fire stop material to achieve fire rating to match the existing fire rated construction.

- C. Waterproofing: Along with fireproofing as indicated above, at floors, exterior walls, and roof conduit penetrations, completely seal clearances around the conduit and make watertight.

E-3.3.2 INSTALLATION

- A. Installation: In accordance with UL, CEC, as shown, and as hereinafter specified.
- B. Install conduit as follows:
 - a. In complete runs before pulling in cables or wires.
 - b. Flattened, dented, or deformed conduit is not permitted. Remove and replace the damaged conduits with new undamaged material.
 - c. Assure conduit installation does not encroach into the ceiling height head room, walkways, or doorways.
 - d. Cut square with a hacksaw, ream, remove burrs, and draw up tight.
 - e. Conduit system shall be mechanically and electrically continuous.
 - f. Independently support conduit. Do not use other supports i.e., (suspended ceilings, suspended ceiling supporting members, lighting fixtures, mechanical piping, or mechanical ducts).
 - g. Support within three feet of changes of direction, and within three feet of each enclosure to which connected.
 - h. Close ends of empty conduit with plugs or caps at the rough in stage to prevent entry of debris, until wires are pulled in. Where conduits are spare indefinitely, install pull cord before capping and secure cord to inside of cap.
 - i. Secure conduits to cabinets, junction boxes, pull boxes and outlet boxes with bonding type locknuts. For rigid conduit installations, provide a locknut on the inside of the enclosure, made up wrench tight. Do not make conduit connections to junction box covers.
- C. Conduit Bends:
 - a. Make bends with standard conduit bending machines.
 - b. Conduit hickey may be used for slight offsets, and for straightening stubbed

out conduits and as indicated on the Plans.

- c. Bending of conduits with a pipe tee or vise is prohibited.
- D. Conduit Identification: Provide stainless steel marker tag with stainless steel tie on each end of the conduit with conduit number according to raceway schedule.

E-3.3.3 EXPOSED WORK INSTALLATION

- A. Conduit run along roof, exposed on floor or wall, or other exposed exterior areas: RGS PVC COATED only.

E-3.3.4 BURIAL INSTALLATION

- A. Exterior routing of branch circuits (600 Volt and Less):
 1. Conduit: Thick wall PVC or high density PE, unless otherwise shown. PVC conduit shall have a green equipment ground. All elbows and risers shall be rigid galvanized steel and protected with 40 mil PVC coating or an impervious plastic tape covering, double wrapped to a minimum thickness of 20 mils.
 2. Shall have markings on conduit at uniform intervals to show the kind of material, direct burial type, and the U.L. approval label.
 3. Install conduit fittings and terminations as recommended by the conduit manufacturer.
 4. Tops of conduits shall be as follows unless otherwise shown: Not less than 24 inches below unfinished grade areas. Not less than 30 inches below roadways and other paved surfaces
 5. Work with extreme care near existing ducts, conduits, cables, and other utilities to avoid damaging them, as repair cost shall be borne by Contractor.

E-3.3.5 CONDUIT TERMINATIONS

- A. Conduit Seals: Provide conduit sealing fittings in all conduit, including spare conduits at outdoor terminations for equipment. U.L. sealing fitting are required. Provide suitable compound (e.g. Chico) that prevents the passage or

entrance of moisture and gases. Material shall be designed and formulated for such a purpose.

- B. Where metal conduit is shown underground, install threaded heavy wall rigid steel galvanized conduit, coated with 40 mil bonded PVC.
- C. When rising or transitioning from underground to above ground exterior boxes where PVC conduit may be exposed to sunlight, provide transition with rigid galvanized steel – exposing only RGS to sunlight.

E-3.3.6 MOTORS, TRANSFORMERS AND VIBRATING EQUIPMENT

- A. Use liquidtight flexible metal conduit for connections to motors and other electrical equipment subject to movement, vibration, misalignment, cramped quarters, or noise transmission. Provide a green ground wire with all flexible metal conduits. Limit use to 36-inches and it shall not penetrate any structural elements.

E-3.3.7 EXPANSION JOINTS

- A. Install couplings in accordance with the manufacturer's recommendations.
- B. Provide conduits smaller than three inches with junction boxes on both sides of the expansion joint. Connect conduits to junction boxes with 15 inches of slack flexible conduit. Flexible conduit shall have a copper green ground bonding jumper installed.
- C. Provide conduits rigidly secured to the structure on opposite sides of an expansion joint with junction boxes on both sides of the joint. Connect conduits to junction boxes with 15 inches of slack flexible conduit. Flexible conduit shall have a copper green ground bonding jumper installed.

E-3.3.8 CONDUIT SUPPORTS, INSTALLATION

- A. Safe working load shall not exceed 1/4 of proof test load of fastening devices.
- B. Use pipe straps or individual conduit hangers for supporting individual conduits.
- C. Support multiple conduit runs with trapeze hangers. Use trapeze hangers that are designed to support a load equal to or greater than the sum of the weights of the conduits, wires, hanger itself, and with a 400% safety factor. Attach each

conduit with U-bolts or other approved fasteners. U-bolts and nuts shall be hot dipped galvanized.

- D. Support conduit independently of junction boxes, pull boxes, fixtures, suspended ceiling T bars, angle supports, and similar items.
- E. Fasteners and Supports in Solid Masonry and Concrete:
 - 1. Where feasible, in new Construction: Use steel or malleable iron concrete inserts set in place prior to placing the concrete.
- F. Hollow Masonry: Toggle bolts are permitted. Bolts supported only by plaster are not acceptable.
- G. Metal Structures: Use machine screw fasteners or other devices specifically designed and approved for the application.
- H. Attachment by wood plugs, rawl plug, plastic, lead or soft metal anchors, or wood blocking and bolts supported only by plaster is prohibited.
- I. Chain, wire, or perforated strap shall not be used to support or fasten conduit.
- J. Spring steel type supports or fasteners are prohibited.

E-3.3.9 BOX INSTALLATION

- A. Boxes for Concealed Conduits:
 - 1. Mount flush.
 - 2. Provide raised covers for boxes to suit the wall or ceiling, construction and finish.
- B. In addition to boxes shown, install additional boxes where needed to prevent damage to cables and wires during pulling in operations.
- C. Remove only knockouts as required and plug unused openings. Use threaded plugs for cast metal boxes and snap in metal covers for sheet metal boxes.
- D. Outlet boxes in the same wall mounted back-to-back are prohibited.
- E. Stencil or install phenolic nameplates on covers of boxes identifying associated feeder source and circuit number, or panelboard and circuit number.

E-3.4 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for “ELECTRICAL WORK”.

E-4 - GROUNDING

E-4.1 GENERAL

E-4.1.1 DESCRIPTION

- A. This section specifies general grounding and bonding requirements.

E-4.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Submit the following in (six 6 sets required) for approval:
1. Shop Drawings:
Showing the location of system grounding electrode connections and conductor routing that differ from or are not specified on the Plans.
 2. Supporting Information.
 - a. Exothermal Welding System and components.
 - b. Ground Rods and Ground Cables.
Certifications: Test Reports.

E-4.2 PRODUCTS

E-4.2.1 GROUNDING WIRES

- A. General Purpose: UL and NEC approved types, copper, dual rated THHN-THWN insulation. Color identification as green.
- B. Size wire not less than what is shown on the Plans and not less than required by the CEC.

E-4.2.2 GROUND RODS

- A. Copperclad steel, $\frac{3}{4}$ -inch diameter by 10 feet long. Connectors shall be U.L. listed ground clamps.

E-4.3 EXECUTION**E-4.3.1 INSTALLATION**

- A. Ground in accordance with the CEC as shown, and as hereinafter specified.
- B. System Grounding:
 - 1. Provide grounding as per LADWP requirements.
 - 2. Provide grounding of transformers downstream from the service entrance per CEC 250(d) Separately Derived Systems.
 - 3. Provide grounding system at equipment foundation.
- C. Equipment Grounding - Ground the following
 - 1. Metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, metal stair and rails, metal ladders, and other conductive items in close proximity with electrical circuits shall be grounded for personnel safety and to provide a low impedance path for possible ground fault currents. Use exothermal weld connections.
 - 2. Ground conductors shall be continuous between indicated connections, without joints or splices. All ground connections shall be made with exothermal welds and shall be accessible for inspection and testing unless otherwise noted (exception: those buried need no inspection).
 - 3. Clean contacting surfaces to bright metal immediately prior to final connection. Protect ground conductors rising from underground through concrete pads or paving with schedule rigid galvanized steel with 40-mils of PVC coating.
 - 4. Ground conductors installed in metallic conduit shall be bonded to the conduit at both ends.
 - 5. An electrode shall be encased by at least 2 inches of concrete, located within and near the bottom of the concrete foundation that is in direct contact with the earth. The electrode shall consist of at least 20 feet of one or more steel reinforcing bars of not less than 1/2 inch diameter or of at least 20 feet of No. 3/0 AWG bare copper conductor.

E-4.3.2 SECONDARY EQUIPMENT AND CIRCUITS

- A. All motor operators shall have Equipment ground bus bars bolted to frame of equipment. Ground bus bar shall have more than adequate terminals for all

feeder circuits or branch circuits.

B. Conduit System:

1. Ground all metallic conduit systems.
2. Non-metallic conduit systems shall contain a grounding conductor.
3. Conduit provided for mechanical protection containing only a grounding conductor, bond that conductor at the entrance and exit from the conduit.
4. Metallic Conduit: Metallic conduits which terminate without mechanical connection to a housing of electrical equipment by means of locknut and bushings or adapters, provided with grounding bushings. Connect bushings with a bare grounding conductor to the equipment ground bus.

C. Feeders and Branch Circuits: Install green grounding conductors with feeders and branch circuits, sized per CEC 250 code requirements.

1. Items of equipment where the final connection is made with flexible metal conduit shall have a grounding wire. Flexible conduit and fitting shall be listed for grounding.

D. Boxes, Cabinets, Enclosures, and Panelboards:

1. Bond the grounding wires to each pullbox, junction box, outlet box, cabinets, and other enclosures through which the ground wires pass.
2. Provide lugs in each box and enclosure for ground wire termination.
3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs for terminating the ground wires.

E. Motors and Starters:

1. Where new, provide lugs in motor terminal box and starter housing for ground wire termination.

F. Receptacles are not approved for grounding through their mounting screws. Ground with a ground wire from green ground terminal on the receptacle to the outlet box ground screw.

G. Ground lighting fixtures and lighting pole to the green grounding conductor of the wiring system. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.

H. Fixed electrical appliances and equipment shall have a ground lug installed for termination of the green ground conductor.

E-4.3.3 GROUND RESISTANCE

- A. Resistance and Testing: Measure the resistance to ground of the grounding system before connecting equipment.
- B. Perform grounding system ground resistance test using the three-terminal fall-of-potential test method. Resistance must not exceed 5 ohms. Final tests shall assure that this requirement is met.
- C. Contractor shall provide all equipment and means for performing ground resistance test. Perform test in presence of the Engineer. Record resistance measurements, test point locations, ambient temperature and weather conditions at time of test on a test report form. Notify the Agency at least five Working Days prior to each test.

E-4.3.4 GROUND ROD INSTALLATION

- A. Drive each rod vertically in the earth for not less than eight feet in depth.
- B. Where permanently concealed ground connections are required, make the connections by the exothermic process to form solid metal joints. Make accessible ground connections with mechanical pressure type ground connectors, unless otherwise indicated on the Plans.
- C. Where rock prevents the driving of vertical ground rods, install grounding electrodes in horizontal trenches to achieve the specified resistance of 5-ohms maximum.
- D. Contractor shall provide ground test equipment and measure resistance between ground and grounding electrode

E-4.4 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for "ELECTRICAL WORK".

E-6 - CONTROLS AND INSTRUMENTATION

E-6.1 CONTROLS AND INSTRUMENTATION

E-6.1.1 DESCRIPTION

Contractor shall furnish and install instrumentation and control system including data recording system, instrumentation panels, and other miscellaneous controls.

E-6.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Submit sufficient information, clearly presented that shall demonstrate compliance with drawings and Specifications.
- C. Submit data for approval by the Agency.
- D. Product data: product data shall be submitted in the following form:
 - 1. Technical data sheets: include published performance, electrical rating, catalog cuts, pictures, manufacturer's Specifications.
 - 2. Wiring diagrams with wire numbers and terminals identified to facilitate installation, maintenance and operation.
- E. Operation and maintenance manuals:
 - 1. Submit complete operating and maintenance manuals for the control systems and including wiring diagrams, technical data sheets and information for ordering replaceable parts.
 - 2. Include complete diagrams of the internal wiring for each of the items of equipment.
 - 3. The diagrams shall have their terminals identified to facilitate installation, operation and maintenance.
 - 4. Furnish complete lists of spare parts and special tools recommended for two years of normal operation of the complete system including the manufacturer's names, addresses, catalog numbers and prices.
- F. Required Equipment/Component Submittal – Minimal Requirements
 - 1. Control component literature – to include all relay types and mountings, relay transient suppression and blocking diodes; all switch types and pushbuttons; fuses and fuse blocks; all pilot lamps and devices; terminal strips; and, all other discrete electrical components proposed for

installation. All equipment enclosures, to include interior and exterior elevations of equipment layout, dimensions, NEMA rating, latch type, hinge type and other items as appropriate.

2. DC Power supply, DC to AC converter
3. Level Transmitter and Controller.
4. Lamps, Telemetry System and Components.

G. Shop Drawings Submittal:

1. Submit shop drawings of control systems and sub-systems. Shop drawings shall facilitate ease of system comprehension, troubleshooting and replacement of failed components. Include field wiring that includes all field devices and location of devices. Indicate all wiring, wire sizes and wire numbers. Indicate all terminals and terminal numbers, terminal block and terminal block numbers. Indicate system components with component ratings and their identification numbers. Indicate power supplies with ratings and identification numbers. Include equipment elevations showing location of all interior components and submit elevations showing all exterior devices. Include manufacture's catalog number for all components.
2. Shop drawings shall be professionally prepared and have a professional format and presentation. At conclusion of job make final corrections to shop drawings and submit bound as part of final Maintenance and Operations Manuals (placed inside manual). As a minimum, final approved shop drawings shall be reduced from full size (construction drawing size) to 11x17 for ease of incorporating in M&O manuals. One full size set of shop drawings shall also be submitted.

Components listed for submittal are minimal requirements. The Engineer reserves the right to request additional submittals, whether requested herein or not. It shall be noted however, that any additional submittals required will not place an undue hardship on Contractor without additional compensation.

E-6.2 NOT USED

E-6.3 NOT USED

E-6.4 EXECUTION**E-6.4.1 CONTROL CONDUCTORS**

- A. Control conductors shall be #14 AWG stranded copper with 600 Volt type TFN insulation unless otherwise noted on the Plans. Extra flexible stranded copper with 600 Volt type TFFN insulation shall be used where crossing a door hinge.
- B. Conductor tags shall be imprinted plastic sleeves or adhesive.
- C. All components inside enclosures shall be securely mounted on an interior panel. Components such as relays and terminal blocks shall be removable without removing the interior panel. Provide component DIN rail mounting when available from the manufacturer.
- D. Terminate conductors by means of insulated, ring tongue type compression lugs on screw terminals, insulated push on compression lugs on quick connect terminals and with electrical grade rosin core solder on solder terminals.
- E. Cable and route conductors neatly using bundle ties in plastic wiring duct (e.g. panduit or equal).
- F. Identify all conductor ends (at each end of conductor), terminal blocks and terminals with alpha numeric characters to match identification on control diagrams.
- G. Check all electrical wiring for continuity.

Identify all components, including push buttons, selector switches, indicating lights and relays with nameplates, both on face of door and on inside of door. Secure nameplates to the panel with threaded or rivet type fasteners.

E-6.4.2 TESTING GENERAL

- A. Functionally test all instrumentation and control systems whether listed herein or not. Test in accordance with manufacturer's instructions and as specified in this section. A certified field service engineer or technician certified by manufacturer as manufacturer's representative shall provide system testing. Certified representatives shall represent for all varied system components, excluding none.

E-6.5 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for "ELECTRICAL WORK".

E-7 – TESTING, DEMONSTRATIONS AND TRAINING

E-7.1 TESTING, DEMONSTRATIONS AND TRAINING

E-7.1.1 BASIC REQUIREMENTS

- A. Perform as a minimum testing of all systems as indicated in these drawings and specifications. Contractor shall furnish all test equipment, materials and labor required to perform all tests.
- B. Perform as a minimum tests, demonstrations and training of all systems as indicated in manufacturer's published literature (no exceptions), and as indicated in these specifications. Contractor shall furnish all test equipment, materials and labor required to perform all tests.
- C. Testing, demonstrations and training shall occur at times requested by the Agency. Agency shall provide notice of required training at mutual acceptable time, and training will occur within 14-calendar days of the Agency's notice.
- D. Provide written procedures for demonstration, training and testing of equipment and systems including temporary facilities if any. Written procedures may be factory recommended testing and training manuals. Demonstrate operation of systems to the satisfaction of the Agency.
- E. All final tests to be performed in the presence of the Agency and witnessed by the Agency. Provide the Agency a 5-day notice of all tests. Do not test without the presence of the Agency.
- F. All equipment shall be tested and inspected in strict accordance with manufacturer's recommendations.

E-7.1.2 DEFINITIONS

- A. Start-Up: Initial inspection, cleaning, lubrication, adjustment, and operation of equipment and systems by the contractor with the assistance of the representatives of the equipment manufacturers.
- B. Pre-Tests: The final stage of the start-up procedure. This occurs after all adjustments have been made, set points set, fields configured, except for minor fine tuning which can be done during the pre-test. Serves as verification that the systems are ready for the final test. Witnessing of pre-test by the Agency inspector is required.
- C. Final Tests: Tests, witnessed by the Electrical Engineer or his representative, which demonstrate that all equipment and systems are in compliance with

requirements. At Agency expense, the Agency may utilize the services of an independent testing organization or consultant to witness the tests.

- D. Sequence of activities shall be: (1)Start-up, (2)Pre-Test, (3)Final Test and Demonstrations, (4)Training.

E-7.1.3 QUALITY ASSURANCE

- A. Experienced, trained engineering service personnel who are certified and experienced representatives of the equipment manufacturers shall participate in start-up, equipment set-up and final configuration, demonstrations and perform training, participate in pre-test and final test.
- B. The Individual responsible for programming or configuration of microprocessor based systems shall demonstrate and provide instructions on hardware, software, programming and configuration.
- C. The Agency, upon request from the contractor, will provide a list of personnel to receive instructions and will coordinate their attendance at agreed-upon times.

E-7.1.4 SUBMITTALS – FOR APPROVAL BY THE AGENCY

- A. Submit in accordance with Section E-1.
 - 1. For all equipment (without exception) submit in a single binder or binded folder, manufacturer’s recommended inspections, maintenance and testing instructions to be performed prior to start-up. This binder shall be dedicated to testing and maintenance of equipment only. Note, contractor will be required to perform all manufacturer’s recommended tests, inspections and maintenance before start-up.
 - 2. Names and qualifications of personnel performing demonstrations, instructions, tests, and training along with proper manufacturer certifications.
 - 3. Submit operation and maintenance manuals to be used for demonstration and training in loose leaf binders, complete with table of content, page numbers and prominently posed cover identification covers clearly indicating “OPERATION MANUAL” or “MAINTENANCE MANUAL”, or other title as needed. Six (6) sets shall be required for each piece of equipment. Identification shall be placed on both front cover and on binding edge.

- B. Where submittals are rejected by the Agency they shall be promptly re-submitted until approved.
- C. Training shall not be scheduled until training manuals are approved by the Agency.

E-7.1.5 REQUIRED EQUIPMENT

- A. Contractor shall furnish all required testing, demonstration and training equipment necessary. As a minimum contractor shall furnish the following equipment:
 - 1. All equipment as necessary to fully demonstrate the acceptable performance of the equipment or components, to the satisfaction of the Agency.
- B. All equipment shall have an accuracy tolerance, on all scales, of not more than (+/-) 5% error.

E-7.2 EXECUTION

E-7.2.1 PREPARATION FOR FINAL TESTS, DEMONSTRATIONS, AND TRAINING

- A. Verify that equipment and systems are fully operational. Complete all start-up and pre-test activities for all equipment and systems. Complete all construction and finish work.
- B. Arrange for all test personnel, for all equipment, to be continuously present during one period of time so that equipment and systems can be tested in their interrelated functions. Complete and deliver all maintenance and operating manuals four weeks prior to instruction and training period.
- C. Furnish all special tools and testing equipment.

E-7.2.2 FINAL TESTS AND DEMONSTRATION

- A. Demonstrate proper operation of each equipment and system to the satisfaction of the Agency. If equipment operation should fail, make necessary adjustments and repeat demonstration and test in full.

E-7.2.3 TRAINING AND DEMONSTRATION

- A. Demonstrate operation and maintenance of equipment and systems and perform training to Agency personnel.
- B. Use operation and maintenance manuals as basis of instruction and training. Review contents of manuals with personnel in detail to explain all aspects of operation and maintenance.
- C. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment. Allow Agency personnel to practice operating the equipment under supervision of instructors.
- D. Prepare and insert additional data in operations and maintenance manuals when additional data becomes apparently missing during instructions.

E-7.2.4 TIME ALLOCATED FOR TRAINING

- A. Instruction and training hours shall be provided as needed for all electrical systems and components.

E-7.3 PAYMENT

All cost for furnishing and installing all the Electrical Work shown on the Plans and required in these Special Provisions for which no separate items are included in the Bid, shall be included in the lump sum price in the Bid for “ELECTRICAL WORK”.

PUBLIC WORKS LOS ANGELES COUNTY

PROJECT ID NO. FCC0001207

SPECIAL PROVISIONS

SECTION M – MECHANICAL

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format which parallels the Standard Specifications.

Prepared by:

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11/19/2020

Date

Reviewed:

[Signature]

11/19/2020

Date

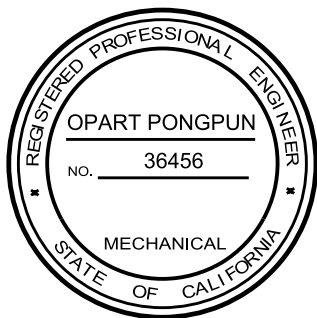


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SECTION M-1 SPECIAL REQUIREMENTS.**M-1 SCOPE.**

The Contractor shall furnish and install cast-iron slide gate assemblies, fabricated stainless steel slide gate assemblies, manual operators, electrical motor operators, vent stacks submersible level transmitters as specified in these Special Provisions and as shown on the Plans.

M-1.1 SUBMITTALS.

All submittals shall be clearly marked "Pacoima Spreading Grounds Basin Enhancement Project". For submittals and review see Subsection 3-8 of Section G.

M-1.1.1 WORKING DRAWINGS.

The following Working Drawings shall be included:

- Fabricated stainless steel gate assemblies and the appurtenances

M-1.1.2 SHOP DRAWINGS.

Shop Drawings shall be of a size and scale to clearly show all necessary details, dimensions, clearances, finishes, materials, and other pertinent data. Non-scaled, manufacturer general catalog outline drawings are not acceptable as a substitute for Shop Drawings.

The Contractor shall submit the following items to be furnished, fabricated, or manufactured under the Contract:

- Cast-iron gate assemblies and the appurtenances
- Electric motor operators mounting pedestals, and the appurtenances
- Discharge pipes and pipe fittings
- Air vent stacks

M-1.1.3 SUPPORTING INFORMATION.

Submittals of supporting information shall consist of manufacturer's published brochures, catalog cut sheets, technical bulletins, or product specification sheets. Data shall be specific for the item to be furnished, and not general for a line of products.

The Contractor shall submit all supporting information including, but not limited to the following items to be manufactured or furnished:

- Electric motor operators and controllers
- Submersible level transmitters

M-1.2 INSPECTION AT PLACE OF MANUFACTURE.

The Agency reserves the right to inspect or witness all phases of manufacturing, assembly, and testing of all equipment to be furnished, at the place of manufacture. The Contractor shall provide access to all testing and manufacturing facilities to the Agency, and inspections will be made at the discretion of the Agency.

The Contractor shall notify the Engineer at least two weeks in advance of the time of any equipment fabrication or testing to permit scheduling of the inspection. Fabrication and testing shall be shown as individual activities on the schedules required in Section G.

M-1.3 INSTRUCTION MANUALS AND PARTS CATALOG.

Before final inspection and performance testing of the cast-iron gate assemblies, electric motor operators, flow measuring system, and submersible pumps, the Contractor shall submit one complete bound together set of instruction manuals and parts catalogs and PDF format electronic file on at least five separate CD with proper label described on Section M-1.1 to include, but not limited to the following items:

- Cast-iron slide gate assembly and the appurtenances
- Fabricated stainless steel gate assemblies and the appurtenances
- Electric motor operators and the appurtenances
- Submersible level transmitter

M-1.4 FIELD TESTS.

After all machinery and equipment called for herein or shown on the Plans has been installed and other necessary appurtenant work performed, and prior to the acceptance of the Work, a complete test shall be made of the entire equipment under working conditions of automatic operations.

In this test, all automatic features shall be tested. The operation of the pumps shall be tested, and accurate records taken to verify that each pump will discharge the specified flow. For the purpose of making the test, the Contractor shall furnish the required amount of water to conduct the test, as required by the Engineer.

If during the test, any structural defect or weakness, or any leakage of pipe or fittings develops, or if any of the equipment fails to perform as required by the Plans and Specifications, the Engineer reserves the right to reject any part, or the whole of such equipment and demand reconstruction of same to meet the requirements of these specifications. All costs of such reconstruction or replacement shall be borne by the contractor.

A qualified engineer furnished by the manufacturer of the mechanical equipment shall be present at the time final tests are made and assist the Contractor in placing the equipment in final adjustment and operation. Such person shall approve the installation and operation of the equipment before final acceptance. The above shall be performed without additional cost to the Agency.

Prior to final acceptance of the Work, tests shall be made to demonstrate that the equipment meets the following requirements:

1. All automatic and manual electrical controls and instrumentation, including submersible level transmitter, etc., shall operate in accordance with the Specifications and manufacturer's requirements.
2. All motors shall operate without being overloaded.
3. The mechanical equipment in its entirety shall be demonstrated to operate in accordance with the requirements established on the Plans and in these Specifications. Any deficiencies shall be corrected prior to acceptance of the Work. The final tests

shall be rerun completely, or any portion thereof, as required by the Engineer after any reconstruction work, replacement of any equipment, or parts or readjustment of equipment has been completed.

M-1.5 PAYMENT.

All costs in the development of the Operations and Maintenance Manual, operational test including, but not limited to, repairs, replacements, adjustments, or subsequent retesting, shall be included in the lump sum bid price for "SPECIAL REQUIREMENTS".

SECTION M-2 - MECHANICAL WORK**M-2 MECHANICAL WORK.****M-2.1 GENERAL.**

The Contractor shall furnish and install cast-iron slide gate assemblies, fabricated stainless steel slide gate assemblies, manual operators, electrical motor operators, vent stacks submersible level transmitters, auxiliary equipment, and controls as specified in these Special Provisions and as shown on the Plans.

M-2.2 INSTALLATION OF THE EQUIPMENT AND THE APPURTENANCES.**M-2.2.1 BASIS FOR DESIGN AND INSTALLATION.**

The Plans show the basis for design and installation. Installation details and exact dimensions shall be determined by the Contractor after equipment selection. The Contractor shall submit Working Drawings in full detail of all equipment and appurtenances to be furnished and/or installed by the Contractor per Section G 3-8.

M-2.3 METAL WORK.

This section includes all of the miscellaneous metal work required for the installation of the pipes, fittings, supports, valves, and air vent stacks.

All ferrous metal work below the finished grade, which is not specified to be painted or coated, shall be galvanized. All stainless steel shall remain uncoated.

M-2.3.1 MATERIALS.**M-2.3.1.1 STRUCTURAL STEEL.**

All structural steel shapes, plates, and bars shall conform to ASTM A 36, "Structural Steel."

M-2.3.1.2 SHEET METAL.

All sheet metal shall conform to ASTM A1011, "Steel, Carbon (0.15 Maximum percent), Hot-Rolled Sheet and Strip Commercial Quality," galvanized per ASTM A 123.

M-2.3.1.3 BOLTS, NUTS, AND STEEL WASHERS.

Materials for bolts, nuts, and plain steel washers shall conform to ASTM A 307, Grade B or ASTM A325, Type 3, unless otherwise specified.

M-2.3.1.4 WASHERS.

Plate washers shall be fabricated from structural steel plate ASTM A 36.

M-2.3.1.5 PIPE.

Pipe for use in structural items and utility purposes shall be standard steel pipe conforming to ASTM A53, for "Black and Hot-Dipped, Zinc Coated (Galvanized) Welded and Seamless Steel Pipe."

M-2.3.1.6 STAINLESS STEEL PLATE.

Stainless steel plate shall be ASTM A240, Type 304.

M-2.3.1.7 STAINLESS STEEL BOLTS AND NUTS.

Stainless steel bolts and nuts shall be ASTM F593 and ASTM F594, Alloy 304.

M-2.3.2 WORKMANSHIP.

All fabrication and assembly methods used shall be in accordance with the latest AISC Specifications unless otherwise noted or shown on the Plans.

Before laying out or working in any way, materials shall be thoroughly straightened. Sharp kinks or bends in members will be cause for rejection. Finished members shall be free from kinks or bends. Shearing shall be accurately done, and all portions of the work neatly finished. Re-entrant cuts shall be made in a workmanlike manner and, where they cannot be made by shearing, a rectangular punch may be used. Re-entrant cuts shall be filleted unless otherwise approved by the Engineer. Corners shall be square and true unless otherwise shown on the Plans. All bends, except for minor details, shall be made by approved dies or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal, and allowed to cool in such a manner as not to destroy the original properties of the metal. Steel with welds will not be accepted, except where welding

are definitely specified or called for on the Plans. All bolts, nuts, and screws shall be tight.

M-2.3.2.1 WELDING.

All welding shall be done by the electric arc welding process using certified welders, arc welding machines, and approved electrodes, conforming in all respects to the applicable code of the American Welding Society.

M-2.3.2.2 GALVANIZING.

All metal fabricated items specified in these specifications or on the Plans to be galvanized shall be galvanized in conformance with the requirements specified in Subsection 210-3 of the SSPWC. All galvanizing shall be performed after fabrication.

M-2.3.2.3 BOLTED CONNECTIONS.

Bolt holes for fitted bolts shall be truly cylindrical throughout. Holes for unfinished bolts, unless otherwise specified on the Plans, shall be drilled and shall not be more than 1/16-inch larger than the nominal diameter of the bolts.

M-2.3.2.4 CONCRETE EXPANSION ANCHORS.

Concrete anchors shall be stainless steel, threaded stud wedge anchor type with expansion clip, supplied with nut and washer. Concrete anchors shall be "Trubolt" by ITW Ramset/Red Head, "Kwik Bolt" by Hilti, or approved equal. Size shall be as indicated or required. In general, it will be required that the anchor system provide load capacity (pull out strength) at least equal to that of the concrete in which it is set.

M-2.3.2.5 ADHESIVE ANCHORS.

Adhesive anchors shall consist of a self-contained two-component capsule containing vinylester resin and hardening catalyst, supplied with stainless steel threaded stud, nut, and washer. Anchors shall be "HVA Adhesive Anchors" with "HEA" capsule, as manufactured by Hilti, or Agency approved equal.

M-2.3.3 HANGERS AND SUPPORTS.

The Contractor shall furnish and install brackets, hangers and supports or other approved devices for all piping, and equipment components to be supported where indicated or

necessary.

Items shall be as manufactured by B-Line, Tolco Inc., Grinnell, or Agency-approved equal. All brackets, hangers and supports below pump room floor shall be galvanized.

M-2.4 PAINTING AND COATING.

All painting and application of epoxy coatings shall be included in this section. Except as otherwise specified herein, all steel surfaces (except stainless steel) shall be painted or epoxy coated.

M-2.4.1 PAINT PRIMER.

A. IRON AND STEEL PRIMER.

Iron and steel primer shall be “Kromik Metal Primer,” as manufactured by Sherwin-Williams Company, Stops Rust Metal Primer as manufactured by Rust-Oleum Corporation or an Agency-approved equivalent industrial primer.

B. GALVANIZED METAL PRIMER.

Galvanized metal primer shall be “DTM Acrylic Primer/Finish” as manufactured by Sherwin-Williams Company, “DTM Acrylic Primer” as manufactured by Rust-Oleum Corporation, or an Agency-approved equal.

Galvanized metal surfaces shall first be treated with a prepared metal bonderizer before applying metal primer.

M-2.4.2 PAINT FINISH COATS.

A. INTERIOR AND EXTERIOR METAL PAINT.

Interior and exterior metal paint shall be “DTM Acrylic Coating” as manufactured by Sherwin-Williams Company, an equivalent industrial metal finish as manufactured by Rust-Oleum Corporation or an Agency-approved equal.

B. ENAMEL.

Enamel shall be "KEM 400 Enamel" as manufactured by Sherwin-Williams Company, and equal industrial finish as manufactured by Rust-Oleum Corporation, or an Agency-approved equal.

M-2.4.3 PAINT SCHEDULE.

In general, all exposed metal items of this work above the engine room floor level shall be primed and painted with two coats of finish paint.

Other manufactured items that have received factory enamel need not be repainted, except where coatings have been damaged or abraded in shipping or installation.

M-2.4.4 EPOXY COATING – LIQUID APPLIED.**A. EPOXY PRIMER.**

Epoxy primer shall be "482" (2 mil dry thickness), as manufactured by Engard Coatings Corporation, RELTEK, PPG, or an Agency-approved equal.

B. EPOXY COATING.

Epoxy coating shall be "482 (Gray)" (15 mil dry thickness), as manufactured by Engard Coatings Corporation, RELTEK, PPG, or an Agency-approved equal.

C. PREPARATION FOR EPOXY COATINGS.

All metal surfaces to receive epoxy coatings shall be cleaned to bright metal by sandblasting using clean, dry sharp sand in accordance with SSPC-SP5. After cleaning, all accumulated dust shall be removed. The primer coat shall be applied immediately after cleaning. Coating on pipes to be field welded, shall be held back from the weld joints approximately 2 inches. In held back areas, pipe and fittings shall be brushed or ground to bright metal, cleaned with solvent, then coated as specified.

M-2.5 PAYMENT.

All costs of the operational tests including, but not limited to, repairs, replacements, adjustments, or subsequent retesting, shall be included in the lump sum Bid price for "MECHANICAL WORK".

SECTION M-3 CAST-IRON SLIDE GATE ASSEMBLIES.

M-3.1 GENERAL.

The Contractor shall furnish and install cast-iron slide gate assemblies and appurtenances per Plans. The gates shall be cast iron, bronzed mounted, and the flush bottom closure type. The gates shall be suitable for storm water service and be designed for the following specification:

Location	Gate Size	Quantity	Design Head (ft.)		Operating Unseating Head	Stem Dia.	Operator Type	Bevel Gear Ratio
	(in.)		Seating	Unseating	(ft.)	(in.)		
Overflow Structures	36x36	8	54	30	15.5	2.5	EMO W/ BEVEL GEAR	N/A

Location	Gate Size	Quantity	Design Head (ft.)		Operating Seating Head	Stem Dia.	Operator Type	Bevel Gear Ratio
	(in.)		Seating	Unseating	(ft.)	(in.)		
Intake Structure	48x54	4	54	30	9.8	2.5	MANUAL OPERATED LIFT	N/A

Location	Gate Size	Quantity	Design Head (ft.)		Operating Seating Head	Stem Dia.	Operator Type	Bevel Gear Ratio
	(in.)		Seating	Unseating	(ft.)	(in.)		
Low Flow Intake Structure	18x18	2	54	30	9.8	1.25	EMO W/ BEVEL GEAR	N/A

The leakage allowable is 0.1 gallon per min (GPM) per foot of seating perimeter. No component shall be stressed beyond the following:

Maximum Allowable Combined Stress = 1/5 Tensile Strength

Maximum Allowable Combined Stress = 1/3 Yield Strength

The gate assemblies shall conform to the latest edition of the AWWA C560 Standard and as modified by the following specifications. The cast-iron slide gate supplied shall be Waterman Heavy Duty Series Cast Iron Slide Gates, Hydro Gate Model HG560, or Agency approved equal.

The cast-iron slide gate assembly shall include, but not be limited to the frame, disc, disc guides, wedges, seat faces, flush-bottom seal, thrust nut, stem, and wall bracket.

M-3.2 FRAME.

The frame shall be one piece cast-iron construction with all contact surfaces machined. Dovetailed grooves shall be machined on the front face of the frame for the fitting of the bronze seat facings. The back of the frame shall be machined and drilled for bolting onto the wall thimble. The frame shall have integrally cast pads, machined to receive the top wedge seats.

M-3.3 DISC.

The slide disc shall be cast iron with integrally cast vertical and horizontal reinforcing ribs, and a reinforced nut pocket to receive the bronze thrust nut. Cast pads shall be drilled, tapped, and machined with a groove to receive the mounting tongue of the adjustable wedges. The disc shall have accurately machined tongues on each side extending its full length to fit into the guide grooves with a maximum allowable clearance of 1/16 inch. The back side of the disc shall have machined dovetailed grooves for the fitting of the bronze seat facings.

M-3.4 DISC GUIDES.

Guides shall be cast iron and be integrally cast with the frame, or dowelled and bolted to the frame. The guides shall be machined on all contact surfaces and a groove shall be accurately machined on the entire length of the guide to allow 1/16-inch maximum clearance between the guide groove and disc tongue. Cast pads shall be provided on the guide for the side wedge seats. The guides shall be of sufficient length to support at least one-half of the height of the slide disc when fully opened. The guides shall be capable of taking the thrust produced by water pressure and the wedging action without lateral movement or vibration.

M-3.5 WEDGES.

Cast-iron slide gate shall be equipped with top and side wedging devices to ensure tight contact between the seat facings on the disc and frame when the gate is fully closed. Wedges shall be cast bronze, machined on their contact surfaces to give maximum contact, and wedging action. Wedges shall be fully adjustable and be attached to the gate disc with bronze fasteners. Side wedges shall be keyed to the gate disc to prevent rotation by means of a full length tongue on the wedge fitted into a groove on the mounting pad of the disc. Top wedges

shall consist of wedge hooks on the gate disc, which seat onto bronze loops keyed and bolted to the gate frame. All wedges shall be provided with a hold-down stud nut and adjusting screw with lock nut to retain the proper setting once adjusted.

M-3.6 SEAT FACES.

Seat facings shall be extruded bronze, pneumatically impacted into machined dovetail grooves in the frame and slide disc to permanently lock them into place. Attachment by screws or other fasteners is not allowed. The installed seat facings shall be machined to a plane with a 63 micro-inch finish or better and maximum clearance between seating faces not to exceed 0.004 inch with gate fully closed.

M-3.7 FLUSH BOTTOM CLOSURE.

The flush bottom closure shall consist of a wide resilient seal made of neoprene, attached to the bottom of the slide disc or invert frame with a stainless steel retainer plate and stainless steel screws. When the gate is closed, the seal is compressed against a machined cast-iron surface between the disc and frame invert, thus creating an effective watertight seal along the invert.

M-3.8 THRUST NUT.

A thrust nut shall be provided for connecting the stem to the slide disc. The thrust nut shall be cast bronze, and be threaded to the stem and locked with a gib key secured by a stainless steel set screw. The square-backed thrust nut and slide disc nut pocket shall be constructed to prevent turning of the nut in the pocket while operating the gate.

M-3.9 STEM.

The operating stem shall be continuous length round bar stainless steel. Stem threading shall be machine-cut, left-hand 29° ACME threads with a surface finish of 63 micro-inch or better.

The minimum stem size required shall be as listed in the gate schedule and indicated on the Plans.

M-3.10 MATERIALS.

Materials used in the construction of the cast-iron slide gate and appurtenances shall conform to the following requirements:

<u>Part Description</u>	<u>Material</u>	<u>ASTM Standard</u>
Frame	Cast Iron	A126 Class B
Disc	Cast Iron	A126 Class B
Disc Guide	Cast Iron	A126 Class B
Wedges (Top & Side)	Bronze	B584 C86500
Wedge Seats	Bronze	B584 C87300
Wedge Fasteners	Bronze	B98 C65500
Seat Faces	Bronze	B98 C65500
Flush Bottom Seal	Neoprene	D-2000
Seal Retainer	Stainless Steel	A276 Type 304 Cond A
Thrust Nut	Bronze	B584 C86500
Thrust Nut Key	Stainless Steel	A276 Type 304 Cond A
Stem	Stainless Steel	A276 Type 304 Cond A
Gate Assembly Fasteners	Stainless Steel	F593 Alloy 304 Cond A
Hex Nuts	Stainless Steel	F594 Alloy 304 Cond A
Wall Mounting Bracket	Cast Iron	A126 Class B

M-3.11 STEM COVER.

The stem cover shall be Schedule 40, galvanized steel pipe conforming to ASTM A53 Type E Grade A. The stem cover shall be of sufficient diameter to permit full travel of the stem with adequate clearance. The stem cover shall have a 3/4-inch-wide slot, covered by a transparent, impact resistant, and polycarbonate sheet to permit view of the stem for gate position indication. There shall be a calibrated scale engraved on the steel pipe stem cover with marked numerals for zero (closed position) and every foot of gate travel and graduations in tenth of a foot. The top of the stem cover shall be covered by means of a galvanized, malleable iron pipe cap. The stem cover shall be coupled to the top of the operator by means of NPT pipe threads. The Contractor shall fabricate the stem cover per Plans.

M-3.12 PEDESTAL ASSEMBLY.

The gate manufacturer shall provide a fabricated floor mount steel pedestal and anchor bolt assembly to support the maximum thrust of 54,000 lb and maximum operating load of 6,000 lb. The pedestal shall be mounted on to the wall mounting bracket per Plans. The gate manufacturer shall provide shop drawing for the pedestal design for the Agency review and approval prior to begin construction.

M-3.13 PAYMENT.

The Contract Unit price in the Bid for “36”Wx36”H CAST-IRON SLIDE GATE ASSEMBLY”, “54”Wx54H” CAST-IRON SLIDE GATE ASSEMBLY” and “18”Wx18”H CAST-IRON SLIDE GATE ASSEMBLY” shall be considered full compensation for furnishing all labor, materials, tools, equipment, testing, and calibration to perform all work of this special provision not specifically covered by other items of the Work.

SECTION M-4 FABRICATED STAINLESS STEEL SLIDE GATE ASSEMBLIES

M-4.1 GENERAL.

The Contractor shall furnish and install fabricated stainless steel slide gate assembly and appurtenances in accordance with the Plans. The gate shall be upward opening with side and bottom seals. The gate shall be suitable for storm water service and be designed for the following specification:

Location	Gate Size	Quantity	Design Head (ft.)		Operating Unseating Head (ft.)	Stem Dia. (in.)	Operator Type	Bevel Gear Ratio
	(in.)		Seating	Unseating				
Intake Canal Weir Structures	72"x48"	14	54	30	13	1.75	EMO W/ BEVEL GEAR	4:1

The leakage allowable is 0.1 gallon per min (gpm) per foot of seating perimeter. No component shall be stressed beyond the following:

- Maximum Allowable Combined Stress = 1/5 Tensile Strength
- Maximum Allowable Combined Stress = 1/3 Yield Strength

The gate assemblies shall conform to the latest edition of the AWWA C560 Standard and as modified by the following specifications.

The gate supplied shall be manufactured by Whipps or Agency approved equal.

The gate assemblies shall include, but not limited to the frame, disc, resilient seals, stem, stem guide, and wall mounting bracket.

M-4.2 FRAME.

The gate frame shall consist of the slide disc guides, the flush bottom invert member, and the motor operator support yoke, welded together to form a one-piece unit around the waterway.

The structure portion of the frame that incorporates the seat/seals shall be formed into a one-piece shape for rigidity. The guides shall be designed for embedment mounting,

mounting directly to the wall with stainless steel anchor bolts and grout. Mounting style shall be as shown on the Plans.

Where the guides extend above the operating floor, they shall be of sufficient strength so that no further reinforcing will be required. The guides shall be of sufficient length to support the vertical height of the disc when it is fully open.

A structural member shall be welded to the bottom of the guides and embedded below the invert to form a flat seating surface for the flush-bottom resilient seal.

The yoke for supporting the motor operator shall consist of two structural or formed channels welded to the top of the guides in such a manner which allows removal of the disc without removing the yoke. The deflection of the yoke shall not exceed $1/720$ of the span, with unit stresses not exceeding $1/3$ of the yield strength or $1/5$ of the ultimate strength of the material, under the electric motor operator stall thrust.

M-4.3 SIDE DISC.

The slide disc shall be fabricated from $1/4$ -inch minimum thickness plate, reinforced with structural shapes welded to the plate to limit deflection to $1/720$ of the gate width, with unit stresses not exceeding $1/3$ of the yield strength or $1/5$ of the ultimate strength of the material, under the 1a-foot design head. A specially molded resilient seal shall be mounted on the bottom of the disc to provide flush-bottom closure. The seal shall provide a minimum seating surface width of $3/4$ -inch, and the seal shall extend beyond the seating surface of the frame. The stem shall be connected to the disc by means of structural members welded to the disc to receive the stem with a bolted connection.

M-4.4 SEALS.

Seals shall be a self-adjusting system made of Ultra-High Molecular Weight Polyethylene ASTM D4020. The seals shall be attached to the member of the slide and it shall be held in place with stainless steel attachment hardware. Seals shall be field adjustable and replaceable.

The seal system shall have been factory tested to confirm negligible wear and proper sealing. The factory testing shall consist of an accelerated wear test comprised of a minimum of 25,000 open-close cycles using a well-agitated sand/water mixture to simulate fluidized grit.

M-4.5 STEM.

The operating stem shall be 1.5 inches in diameter minimum, and be a continuous length of solid stainless steel. The threads of the stem shall be 29° ACME, machine-cut or rolled with a surface finish of 63 micro-inch. The stem shall be designed for a critical compressive buckling load (Euler Column with $C=2$) of 1.25 times the output thrust of the electric motor operator in the stall-motor condition. The bottom end of the stem shall bolted to the disc with two bolts passing thru the stem.

M-4.6 STEM GUIDE.

The stem shall be suitably supported by stem guide to provide an L/r ratio of 200 or less. The stem guide shall be bronze bushed and be so constructed that it will hold the stem in alignment, yet allow sufficient clearance to permit easy operation. The inside diameter of the guide shall not exceed the stem diameter by more than 1/8 inch. The guide shall be adjustable to provide proper concentric alignment with the stem, and shall be held in place by stainless steel fasteners.

M-4.7 MATERIALS.

Materials used in the fabrication of the slide gate assembly shall conform to the requirement designated below:

<u>Part Description</u>	<u>Material</u>	<u>ASTM Standard</u>
Frame Guide	Stainless Steel	A276 Type 304
Disc, reinforcing ribs and stem connector bracket	Stainless Steel	A276 Type 304
Invert Seal	Neoprene Rubber	D-2000 or EPDM
Seat/Seal and Facing	Ultra-High Molecular Weight Polyethylene	ASTM D4020
Stem	Stainless Steel	A276 Type 304
Fasteners	Stainless Steel	F594 Alloy 304 Cond A
Yoke	Cast Iron	A126 Class B

M-4.8 STEM COVER.

The stem cover shall be Schedule 40, galvanized steel pipe conforming to ASTM A53 Type E Grade A. The stem cover shall be of sufficient diameter to permit full travel of the stem with adequate clearance. The stem cover shall have a 3/4-inch-wide slot, covered by a transparent, impact resistant, and polycarbonate sheet to permit view of the stem for gate position indication. There shall be a calibrated scale engraved on the steel pipe stem cover with marked numerals for zero (closed position) and every foot of gate travel and graduations in tenth of a foot. The top of the stem cover shall be covered by means of a galvanized, malleable iron pipe cap. The stem cover shall be coupled to the top of the operator by means of NPT pipe threads. The Contractor shall fabricate the stem cover per Plans.

M-4.9 PAYMENT.

The Contract Unit price in the Bid for “FABRICATED STAINLESS STEEL GATE ASSEMBLY” shall be considered full compensation for furnishing all labor, materials, tools, equipment, testing, and calibration to perform all work of this special provision not specifically covered by other items of the Work.

SECTION M-5 ELECTRIC MOTOR OPERATORS, MANUALLY OPERATED LIFT, BEVEL GEAR OPERATORS AND APPURTENANCES.

M-5.1 GENERAL.

The Contractor shall furnish and install electric motor operators (EMO), manually operated lift, bevel gear operators and the appurtenances as specified in these Special Provisions and as shown on the Plans.

M-5.2 ELECTRIC MOTOR OPERATOR REQUIREMENTS.

The electric motor operator (EMO) shall include, but not be limited to, an electric motor, worm gear reduction, absolute position encoder, electronic torque sensor, mechanically and electrically interlocked reversing motor contactor, electronic control, protection, and monitoring package, manual override handwheel, valve interface bushing, 32-character graphical LCD (Liquid Crystal Display), and local control switches all contained in an enclosure that is sealed to NEMA 4. Actuator design life shall be at least one million drive sleeve turns. The operator shall be Limitorque MX Series.

The electric motor operator shall be capable of raising and lowering the cast-iron slide gate and fabricated stainless steel weir gate with a rising stem at a rate of travel of 7 to 10 inches per minute.

M-5.3 MOTOR.

The motor shall be an induction type, specifically designed for actuator service, and be of high starting torque, totally enclosed and nonventilated construction. The motor shall have anti-friction bearings and be permanently lubricated. The motor shall withstand jogging at 90 and 110 percent of nominal voltage without exceeding its temperature rating and shall meet NEMA standards. The motor shall be protected by overload device integral with the motor and shall be of the automatic resettable type. The motor shall be a unitized subassembly, independent of the power-gearing, allowing easy removal for replacement, repair, or rewinding. The motor shall be approved by a national independent testing laboratory (U.L., FM, or CSA.).

The motor shall comply with the following parameters:

Actuator Torque Rating	4 Ft-lb
Voltage	230 volts
Phase	1
Frequency	60 hertz
Speed	1,800 RPM (nominal)
Time Rating	15 minute minimum
Number of Starts	10 per minute
Insulation Class	F
Ambient Temperature	40 C minimum
Control Voltage	120 volts

M-5.4 OPERATOR REDUCTION GEARING.

The operator power gearing shall be a multiple reduction unit consisting of spur, helical, or bevel gears and worm gearing. The spur, helical, or bevel gearing and worm shall be hardened alloy steel, while the worm gear shall be alloy bronze. Nonmetallic and aluminum gears are not acceptable. All gears and shafting shall be supported on anti-friction bearings. All power train gearing and bearings shall be grease or oil lubricated. Provisions shall be provided for inspection and relubrication without disassembly. Seals shall be provided on all shafting exit points of the gear case.

M-5.5 STEM NUT.

The operator shall have a removable stem lift nut constructed of high strength bronze alloy. The stem nut supplied shall be internally threaded to mate with the gate stem supplied and shall have the same surface finish of 63 micro-inch or less.

M-5.6 MANUAL OPERATION.

The motor gate operator shall be equipped with a side mounted handwheel for manual operation. The handwheel shall not rotate during motor operation and the motor shall not rotate during manual operation. A fused motor shall not prevent manual operation. When in the manual operating mode, the operator will automatically return to electric operation when the motor is energized. Changing from motor operation to manual hand wheel operation shall be accomplished by movement of a padlockable declutch lever, which mechanically disengages the motor and related gearing. The handwheel shall have an arrow and the word "OPEN" indicating required rotation and shall require no more than 80 pounds

of rim effort at the maximum required torque.

M-5.7 HAMMERBLOW DEVICE.

The operator shall have a lost motion device, integral in the power gear train, which allows the motor to attain full speed before engaging the load with a hammerblow effect.

M-5.8 POSITION SENSOR.

Gate position shall be sensed by an 18-bit, optical, absolute position encoder with redundant position sensing circuits designed for Built-In-Self-Test [BIST]. Each of the position sensing circuits shall be redundant permitting up to 50% fault tolerance before the position is incorrectly reported. The BIST feature shall discern which failures signal a warning only and which require a warning plus safe shutdown of the actuator. Open and closed positions shall be stored in permanent, nonvolatile memory. The encoder shall measure valve position at all times, including both motor and handwheel operation, with or without power present, and without the use of a battery. The absolute encoder will be capable of resolving $\pm 7^\circ$ of output shaft position over 10,000 output drive rotations.

M-5.9 TORQUE SWITCH.

An electronic torque sensor shall be included. The torque limit may be adjusted from 40-100% of rating in 1% increments. The motor shall be de-energized if the torque limit is exceeded. A boost function shall be included to prevent torque trip during initial valve unseating and during extreme arctic temperature operation (-50°C) and a "Jammed Valve" protection feature, with automatic retry sequence, shall be incorporated to de-energize the motor if no movement occurs.

M-5.10 CONTROL MODULE.

The control module shall include power and logic circuit boards, control transformer, and at least two primary power protection fuses, all mounted to a steel plate and attached in the control compartment with captive screws. The use of O rings or other such devices to secure the control boards shall not be permitted. The module shall be easily removed through the use of plug-in connectors. The module shall also include a reversing contactor, local control switches, 32-character graphical LCD, and LED indicators. All internal wiring shall be flame-resistant, rated 105°C , and UL/CSA listed. Voltage shall be selectable via a jumper included on the power board.

M-5.11 REVERSING CONTACTOR.

The reversing contactor shall be mechanically and electrically interlocked to prevent simultaneous energizing of the open and close coils. The control module shall also include an auto reversal delay to inhibit high current surges caused by rapid motor reversals. The control transformer shall include vacuum impregnated coils and dual primary fuses.

M-5.12 PHASE CORRECTION CIRCUIT.

A phase correction circuit shall be included to correct motor rotation faults caused by incorrect site wiring. The phase correction circuit shall also detect the loss of a phase and disable operation to prevent motor damage. The monitor relay shall trip and an error message shall be displayed on the LCD screen when loss of phase occurs and indicate the fault for Remote operation.

M-5.13 ACTUATOR CONTROL PANEL.

The actuator control panel cover & module shall use solid-state Hall-effect devices for local communication and configuration. The use of reed switches on the module is prohibited. A 32-character, graphical LCD shall be included to display valve position as a percent of open, 0-100%, and current actuator status. "STATUS OK" shall be displayed for an operable actuator. If the actuator is not operable, the appropriate alarm shall be displayed. The alarm shall be continuously displayed until the actuator is operable. Red, green, and yellow LEDs shall be included for open, close, stopped, and moving indication. The Red and Green LEDs shall be reversible. A padlock able LOCAL -STOP-REMOTE switch and an OPENCLOSE switch shall be included for local valve actuator control. The control switches shall not penetrate the controls cover and shall be designed to electrically isolate the actuator's internal components from the external environment. The OPEN-CLOSE switch may be configured for maintained or push-to-run (inching) control.

M-5.14 TERMINAL BLOCK.

The terminal compartment shall be double sealed. All connections shall be located in a terminal chamber that is separately sealed from all other actuator components. Site wiring shall not expose actuator components to the environment. The internal sealing within the terminal chamber is suitable for NEMA 4 for 96 hours. The chamber shall include screw-type terminals, three for power and 54 for control, for site connections. Three conduit entries shall be located in the terminal chamber.

M-5.15 EMERGENCY SHUTDOWN.

The actuator shall permit up to three inputs for emergency shutdown (ESD) and they shall be configurable. The ESD signal shall override any existing signal (except LOCAL, STOP, and INHIBIT) and send the valve to its configured emergency position. The ESD may also be configured to override LOCAL, STOP, and/or INHIBIT.

M-5.16 BEVEL GEAR OPERATORS.

The EMO shall be furnished with a bevel gear operator. The bevel gear operator shall be reducer type with the specified gear ratio. The operator stem nut shall be shouldered in the drive sleeve to capture thrust forces within the thrust housing without transferring those forces to the torque housing. The bevel pinion and bevel gear shall be supported on anti-friction ball bearings. All gears shall be machined from high-strength alloy steel to ensure smooth operation with minimum backlash. The operator shall be permanently lubricated. The enclosure shall be cast iron sealed to NEMA 4. The operator shall be Limitorque V Series or Agency approved equal.

M-5.17 MANUALLY OPERATED LIFTS.

The manually operated lift shall be operated by handwheel or crank-operated pedestal floorstands or benchstands as required. Each lift shall be provided with a threaded cast bronze lift nut to engage the threaded portion of the stem. The lift nut shall have a machined surface, fitted above and below with thrust ball or rolling element bearings.

Handwheel lifts shall be without gear reduction while crank-operated lifts shall have either a single or double reduction. A maximum effort of 40 lbs. pull (25 lb. pull) on handwheel or crank shall operate the gates under the specified operating head.

The gears, when required, shall be steel with machine-cut teeth. Pinion gears shall be supported by bronze bushings or rolling element bearings. The lift mechanism shall be totally enclosed within a cast iron housing. The hand crank shall be of aluminum and shall be removable. The hand crank shall be a maximum of 15" long. The word "open" shall be cast onto the handcrank or handwheel indicating direction of rotation to open the gate.

M-5.18 PAYMENT.

The Contract Unit price in the Bid for “ELECTRIC MOTOR OPERATOR AND APPURTENANCES”, “BEVEL GEAR OPERATOR” and “MANUALLY OPERATED LIFT” shall be considered full compensation for furnishing all labor, materials, tools, equipment, testing, and calibration to perform all work of this special provision not specifically covered by other items of the Work.

SECTION M-6 SUBMERISBLE LEVEL TRANSMITTER.**M-6.1 GENERAL.**

The Contractor shall furnish and install level transmitters, stand pipes, and J-box on the locations shown on the drainage and mechanical plans.

The level transmitter shall be solid state semiconductor sensor, all housing parts 316 stainless steel including nut/washer, 316L stainless steel diaphragm, viton cable grommet and housing "O" ring, removable non-clogging nylon snub nose to protect sensing elements, 2-wire 4-20ma output with current limit of 30ma, 12-40VDC power supply with reverse polarity surge protection, loop resistance of 1400 ohms max at 40VDC, compensated 32 to 122°F, factory applied 20AWG polyurethane shielded cable (unspliced throughout entire run) and vented to atmosphere through the surface end of the cable, cable support bracket, reverse polarity surge protected, lighting protector, manufacturer approved intrinsically safe barrier for Class 1 Division 1 (Group A,B,C&D) operation, calibrated per basin water levels (0-35 feet of water, see mechanical plan sheet M-1), measurement of hydrostatic pressure via ion implanted silicon semiconductor chip with integral Wheatstone bridge circuit, fully compatible with Ametek DMS controller. Level transmitter shall be Ametek model 575 or Agency approved equal.

The stand pipes and j-boxes shall be furnished and installed as shown on the mechanical plan sheet M-1.

M-6.2 PAYMENT.

The Contract Unit price in the Bid for "SUBMERSIBLE LEVEL TRANSMITTER AND APPURTENANCES" shall be considered full compensation for furnishing all labor, materials, tools, equipment, testing, and calibration to perform all work of this special provision not specifically covered by other items of the Work.

SECTION M-7 VENT STACKS**M-7.1 GENERAL.**

The Contractor shall furnished and installed new air vent stacks, pipe fittings and supports for the modified inlet structure. The new venting system shall include stainless steel pipes, pipe couplings, pipe straps, and perforated vent stacks as shown on the Plans.

The stainless steel pipe shall be 6-inch 304/304L Schedule 40 with venting holes.

Pipe coupling shall be clamp on connector for plain ends connection with galvanized steel body and silicone rubber gasket rated for 20 psi at 72 degree Fahrenheit.

M-7.2 PAYMENT.

The Contract Unit price in the Bid for “VENT STACK” shall be considered full compensation for furnishing all labor, materials, tools, equipment, testing, and calibration to perform all work of this special provision not specifically covered by other items of the Work.

LOS ANGELES COUNTY PUBLIC WORKS

AGREEMENT

Project Name: Pacoima Spreading Grounds Basin Enhancement
Project ID No.: FCC0001207

This Agreement is made and entered into this ____ day of _____, 21____, by and between the LOS ANGELES COUNTY, hereinafter called the Agency and _____, hereinafter called the Contractor.

WITNESSETH:

1. Contractor's Services.

The Contractor, in consideration of the promises of the Agency hereinafter set forth, hereby agrees to furnish all tools, equipment, labor and material (except as specified in the Contract Documents hereinafter referred to), necessary to perform and complete in a good and workmanlike manner the spreading grounds improvement and the performance of other appurtenant work at the Pacoima Spreading Grounds in the City of Los Angeles under Project ID No. FCC0001207 and said work to be performed and completed in accordance with this Agreement, including the following "Contract Documents" which are hereby incorporated by reference into this Agreement and made a part hereof as though fully set forth herein:

- a. Addendum(s) No(s). 1 (through __) for Project ID No. FCC0001207.
- b. Bid Proposal for Project ID No. FCC0001207 submitted by the Contractor.
- c. Special Provisions for Project ID No. FCC0001207.
- d. Plans for Project ID No. FCC0001207.
- e. Standard Plans published by the Los Angeles County Public Works, 2000 Edition.
- f. Standard Plans for Public Works Construction, 2012 Edition.
- g. Standard Specifications for Public Works Construction ("Greenbook"), 2018 Edition.
- h. Notice Inviting Bids for Project ID No. FCC0001207.
- i. Instructions to Bidders dated January 2021.

2. Prevailing Wage Rates.

The Contractor agrees to comply with the provisions of Sections 1771 and 1774 of the California Labor Code pertaining to the payment of prevailing wage rates, and to require each of its subcontractor to so comply. Pursuant to Section 1775 of the California Labor Code, the Contractor, and any of its subcontractor, shall forfeit to the Agency, and the Agency will withhold from any monies due the Contractor, the amount of any penalties, as determined by the Labor Commissioner, to be assessed for non-payment of prevailing wage rates.

Attached hereto (Exhibit A), State Prevailing Wages 2020-1, and made a part hereof, are the prevailing rate of per diem wages determined by the Labor Commissioner.

3. Payroll Records.

The Contractor agrees to comply with the provisions of Section 1776 of the California Labor Code pertaining to payroll records and will be responsible for compliance by its subcontractor(s).

4. Employment of Apprentices.

The Contractor agrees to comply with the provisions of Section 1777.5 of the California Labor Code relating to the employment of apprentices by the Contractor and its subcontractor(s).

5. Hours of Labor.

The Contractor agrees to comply with Sections 1810 through 1815 of the California Labor Code pertaining to the hours of labor and payment for such.

Pursuant to Section 1813 of the California Labor Code, the Contractor and any of its subcontractor, shall forfeit to the Agency, and the Agency will withhold from any monies due the Contractor, the amount of twenty-five dollars (\$25) for each worker employed in the execution of the Contract by the Contractor or any of its subcontractor for each calendar day required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Sections 1810 through 1815 of the California Labor Code.

6. Workers' Compensation Insurance Certification.

The Contractor, as required by Section 1861 of the California Labor Code, agrees to the following statement:

"I am aware of the provisions of Section 3700 of the 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."

7. Assignment of Rights, Title, and Interest.

The Contractor agrees to comply with, and be responsible for compliance by its subcontractor with, the provisions of Section 7103.5 of the California Public Contract Code as follows:

"In entering into a public works Contract or a subcontract to supply goods, services, or materials pursuant to a public works Contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works Contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgement by the parties."

8. County Lobbyist Ordinance.

The Contractor and each County lobbyist or County lobbying firm as defined in Los Angeles County Code Section 2.160.010, retained by the Contractor, shall fully comply with the County Lobbyist Ordinance, Los Angeles County Code Chapter 2.160. Failure on the part of the Contractor or any County lobbyist or County lobbying firm retained by the Contractor to fully comply with the County Lobbyist Ordinance shall constitute a material breach of the Contract upon which the Agency may immediately terminate or suspend the Contract.

9. Employment of Aliens.

The Contractor shall warrant that it fully complies with all laws regarding employment of aliens and others, and that all of its employees performing services hereunder meet the citizenship or alien status requirements contained in Federal statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). When requested by the Engineer, this warrant shall be in writing to the Agency. The Contractor shall obtain, from all covered employees performing services hereunder, all verification and other documentation of employment eligibility status required by Federal statutes and regulations as they currently exist and as they may be hereafter amended. The Contractor shall retain such documentation for all covered employees for the period prescribed by law. The Contractor shall indemnify, defend, and hold harmless, the Agency, its officers and employees from employer sanctions and any other liability which may be assessed against the Contractor or the Agency or both in connection with any alleged violation of Federal statutes or regulations pertaining to the eligibility for employment of persons performing services under the Contract.

10. Prohibition Against Use of Child Labor.

The Contractor shall not knowingly supply to the Agency any products, goods, supplies or other personal property produced or manufactured in violation of child labor standards set by the International Labor Organization through its 1973 Convention Concerning Minimum Age for Employment.

The Contractor shall upon request by the Agency, identify the country/countries of origin of any products, goods, supplies or other personal property supplied to the Agency.

The Contractor shall upon request by the Agency, provide to the Agency the manufacturer's certification of compliance with all international child labor conventions.

Should the Agency discover that any products, goods, supplies or other personal property supplied by Contractor to County are produced in violation of any international child labor conventions, Contractor shall immediately provide an alternative, compliant source of supply.

Failure by Contractor to comply with the provisions of this clause will be grounds for immediate termination of this Agreement and award to an alternative Contractor.

11. Termination for Default.

The Agency may, by written notice to the Contractor, terminate the Contractor's right to proceed with the Work (or the separable part of the Work), if the Contractor refuses or fails (i) to commence the Work within the time required by the Contract, (ii) to prosecute the Work or any separable part with the diligence that will ensure completion within the time specified in the Contract, including any authorized extension, (iii) to provide sufficient and properly skilled workers or proper materials or equipment to complete the Work in an acceptable manner and without delay, (iv) to promptly pay its subcontractor, employees, and material suppliers, (v) to perform any of the Contractor's other obligations under this Contract, (vi) to complete the Work within the time specified in the Contract, or (vii) if the Contractor assigns or subcontracts any part of the Work without the Board's consent. Items (i) - (vii) inclusive are hereinafter referred to as "events of default". In this event, the Agency may take over the Work and complete it by Contract or otherwise and may take possession of and use any material and equipment on the Work site necessary for completing the Work. The Contractor and the Surety shall be liable for any damages to the Agency resulting from events of default, whether or not the Contractor's right to proceed with the Work is terminated. This liability includes any increased costs incurred by the Agency in completing the Work.

The Contractor's right to proceed will not be terminated because of delays, nor will the Contractor be charged with damages under this subsection, if:

- a. the delay in completing the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor (examples of such causes include: (i) acts of God, (ii) acts of the public enemy, (iii) acts of the Agency in either its public or Contractual capacity, (iv) acts of another Contractor in the performance of a Contract with the Agency, (v) fires, (vi) floods, (vii) epidemics, (viii) quarantine restrictions, (ix) strikes, (x) freight embargoes, (xi) unusually severe weather, or (xii) delays of subcontractor or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and its subcontractor or suppliers); and,
- b. the Contractor, within 14 calendar days from the beginning of any delay (unless extended by the Agency), notifies the Agency in writing of the causes of the delay. The Agency will ascertain the facts and the extent of the delay. If, in the judgment of the Agency, the

findings warrant such action, the time for completing the Work may be extended by Change Order. The findings of the Agency will be final and conclusive on the parties.

If the Agency terminates the Contractor's right to proceed with the Work for any of the events of default, the Agency may serve written notice upon the Surety on its Faithful Performance Bond. The Surety shall, within 5 days, assume control and perform the Work as successor to the Contractor. If the Surety assumes any part of the Work, it shall take the Contractor's place in all respects for that part.

If the Surety does not assume control and perform the Work within 5 days after receiving notice of cancellation, or fails to continue to comply, the Agency may exclude the Surety from the Work site.

In the event of termination of its right to proceed, the Contractor will be paid for the value of the Work completed as of the date of the termination subject to the other terms of the Contract. For Contract Unit Price Bid items, the Contractor will be paid for the quantity of the item constructed. For lump sum Bid items, the Contractor will be paid for the percentage of the item constructed. No payment will be made for items not constructed in accordance with the Plans and Specifications. The amount of any prior progress payments, and any applicable Liquidated Damages will be withheld and deducted from any amounts due the Contractor. The amounts of outstanding Stop Notices or Labor Compliance notices to withhold will be withheld until the Stop Notices or notices to withhold are resolved as provided by law.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Agency.

The rights and remedies of the Agency in this subsection are in addition to any other rights and remedies provided by law or under this Contract. Time is of the essence for all delivery, performance, submittal, and completion dates in this Contract.

12. Termination for Convenience.

The Board may, whenever the interests of the Agency so require, terminate the Contract, in whole or in part, for the convenience of the Agency. The Agency will give written notice of the termination to the Contractor specifying the part of the Contract terminated and the date termination becomes effective.

The Contractor shall incur no further obligations in connection with the terminated Work, and, on the date set in the notice of termination, the Contractor shall stop Work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated Work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated Work. The Agency may direct the Contractor to assign the Contractor's right, title, and interest under the terminated orders or subcontracts to the Agency. The Contractor must still complete the Work not terminated by the notice of termination and may incur obligations as are necessary to do so.

The Agency may require the Contractor to transfer title and deliver to the Agency, in the manner and to the extent directed by the Agency, the fabricated or un-fabricated parts, Work in process, completed Work, supplies, and other material produced or acquired for the Work terminated and other property that, if the Contract had been completed, would be required to be furnished to the Agency. The Contractor shall, upon direction of the Agency, protect and preserve property in the possession of the Contractor in which the Agency has an interest. If the Agency does not exercise this right, the Contractor shall use its best efforts to sell such supplies and manufacturing materials for the benefit of the Agency.

If the parties are unable to agree on the amount of a termination settlement, the Agency will pay the Contractor the following amounts:

- a. For Contract Work performed before the effective date of termination, the total (without duplication of any items) of:
 - (i) the cost of work completed in accordance with the Plans and Specifications based on the quantity constructed and the Contract Unit Price or lump sum Bid price of the respective Bid item less prior progress payments, and any applicable Liquidated Damages and any other deductions or withholds to which the Agency may be entitled to in accordance with applicable law, including the amounts of outstanding Stop Notices or labor compliance notices to withhold shall be withheld until the Stop Notices or notices to withhold are resolved as provided by law.
 - (ii) the cost of settling and paying terminated subcontracts and orders that are properly chargeable to the terminated portion of the Work; and
- b. The reasonable costs of effectuating the settlement of the Work terminated, including:
 - (i) accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement bids and supporting data;
 - (ii) the termination and settlement of subcontracts (excluding the amounts of such settlements); and
 - (iii) storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

13. Termination for Improper Consideration.

The Agency may, by written notice to the Contractor, immediately terminate the right of the Contractor to proceed under the Contract if it is found that consideration, in any form, was offered or given by the Contractor, either directly or through an intermediary, to any Agency officer, employee or agent with the intent of securing the Contract or securing favorable treatment with respect to the award, amendment or extension of the Contract or the making of any determinations with respect to the Contractor's performance pursuant to the Contract. In the event of such termination, the Agency shall be entitled to pursue the same remedies against the Contractor as it could pursue in the event of default by the Contractor.

The Contractor shall immediately report any attempt by an Agency officer or employee to solicit such improper consideration. The report shall be made either to the Agency manager charge with the supervision of the employee or to the County Auditor-Controller's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

14. Agency's Quality Assurance Plan.

The Agency will evaluate the Contractor's performance under the Contract on not less than an annual basis. Such evaluation will include assessing the Contractor's compliance with the requirements of the Contract Documents. Contractor deficiencies which the Agency determines are severe or continuing, and that may place performance of the Contract in jeopardy if not corrected, will be reported to the Board. The report will include improvement/corrective action measures taken by the Agency and the Contractor. If improvement does not occur consistent with the corrective action measures, the Agency may terminate the Contract or impose other penalties as specified in the Agreement.

15. Resolution of Construction Claims.

Claims shall be resolved in accordance with Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3 of the Public Contract Code. All claims shall be in writing and shall include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment.

For claims of less than \$50,000, the Agency will respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Agency may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to mutual agreement of the Agency and the Contractor. The Agency's written response to the claim, as further documented, will be submitted to the Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

For claims of over \$50,000 and less than or equal to \$375,000, the Agency will respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Agency may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to mutual agreement of the Agency and the Contractor. The Agency's written response to the claim, as further documented, will be submitted to the Contractor within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

If the Contractor disputes the Agency's written response, or the Agency fails to respond within the time prescribed, the Contractor may so notify the Agency, in writing, either within 15 days

of receipt of the Agency's response or within 15 days of the Agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Agency will schedule a meet and confer conference within 30 days for settlement of the dispute.

If following the meet and confer conference the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits its written claim until the time the claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

The following procedures apply for all civil actions filed to resolve claims subject to this subsection:

- a. Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court will submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- b.
 - (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 [Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure] shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
 - (2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by State or County funds.
 - (3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of trial de novo.

- c. The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

16. County Child Support Compliance Program.

The Contractor shall acknowledge that the County has established a goal of ensuring that all individuals who benefit financially from the Agency through Contracts are in compliance with their court-ordered child, family, and spousal support obligations in order to mitigate the economic burden otherwise imposed upon the County and its taxpayers.

As required by the County's Child Support Compliance Program (County Code Chapter 2.200) and without limiting the Contractor's requirements under the Contract to comply with all applicable provisions of law, the Contractor warrants that it is now in compliance, and shall during the duration of the Contract, maintain compliance with employment and wage reporting requirements as required by the Federal Social Security Act(42 USC Section 653a) and California Unemployment Insurance Code- Section 1088.5, and shall implement all lawfully served Wage and Earnings Withholdings Orders or Child Support Services Department (CSSD) Notices of Wage and Earnings Assignment for Child, Family, or Spousal Support, pursuant to Code of Civil Procedure Section 706.031 and Family Code Section 5246(b).

17. Termination for Failure to Comply with Child Support Compliance Program Requirements.

If the CSSD finds that a Contractor is not in compliance with a lawfully served earnings assignment order or income withholding order, as self-certified in the Contract, CSSD will send notice to the contracting department for commencement of termination or debarment procedures. Further, CSSD will enter the name of the non-compliant Contractor in the Child Support Compliance Program Intranet website at <http://cssd.lacounty.gov/compliance-program>.

18. Termination for Breach of Warranty to Maintain Compliance with the County's Child Support Compliance Program.

Failure of the Contractor to maintain compliance with the requirements of the County Child Support Compliance Program shall constitute default under the Contract. Without limiting the rights and remedies available to the Agency under any other provisions of the Contract, failure of the Contractor to cure such default within 90 calendar days of written notice shall be grounds upon which the Agency may terminate the Contract and/or pursue debarment of the Contractor pursuant to County Code Chapter 2.202.

19. Defaulted Property Tax Reduction Program.

The Contractor shall acknowledge that the County has established a goal of ensuring that all individuals who benefit financially from the Agency through Contracts are current in paying their property tax obligations (secured and unsecured roll) in order to mitigate the economic burden otherwise imposed upon the County and its taxpayers or are exempt therefrom.

As required by the County's Defaulted Property Tax Reduction Program, "Defaulted Tax Program" (County Code Chapter 2.206), and without limiting the Contractor's requirements under the Contract to comply with all applicable provisions of law, and unless the Contractor qualifies for an exemption or exclusion, the Contractor warrants and certifies that to the best of its knowledge it is now in compliance, and during the term of the Contract, will maintain compliance with Los Angeles County Code 2.206.

20. Termination for Breach of Warranty to Maintain Compliance with the County's Defaulted Property Tax Reduction Program.

Failure of the Contractor to maintain compliance with the requirements of the County's Defaulted Tax Program shall constitute default under the Contract. Without limiting the rights and remedies available to the Agency under any other provisions of the Contract, failure of the Contractor to cure such default within 10 business days of written notice shall be grounds upon which the Agency may terminate the Contract and/or pursue debarment of the Contractor pursuant to County Code Chapter 2.202.

21. Recycled Paper.

Consistent with the Board policy to reduce the amount of solid waste deposited at the County landfills, the Contractor shall use recycled paper to the maximum extent possible throughout the duration of the Contract.

22. Contractor Responsibility and Debarment.

- a. A responsible Contractor is a Contractor who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity and experience to satisfactorily perform the Contract. It is the Agency's policy to conduct business only with responsible Contractors.
- b. The Contractor is hereby notified that, in accordance with Chapter 2.202 of the County Code, if the Agency acquires information concerning the performance of the Contractor on this or other Contracts which indicates that the Contractor is not responsible, the Agency may, in addition to other remedies provided in the Contract, debar the Contractor from bidding or proposing on, or being awarded, and/or performing work on County or Agency Contracts for a specified period of time, which generally will not exceed 5 years but may exceed 5 years or be permanent if warranted by the circumstances, and terminate any or all existing Contracts the Contractor may have with the Agency.
- c. The Agency may debar a Contractor, if the Board of Supervisors in its discretion, finds, that the Contractor has done any of the following: (i) violated any term of a Contract with the County, the Agency, or a nonprofit corporation created by the County; (ii) committed an act or omission which negatively reflects on the Contractor's quality, fitness, or capacity to perform a Contract with the County, the Agency, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (iii) committed an act or offense which indicates a lack of business integrity or business honesty, or (iv) made or submitted a false claim against the County, the Agency, or any other public entity.

- d. If there is evidence that the Contractor may be subject to debarment, the Agency will notify the Contractor in writing of the evidence which is the basis for the proposed debarment and will advise the Contractor of the scheduled date for a debarment hearing before the Contractor Hearing Board.
- e. The Contractor Hearing Board will conduct a hearing where evidence on the proposed debarment is presented. The Contractor and/or the Contractor's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether the Contractor should be debarred, and, if so, the appropriate length of time of the debarment. The Contractor and the Agency shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to the Board of Supervisors.
- f. After consideration of any objections, or if no objections are submitted, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.
- g. If a Contractor has been debarred for a period longer than 5 years, that Contractor may, after the debarment has been in effect for at least 5 years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The Agency may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Contractor has adequately demonstrated one or more of the following: (i) elimination of the grounds for which the debarment was imposed; (ii) a bona fide change in Agency-ship or management; (iii) material evidence discovered after debarment was imposed; or (iv) any other reason that is in the best interests of the Agency.
- h. The Contractor Hearing Board will consider a request for review of a debarment determination only where (i) the Contractor has been debarred for a period longer than 5 years; (ii) the debarment has been in effect for at least 5 years; and (iii) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. At the hearing, the Contractor Hearing Board shall conduct a hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing.
- i. The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.
- j. These terms shall also apply to subcontractor of the Contractor.

23. Jury Service Program.

- a. General. This Contract is subject to the provisions of the Contractor Employee Jury Service Ordinance ("Jury Service Program") as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.
- b. Written Employee Jury Service Policy. Unless the Contractor has demonstrated to the Agency's satisfaction either that the Contractor is not a "Contractor" as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that the Contractor qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), the Contractor shall have and adhere to a written policy that provides that its employees shall receive from the Contractor, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the employee's regular pay the fees received for jury service.

For purposes of this subsection, "Contractor" shall mean a person, partnership, corporation or other entity which has a Contract with the Agency or a subcontract with an Agency Contractor and has received or will receive an aggregate sum of \$50,000 or more in any 12-month period under one or more Agency Contracts or subcontracts. "Employee" shall mean any California resident who is a full-time employee of the Contractor. "Full time" means 40 hours or more worked per week, or a lesser number of hours if the lesser number is a recognized industry standard and is approved as such by the Agency. If the Contractor uses any subcontractor to perform services for the Agency under the Contract, the subcontractor shall also be subject to the provisions of this subsection. The provisions of this subsection shall be inserted into any such subcontract agreement and a copy of the Jury Service Program shall be attached to the agreement.

- c. Change in Contractor Status. If the Contractor is not required to comply with the Jury Service Program when the Contract commences, the Contractor shall have a continuing obligation to review the applicability of its "exception status" from the Jury Service Program, and the Contractor shall immediately notify the Agency if the Contractor at any time either comes within the Jury Service Program's definition of "Contractor" or if the Contractor no longer qualifies for an exception to the Program. In either event, the Contractor shall immediately implement a written policy consistent with the Jury Service Program. The Agency may also require, at any time during the Contract and at its sole discretion, that the Contractor demonstrate to the Agency's satisfaction the Contractor either continues to remain outside of the Jury Service Program's definition of "Contractor" and/or that the Contractor continues to qualify for an exception to the Program.
- d. Noncompliance. The Contractor's noncompliance with this subsection may constitute a material breach of the Contract. In the event of such material breach, the Agency may, in its sole discretion, terminate the Contract and/or bar the Contractor from the award of future Agency Contracts for a period of time consistent with the seriousness of the breach.

24. Federal Earned Income Credit Notification.

The Contractor shall notify its employees, and shall require each subcontractor to notify its employees, that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws. Such notice shall be provided in accordance with the requirements set forth in Internal Revenue Service Notice 1015.

25. Safely Surrendered Baby Law.

The Contractor shall notify and provide to its employees and shall require each subcontractor to notify and provide to its employees, a fact sheet regarding the Safely Surrendered Baby Law, its implementation in the County, and where and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.

The Contractor acknowledges that the County places a high priority on the implementation of the Safely Surrendered Baby Law. The Contractor understands that it is the County's policy to encourage all County Contractors to voluntarily post the County's "Safely Surrendered Baby Law" poster in a prominent position at the Contractor's place of business. The Contractor shall also encourage its subcontractor, if any, to post this poster in a prominent position in the subcontractor's place of business. The County's Department of Children and Family Services will supply the Contractor with the poster to be used.

26. Indemnification.

Notwithstanding any other provision in this Agreement, The Contractor shall indemnify, defend and hold harmless the County, its Special Districts, elected and appointed officers, employees, agents and volunteers ("County Indemnitees") from and against any and all liability, including but not limited to demands, claims, actions, fees, costs and expenses (including attorney and expert witness fees), arising from and/or relating to this Contract, except for such loss or damage arising from the sole negligence or willful misconduct of the County Indemnitees.

27. Cancellation of or Changes in Insurance.

The Contractor shall provide the Agency with, or the Contractor's insurance policies shall contain a provision that the Agency shall receive, written notice of cancellation or any change in the insurance required in the Specifications, including insurer, limits of coverage, term of coverage, or policy period. The written notice shall be provided to the Agency at least ten (10) days in advance of cancellation for non-payment of premium and thirty (30) days in advance for any other cancellation or policy change. Failure to provide written notice of cancellation or any change in the insurance required in the Specifications may constitute a material breach of the Contract, in the sole discretion of the Agency, upon which the Agency may suspend or terminate the Contract.

28. Failure to Maintain Insurance.

The Contractor's failure to maintain or provide acceptable evidence that it maintains the insurance required in the Specifications shall constitute a material breach of the Contract, upon which the Agency may immediately withhold payments due to the Contractor, and/or

suspend or terminate the Contract. The Agency, at its sole discretion, may obtain damages from the Contractor resulting from said breach. Alternatively, the Agency may purchase the insurance required in the Specifications and, without further notice to the Contractor, deduct the premium cost from sums due to the Contractor or pursue reimbursement from the Contractor.

29. Compliance with County's Zero Tolerance Policy on Human Trafficking.

Contractor acknowledges that the County has established a Zero Tolerance Policy on Human Trafficking, prohibiting contractors from engaging in human trafficking.

If the Contractor or a member of the Contractor's staff is convicted of a human trafficking offense, the County shall require that the Contractor or member of Contractor's staff be removed immediately from performing services under the Contract. County will not be under any obligation to disclose confidential information regarding the offenses other than those required by law.

Disqualification of any member of Contractor's staff pursuant to this paragraph shall not relieve Contractor of its obligation to complete all work in accordance with the terms and conditions of this Contract.

30. Compliance with Fair Chance Employment Practices

Contractor shall comply with fair chance employment hiring practices set forth in California Government Code Section 12952, Employment Discrimination: Conviction History. Contractor's violation of this paragraph of the Contract may constitute a material breach of the Contract. In the event of such material breach, the Agency may, in its sole discretion, terminate the Contract.

31. Contractor Independence.

The County has adopted a countywide policy, Board Policy No. 5.090, that prohibits any person, or any firm or any subsidiary of a firm [collectively "firm"] from submitting a bid in any County solicitation process where the person or firm, assisted in the development or preparation of the solicitation document(s). A Contractor or its subsidiary or Subcontractor, is prohibited from submitting a bid in a County solicitation if the Contractor has provided advice or consultation for the solicitation. A Contractor is also prohibited from submitting a bid in a County solicitation if the Contractor has developed or prepared any of the solicitation materials on behalf of the County. A violation of this provision shall result in the disqualification of the Contractor from participation in the County solicitation or the termination or cancellation of any resultant County contract. This provision shall survive the expiration, or other termination of this Agreement.

32. Audits and Records.

The Contractor shall maintain all data and records pertinent to the Work performed under the Contract, in accordance with generally accepted accounting principles, and shall preserve and make available all data and records until the expiration of 4 years from the date of final payment under the Contract, or for such longer period, if any, as is required by

applicable statute or by other provisions of the Contract. The authorized representatives of the Agency shall have access to all such data and records for such time period to inspect, audit and make copies thereof during normal business hours. The Contractor shall covenant and agree that it shall require any subcontractor utilized in the performance of the Contract to permit the authorized representatives of the Agency, to similarly inspect and audit all data and records of said subcontractor relating to the performance of said subcontractor under the Contract for the same time period.

33. County Maintained Contractor Performance History Databases.

The County maintains databases that track/monitor contractor performance history. Information entered into such databases may be used for a variety of purposes, including determining whether a bidder is responsible for the purposes of a future County contract.

34. County Equal Employment Opportunity (EEO) Provisions.

During the performance of this Contract, the Contractor agrees as follows:

- a. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor certifies and agrees that all persons employed by such firm, its affiliates, subsidiaries, or holding companies are and will be treated equally by the firm without regard to or because of race, color, religion, sex or national origin and in compliance with all antidiscrimination laws of the United States of America and the State of California.
- b. In all advertisements for labor or other personnel, or requests for employment of any nature, the Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- c. The Contractor shall deal with its subcontractor without regard to or because of race, color, religion, sex or national origin.
- d. The Contractor shall comply with current Federal employment and reporting requirements for County funded construction Contracts. Specifically, the Contractor shall make a good faith effort to comply with Federal employment goals for minority and female employment. The Contractor shall report minority and female employment data on the Federal form provided by the Agency.

This form shall be submitted to the Engineer before the start of construction and twice annually by March 1 and September 1 of each year. Each failure to submit this form by due date will result in a Contractor penalty of \$200, which shall be deducted from any monies due the Contractor.

- e. The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other Contract or understanding, a notice, to be provided by the Agency, advising the said labor union or worker's representative of the Contractor's commitments under this subsection.

- f. The Contractor shall allow the Agency access to its employment records during regular business hours to verify compliance with these provisions when so requested by the Agency.
- g. The Contractor agrees that if the Agency finds that any of the above provisions have been violated, the same shall constitute a material breach of the Contract upon which the Agency may determine to cancel, terminate or suspend the Contract. While the Agency reserves the right to determine independently that the antidiscrimination provisions of the Contract have been violated, in addition, a determination by the Federal Equal Employment Opportunity Commission or the California Fair Employment and Housing Commission that the Contractor has violated Federal or State antidiscrimination laws may constitute a finding by the Agency that the Contractor has violated the antidiscrimination provisions of the Contract.
- h. The Contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex or national origin cannot result. The Contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The Contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the Contractor's control, where the facilities are segregated. This obligation extends to all Contracts containing the equal opportunity clause regardless of the amount of the Contract. The term "facilities," as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; *Provided*, that separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of non-discrimination clause.

At its option, and in lieu of canceling, terminating or suspending the Contract, the County may impose damages for any violation of the antidiscrimination provisions of this subsection, in the amount of \$200.00 for each violation found and determined. The County and the Contractor specifically agree that the aforesaid amount shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained by reason of any such violation, because, from the circumstances and the nature of the violation, it is impracticable and extremely difficult to fix actual damages.

- i. The Contractor shall include the provisions of the foregoing paragraphs "a" through "h" in every subcontract over \$10,000.00, so that such provisions will be binding upon each subcontractor performing work required by the Contract.

35. Consideration of Hiring County Employees Targeted for Layoff.

Should the Contractor, or any subcontractor performing more than \$250,000 of the Contract Price, require additional or replacement personnel to perform services under this Contract other than the performance of a skilled trade, the Contractor or subcontractor shall give first consideration for such employment openings to qualified County employees who are targeted for layoff or qualified former County employees who are on a re-employment list.

Should the Contractor, or any subcontractor performing more than \$250,000 of the Contract Price, require additional or replacement personnel to perform a skilled trade not covered by an existing union hiring agreement under this Contract, the Contractor is encouraged to consider for such employment openings qualified County employees who are targeted for layoff or qualified former County employees who are on a re-employment list. In no event shall the Agency be liable for any cost, delay or impact claims arising out of efforts to hire such present and former County employees.

36. Consideration of Hiring Participants in GAIN and GROW Programs.

Should the Contractor require additional or replacement personnel after the effective date of the Contract, the Contractor shall give consideration for any such employment openings to participants in the County Department of Public Social Services (DPSS) Greater Avenues for Independence (GAIN) and General Relief Opportunities for Work (GROW) Programs who meet the Contractor's minimum qualifications for the open position. DPSS will refer GAIN/GROW participants by job category to the Contractor.

37. County Preference Programs.

The Contractor is subject to the provisions of the County's ordinances entitled "Local Small Business Enterprise Preference Program," "Disabled Veteran Business Enterprise Preference Program," and "Social Enterprise Preference Program" as codified in Chapters 2.204, 2.211, and 2.205 of the Los Angeles County Code.

The Contractor shall not knowingly and with the intent to defraud, fraudulently obtain, retain, attempt to obtain or retain, or aid another in fraudulently obtaining or retaining or attempting to obtain or retain certification as a Local Small Business Enterprise, Disabled Veteran Business Enterprise, or Social Enterprise.

The Contractor shall not willfully and knowingly make a false statement with the intent to defraud, whether by affidavit, report, or other representation, to a County official or employee for the purpose of influencing the certification or denial of certification of any entity as a Local Small Business Enterprise, Disabled Veteran Business Enterprise, or Social Enterprise.

If the Contractor has obtained County certification as a Local Small Business Enterprise, Disabled Veteran Business Enterprise, or Social Enterprise, by reason of having furnished incorrect supporting information or by reason of having withheld information, and which knew, or should have known, the information furnished was incorrect or the information

withheld was relevant to its request for certification, and which, by reason of such certification has been awarded this Contract to which it would not otherwise have been entitled, shall:

- a. Pay to the Agency any difference between the Contract Price and what the Agency's costs would have been if the Contract had been properly awarded;
- b. In addition to the amount described above, be assessed a penalty in an amount of not more than 10 percent of the amount of the Contract; and
- c. Be subject to the provisions of Chapter 2.202 of the Los Angeles County Code (Determinations of Contractor Non-Responsibility and Contractor Debarment).

The above penalties shall also apply if the Contractor is no longer eligible for certification as a result in a change of their status and the Contractor failed to notify the State and the County's Internal Services Department (Purchasing & Contracts) of this information.

38. Facsimile/Electronic Representations.

(United States Federal Electronic Signatures in Global and National Commerce Act of 2000 and California Civil Code § 1633.1, et seq.)

This Contract constitutes the entire agreement between the Agency and the Contractor with respect to the subject matter of this Contract and supersedes all prior and contemporaneous agreements and understandings. This Contract may be signed by the parties hereto in separate counterparts, including both counterparts that are executed on paper and counterparts that are in the form of electronic signatures. Electronic signatures include facsimile or email electronic signatures. Each executed counterpart shall be deemed an original. All counterparts, taken together, constitute the executed Agreement.

The parties hereby acknowledge and agree that electronic records and electronic signatures, as well as facsimile signatures, used in connection with the execution of this Agreement and electronic signatures, facsimile signatures or signatures transmitted by electronic mail in so-called pdf format shall be legal and binding and shall have the same full force and effect as if a paper original of this Agreement had been delivered and had been signed using a handwritten signature. Contractor and Agency (i) agree that an electronic signature, whether digital or encrypted, of a party to this Agreement is intended to authenticate this writing and to have the same force and effect as a manual signature, (ii) intend to be bound by the signatures (whether original, faxed or electronic) on any document sent or delivered by facsimile or, electronic mail, or other electronic means, (iii) are aware that the other party will rely on such signatures, and (iv) hereby waive any defenses to the enforcement of the terms of this Agreement based on the foregoing forms of signature. If this Agreement has been executed by electronic signature, all parties executing this document are expressly consenting under the United States Federal Electronic Signatures in Global and National Commerce Act of 2000 ("E-SIGN") and California Uniform Electronic Transactions Act ("UETA") (California Civil Code § 1633.1, et seq.), that a signature by fax, email or other electronic means shall constitute an Electronic Signature to an Electronic Record under both E-SIGN and UETA with respect to this specific transaction.

IN WITNESS WHEREOF, the Agency has, by order of its Board of Supervisors, caused this Contract to be signed by the County Director of Public Works or her designee and the Contractor has signed the same on the day, month, and year hereinabove first written.

MARK PESTRELLA
DIRECTOR OF PUBLIC WORKS
COUNTY OF LOS ANGELES

By _____
Deputy Director

APPROVED AS TO FORM

RODRIGO A. CASTRO-SILVA
County Counsel

a corporation

By _____
Deputy

By _____
President

Print Name

By _____
Secretary

Print Name

IV:
ALL SIGNATURES MUST BE WITNESSED BY NOTARY
(Attach appropriate acknowledgment)

P:\cnpub\ADMIN\Contract Documents\Contracts\Sample Agreement\Sample Agreement (SPECS UNIT) (10-14-20).docx

LOS ANGELES COUNTY PUBLIC WORKS
BOND FOR FAITHFUL PERFORMANCE

KNOW ALL MEN BY THESE PRESENTS:

That we, XXXXX, as principal, and _____
as surety, are held and firmly bound unto the COUNTY OF LOS ANGELES, State of California,
in the sum of XXX AND 100 Dollars (\$ 000), lawful money of the United States, for the payment
of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these
presents.

The condition of the above obligation is such that whereas said principal has been awarded
and is about to enter into a written Contract with the County of Los Angeles for the work described
in PIN# XXX, XXXXX which is attached hereto, made a part hereof, and to which reference is
hereby made for all, and is required by said County to give this bond in connection with the
execution of said Contract;

NOW, THEREFORE, if the said principal shall well and truly do and perform all of the
covenants and obligations of said Contract on principal's part to be done and performed at the
times and in the manner specified therein, then this obligation shall be null and void, otherwise it
shall be and remain in full force and effect. No premature payment by said County to said principal
shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice
that such payment is premature at the time it is ordered by said Board, and then only to the extent
that such payment shall result in loss to such surety, but in no event more than the amount of
such premature payment.

It is agreed, that any alterations in the work to be done, or increase or decrease of the
material to be furnished, which may be made pursuant to the terms of said Contract shall not in
any way release either the principal or surety hereunder, nor shall any extensions of time granted
under the provisions of said Contract release either the principal or surety, and notice of such
alterations or extensions of the Contract is hereby waived by the surety. The provisions of Section
2845 of the Civil Code are not a condition precedent to the SURETY'S obligation hereunder and
are waived by the SURETY.

WITNESS our hands _____ day _____
this _____ of _____ 20 _____

a corporation

Surety

By _____ President

Print Name

By

Secretary

Print Name

ALL SIGNATURES MUST BE WITNESSED BY NOTARY
(Attach appropriate acknowledgment)

SAMPLE

LOS ANGELES COUNTY OF PUBLIC WORKS
PAYMENT BOND
(FOR LABOR AND MATERIAL)

KNOW ALL MEN BY THESE PRESENTS:

That we, XXXXX, as principal, and _____
as surety, are held and firmly bound unto the COUNTY OF LOS ANGELES, State of California,
in the sum of XXX AND 100 Dollars (\$ 000), lawful money of the United States, for the payment
of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these
presents.

The condition of the above obligation is such that whereas said principal has been awarded
and is about to enter into a written Contract with the County of Los Angeles for the work described
in PIN# XXX, XXXXX which is attached hereto, made a part hereof, and to which reference is
hereby made for all, and is required by said County to give this bond in connection with the
execution of said Contract;

NOW, THEREFORE, if said principal, as Contractor in said Contract, or principal's
subcontractor, fails to pay any of the persons referred to in Section 9100 of the Civil Code of the
State of California for labor performed, skills or other necessary services bestowed, site
improvement made, equipment leased, or appliances, equipment implements, machinery,
materials, power, provender, provisions, teams, or trucks furnished or used in, upon, for, or about
the performance of the work Contracted to be done, or for amounts due under the Unemployment
Insurance Code with respect to work or labor performed by any such claimant, said surety shall
pay for the same, in an amount not exceeding the sum specified above; and if suit is brought upon
this bond, a reasonable attorney's fee to be fixed by the court. This bond is executed pursuant to
the provisions of Ch 5 of Div 4, Pt 6, Tit 3, of the Civil Code of the State of California, and shall
inure to the benefit of any of the persons referred to in said Civil Code Section 9100, as it now
exists or may hereafter be amended, so as to give a right of action to such persons or their assigns
in any suit brought upon this bond. No premature payment by said County to said principal shall
exonerate any surety unless the Board of Supervisors of said County shall have actual notice that
such payment is premature at the time and it is ordered by said Board, and then only to the extent
that such payment shall result in loss to such surety, but in no event more than the amount of
such premature payment.

It is agreed, that any alterations in the work to be done, or increase or decrease of the
material to be furnished, which may be made pursuant to the terms of said Contract shall not in
any way release either the principal or surety hereunder, nor shall any extensions of time granted
under the provisions of said Contract release either the principal or surety, and notice of such
alterations or extensions of the Contract is hereby waived by the surety. The provisions of Section
2845 of the Civil Code are not a condition precedent to the SURETY'S obligation hereunder and
are waived by the SURETY.

WITNESS our hands _____ day _____,
this _____ of _____ 20 _____

a corporation

Surety

By

President

Print Name

By

Secretary

Print Name

ALL SIGNATURES MUST BE WITNESSED BY NOTARY
(Attach appropriate acknowledgment)

SAMPLE