

NOTICE INVITING BIDS,

SPECIAL PROVISIONS

AND


SAMPLE AGREEMENT

FOR

PROJECT ID NO. SWQ0000005

**MONTEITH PARK AND VIEW PARK
GREEN ALLEY STORMWATER IMPROVEMENTS**

Approved, MARK PESTRELLA, PE, Director of Public Works

By  10/04/2022
Assistant Deputy Director Date

NOTICE INVITING BIDS

Sealed bids will be accepted by Los Angeles County Public Works, Project Management Division III, for the construction of a stormwater infiltration system at Monteith Park and a nearby alley that includes infiltration wells, storm drain, diversion structures, filtration vaults, landscaping, irrigation, pervious concrete sidewalk and pavers, water quality monitoring and telemetry, monument signs and interpretive signs, under Project ID No. SWQ0000005, Monteith Park and View Park Green Alley Stormwater Improvements Project, in the unincorporated community of View Park/Windsor Hills.

Pursuant to State Public Contract Code section 3400, the Board of Supervisors made a finding that the irrigation equipment, drinking fountain, flow meters, hatch cover, slide gate, electric motor operators, water quality monitoring equipment, and telemetry equipment to match other products in use on a particular public improvement either completed or in the course of completion and that the engineered pavers are designated by specific brand name to obtain an item that is only available from one source.

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, November 8, 2022, 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 \$5,500,000 and shall be completed in 150 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: Mr. Louis Romero at LoRomero@pw.lacounty.gov. **Prebid questions will not be accepted after 5 p.m. on Monday, October 31, 2022.**

The Agency will host a virtual pre-bid conference for this project from 9:00 a.m. to 10:00 a.m. on Thursday, October 20, 2022, through Microsoft Teams. In order to attend this conference, please send an email to Melina Harteni at MHarteni@pw.lacounty.gov at least 1 day prior to the scheduled conference date to request an electronic link. Attendance at the pre-bid meeting is recommended, but not mandatory for award of the Contract.

The successful bidder must comply with Chapter 2.212 (COVID-19 Vaccinations of County Contactor Personnel) of County Code Title 2 - Administration, Division 4 as a condition of performing work under the contract. Bidders are advised to review the requirements of Chapter 2.212 (COVID-19 Vaccinations of County Contactor Personnel) and the sample contract requirements prior to submitting a bid.

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 Contractor Development and Bonding Program (CDABP) is administered by the Chief Executive Office of the County of Los Angeles for all County Construction Contracting Departments. The CDABP provides a broad range of contractor technical assistance, training, and support in qualifying for bonds, as well as contract financing for County awarded contracts. The CDABP assistance is available to you prime and subcontractors. The CDABP is a County funded resource designed to reduce the barriers to small and diverse firms seeking to bid and contract on County projects. Additional information on the CDABP is included in 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 October 4, 2022.

Celia Zavala
Executive Officer of the
Board of Supervisors

CSM : ____

Pre-Bid inquiries regarding the following shall be directed to
Mr. Louis Romero, LoRomero@pw.lacounty.gov
Include "Pre-Bid Questions for SWQ000005" in the subject line of the email.

A. NOTICE INVITING BIDS

B. SPECIAL PROVISIONS

- SECTION G - GENERAL PROVISIONS
- SECTION EC - ENVIRONMENTAL COMPLIANCE
- SECTION D - DRAINAGE
- SECTION TC - TRAFFIC CONTROL
- SECTION E - ELECTRICAL
- SECTION M - MECHANICAL
- SECTION LS - LANDSCAPING AND IRRIGATION

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.

November 2, 2022

NOTICE TO PROSPECTIVE BIDDERS
ADDENDUM NO. 1

PROJECT ID NO. SWQ000005

MONTEITH PARK STORMWATER CAPTURE PROJECT

The following revisions are hereby made a part of the Contract Documents and supersede or amend the corresponding information included in the original Contract Documents:

INSTRUCTION TO BIDDERS

Add the following to Section XI: (page 11)

12. A Bid in which any Detailed Schedule of Prices breakdown subtotal does not equal the lump sum Bid item in the base bid of the associated item in the Schedule of Prices will be considered nonresponsive and will be rejected.

NOTICE INVITING BIDS

Replace the first sentence of the fourth paragraph with the following: (page 1)

The bids must be submitted electronically using Bid Express, www.BidExpress.com, before 11 a.m. on **Thursday, December 1, 2022**, and no bids may be submitted after that date and time.

SCHEDULE OF PRICES (BID EXPRESS)

- *Bid item 19.03 quantity has been revised to "376 LF"*
- *Bid item 19.04 quantity has been revised to "44 LF"*
- *Bid items 19.06, 19.07 and 19.08 have been omitted*
- *Bid item 19.11 label has been revised to "DIVERSION STRUCTURE (LINE D)"*
- *Bid item 19.12 has been omitted*
- *Bid item 22.07 quantity has been revised to "5 EA"*
- *Bid item 22.08 has been omitted*
- *Bid item 22.09 label has been revised to "WATER QUALITY MONITORING EQUIPMENT & INSTALLATION PER M-9"*

INFORMATION ONLY DOCUMENTS

The following documents have been added to the list of downloadable files for this project on the Public Works Business Opportunities website and are for information purposes only. These documents shall not be considered as part of the bid documents.

- “Final Addendum to the Los Angeles County Flood Control District Enhanced Management Programs Final Program Environmental Impact Report for Monteith Park and View Park
- “Geotechnical Investigation Low Impact Development, Monteith Park, Los Angeles, California”, 4/16/2018 by County of Los Angeles Public Works Geotechnical and Materials Engineering Division
- “Green Alley Stormwater Improvements Project”, September 2022, prepared by ICF
- “Subsurface Conditions Confirmation Evaluation, Monteith Park and View Park Green Alley Stormwater Improvements Project”, 12/27/2021 by County of Los Angeles Public Works Geotechnical and Materials Engineering Division
- As-built plans (select sheets) from “As Built Drawings, 1958 Storm Drain Bond Issue, Mullen Avenue, Project No. 680”, March 1968”
- As-built plans (select sheets) from “As Built Drawings, 1958 Storm Drain Bond Issue, Olympiad Drive, Project No. 679”, March 1968
- Pre-Bid Conference (Not Mandatory) Agenda & Attendance List, 10/20/2022
- 10/20/2022 Pre-Bid Conference (Not Mandatory) Recording, 10/20/2022

PLANS

Replace the following sheets in the Plans with the attached revised sheets listed below:

- Sheet DR-3 – Revised drywell note.
- Sheet DR-4 – Revised drywell note and callouts for D1, D3 and D4.

PRE-BID QUESTIONS:

See attached pre-bid questions and responses. A second addendum will be issued at a later date to address the remaining prebid questions that were received by 10/31/2022 and not included in this addendum.

MARK PESTRELLA, PE
 Director of Public Works
 County of Los Angeles

By  _____
 Assistant Deputy Director

RE:ml
[https://lacounty.sharepoint.com/PW-PMDIII-SW/Shared Docs/Monteith Park/03050/03052/Addendums/Addendum 1/Addendum No. 1.docx](https://lacounty.sharepoint.com/PW-PMDIII-SW/Shared%20Docs/Monteith%20Park/03050/03052/Addendums/Addendum%201/Addendum%20No.%201.docx)

MONTEITH PARK STORMWATER CAPTURE PROJECT

PROJECT ID NO. SWQ0000005

Pre-bid Questions and Answers

Los Angeles Engineering, Inc.

Monday, October 24, 2022

Q1. *On Plan Sheet LS 3.0, Note 11, where is the Class A Soil to be placed?*

A1. There are no specific locations or callouts on the Plans that require Class A soil. Reference to Class A soil in this note is intended for the potential need for additional topsoil backfill for scenarios such as described in general note no. 11 on sheet LS-1.00 or if required per the agronomic soils report.

Beador Construction Company, Inc.

Tuesday, October 25, 2022

Q2. *What is the liquidated damages amount for this project?*

A2. In accordance with 6-9 of Section G (page G-68) of the Special Provisions, liquidated damages are \$2,000 per day.

Stacy and Witbeck, Inc.

Tuesday, October 25, 2022

Q3. *Bid item 19.11 is called out as Diversion Structure (Line C). Please confirm it should be a Diversion Structure (Line D).*

A3. Confirmed. Refer to the revised Schedule of Prices on Bid Express.

Q4. *Bid item 22.07 is for 8EA Laser Level Sensors. The Laser Level Sensors get mounted in the Case 1 drywells of 9EA. Please advise if the qty for bid item 22.07 should be 9EA rather than 8EA.*

A4. The correct quantity for the laser level sensors is 5 EA. The drywells with laser level sensors are listed on sheet M-8 of the plans (A1, A4, C1, C4 and D2). Refer to the revised Schedule of Prices on Bid Express and revised sheets DR-3 and DR-4 of the Plans.

Q5. *On drawing P-3 Detail 1, there is a callout for a "New Gate Valve" downstream of the backflow preventer for the new Potable Water Line. The same symbol on the irrigation line right next to it is called a "New Flow Meter." Please advise if the symbol of the new potable water line is to be a "New Flow Meter" as well.*

A5. The callout for a "New Gate Valve" on the potable water line is correct as shown on sheet P-3.

Q6. *Please advise what scope of work is to be included in bid item 19.12: Junction Structures. There is a junction structure as part of the diversion structure, however that appears to be included in the Diversion Structure bid items (19.09, 19.10, 19.11)*

A6. Bid item 19.12 is redundant and has been omitted. Refer to the revised Schedule of Prices on Bid Express.

Q7. *Please advise what is to be included in bid items 19.06, 19.07, 19.08, 21.05, and 21.06. It appears that bid items 19.06, 19.07, and 19.08 are for material only and bid items 21.05 and 21.06 are for the furnish and install of the dry wells. Please advise if this is correct.*

A7. Bid items 19.06, 19.07 and 19.08 are redundant and have been omitted. Refer to the revised Schedule of Prices on Bid Express.

Los Angeles Engineering, Inc.

Wednesday, October 26, 2022

Q8. *Regarding Section EC page EC-12, the Contractor and Subcontractors are to deactivate equipment/vehicle backup alarms and provide Lookout personnel for this project. The specification makes mention of Cal-OSHA-approved "alternate technology" options. Some of the work on this project takes place in a narrow alley and the interest of worker safety. What is "alternate technology" there available for the safety of our work crews?*

A8. Alternative technologies may include "white noise" backup alarms such as Brigade bbs-tek® White Sound® back up alarms (<https://brigade-electronics.com/en-us/products/backup-and-warning-alarms/>) that are accepted by Cal-OSHA per EC 3-12.3.5.

Q9. *Is Detailed Schedule of Prices item 22.08 a duplication of items 19.13, 19.14, and 19.17?*

A9. Bid item 22.08 is redundant and have been omitted. Refer to the revised Schedule of Prices on Bid Express.

Los Angeles Engineering, Inc.

Thursday, October 27, 2022

Q10. *I don't see the pipe for Detailed Schedule item 19.06 on the plans. Where is it? I see some 48" RCP 2000-D in the Drywell shafting, but that is a part of Detail Schedule items 21.05 and 21.06.*

A10. Refer to A7 above.

Q11. *Regarding Detailed Schedule of Prices item 19.03, the plans show 376 LF of 20" PVC SCH 80 pipe*

A11. Refer to the revised Schedule of Prices on Bid Express.

Q12. *Regarding Detailed Schedule of Prices item 19.04, the plans show 44 LF of 24" PVC SCH 80 pipe.*

A12. Refer to the revised Schedule of Prices on Bid Express.

Los Angeles Engineering, Inc.

Friday, October 28, 2022

Q13. *Please provide anticipated milestones as referred to in Specification Section G (page G-58).*

A13. Refer to 6-1.2 of Section G for Part 1 NTP issuance date and duration. Refer to 6-1.2 and 6-3.1 of Section G for Part 2 NTP issuance date and duration.

Blois Construction, Inc.

Friday, October 28, 2022

Q14. *The Prebid meeting agenda showed two NTPs. Please confirm if the 150 working days starts after the 2nd NTP.*

A14. Confirmed. Refer to 6-1.2 and 6-3.1 of Section G for Part 2 NTP issuance date and duration.

Q15. *Has the county accounted for long lead items associated with the electrical components due supply chain issues?*

A15. The duration will remain at 150 working days per the Special Provisions.

Q16. *For the Power connection the SCE Poles, has the city started permitting process with SCE?*

A16. Yes, the County has started the coordination process.

DRYWELL LOCATIONS LINE A AND LINE C

DRYWELL	NORTHING	EASTING
A1*	1822221.6875	6459353.6885
A2	1822224.7586	6459375.4731
A3	1822238.2076	6459392.8834
A4*	1822210.2235	6459404.9412
A5	1822205.4121	6459446.7715
C1*	1822110.2192	6459346.6711
C2	1822135.1513	6459348.5144
C3	1822155.5394	6459361.1785
C4*	1822176.2128	6459374.0203
C5	1822184.2824	6459394.7563
C6	1822189.0650	6459420.4416
C7	1822183.6625	6459447.9160
C8	1822189.4663	6459469.1370

STRUCTURE LOCATIONS LINE B

STRUCTURE CENTER	NORTHING	EASTING
① DIVERSION STRUCTURE	1822115.4704	6459409.9652
② 4' X 4' ACTUATOR VAULT	1822129.3094	6459401.7305
③ 5' X 6' RCB TRASH/SLIDE GATE MH	1822135.9891	6459397.7874
④ INFLUENT MONITORING MH 321	1822144.0269	6459393.0323
⑤ 6' X 12' FILTRATION UNIT	1822152.7102	6459387.4636
⑥ EFFLUENT MONITORING MH 321	1822160.8253	6459383.1078

STRUCTURE LOCATIONS LINE A

STRUCTURE CL	NORTHING	EASTING
① DIVERSION STRUCTURE	1822348.4708	6459393.4741
② 4' X 4' ACTUATOR VAULT	1822283.1820	6459372.9923
③ 5' X 6' RCB TRASH/SLIDE GATE MH	1822275.9031	6459370.7114
④ INFLUENT MONITORING MH 321	1822266.8348	6459367.8642
⑤ 4' X 8' FILTRATION UNIT	1822257.3192	6459364.8605
⑥ EFFLUENT MONITORING MH 321	1822248.2641	6459362.0712

DRYWELL NOTES:
 * MONITORING DRYWELLS WITH LASER LEVEL SENSORS AND ARE ACCESSIBLE THRU MANHOLES

PT 12> INT/BC
 N:1822353.17
 E:6459365.95
 EL:215.20

DRAINAGE NOTES:

- ELEVATIONS SHOWN ARE TO BE FIELD VERIFIED AT FINAL GRADE.
- PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
- THE AGENCY WILL MAINTAIN ALL DRAINAGE DEVICES AND SHALL KEEP THEM FREE OF DEBRIS AFTER CONSTRUCTION.
- ALL CIRCULAR MANHOLES SHALL BE PER SPPWC 633-4.

GRADING:

- SEE PLAN LS FOR THE GRADING PLAN.
- SEE PLAN LS FOR ABOVE GROUND PARK IMPROVEMENTS.

DIVERSION STRUCTURE, SEE SECTION A1-A1, SHEET DR-5
 JOIN EXST 33" RCP PROJECT NO. 680
 STORM DRAIN @ STA. 4+10 = STA 20+00 LINE A

PROTECT EXST SCE AND AT&T UTILITY LINES LOCATED ABOVE STORM DRAIN. HAND DIG TO EXPOSE UTILITIES.

CL EXST PROJECT NO. 680
 STORM DRAIN, 33" RCP, 1250-D

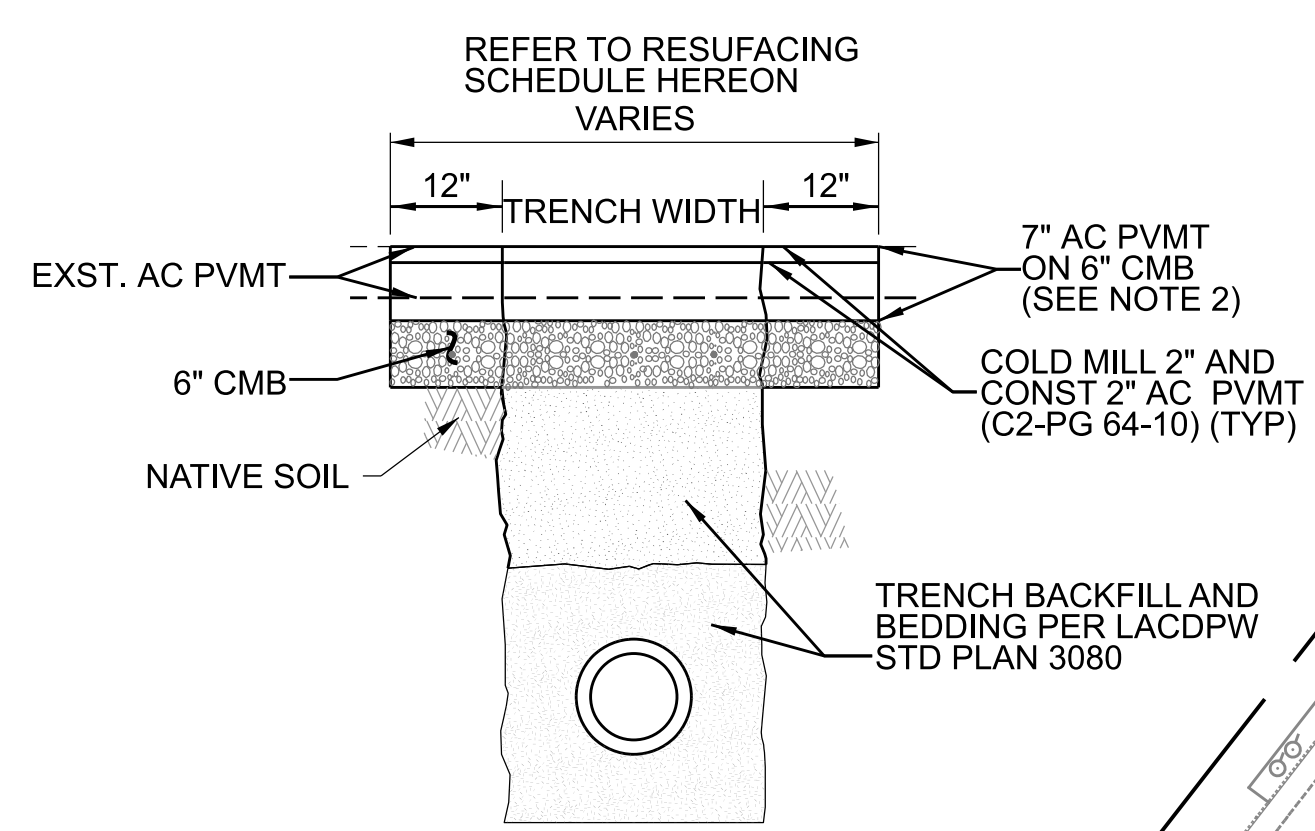
BENCHMARK:
 VERTICAL DATUM IS NAVD '88
 CULVER QUAD 2005 ADJ
 CONTROL PT 10002 EL 216.23 R4
 CONTROL PT 12 EL 215.19 LP-2

- UTILITIES**
- E — ELECTRICAL
 - G — GAS
 - W — WATER
 - T — TELECOM
 - C — CABLE
 - S — SEWER

PT11
 N:182219.24
 E:6459623.38
 Z:207.38

CL EXST PROJECT NO. 679
 STORM DRAIN, 39" RCP, 1000-D

LINE B DIVERSION STRUCTURE
 JOIN EXST 39" RCP PROJECT NO. 679
 STORM DRAIN @ STA. 40+94 = STA 40+00 LINE B

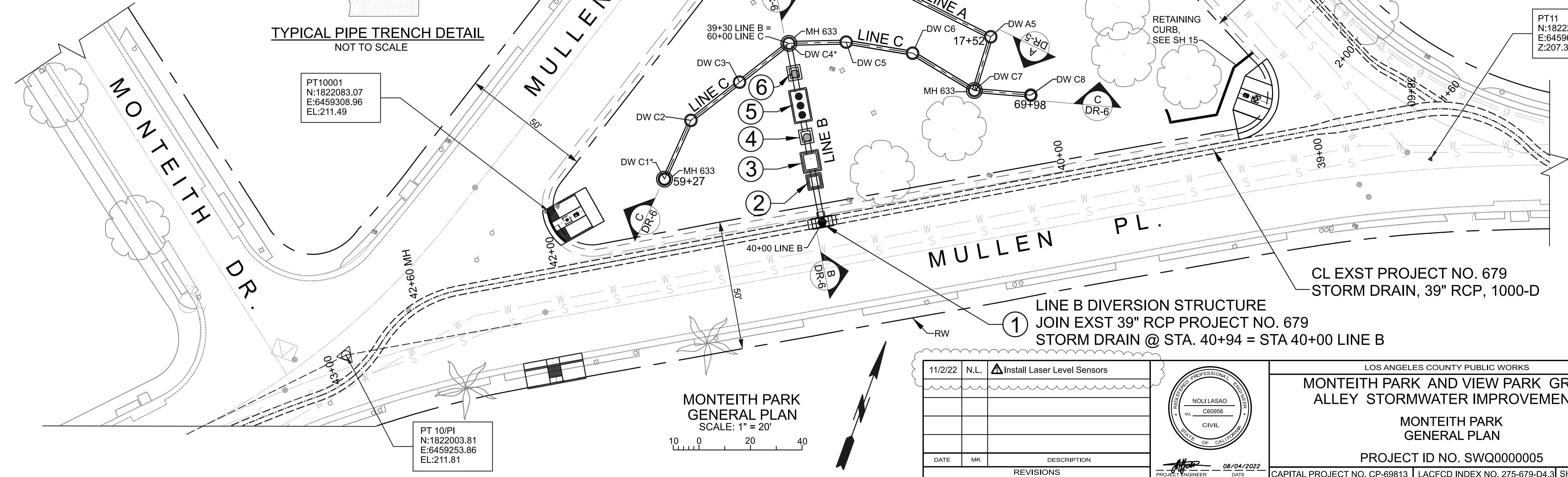


RESURFACING SCHEDULE

OLYMPIAD DRIVE	7" AC ON 6" CMB
MULLEN PLACE	7" AC ON 6" CMB

RESURFACING NOTES:

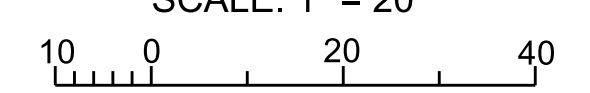
- THICKNESS OF PAVEMENTS SHOWN IN THE RESURFACING SCHEDULE APPLY ONLY WITHIN THE LIMITS OF THE HATCHED AREAS ABOVE. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO PAVEMENT OUTSIDE OF THE LIMITS THESE LIMITS.
- AC PAVEMENT SHALL BE 2" C2-PG 64-10 ON 5" B-PG 64-10



PT10001
 N:1822083.07
 E:6459308.96
 EL:211.49

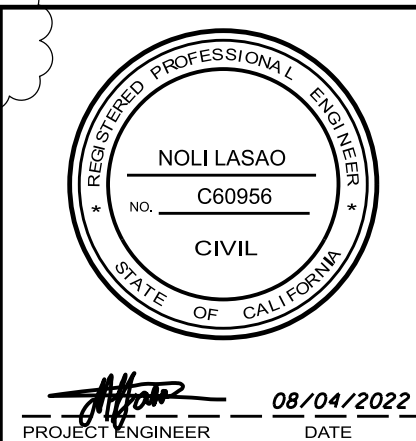
PT 10/PI
 N:1822003.81
 E:6459253.86
 EL:211.81

MONTEITH PARK
 GENERAL PLAN
 SCALE: 1" = 20"



CADD PROJECT FILE NAME: SQW0000005.DGN
 CHECKER: R. LUI
 DESIGNER: N. LASAO
 DRAFTER: N. LASAO

DATE	MK	DESCRIPTION
11/2/22	N.L.	Install Laser Level Sensors



LOS ANGELES COUNTY PUBLIC WORKS

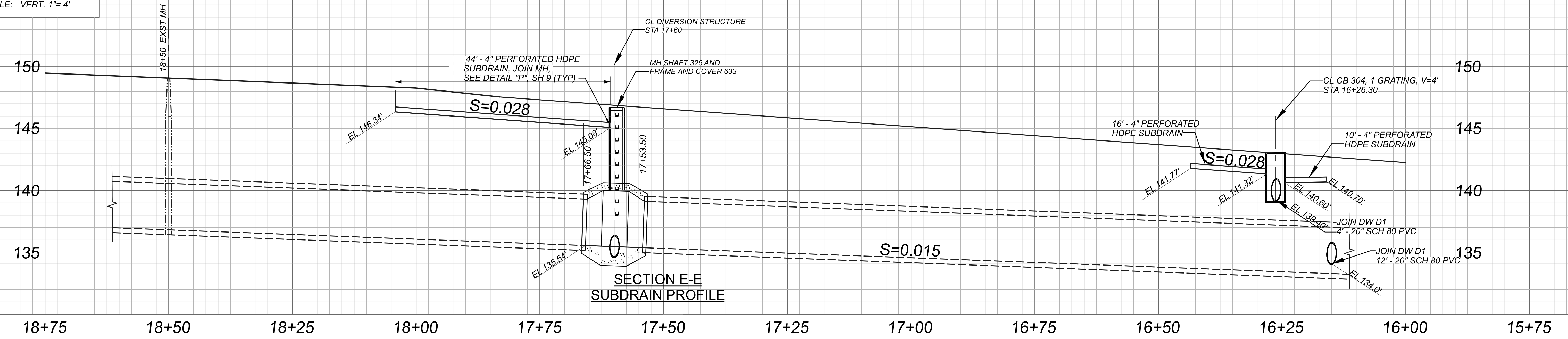
MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS

MONTEITH PARK GENERAL PLAN

PROJECT ID NO. SWQ0000005

CAPITAL PROJECT NO. CP-69813 | LACFPD INDEX NO. 275-679-D4.3 | SHEET 3 OF 23

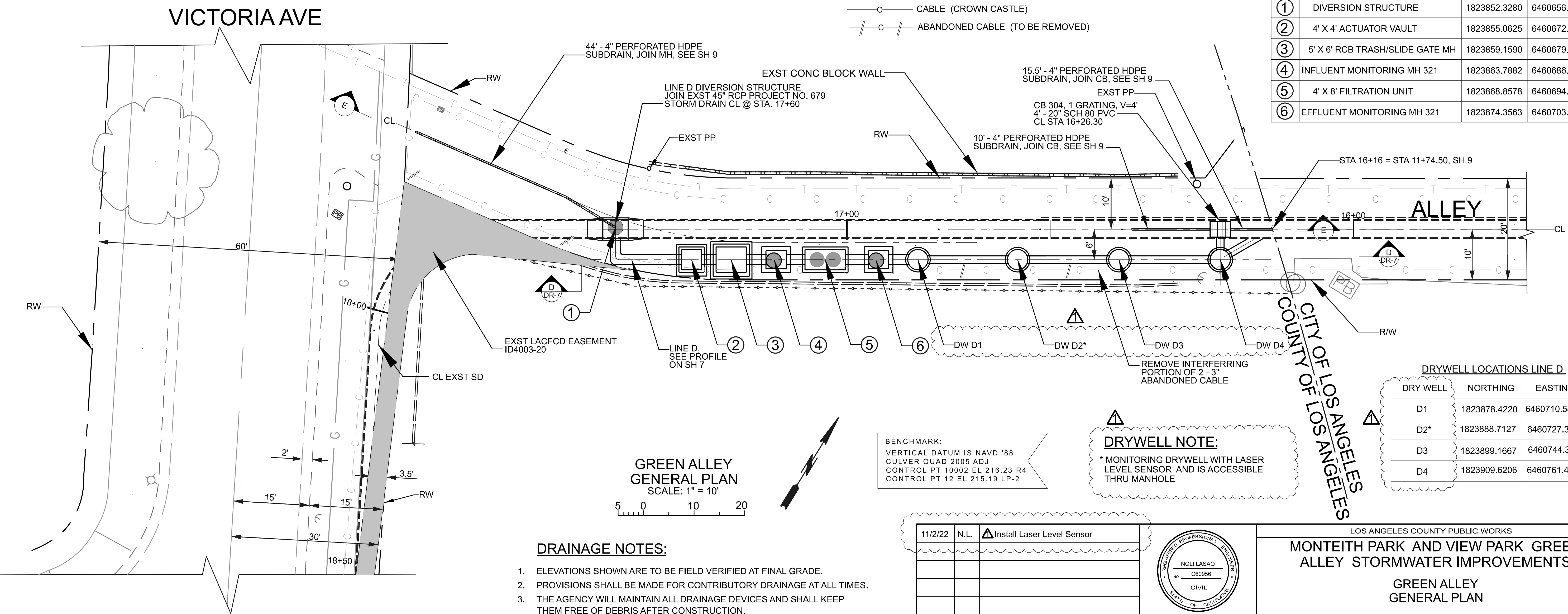
HOR. 1"= 10'
SCALE: VERT. 1"= 4'



- UTILITIES
- G NATURAL GAS
 - T TELECOM (AT&T)
 - C CABLE (CROWN CASTLE)
 - / — ABANDONED CABLE (TO BE REMOVED)

STRUCTURE LOCATIONS LINE D

	STRUCTURE CENTER	NORTHING	EASTING
①	DIVERSION STRUCTURE	1823852.3280	6460656.5066
②	4' X 4' ACTUATOR VAULT	1823855.0625	6460672.4449
③	5' X 6' RCB TRASH/SLIDE GATE MH	1823859.1590	6460679.1263
④	INFLUENT MONITORING MH 321	1823863.7882	6460686.6765
⑤	4' X 8' FILTRATION UNIT	1823868.8578	6460694.9451
⑥	EFFLUENT MONITORING MH 321	1823874.3563	6460703.9131



DRYWELL LOCATIONS LINE D

DRYWELL	NORTHING	EASTING
D1	1823878.4220	6460710.5442
D2*	1823888.7127	6460727.3285
D3	1823899.1667	6460744.3788
D4	1823909.6206	6460761.4292

DRYWELL NOTE:
* MONITORING DRYWELL WITH LASER LEVEL SENSOR AND IS ACCESSIBLE THRU MANHOLE

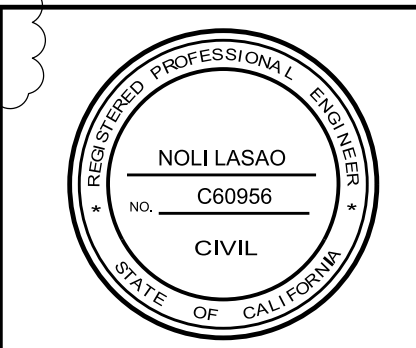
BENCHMARK:
VERTICAL DATUM IS NAVD '88
CULVER QUAD 2005 ADJ
CONTROL PT 10002 EL 216.23 R4
CONTROL PT 12 EL 215.19 LP-2

GREEN ALLEY
GENERAL PLAN
SCALE: 1" = 10'
5 0 10 20

- DRAINAGE NOTES:**
- ELEVATIONS SHOWN ARE TO BE FIELD VERIFIED AT FINAL GRADE.
 - PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
 - THE AGENCY WILL MAINTAIN ALL DRAINAGE DEVICES AND SHALL KEEP THEM FREE OF DEBRIS AFTER CONSTRUCTION.
 - ALL CIRCULAR MANHOLES SHALL BE PER SPPWC 633-4.

CADD PROJECT FILE NAME
SQW0000005.DGN
CHECKER
R. LUI
DESIGNER
N. LASAO
DRAFTER
N. LASAO

DATE	MK	DESCRIPTION
11/2/22	N.L.	Install Laser Level Sensor



LOS ANGELES COUNTY PUBLIC WORKS
MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS
GREEN ALLEY GENERAL PLAN
PROJECT ID NO. SWQ000005
CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 4 OF 23

November 21, 2022

NOTICE TO PROSPECTIVE BIDDERS
ADDENDUM NO. 2

PROJECT ID NO. SWQ000005

MONTEITH PARK STORMWATER CAPTURE PROJECT

The following revisions are hereby made a part of the Contract Documents and supersede or amend the corresponding information included in the original Contract Documents:

BID SCHEDULE (BID EXPRESS)

- *Bid item 18.03 label has been revised to “COLORED CONCRETE (TYPE 1, IN ALLEY ONLY)”*
- *Bid item 18.04 label has been revised to “COLORED CONCRETE (TYPE 2, IN ALLEY ONLY)”*
- *Bid item 19.13 label has been revised to “5' X 6' RCB TRASH/SLIDE GATE MANHOLE”*
- *Bid item 22.02 has been omitted*
- *Bid item 22.05 label has been revised to “FLOW METER SENSOR (HACH AV9000 MODULE)” and quantity revised to “7 EA”*
- *Bid item 22.09 label has been revised to “WATER QUALITY MONITORING EQUIPMENT, CONDUIT & INSTALLATION PER M-9”*
- *Bid item 23.01 label has been revised to “ELECTRICAL DEMOLITION WORK PER SHEETS E-2 & E-3”*
- *Bid item 23.02 has been omitted*
- *Bid item 24.04 quantity has been revised to “182 CY”*
- *Bid items 24.06 and 24.07 have been omitted*
- *Bid item 24.08 label has been revised to “6" PERVIOUS CONCRETE ON 6" NO. 2 CONCRETE AGGREGATE” and quantity revised to “4,027 SF”*
- *Bid item 24.09 label has been revised to “PCC CONCRETE, 4” THICK (MISC. CONC SURFACES IN PARK) ON 6" CMB”*
- *Bid item 24.10 label has been revised to “COLOR CONCRETE, 4” THICK (TYPE 1, IN PARK ONLY)” and quantity revised to “840 SF”*
- *Bid item 24.24 label has been revised to “RAISED 8 FT LONG PLANTER WITH TRELIS” and quantity revised to “7 EA”*

SPECIAL PROVISIONS

SECTION G:

6-1.1.2.I General. (page G-58)

Addendum No. 2

Add the following:

- 5) All work requiring connection to the existing storm drain infrastructure, including the three diversion structures, shall occur between April 16 and October 14 of each calendar year.

SECTION D:

219-2.1 Filtration Unit Manufacturers. (page D-16)

Add the following:

4. StormTrap
 - a. Address: 1288 Columbus Ave, #136, San Francisco, CA 94133
 - b. Phone: (415) 405-6355
 - c. Website: <https://stormtrap.com/>
5. Agency-Approved equal.

219-2.1 Filtration Unit Manufacturers. (page D-16)

Replace the entire subsection with the following:

Filtration unit shall accommodate HS-20 truck loading with impact applied.

Each filtration unit shall meet the following performance specifications at the design treatment capacities, as listed below:

Location (per Plan DR)	Design Treatment Capacity	Trash Capture Removal Efficiency (5 mm or greater)	Minimum Suspended Sediment Mass Removal Efficiency (150µm d50)	Horizontal Dimensions
Olympiad Dr at Line A (Sheets 3 and 5)	7.41 CFS	100%	80%	4'W X 8'L
Mullen Place at Line B (Sheets 3 and 6)	15.98 CFS	100%	80%	6'W X 12'L
View Park Alley at Line D (Sheet 4 and 7)	4.51 CFS	100%	80%	4'W X 8'L

Each filtration unit shall include sediment removal chambers that eliminate re-suspension of previously captured sediment; a screening system designed to capture and store solid debris in a dry state; and a skimmer system to remove oils, grease, and floating pollutants.

Each filtration unit and all of its components shall be housed within one structure. Each filtration unit shall be capable of retaining all captured trash and materials within the unit for flows

greater than the design flow rate or if the unit becomes flooded with backwater if the storage capacity of the drywell system is exceeded.

Removal efficiencies shall be verified by independent third-party testing. The manufacturer’s Certificate of Compliance, in accordance with 4-5 of the Greenbook, shall be included with the submittal.

5-7.7.2 Security Fencing.

Add the following:

The park perimeter and alley site shall be secured with Type 1 fencing during construction.

303-1.12.4 Payment for 5’ X 6’ RCB Trash/Slide Gate Manhole. (page D-36)

Replace the last paragraph with the following:

Payment for 5’ X 6’ RCB Trash/Slide Gate Manholes shall be considered as included in the lump sum Bid price for “DRAINAGE” for the catch basin involved.

ENCLOSURE A - LIST OF SPECIFIC BRAND NAMES IN ACCORDANCE WITH CALIFORNIA PUBLIC CONTRACT CODE SECTION 3400 (page 2 of 2)

Replace item 30 with the following:

30	Touch Panel	Automation Direct	EA9-T10CL touch screen	In order to match other products in use on County facilities either completed or in the course of completion.
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SECTION E:

E-9.2.1.A GENERAL CONTROL PANEL FABRICATION REQUIREMENTS (page E-49)

Replace subheading 4) with the following:

4. ZIPLink Modules: See sheet E-9 “Equipment Bill of Materials” for description.

E-9.2.2.E.2 HMI/CENTRAL CONTROLLER (page E-50)

Delete subheading b) :

b- Control Panel—High Temperature

E-9.2.3 PLC (page E-53)

Replace subheading L. with the following:

- L. Input/output hardware shall be entirely contained within the PLC enclosure, and shall be arranged as indicated on the Drawings. Programmable logic controller systems shall support the following types of input/output modules.
1. 24 volt ac discrete input and output.
 2. 4-20 mA dc analog input and output.

E-9.2.3 PLC (page E-53)

Replace subheading N. with the following:

- N. Discrete input modules shall sense voltages between 0 and 24 volts DC and shall have LED indicators for each point to display the status of the field contact. Each input module shall be suitable for being connected to a separate voltage source and return. Return voltage may be common to the entire input module. Discrete input modules shall have multiple inputs.

E-9.2.3 PLC (page E-54)

Replace subheading O. with the following:

- O. Discrete output modules shall be 24 VDC. Outputs shall be individually fused and shall have LED indicators to display output status. Outputs shall withstand a surge of at least 80 amperes for one cycle and shall have an off-state leakage current not to exceed 2.0 mA. Discrete output modules shall have multiple outputs.

E-9.2.3 PLC (page E-54)

Replace subheading R. with the following:

- R. All PLC input/output signals for field connections shall be terminated through ZIPLink Modules. Direct connection of field wiring to the I/O module terminals is not acceptable.

SECTION M:

M-1.2 Inspection at Place of Manufacture. (page M-1)

Delete the entire subsection

M-2.2 Scope of Work. (page M-4)

Replace the entire subsection with the following:

The general scope of the work includes, but is not limited to the following:

- Install new cast-iron slide gate with bevel gear and electronic motor operator.

- Install new flow meters with data loggers.
- Install new laser level sensors in the drywells.
- Install new refrigerated samplers.
- Install new velocity sensors.
- Refer to Electrical Specification sections for all associated electrical work.

M-5.1 Flow Meter. (page M-15)

Replace the last paragraph with the following:

The flow sensors shall be HACH Submerged Area Velocity Sensor (AV9000). Minimum lengths of the cable shall be 310 ft.

M-9.4 Payment. (page M-20)

Replace the entire subsection with the following:

The lump sum Bid price for "MECHANICAL WORK" shall include, but not be limited to furnishing all labor, materials, conduit, equipment fabrication, installation, and field testing to perform all the required Work to provide a completely operable water quality monitoring system.

PLANS

Replace the following sheets in the Plans with the attached revised sheets listed below:

- *Sheet DR-8 (sheet 8 of 70) – Revision 4 – added right-of-way dimensions*
- *Sheet DR-9 (sheet 9 of 70) – Revision 3 – added right-of-way lines and dimensions*
- *Sheet DR-10 (sheet 10 of 70) – Revision 2 – changed depth from 78' to 68', changed label*
- *Sheet DR-14 (sheet 14 of 70) – Revision 1 – changed inflow and outflow pipe from 24" RCP to 20" PVC*

PRE-BID QUESTIONS:

See attached responses to the remaining pre-bid questions that were submitted by the 10/31/2022 deadline.

MARK PESTRELLA, PE
Director of Public Works
County of Los Angeles

By  _____
Assistant Deputy Director

RE:ml
[https://lacounty.sharepoint.com/PW-PMDIII-SW/Shared Docs/Monteith Park/03050/03052/Addendums/Addendum 2/Addendum No. 2.docx](https://lacounty.sharepoint.com/PW-PMDIII-SW/Shared%20Docs/Monteith%20Park/03050/03052/Addendums/Addendum%202/Addendum%20No.%202.docx)

MONTEITH PARK STORMWATER CAPTURE PROJECT
PROJECT ID NO. SWQ0000005

Pre-bid Questions and Answers

Stacy and Witbeck, Inc.

Tuesday, October 25, 2022

Q17. *Drawing DR-3 shows a Typical Pipe Trench Detail which depicts a T-Top. Please confirm the T-Top is only for trenching in the asphalt road and that the trenching in the park does not require a T-Top.*

A17. The Typical Pipe Trench Detail (T-Top detail) shown on DR-3 is applicable for trenching in the asphalt roadway. The pipe bedding and trench backfill portions of this detail remain applicable for trenching within the park.

Q18. *The bottom dimension for the Case 1 drywell shown on drawing DR-10 is 78'. The dimension for the 16" Slotted Screen PVC is 64' plus 2' on the top and bottom. Please advise if the 78' dimension should be 68'?*

A18. The bottom dimension of 78 feet for the Case 1 drywell shown on Sheet DR-10 is revised to 68 feet. Refer to the revised Plan sheets included with this Addendum No. 2.

Q19. *Drawing E7 and E8 show the flow sensors at the Influent Manhole Monitoring Well. The Diversion Manhole is both tying into a Flow Controller, which refers to spec section M. There is nothing called a flow controller in spec section M. Please advise if the Flow Controller is the Monitoring Equipment Cabinet per Detail 3 on E11. In such a case, the FE instrument would be the actual sensor, and the FT instrument would be the datalogger for the flow instrument.*

A19. The Flow Controller is not the monitoring equipment cabinet in Detail 3 of E11. The Flow Controller is not connected to the WQ monitoring equipment. The Flow Controller and FT typical details are shown on sheet M-6. The Flow Controller is called the "Data Logger," and FT is called the "Data Module" on sheet M-6.

Q20. *Drawing M-4 shows a gas sensor mounted to the top of the trash structure box. Spec M-7 mentions the gas sensor is to be a Drager PIR 7000. There does not appear to be a gas sensor shown on the P&ID drawings, so please advise if this sensor is to have the readout*

display screen included with the instrument and the readouts localized or if it is to be routed to a PLC or similar.

A20. Please refer to Sheet E-11 Detail 1. Item #5 shall be Drager REGARD-1 Gas Detection Transmitter. No need to connect to PLC because Drager REGARD-1 has a readout display.

Q21. *Sheet E11 calls out Detail 4 for Monitoring Equipment Cabinet. It is assumed there are 3 of these cabinets to be installed, one for each of the influent/effluent monitoring wells on Lines A, B, and D. However, we can only find one location, as shown per note 4 on drawing E2. Please advise where the other two Monitoring Cabinets for Lines A and D are to be located and, if so, how the conduit is to be routed to and from them.*

A21. There will be only one monitoring cabinet installed (at Line B). This is the only location that the monitoring equipment will be installed. The other two locations are to create monitoring accesses for potential future monitoring if needed.

Q22. *Sheet E2 shows conduits for the instruments in the monitoring wells. Four conduits are shown running from the monitoring cabinet to each of the monitoring wells designated as S1, S1, S3, and S3. However, at the point where they fork to the influent and effluent monitoring wells, one branch of the fork is S3, S5 and the other branch is S5 which seems to indicate the four conduits are now three with two going to one of the monitoring wells and one going to the other well. In addition, the number of signal wires has changed. In addition, the detail on drawing M6 and M7 seems to indicate (3) 2" conduits going to each monitoring well. It's unclear what conduit and wire are required. Please advise.*

A22. There shall be three (3) conduits, S3, S5, and S5, running from the monitoring cabinet, not four.

Q23. *Please clarify the intent of the Water Quality Monitoring Bid Item. The flow meter and data logger appear to be included in bid item 22.05. Are all the rest of the instruments, as well as conduit, junction boxes, pull boxes, and monitoring cabinet, to be included in the Water Quality Monitoring Bid Item (Bid Item 22.09)*

A23. Yes, bid item 22.09 is intended to cover all other water quality equipment, conduits, and installation included in M-9 of Section M that are not covered in the other bid items. Refer to the revised bid schedule on Bid Express.

Q24. *Drawing DR-7 shows a diversion structure that calls out a transition structure per standard detail 342. Standard detail 342 seems to show a transition whereby the concrete*

is cast in place as a flare that transitions from the circular pipe to the square-shaped RCB. There is no way to form this flare without getting special formwork fabricated. As an alternative, would it be acceptable to install either a sonotube or another segment of pipe between the pipe and the RCB and lock it in place by casting it into concrete? Concrete would be poured over the joint between the sonotube and the existing pipe to lock it in place. Please advise if this is acceptable.?

A24. It is the responsibility of the Contractor to construct this transition from a circular pipe to an RCB in accordance with SPPWC 342. If additional formwork is required or another alternative construction is proposed, it must be provided to the Engineer as a submittal for approval.

Los Angeles Engineering, Inc.
Wednesday, October 26, 2022

Q25. Regarding the work in the alley on plan sheet 4/23 of the Drainage Plans, from what I hear, it is going to be impossible to get a drill rig in place to drill the drywells within the confines of the present alleyway. Will the County endeavor to work with the adjacent parking lot owner about widening the construction easement into their property where we can remove and replace their present improvements in order to provide adequate working space to install this project?

A25. The County will not be responsible for obtaining construction easements adjacent to the alley. The Contractor shall be responsible for executing the work within the alley right-of-way limits.

Q26. Will the County be responsible for coordination with the proper Utility owner of the overhead powerlines about de-energizing for the drilling of the drywells, and trench/structure shoring installation in the alley?

A26. The County will not be responsible for coordination of de-energizing overhead powerlines.

Los Angeles Engineering, Inc.
Thursday, October 27, 2022

Q27. On Plan Sheet 4/23 of the Drainage plan, are the block walls County property or private?

A27. The concrete block walls on both sides of the alley are private. These walls must be protected at all times during construction. Refer to the revised Plan sheets included with this Addendum No. 2.

Q28. *On the South side of the alley of this plan (4/23), is the property line the chain link fencing that is behind the block wall?*

A28. The chain link fence behind the block wall is on private property. The property line is the R/W line shown on DR-4. Also, refer to the revised Plan sheets included with this Addendum No. 2.

KDC Inc.

Thursday, October 27, 2022

Q29. *Which size touch panel is to be used for the HMIs? Spec page 118 says 8 inches, spec page 336 says 15 inches, spec page 337 says 10 inches, and plan page 50 says 10 inches.*

A29. Please use a 10-inch touch screen per Sheet E-9 Equipment Bill of Materials item 8. Refer to the revised specification language included with this Addendum No. 2.

Q30. *Can you clarify which NEMA rating should be used for which enclosure? It looks like the Equipment Cabinets should be NEMA 3R (spec page 331 and plan page 52), the PLC Cabinets should be NEMA 4 (plan page 50), and the EMO Remote Controller enclosures inside the Equipment cabinets should be NEMA 4X (spec page 368).*

A30. Yes, this is correct.

Q31. *Is a Power Quality Meter required? If so, does the County have a preference on make and model? There is mention of Phase Failure, Voltage Sensing, and Power Failure alarms in a few places in the spec, but no mention of any specifications.*

A31. No, a Power Quality Meter is not required.

Q32. *Is a control panel temperature sensor required? The spec mentions a High-Temperature alarm on page 337, but no device is called out anywhere.*

A32. No, a control panel temperature sensor is not required.

Q33. *Can you please clarify which antenna should be used for the SCADA link and which ones should be used for the radio link between PLC cabinets and the frequencies they are operating on? Two different antennas are called out in the spec. The Laird looks like a cellular (SCADA) model, but the Trimble does not look like a point-to-point (radio link) model.*

A33. Laird 902-927 Antenna (Cabinet Roof Mount, Unity Gain, Black, Model#TRAB9023NP) should be used for the radio link between PLC Cabinets at Monteith Park and View Park Green Alley. Antenna Laird DS-FG902 (1016 6db 900-920 with FM2 Mounting Bracket) should be connected to Sierra Wireless Airlink (GX450, AT&T Cellular Model #11020364), and used for bi-direction communication between the PLC cabinet at Monteith Park and LADPW HQ.

Q34. *Which radios should be used for the radio link between the PLC cabinets? None are called out anywhere in the specification.*

A34. Between the PLC Cabinets at Monteith Park and View Park Green Alley, please use MDS ECR-900 Spectrum Radio Link, Model # ECRU91NNNNNS1D1USUNNN.

Q35. *Does the County have preferences for Voltage Conditioners, Surge Protection, and Lightning Protection? All three are mentioned in the spec but not called out.*

A35. Voltage Conditioners, Surge Protection, or Lightning Protection are not required.

KDC Inc.

Monday, October 31, 2022

Q36. *Should the DI Modules in the PLC cabinets be 24 VDC or 120 VAC? The spec says 120 VAC on page 339, but the plans say 24 VDC on page 50.*

A36. 24 VDC. Please refer to Sheet E-9 Equipment Bill of Materials for the model of the DO module. Refer to the revised specification language included with this Addendum No. 2.

Q37. *Does the County have a preference for the DO Modules? The only reference is for 120 VAC in the spec on page 340.*

A37. The DO Module shall be 24 VDC. Please refer to Sheet E-9 Equipment Bill of Materials for the model of the DO module. Refer to the revised specification language included with this Addendum No. 2.

Q38. *Does the County want to use regular terminal blocks to connect field wires inside the PLC cabinet (spec page 335, 340) or use ZIPLink Modules (as indicated in the plans page 50)?*

A38. Please use ZIPLink Modules. Refer to the revised specification language included with this Addendum No. 2.

Q39. *Does the County want the Gas Sensors (LEL) connected to the PLC? No, AT tags are shown on the P&IDs; however, they are mentioned on spec page 326*

A39. Refer to A20.

Stacy and Witbeck, Inc.

Monday, October 31, 2022

Q40. *Drawing M-3 shows a flow meter at the bottom of the diversion structure. Is this typical for all three diversion structures. Drawing M-6 shows a flow meter on the influent monitoring well of Line A. Is this typical for all three monitoring wells? Drawing M-7 shows a flow meter on the influent and effluent monitoring wells of Line B. Is this typical for all influent and effluent monitoring wells? Bid item 22.05 is for 6EA flow sensors. Can you please clarify if there are 6EA flow sensors and, if so, where each is located?*

A40. There are a total of 7 flow sensors (HACH, AV9000 Submerged Area Velocity Sensors) for this project. Each of the three diversion structures has one sensor per M-3. Two of the 3 influent monitoring has 1 sensor per detail 7 on M-6. The influent monitoring manhole in the park, adjacent to Mullen Place, has 2 duplicate sensors per detail 8 on M-7. The duplicate sensors in this manhole each connect to different cabinets per the electrical plans. Each of the 3 effluent monitoring wells will have a sampling tube with a strainer and no flow sensors. See revised Schedule of Prices on Bid Express.

Q41. *Specification 306-4.2 refers to LACPW Standard Plan 6008, which refers indicates the fence to be installed at the trench excavation. Can the fence just be temp chain link fence panels on temp fence panel stands?*

A41. The park site will be secured with Type 1 fencing per 5-7.7.2 of Section G to prevent public access. No additional fencing along the trenches within the park site will be required. Refer to the revised specification language included with this Addendum No. 2.

Q42. *Specification M-1.4 second paragraph mentions that the Contractor shall furnish the required amount of water to conduct the test as required by the Engineer. This is in reference to the slide gate leakage testing. A possible means of testing would be to close the gate, then plug the inlet and outlet into the diversion structure and fill the Diversion structure from the top until the desired head of water against the slide gate is determined. Is this an acceptable means?*

A42. Yes

Q43. *For installation of the Diversion structure, please advise if the existing lines are to be full and, if so, what are the allowable shutdown periods during which the pipe can be cut into and the diversion structure installed.*

A43. Construction of the diversion structures shall be performed between April 16 and October 14 of each calendar year. Only nuisance flows are expected during this period and shall be managed by the Contractor in accordance with 3-12.7.2 of Section D. Refer to revised specification language included with this Addendum No. 2.

Q44. *Bid item 22.02 is for Miscellaneous Mechanical Work. Specification M-2 lists several miscellaneous metal items; however, a majority, if not all, are covered in other bid items. Please advise what is to be included in bid item 22.02.*

A44. Bid item 22.02 has been omitted. Refer to the revised Schedule of Prices on Bid Express.

Q45. *Bid item 22.08 is for Equipment Vaults, Hatches, and Appurtenances. Specification M-8 seems to indicate this is for the equipment vault that houses the slide gate motors. However, the vault for that item appears to already be covered by bid item 19.14. Please advise what is to be included in bid item 22.08*

A45. Refer to A9 in Addendum No. 1.

Q46. *Please advise if the bid date can be pushed to 2 weeks due to the fact that there are several questions we have and likely several adjustments that need to be made when we receive the RFI responses.*

A46. See revision to Notice Inviting Bids in Addendum No. 1

Q47. *Please advise where the PLC cabinet on Sheet E9 is to be located.*

A47. The PLC Cabinet is located within the Electrical Equipment Cabinet. Please refer to Sheet E-11 Detail 1.

Q48. *On Drawing DR-16 "Section Typical Driveway, Curb, and Gutter Detail" there is pipe shown under the aggregate base. Please advise which bid item this is to be paid under.*

A48. This subdrain pipe is under Bid Item 19.02

Q49. *Drawing DR-3 shows line A structures very close to the existing curb and gutter. In order to install the structures (Filtration Unit, trash structure, monitoring manholes), the curb and gutter and asphalt will have to be removed and replaced. Please advise where this work is to be paid. There are bid items 18.11 for asphalt and 18.13 for curb and gutter, however are these true unit price bid items whereby all curb and gutter work and asphalt work actually completed will be paid for in these items. Or is this removal and replacement of asphalt and curb and gutter to be incidental to another piece of work and paid for in that item.*

A49. The described work is restoration of existing improvements and shall be included in Bid Item 11.02.

Q50. *Please clarify where the quantity of 2,457 CY of Class D Bioswale Soil is located on the project? Our quantity is significantly less.*

A50. Refer to the revised bid item 24.04 in the Schedule of Prices on Bid Express.

Q51. *Please advise where the 94 cy of bid item #24.07 Crushed Aggregate Base is to be placed?*

A51. Bid item 24.07 has been omitted. Refer to the revised bid items 18.07 and 18.08 in the Schedule of Prices on Bid Express.

Q52. *Per drawing LS-1.04 should the quantity of bid item #24.24 Welded Wire Vine Trellis be more than just 1 ea.?*

A52. Refer to the revised Schedule of Prices on Bid Express.

Q53. *Specification M-9 Table 2 is a list of instruments for the Water Quality Monitoring System with pricing. Please advise if this exact pricing is to be carried in the estimate and if the instruments listed are all encompassing.*

A53. The last 4 columns in this table (pricing information) shall be omitted. All bidders shall obtain their own pricing for all bid items.

Q54. *Drawing DR-4 note 3 shows the 5' x 6' RCB Trash/Slide Gate MH located in between the existing 45" RCP and the ROW which runs along the fence on the south side of the alley. We are concerned there is not enough space to shore and install the trash structure without disrupting or undermining the fence on the south side of the alley. Can the fence be removed and the ROW line widened to the south.*

A54. Refer to A25 above.

Q55. *Please advise what is to be included in bid item 23.01. The only thing we can find regarding electrical demolition work is the removal of the comm line as shown per the notes: "Remove Existing 2-3" Abandoned Tel" as shown on sheet DR-7.*

A55. The electrical demolition work is shown on sheet E2 and E3. Refer to the revised Schedule of Prices on Bid Express.

Q56. *There is a low hanging overhead power line running across the alleyway which is directly intersects the footprint of one of the drywells. Has the county made provision with the service provider for these lines as well as the power lines to have them relocated.*

A56. The County will not be responsible for relocation of overhead power lines.

Q57. *There are several locations in the special provisions that refer to "Unit Price". Please confirm the bid items are in fact unit price items that will be compensated based on final as-built quantities. If this is the case, can a list of what is included in each bid item be provided.*

A57. All payment clauses in the Special Provisions refer to the bid items in the Schedule of Prices which are in lump sum units (except for items 2 and 12). In accordance with 7-3.5 in Section G, the Detailed Schedule of Prices lists are for Extra Work purposes only. Bid items will not be compensated based on the final as-built quantities.

Q58. *Do we remove the existing drinking fountain? Are we to return that fountain back to LA County?*

A58. The existing water fountain shall be removed and replaced as indicated on sheet LS-1.03, note 28. The existing water fountain shall be returned to LA County.

Q59. *Drawing DR-7 Detail E1 shows a waterstop ring embedded in concrete around the 24" Sch 80 PVC pipe. If the trash structure is precast, is it acceptable to use a detail similar to E1 on DR-10 to embed the waterstop in trash structure wall.*

A59. Yes, if the trash structure is precast, it is acceptable to use a detail similar to E1 on DR-10 to embed the waterstop in trash structure wall.

Los Angeles Engineering, Inc.
Monday, October 31, 2022

Q60. *On Plan Sheet DR-8 there is a typical detail of the Alley and block walls on each side. What is the horizontal distance between the block wall footing and the outside of the 5' X 6' RCB Slide Gate vault on the vault side closest block wall footing (Plan Sheet DR-4)?*

A60. Refer to the revised Plan sheets included with this Addendum No. 2.

Q61. *On Plan Sheet DR-4, is the existing 45" Storm Drain on the North side of the New 5' X 6' RCP Slide Gate Vault a County Storm Drain, or City of LA Storm Drain? Can it be taken out of service and temporarily blocked up stream of the New Diversion Structure? If not, will the County please provide an allowance item for handling the flows of the water in the existing Storm Drain for installation of the 5' X 6" RCB Slide Gate Vault? I believe a portion of the existing 45" Storm Drain will need to be removed and replaced in order for the RCB Slide Gate Vault to be Shored and Excavated.*

A61. Refer to A43 above.

Q62. *Can a 6'X6' RCB used for the Slide Gate Vault Shafting in lieu of the 5'X6' RCB?*

A62. No.

Contech Engineered Solutions.

Monday, October 31, 2022

Q63. *Regarding the 3 Filtration Units for the project: Contech/Bio Clean pretreatment units which has smaller footprint, horizontally, shown under section 219-2.2. These sizes are based on Full Capture sizing method. However, 219-2.2 indicates the removal efficiency of 80%. Requesting clarity weather this is 80% of full capture flow rate or is there micron particle size associated?*

A63. Refer to revised specification language included with this Addendum No. 2.

Q64. *Regarding the 3 Filtration Units for the project, profile views shows 20" PVC SCH 80, other details on plans suggest 24" RCP. Please verify*

A64. All pipes going in and out of all 3 the filtration units shall be 20" PVC SCH 80. Refer to the revised Plan sheets included with this Addendum No. 2.

Q65. *Regarding the 3 Filtration Units for the project: Treatment Capacity has been provided under section 219-2.2. Are peak flows expected for the filtration units. if so, what are the values.*

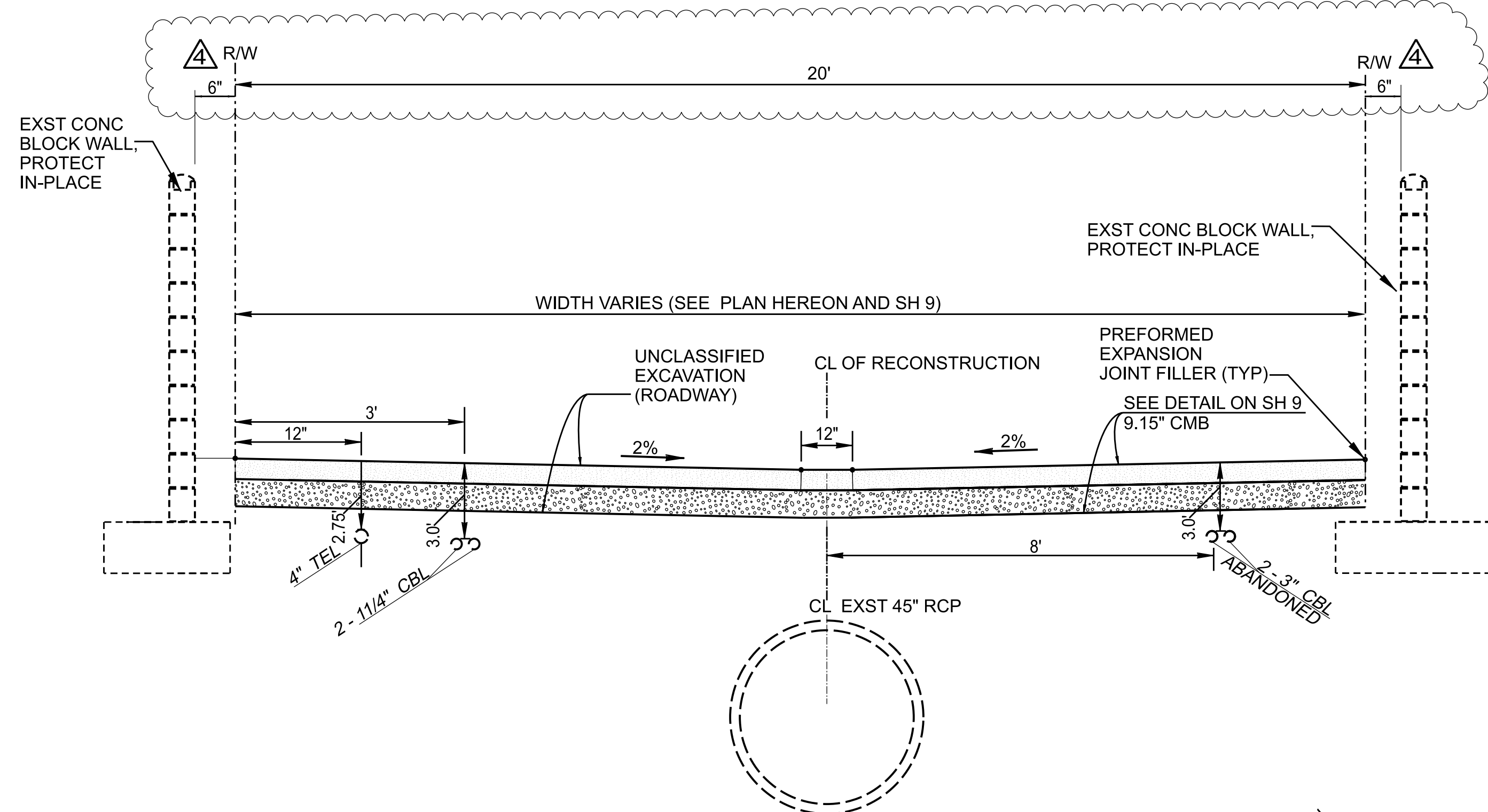
A65. The Design Treatment Capacity flow rates provided under Section 219-2.2 are also the peak flow rates for the 85 percentile 24-hour storm event. Refer to revised specification language included with this Addendum No. 2.

Q66. *Regarding the 3 Filtration Units for the project: Are hatches required to be lift assist with lock down solution?*

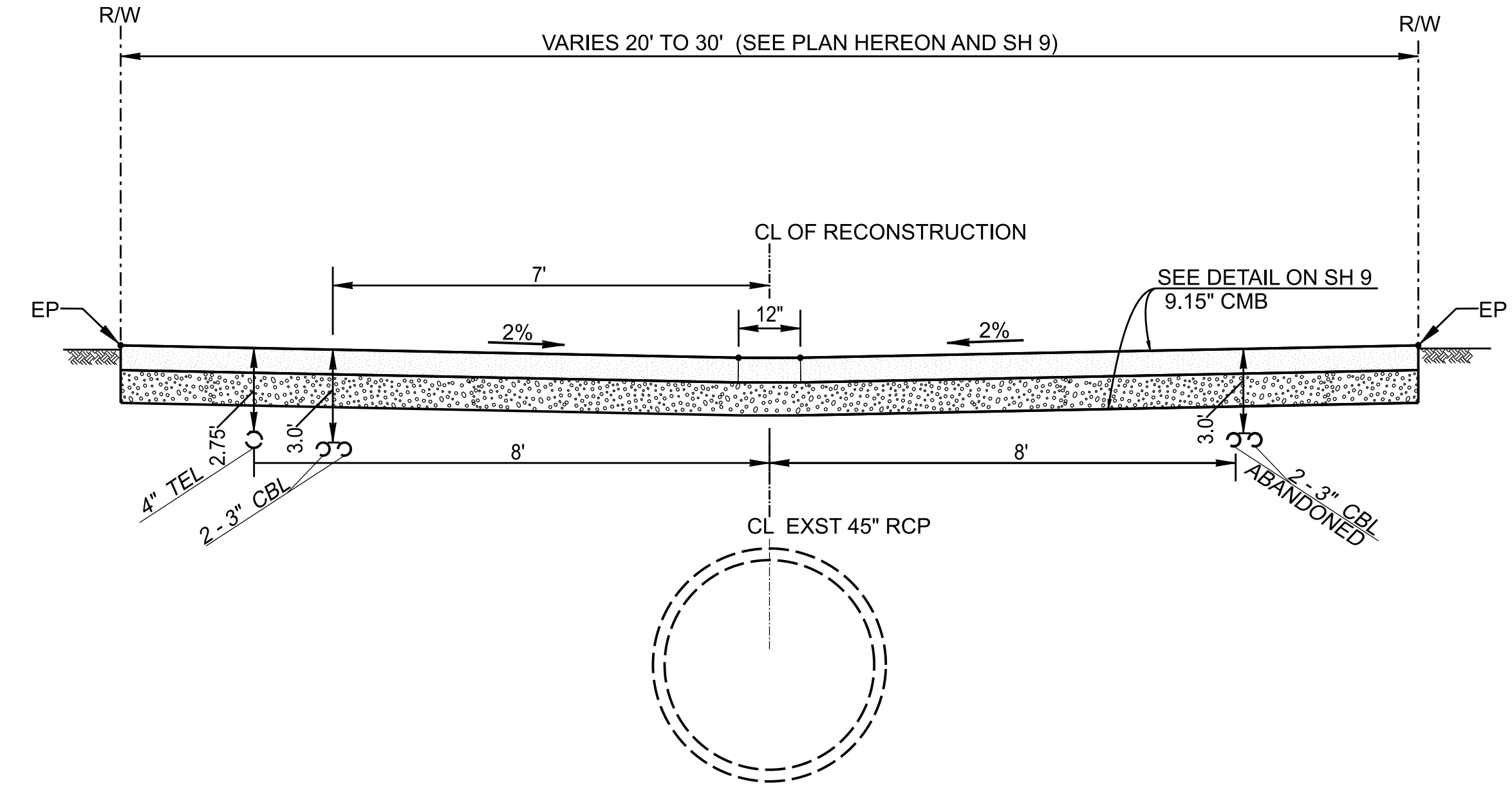
A66. No. Per sheet DR-14, the 3 filtration units will have 36" frames and covers per SPPWC standard plan 633.

Q67. *Purposed DSBB (Dual Stage Hydrodynamic Separator) designs, filtration units, are on following pages.*

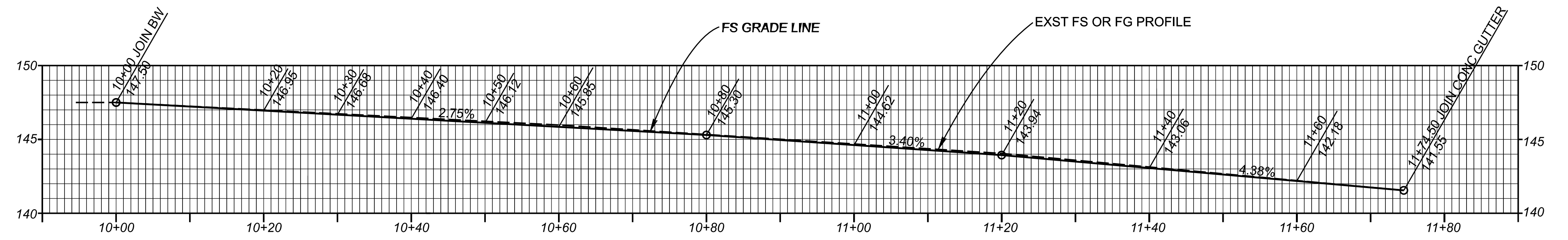
A67. Refer to 4-6 in Section G for consideration of equal products. Also, the performance specifications for the filtration units have been updated. Refer to revised specification language included with this Addendum No. 2.



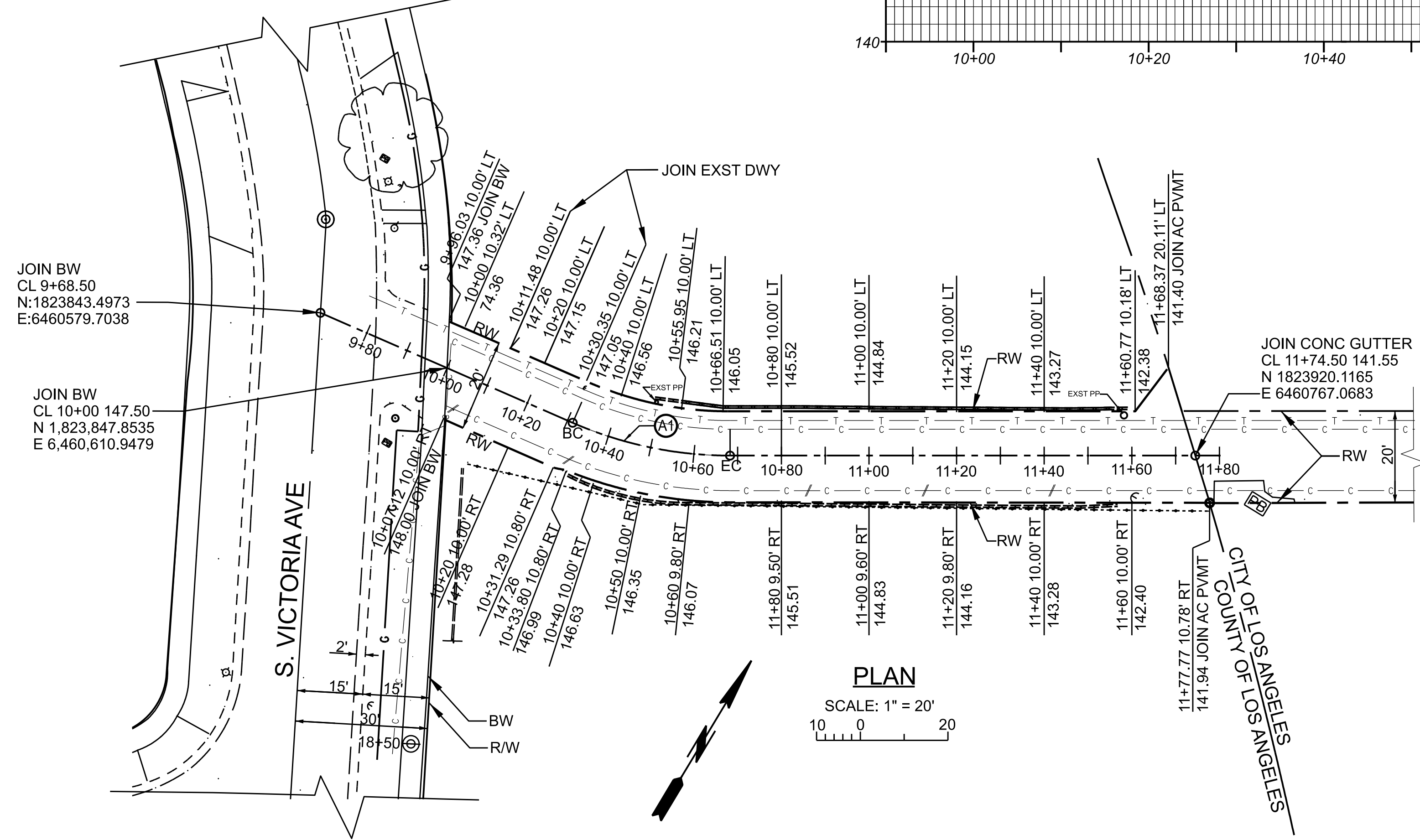
**TYPICAL SECTION
LOOKING EAST**
NTS
STA 10+30.35 TO STA 11+60.77



**TYPICAL SECTION
LOOKING EAST**
NTS
STA 10+00 TO STA 10+30.35 AND
STA 11+60.77 TO STA 11+74.50



PROFILE ALONG THE CL OF RECONSTRUCTION
SCALE: 1" = 10' H, 1" = 5' V



PLAN
SCALE: 1" = 20'

- UTILITIES**
- G — NATURAL GAS
 - T — TELECOM (AT&T)
 - C — CABLE (CROWN CASTLE)
 - / — C — ABANDONED CABLE (TO BE REMOVED)

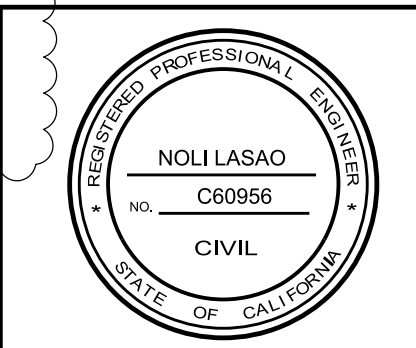
BENCHMARK:
VERTICAL DATUM IS NAVD '88
CULVER QUAD 2005 ADJ
CONTROL PT 10002 EL 216.23 R4
CONTROL PT 12 EL 215.19 LP-2

CURVE	RADIUS (FT)	CENTRAL ANGLE	LENGTH (FT)	TANGENT (FT)	STATION	POINT OF INTERSECTION	
						NORTHING	EASTING
(A1)	89.89	23°33'45"	36.97	18.75	10+31.30 BC 10+68.27 EC	1,823,854.7817	6,460,660.5057

BC
N 1,823,852.1881 E 6,460,641.9385
EC
N 1,823,864.5824 E 6,460,676.4936

CADD PROJECT FILE NAME
SWQ000005.DGN
CHECKER
R. LUI
DESIGNER
N. LASAO
DRAFTER
N. LASAO

DATE	MK	DESCRIPTION
11/17/22	N. L.	ADDED RIGHT-OF-WAY DIMENSIONS
11/17/22	N. L.	REVISED CURVE DATE BC AND EC



LOS ANGELES COUNTY PUBLIC WORKS

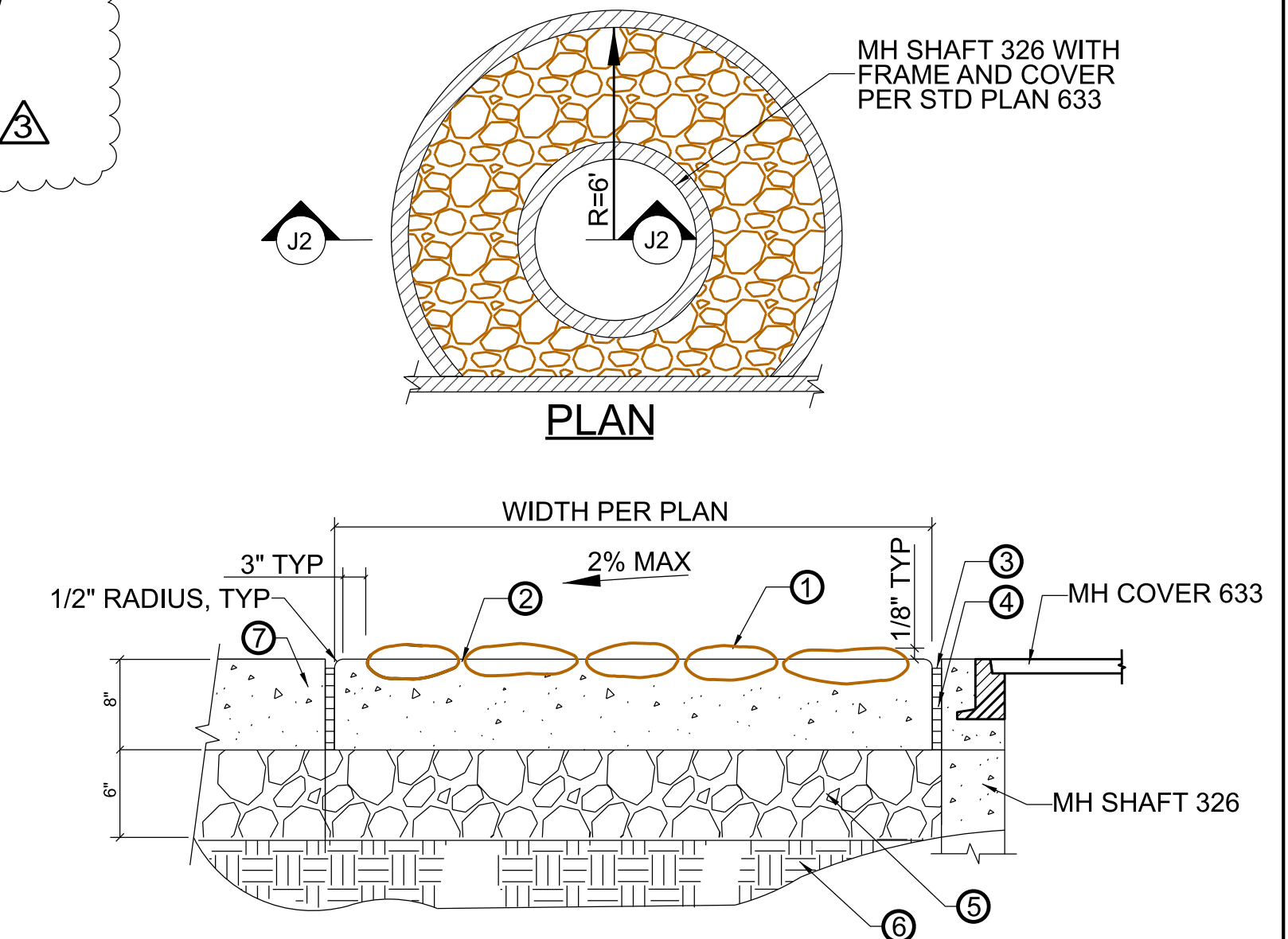
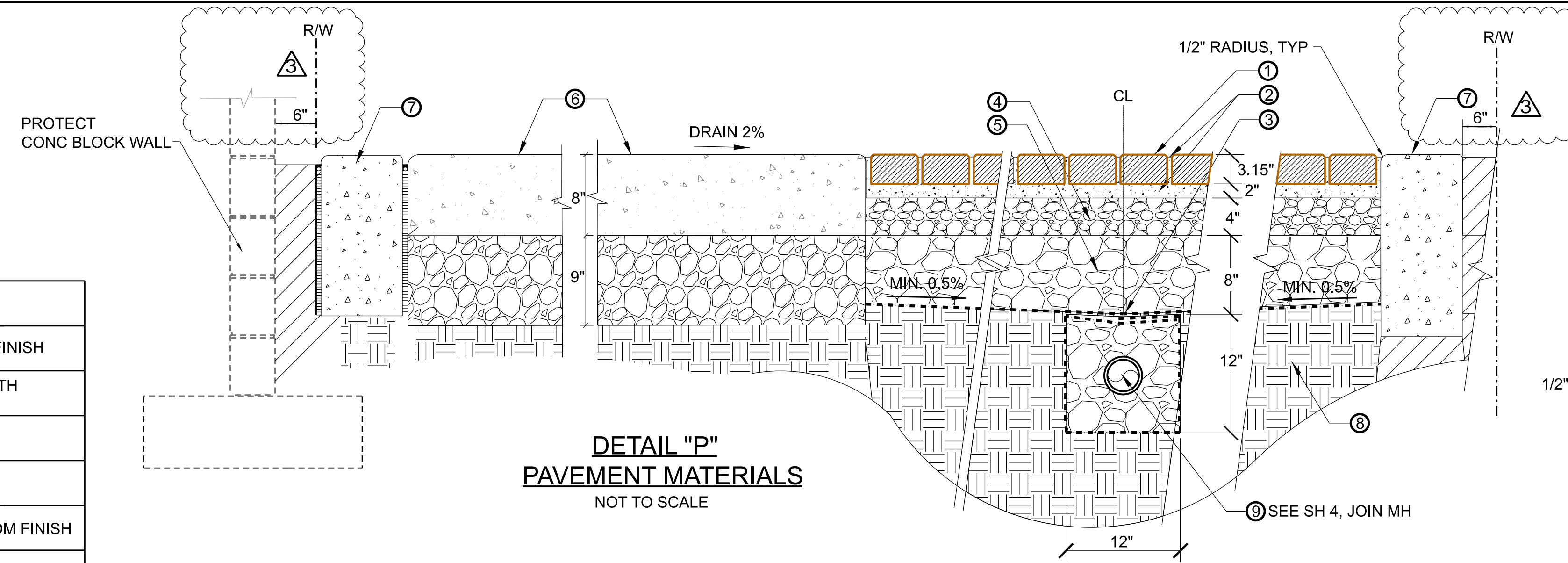
MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS

GREEN ALLEY PAVEMENT RECONSTRUCTION PLAN, PROFILE, AND CROSS SECTIONS

PROJECT ID NO. SWQ000005

CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 8 OF 23

CONSTRUCTION MATERIALS LEGEND		
	⑧ COLORED CONCRETE (TYPE 1), SEE DETAIL C, PLAN LS-1.05	DARK GRAY/BROOM FINISH
	⑨ COLORED CONCRETE (TYPE 2), SEE DETAIL C, PLAN LS-1.05	MEDIUM GRAY/SMOOTH TROWEL FINISH
	⑩ PERMEABLE PAVERS	LIGHT BROWN
	⑪ RIVER ROCK IN CONCRETE	GRAY TAN
	① 6" X 12" CONCRETE HEADER (TYPE 1)	NATURAL GRAY/BROOM FINISH
	② 12" X 18" CONCRETE HEADER (TYPE 2)	NATURAL GRAY/BROOM FINISH
	③ GRATING CATCH BASIN - ALLEY (TRANSVERSE), PER STD PLAN 305	2 GRATES - BICYCLE PROOF WELDED STEEL



- LEGEND:
- ① CONCRETE UNIT PAVERS (PERMEABLE), REFER TO SPECIAL PROVISIONS. RUNNING BOND PATTERN. LONG SIDE OF UNIT PAVER PARALLEL WITH LONGEST LENGTH OF ABUTTING CURB OR EDGE RESTRAINT PER PLAN. FILL VOID WITH 1/8" WASHED CRUSHED ROCK, CUT PAVERS TO FIT PLAN. MAXIMUM TOLERANCE 1/4" GAP.
 - ② 1/4" WASHED CRUSHED ROCK SETTING BED AND 1/8" JOINT FILLER GRADED CONCRETE AGGREGATE, PER GREENBOOK TABLE 200-1.2.1 (A).
 - ③ SEPARATION GEOTEXTILE, REFER TO SPECIAL PROVISIONS.
 - ④ NO. 3 CONCRETE AGGREGATE PER GREENBOOK TABLE 200-1.4 (B).
 - ⑤ NO. 2 CONCRETE AGGREGATE PER GREENBOOK TABLE 200-1.4 (B).
 - ⑥ COLORED CONCRETE TYPE 1 OR TYPE 2 SEE PLAN LS.
 - ⑦ CONCRETE HEADER TYPE 1 OR TYPE 2 SEE PLAN LS.
 - ⑧ SUBGRADE, 95% RELATIVE COMPACTION. MINIMUM 0.5% SLOPE TO SUBDRAIN SYSTEM
 - ⑨ SUBRAIN SYSTEM: 4" DIA. HDPE PERFORATED PIPE WHERE SHOWN ON PLAN. WRAP PIPE WITH NO. 2 CONCRETE AGGREGATE ROCK WITH SEPARATION GEOTEXTILE, REFER TO SPECIAL PROVISIONS.

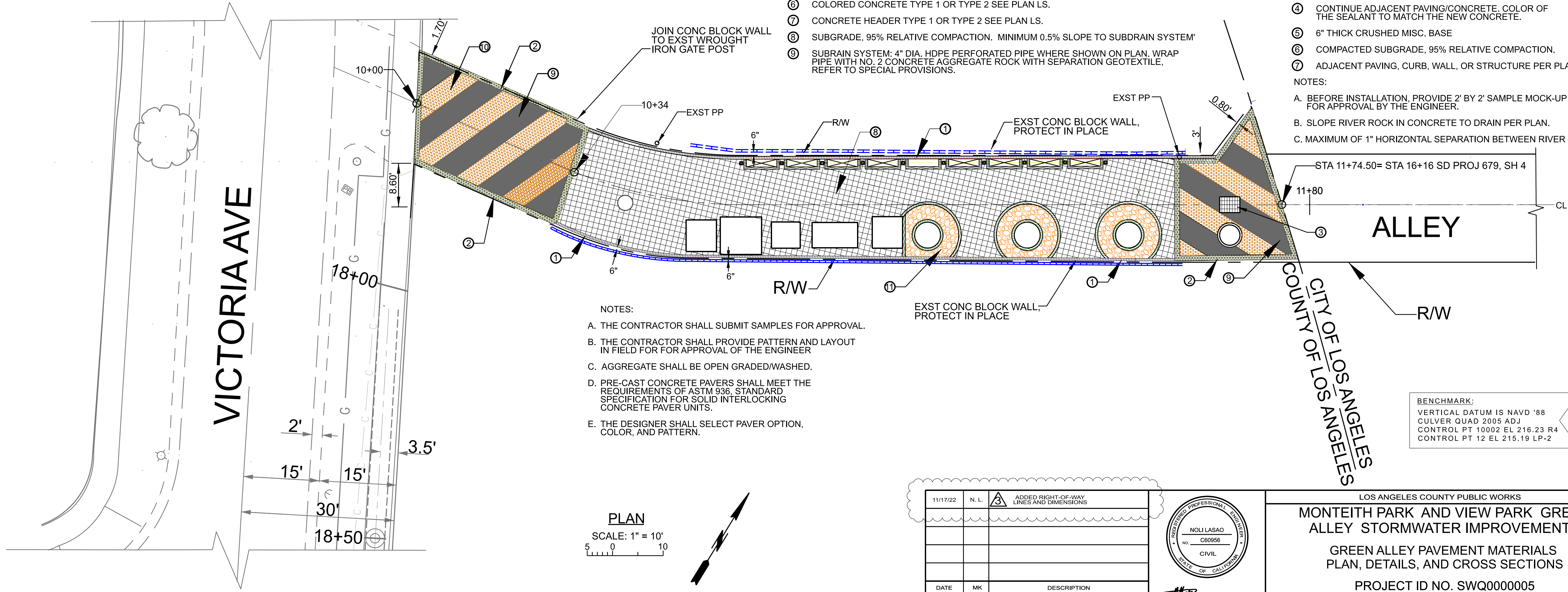
- SECTION J2-J2
- LEGEND:
- ① RIVER ROCK IN CONCRETE, REFER TO SPECIAL PROVISIONS. SET RIVER ROCK W/ MIN. 50% OF THEIR RESPECTIVE DIA. AND WITH HEIGHT SHOWN ABOVE ADJACENT MATERIAL IN CONCRETE. SMOOTH THE CONCRETE BETWEEN ROCKS WITH A SPONGE/LIGHT BROOM FINISH.
 - ② CONCRETE (CLASS 560-C-3250), COLOR PER PLAN LS.
 - ③ EXPANSION JOINT. 1/2" THICK ASPHALT IMPREGNATED FIBERBOARD W/ SEALANT TO OCCUR EVERY 10' AND
 - ④ CONTINUE ADJACENT PAVING/CONCRETE, COLOR OF THE SEALANT TO MATCH THE NEW CONCRETE.
 - ⑤ 6" THICK CRUSHED MISC. BASE
 - ⑥ COMPACTED SUBGRADE, 95% RELATIVE COMPACTION.
 - ⑦ ADJACENT PAVING, CURB, WALL, OR STRUCTURE PER PLAN.
- NOTES:
- A. BEFORE INSTALLATION, PROVIDE 2' BY 2' SAMPLE MOCK-UP FOR APPROVAL BY THE ENGINEER.
 - B. SLOPE RIVER ROCK IN CONCRETE TO DRAIN PER PLAN.
 - C. MAXIMUM OF 1" HORIZONTAL SEPARATION BETWEEN RIVER ROCK.

CADD PROJECT FILE NAME
S:\160000005.DGN

CHECKER
R. LUI

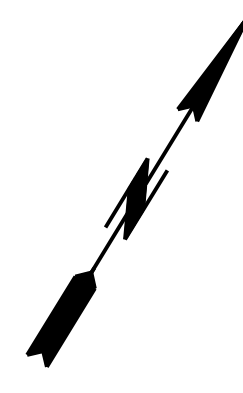
DESIGNER
N. LASAO

DRAFTER
N. LASAO



- NOTES:
- A. THE CONTRACTOR SHALL SUBMIT SAMPLES FOR APPROVAL.
 - B. THE CONTRACTOR SHALL PROVIDE PATTERN AND LAYOUT IN FIELD FOR APPROVAL OF THE ENGINEER
 - C. AGGREGATE SHALL BE OPEN GRADED/WASHED.
 - D. PRE-CAST CONCRETE PAVERS SHALL MEET THE REQUIREMENTS OF ASTM 936, STANDARD SPECIFICATION FOR SOLID INTERLOCKING CONCRETE PAVER UNITS.
 - E. THE DESIGNER SHALL SELECT PAVER OPTION, COLOR, AND PATTERN.

PLAN
SCALE: 1" = 10'



DATE	MK	DESCRIPTION
11/17/22	N. L.	ADDED RIGHT-OF-WAY LINES AND DIMENSIONS



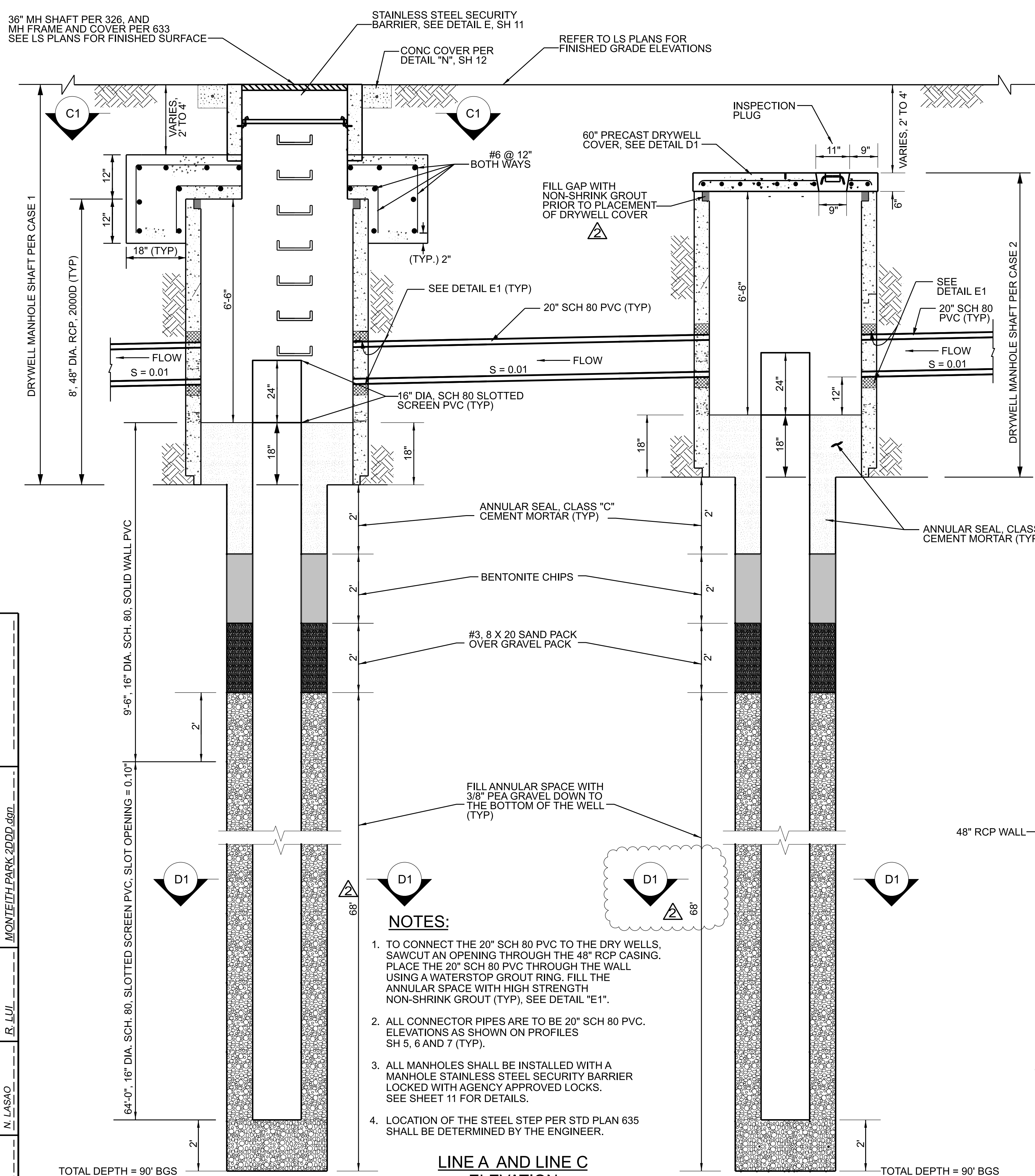
LOS ANGELES COUNTY PUBLIC WORKS

MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS

GREEN ALLEY PAVEMENT MATERIALS PLAN, DETAILS, AND CROSS SECTIONS

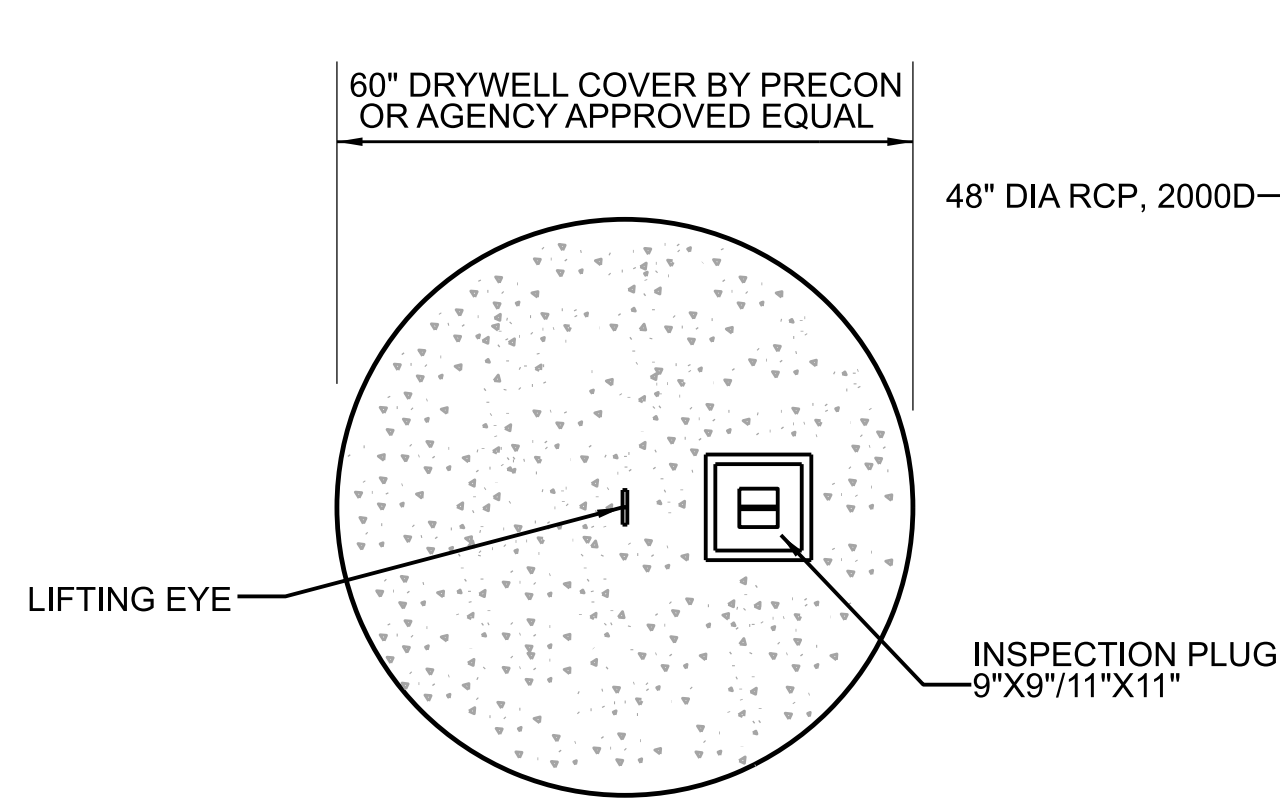
PROJECT ID NO. SWQ000005

CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 9 OF 23

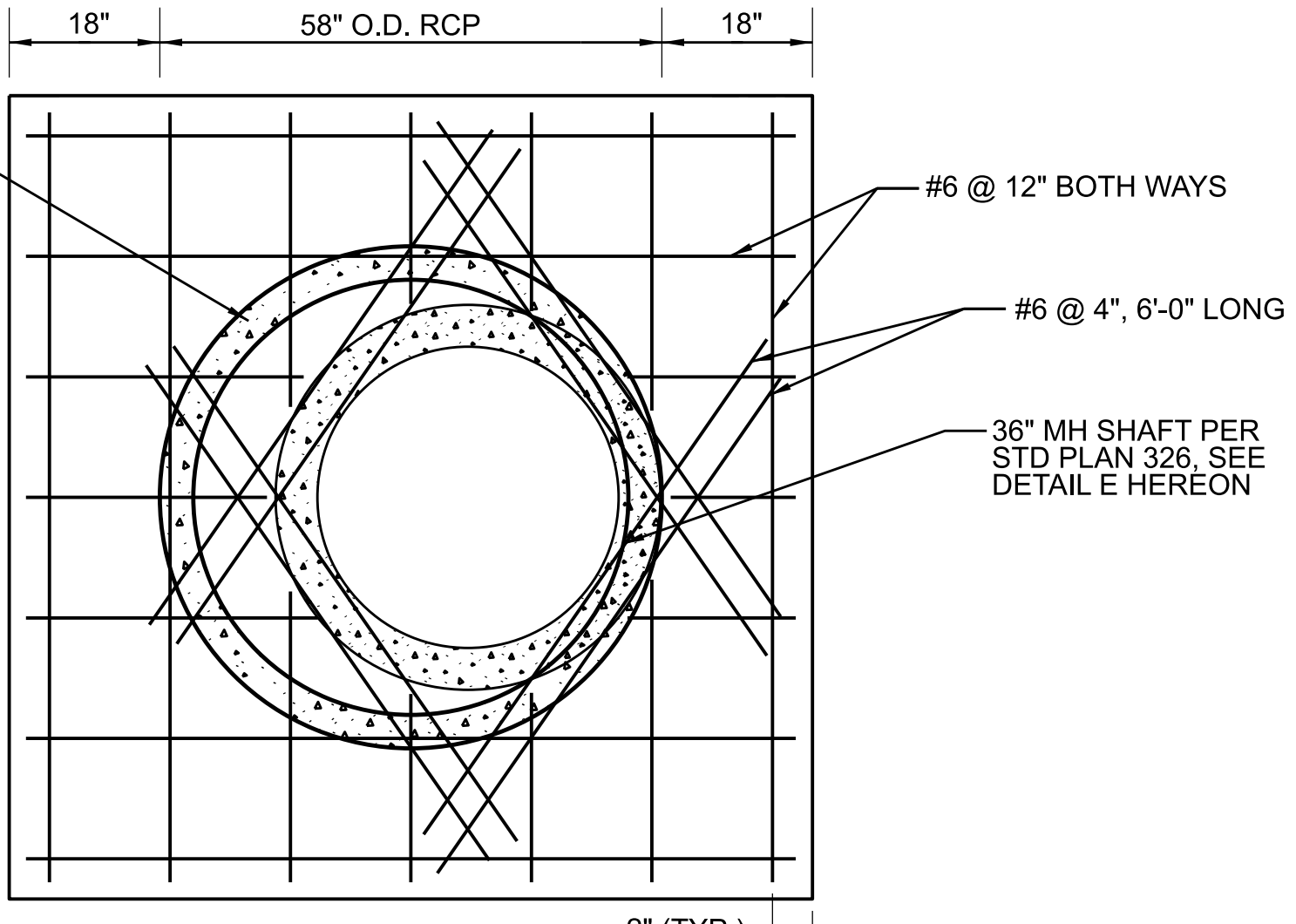


- NOTES:**
- TO CONNECT THE 20" SCH 80 PVC TO THE DRY WELLS, SAWCUT AN OPENING THROUGH THE 48" RCP CASING. PLACE THE 20" SCH 80 PVC THROUGH THE WALL USING A WATERSTOP GROUT RING. FILL THE ANNULAR SPACE WITH HIGH STRENGTH NON-SHRINK GROUT (TYP), SEE DETAIL "E1".
 - ALL CONNECTOR PIPES ARE TO BE 20" SCH 80 PVC. ELEVATIONS AS SHOWN ON PROFILES SH 5, 6 AND 7 (TYP).
 - ALL MANHOLES SHALL BE INSTALLED WITH A MANHOLE STAINLESS STEEL SECURITY BARRIER LOCKED WITH AGENCY APPROVED LOCKS. SEE SHEET 11 FOR DETAILS.
 - LOCATION OF THE STEEL STEP PER STD PLAN 635 SHALL BE DETERMINED BY THE ENGINEER.

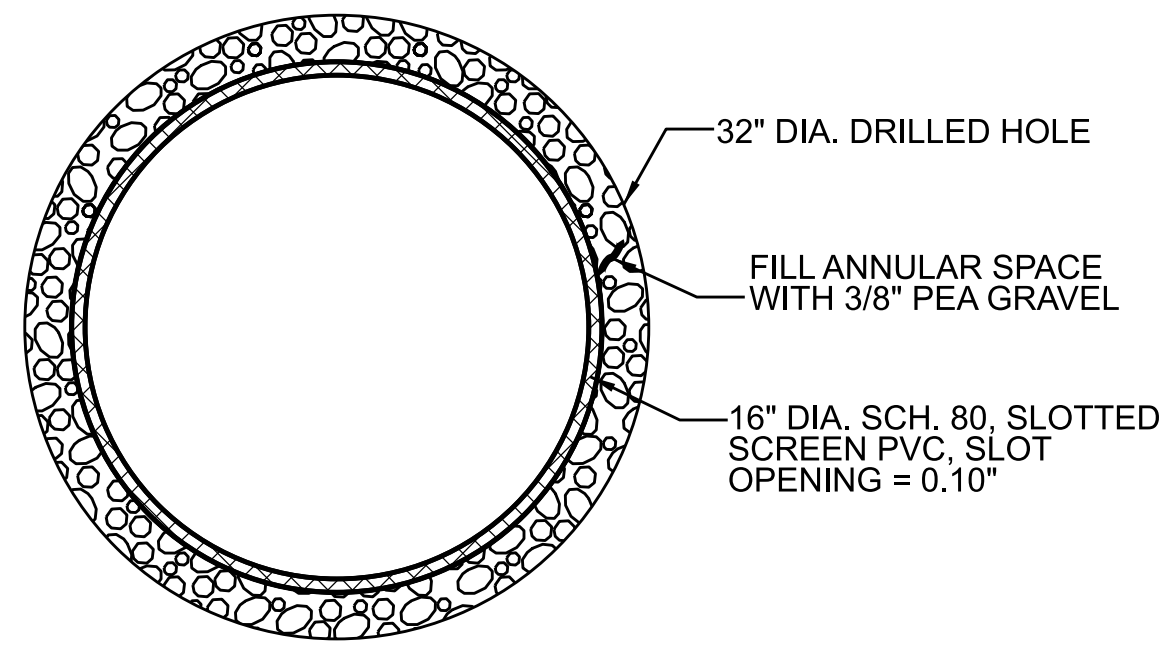
**LINE A AND LINE C
ELEVATION
DRYWELL DETAILS**
NOT TO SCALE



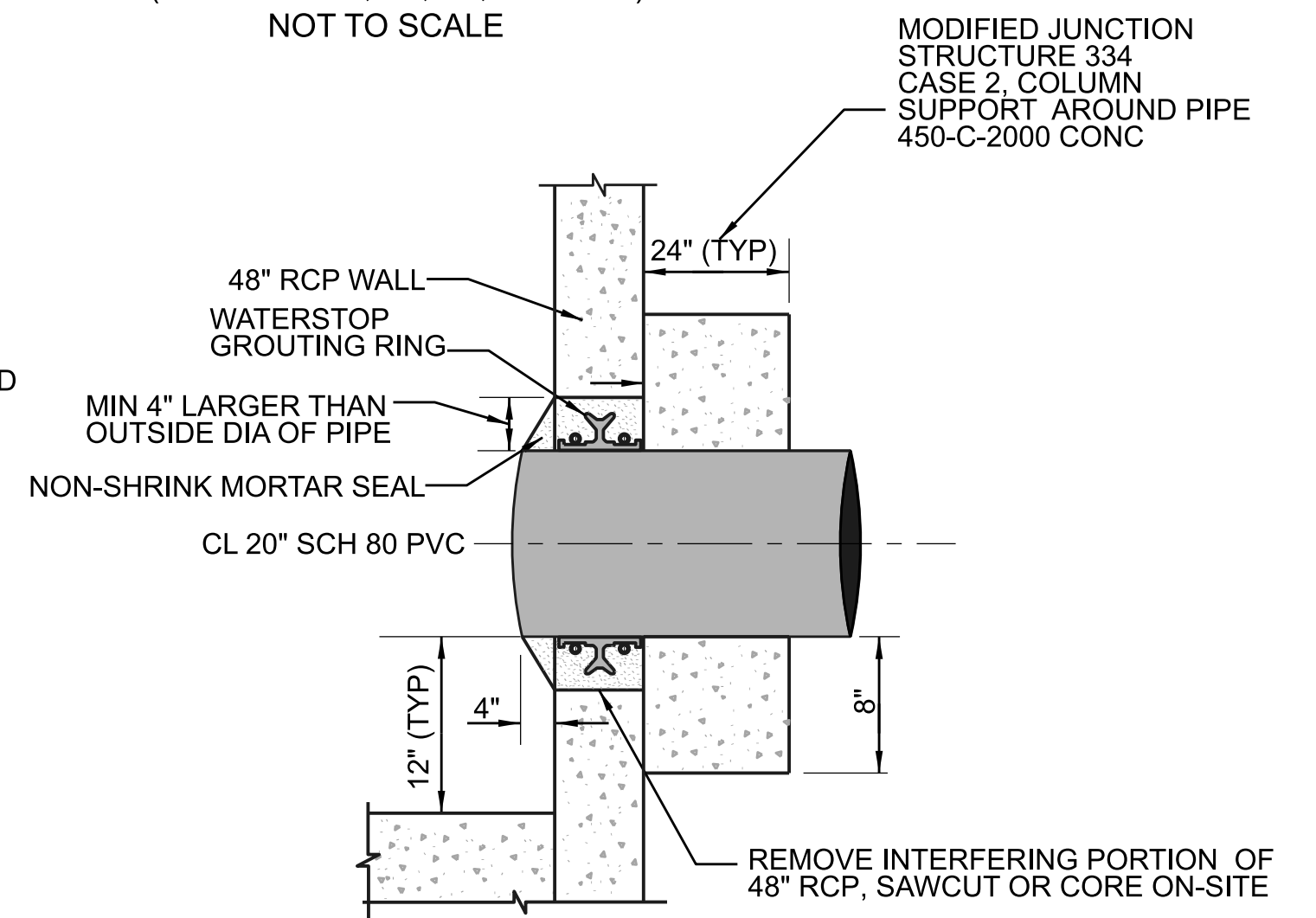
**DETAIL D1
60\"/> PRECAST BELOW GRADE
DRYWELL PIT COVER DETAIL**
NOT TO SCALE



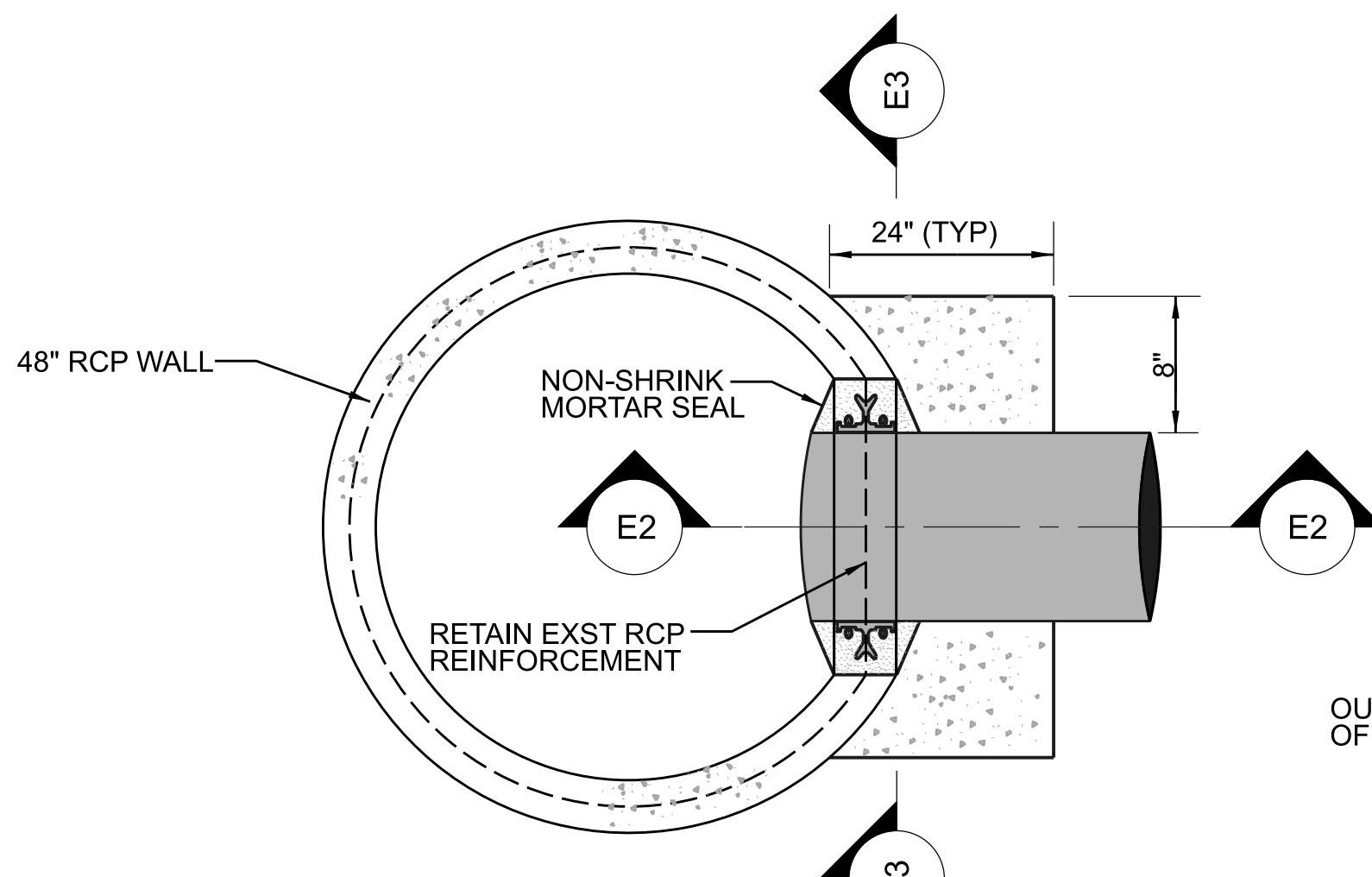
**SECTION C1-C1
DRYWELL COVER CASE 1**
(DRYWELL B1, B2, B3, D7 & F15)
NOT TO SCALE



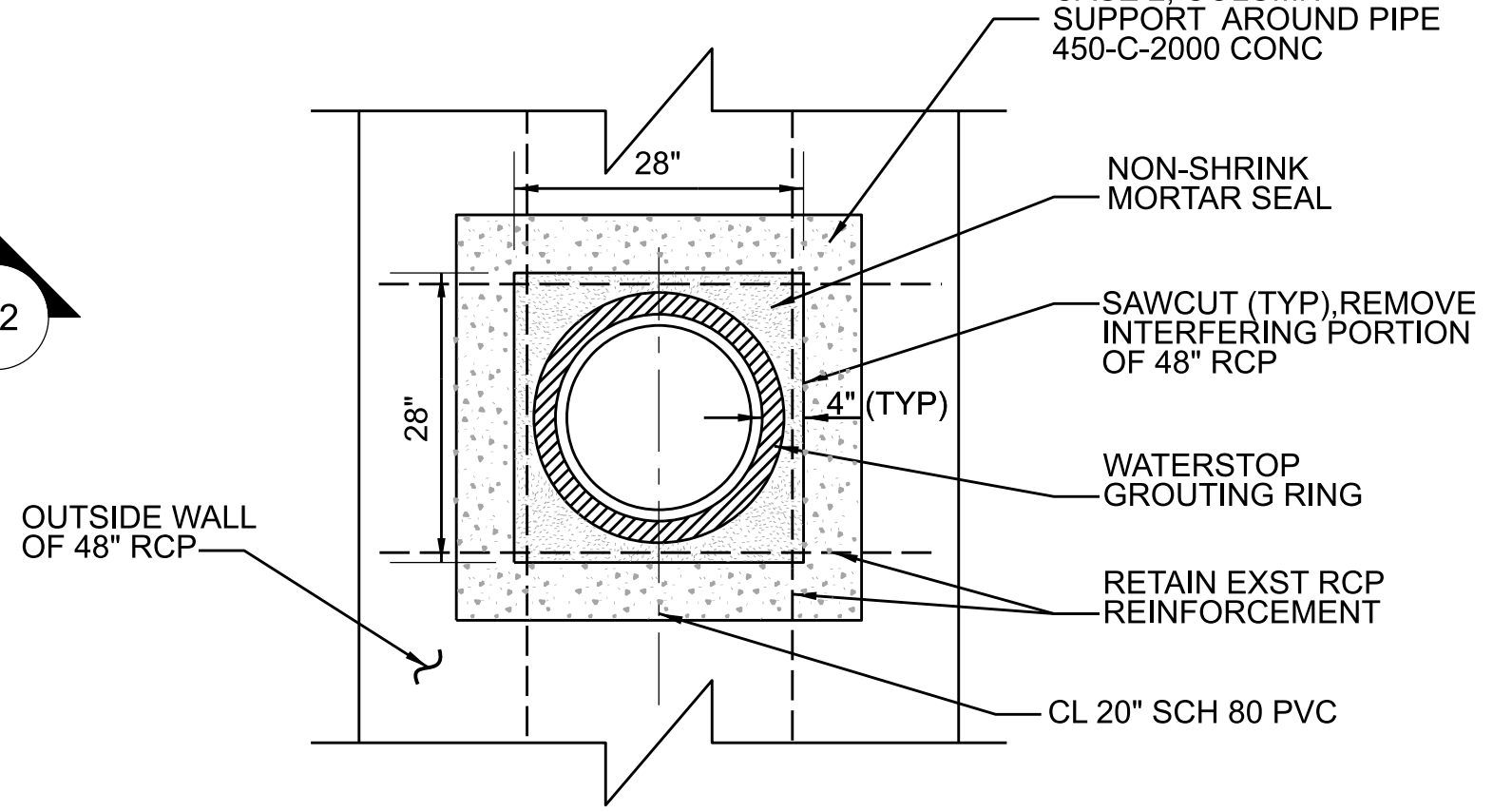
**SECTION D1-D1
16\"/> SCH. 80 SLOTTED SCREEN
PVC DRYWELL CASING**
NOT TO SCALE



SECTION E2-E2



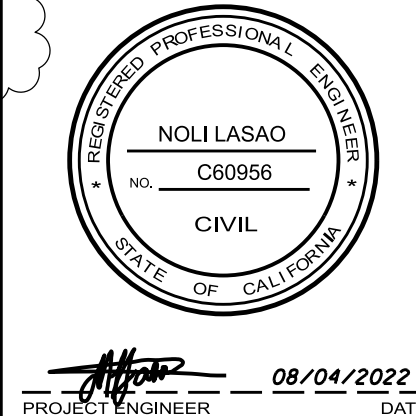
**PLAN
DETAIL E1
PIPE TO DRYWELL CONNECTION**
NOT TO SCALE



SECTION E3-E3

DATE	REVIEWED BY
CADD PROJECT FILE NAME MONTEITH.PARK.20DD.4601	CHECKER R. LUI
DESIGNER N. LASAO	DRAFTER N. LASAO

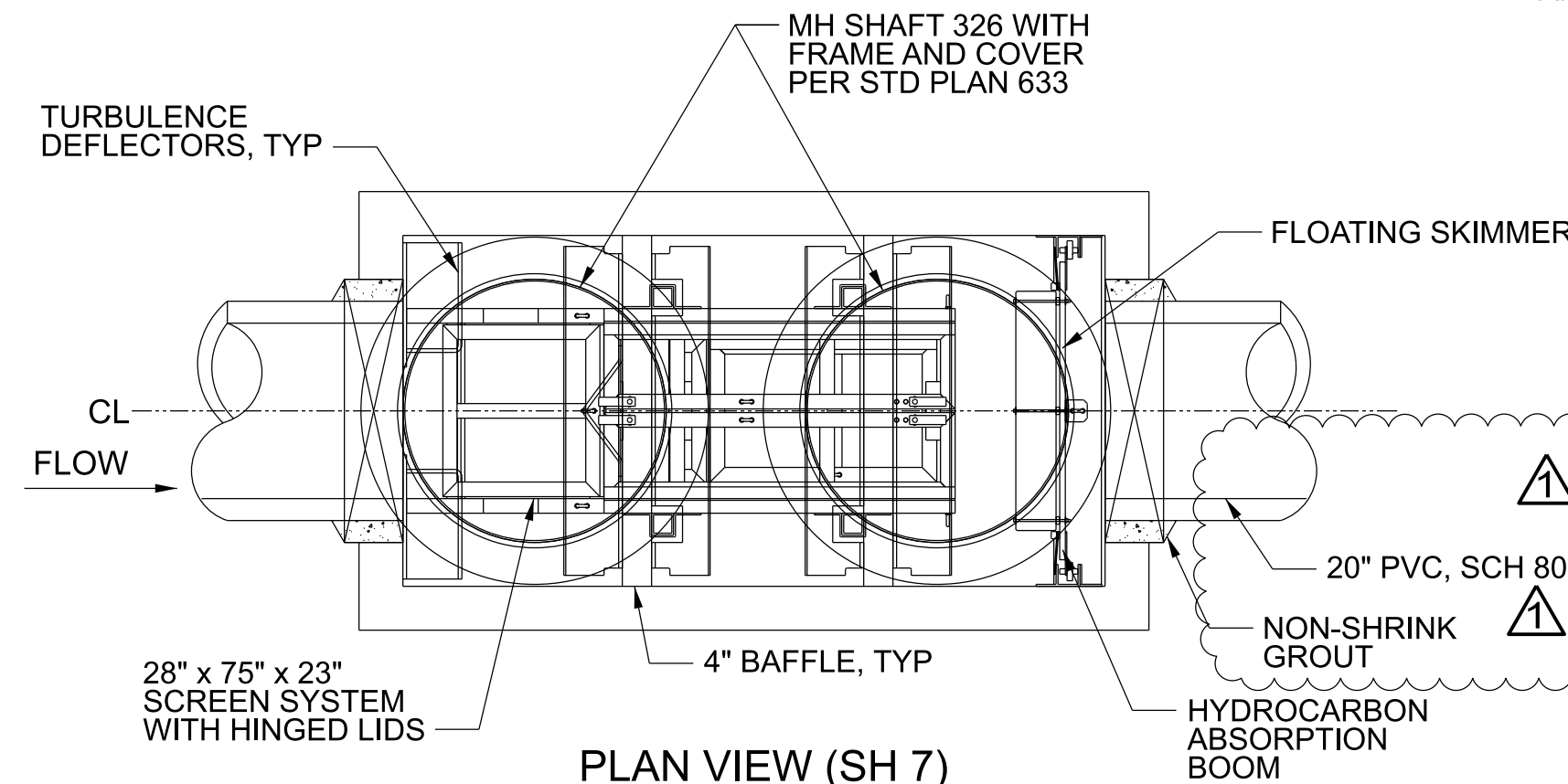
DATE	MK	DESCRIPTION
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REVISIONS		



LOS ANGELES COUNTY PUBLIC WORKS
**MONTEITH PARK AND VIEW PARK GREEN
ALLEY STORMWATER IMPROVEMENTS**
 LINE A AND LINE C DRYWELLS
ELEVATION AND DETAILS
 PROJECT ID NO. SQW000005
 CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 10 OF 23

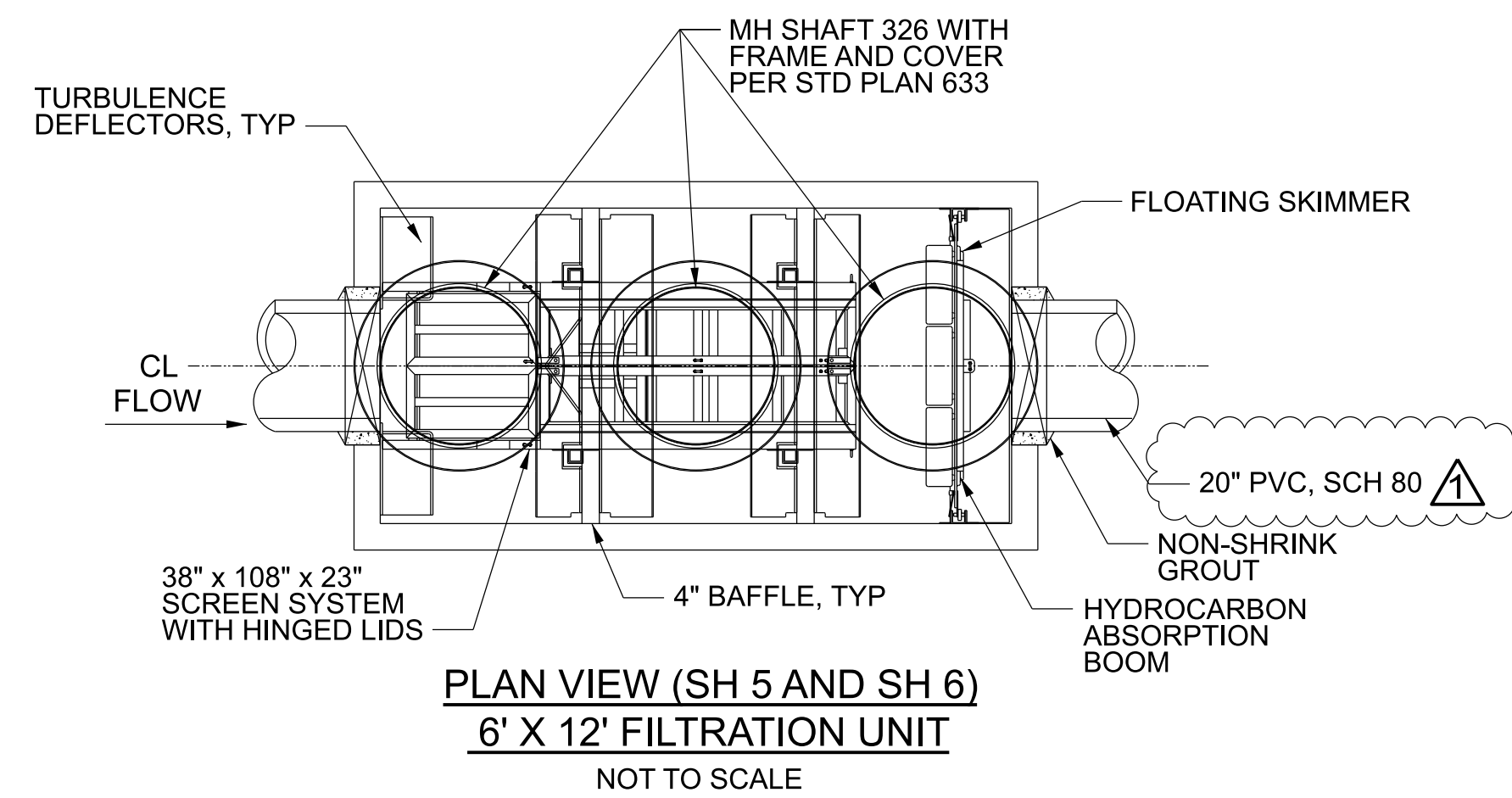
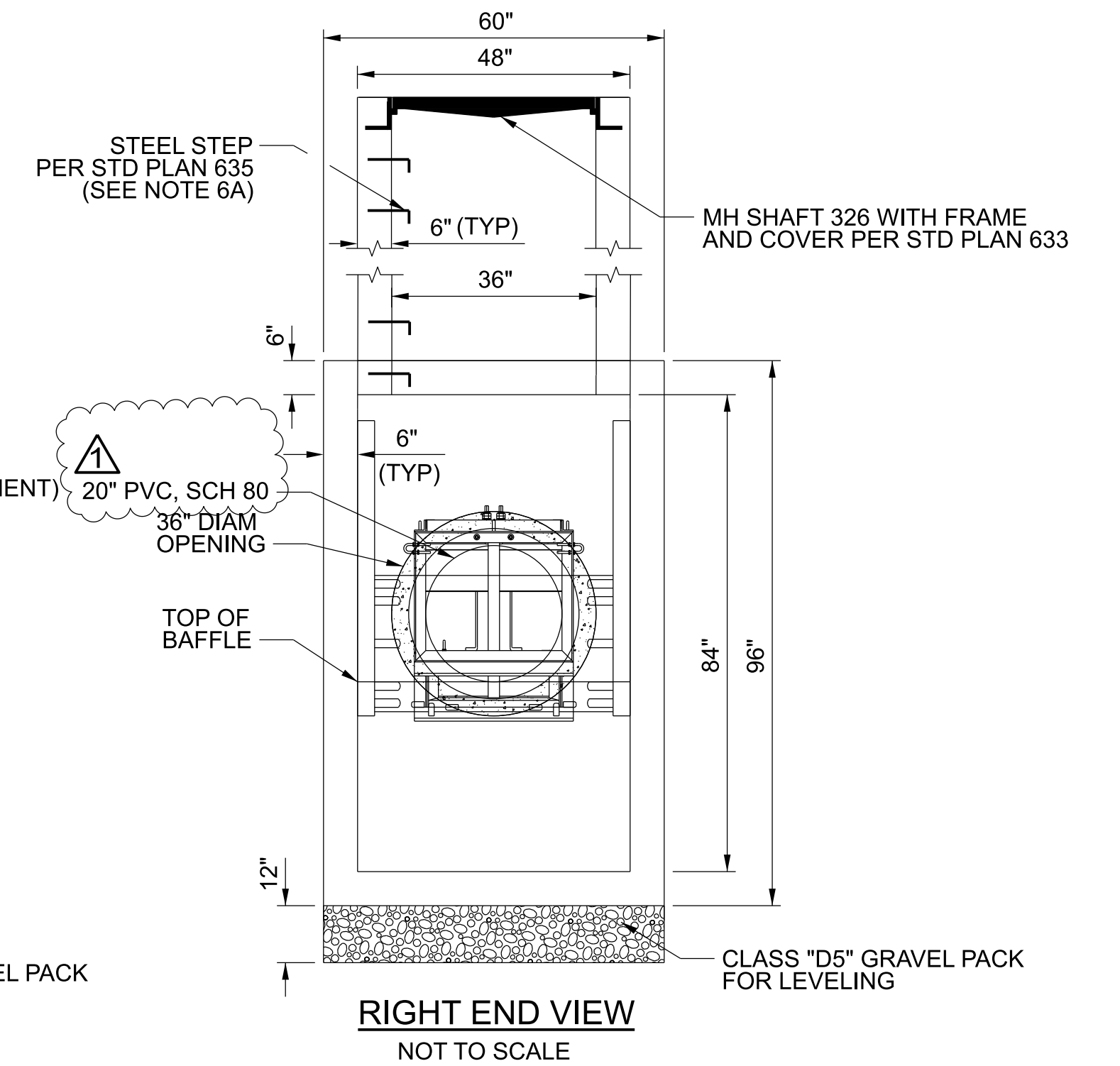
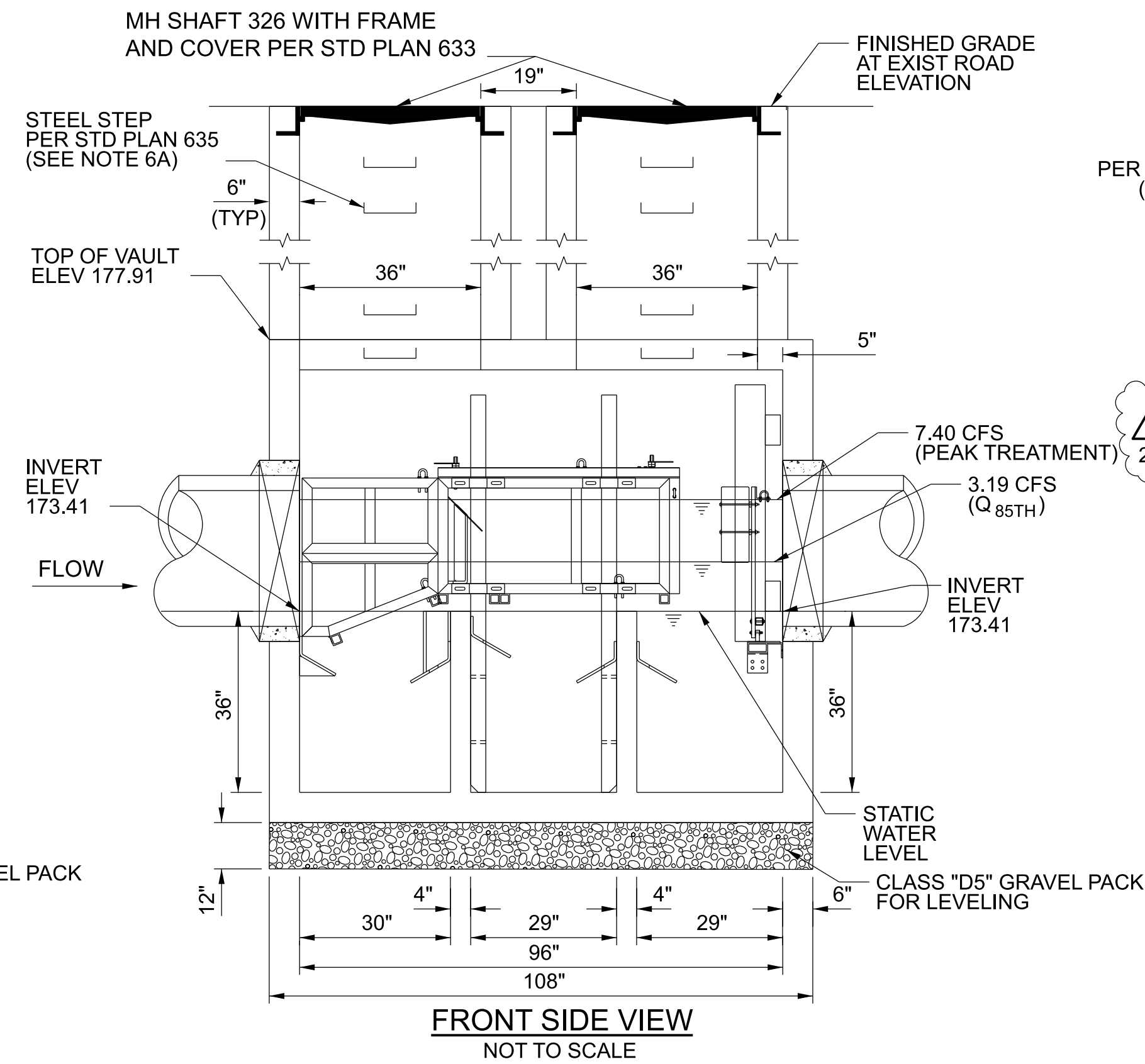
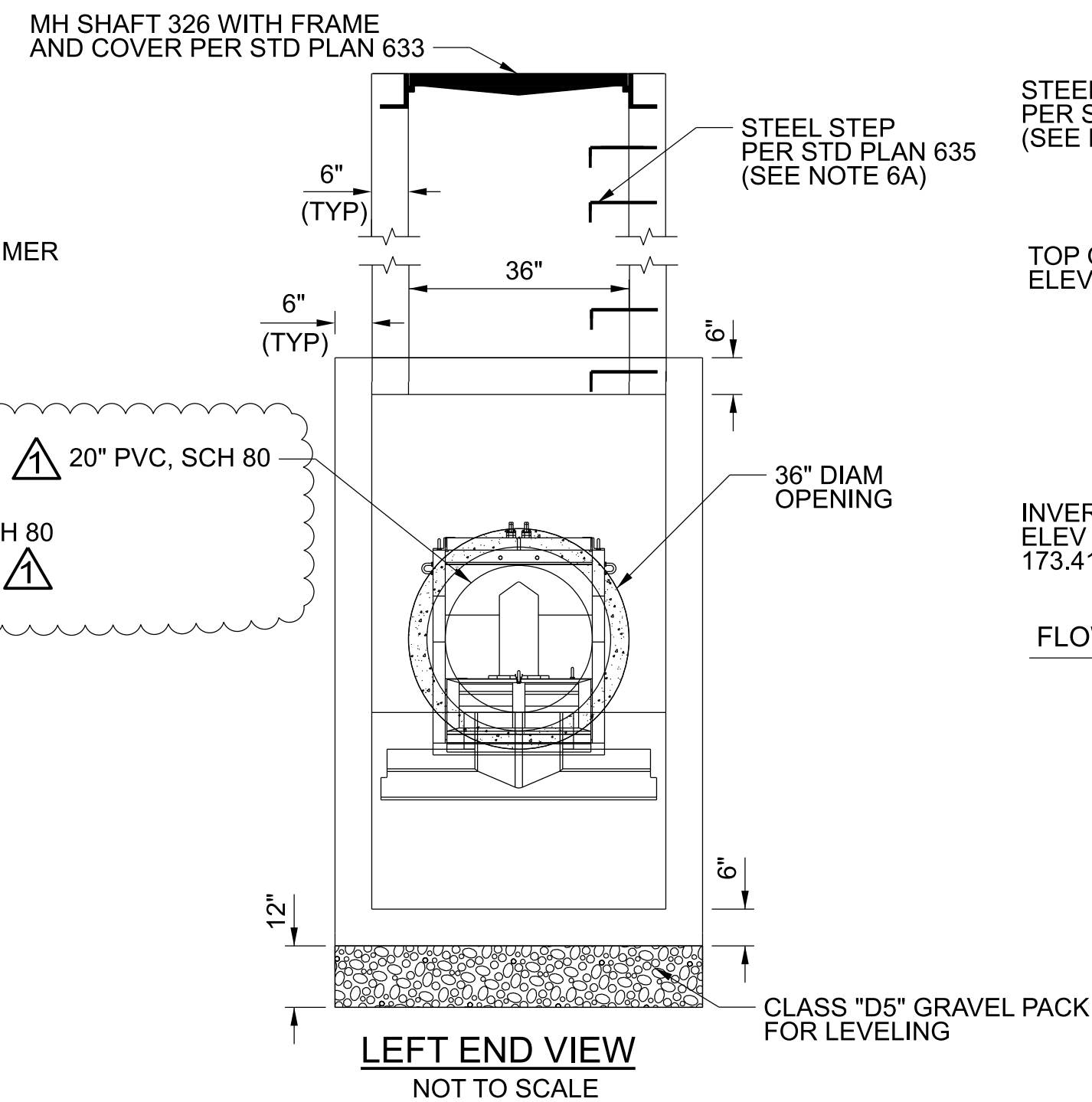
DR-10

PLAN DR



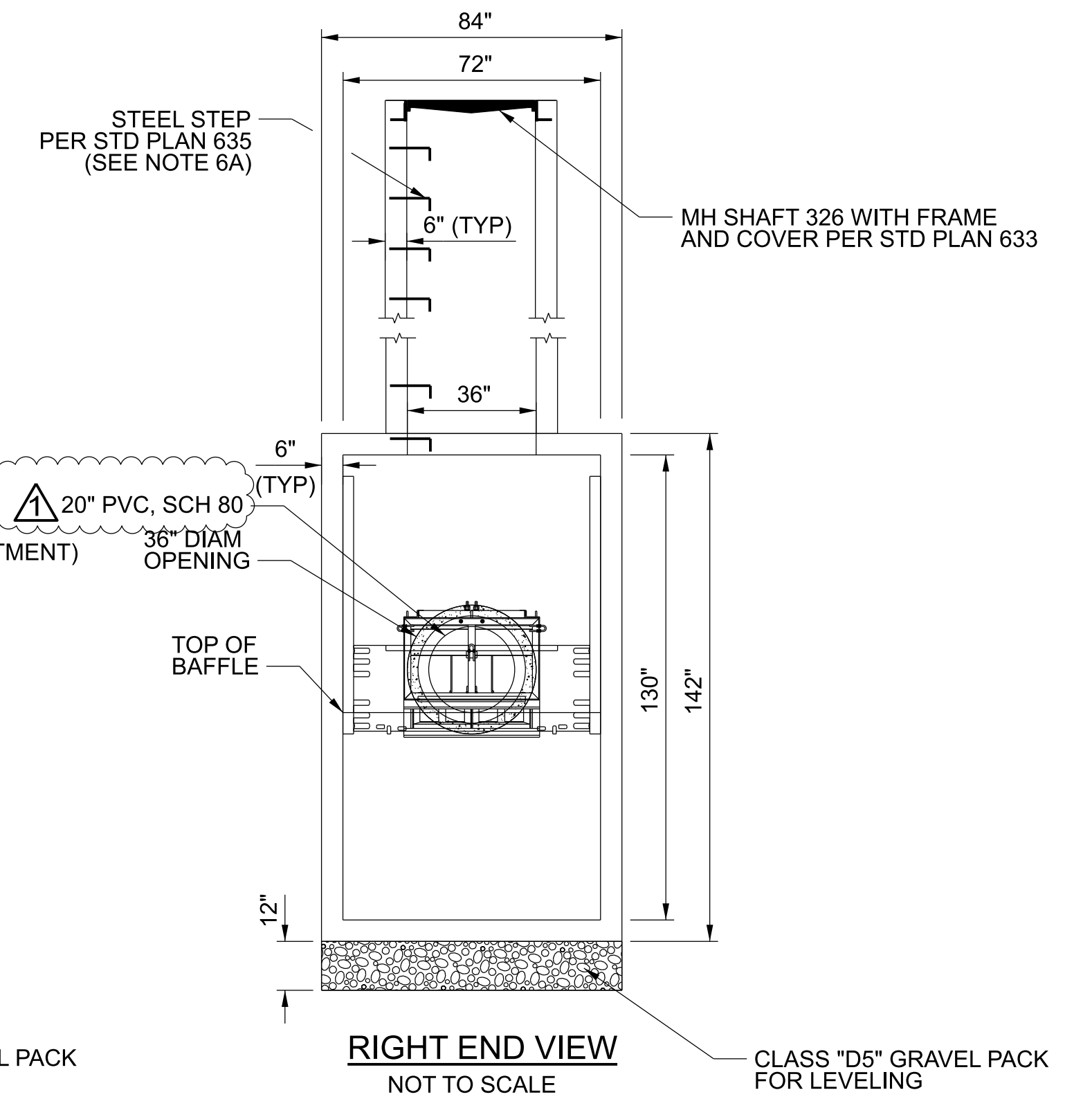
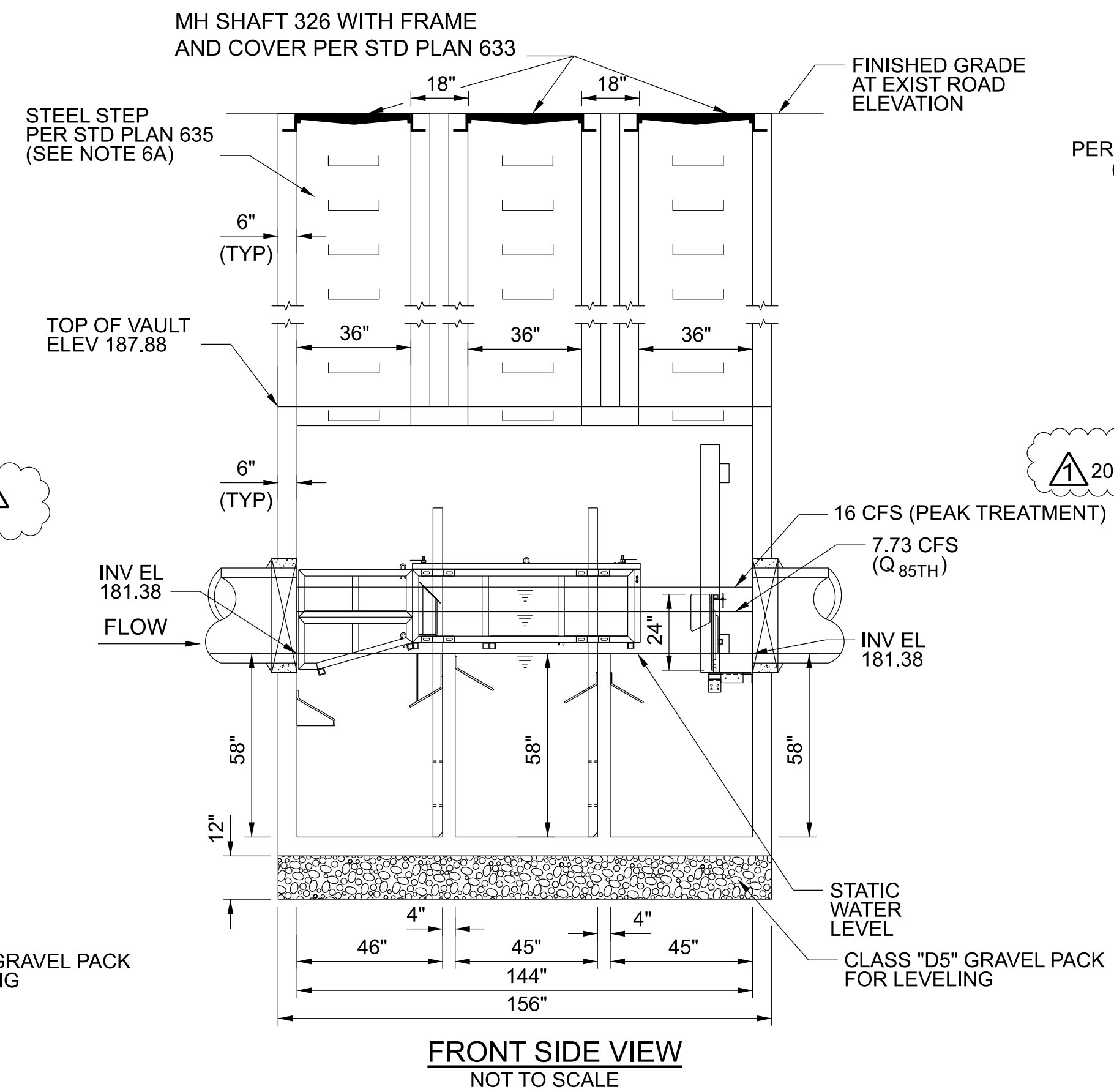
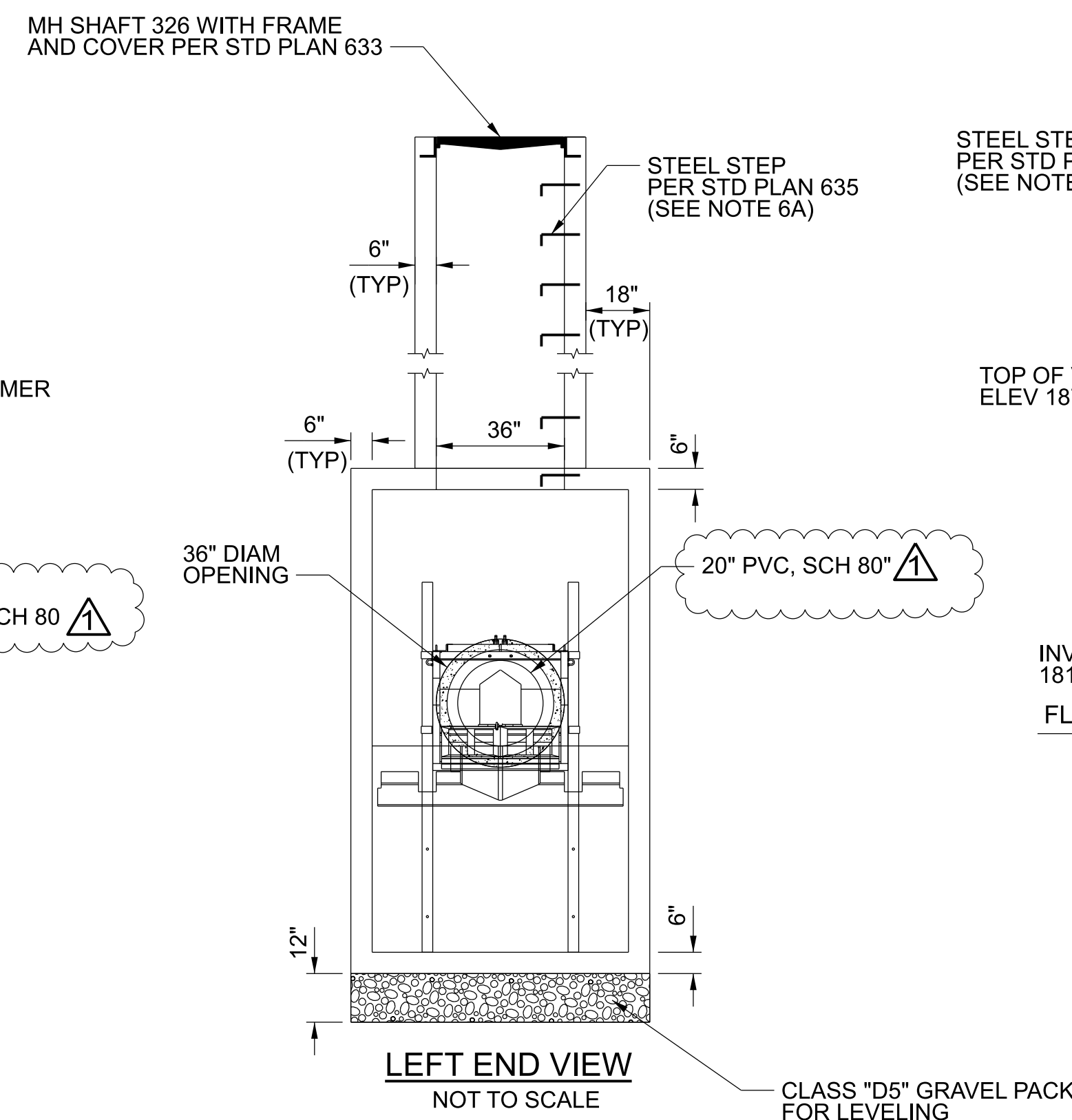
TREATMENT SPECIFICATIONS

- | | |
|--|----------|
| 1. INFLOW PIPE AREA (DRAWN AS 18" RCP) | 1.77 SF |
| 2. PEAK TREATMENT FLOW | 7.40 CFS |
| 3. SCREEN SYSTEM STORAGE VOLUME (MIN) | 21.2 CF |
| 4. TOTAL SEDIMENT VOLUME (MIN) | 70.0 CF |



TREATMENT SPECIFICATIONS

- | | |
|--|----------|
| 1. INFLOW PIPE AREA (DRAWN AS 20" PVC, SCH 80) | 3.14 SF |
| 2. PEAK TREATMENT FLOW | 16.0 CFS |
| 3. SCREEN SYSTEM STORAGE VOLUME (MIN) | 54.6 CF |
| 4. TOTAL SEDIMENT VOLUME (MIN) | 329 CF |



INSTALLATION NOTES

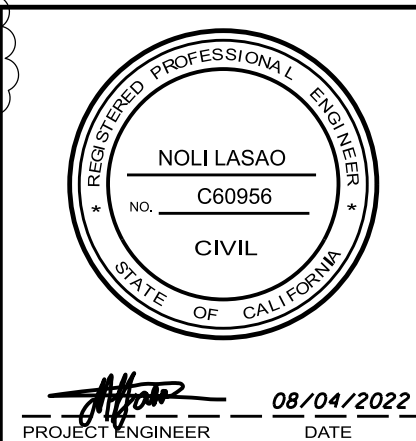
- 1A. INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. CANNOT INTRUDE BEYOND FLUSH.
- 2A. INFLOW AND OUTFLOW PIPE CONNECTIONS TO CONCRETE WALLS SHALL BE PER DETAIL "E", SH. DR-10.
- 3A. BAFFLES WILL BE SEALED TO THE WALLS AND FLOOR WITH GROUT.
- 4A. INVERT OF OUTFLOW PIPE SHALL BE EVEN WITH THE TOP OF THE BAFFLES.
- 5A. THE BOTTOM OF THE SKIMMER SHALL BE 6" BELOW THE INVERT OF THE OUTFLOW PIPE.
- 6A. INVERT OF THE INFLOW PIPE SHALL NOT BE BELOW THE INVERT OF THE OUTFLOW PIPE.
- 7A. THE ENGINEER SHALL DETERMINE THE SIDE OF THE MANHOLE SHAFT WHERE STEPS SHALL BE INSTALLED.

CONSTRUCTION NOTES

1. CONCRETE 28 DAYS COMPRESSIVE STRENGTH, F'c = 5,000 PSI
2. REINFORCING: ASTM A-615 GRADE 60
3. SUPPORTS AN H2O LOADING AS INDICATED BY AASHTO
4. JOINT SEALANT: BUTYL RUBBER SS-S-00210
5. ALL WALLS (TOP, BOTTOM, EXTERIOR SIDE) TO BE 6" THICK CONCRETE.

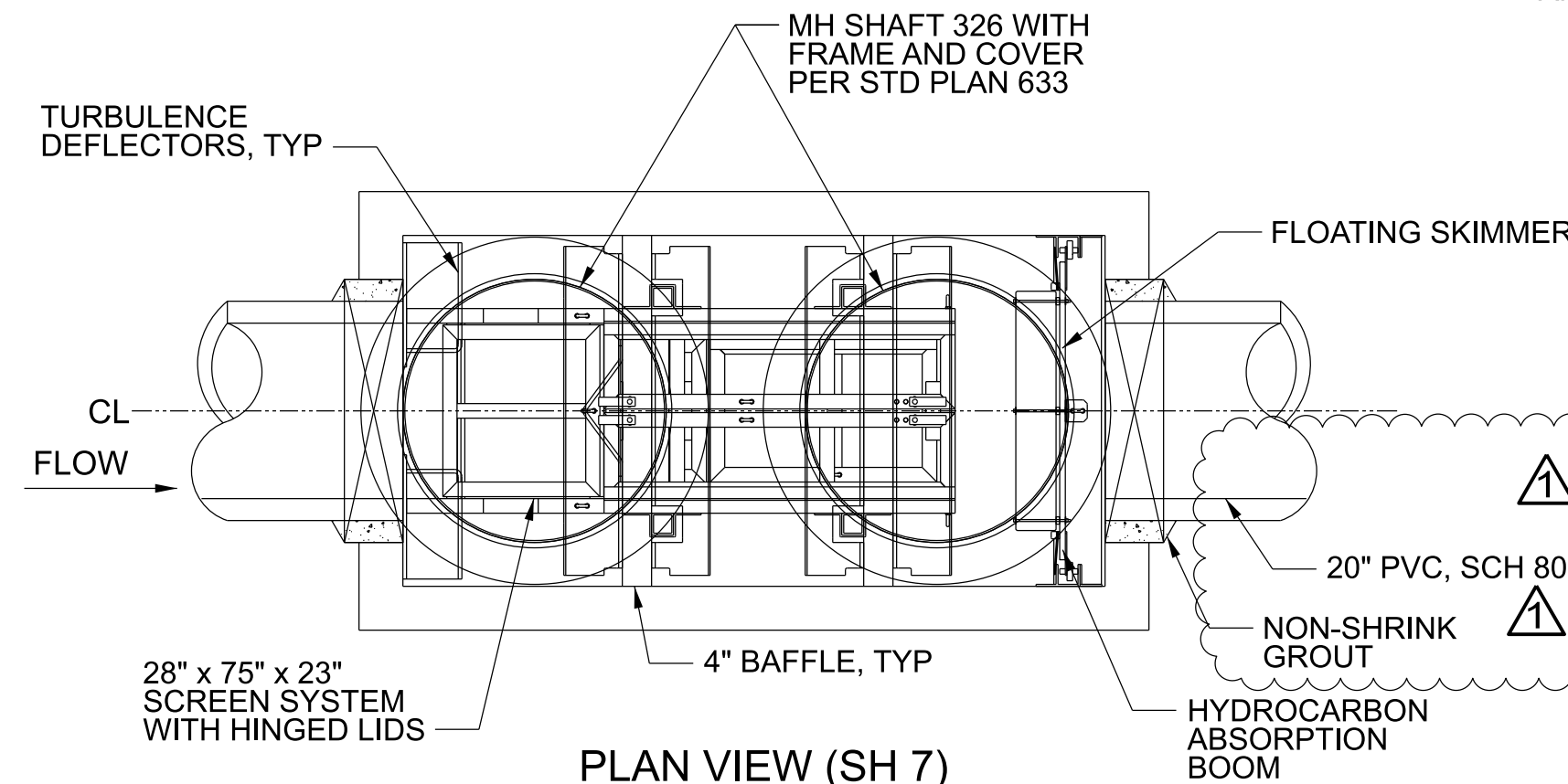
CADD PROJECT FILE NAME: SWQ000005.DGN
 CHECKER: R. LUI
 DESIGNER: N. LASAO
 DRAFTER: N. LASAO

DATE	MK	DESCRIPTION
11/17/22	N. L.	CHANGED INFLOW AND OUTFLOW PIPE FROM 24" RCP TO 20" PVC



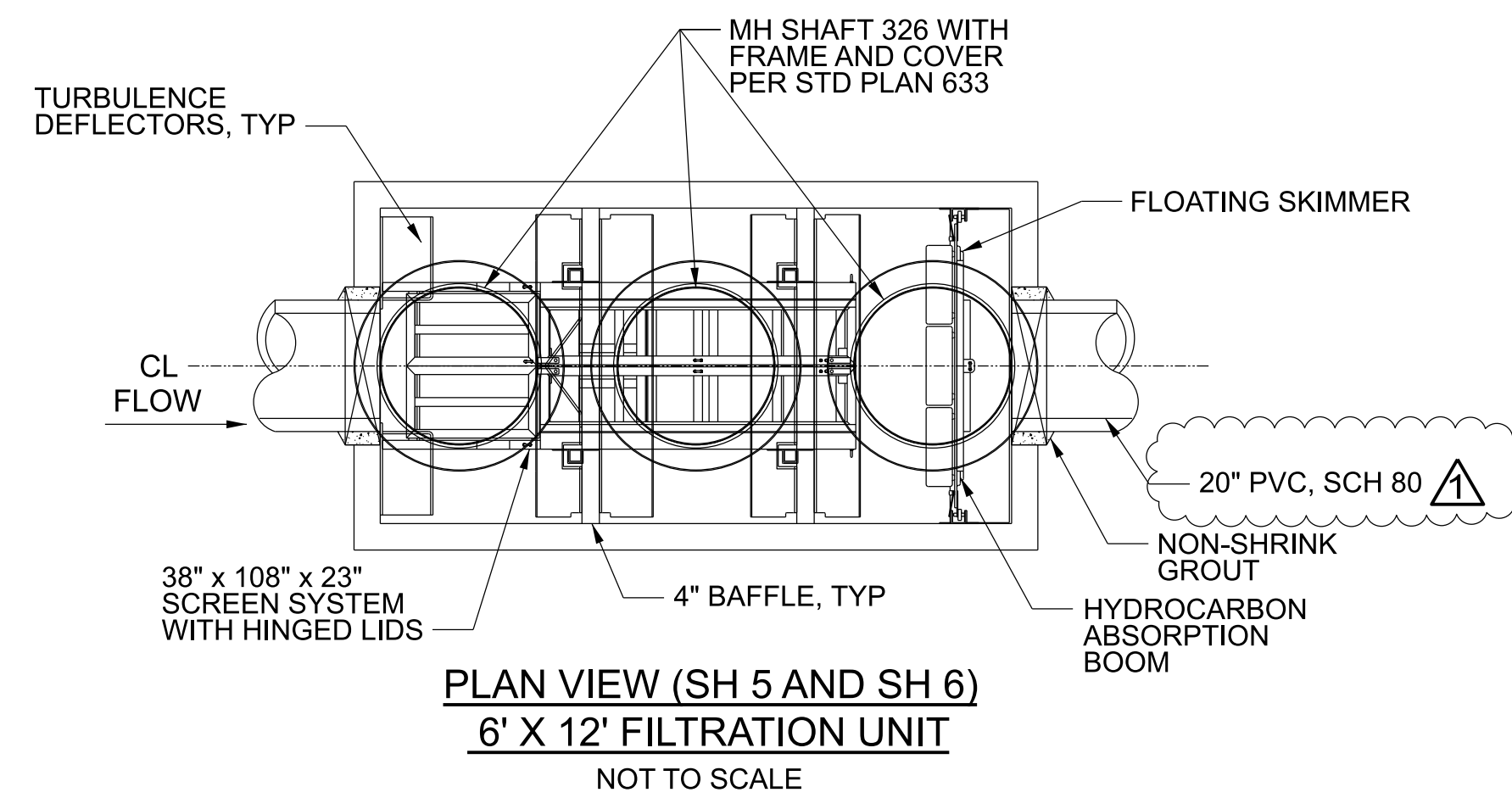
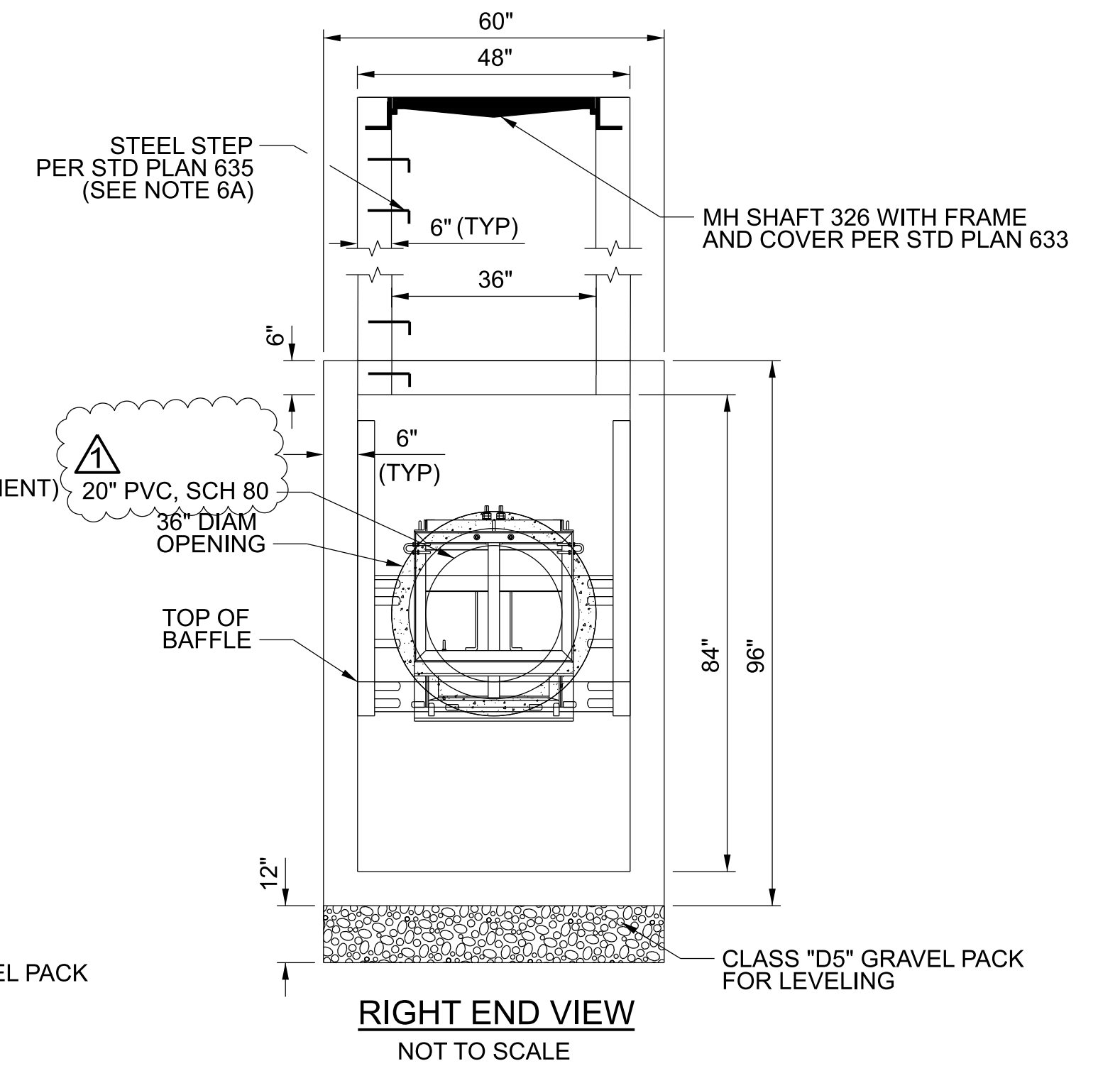
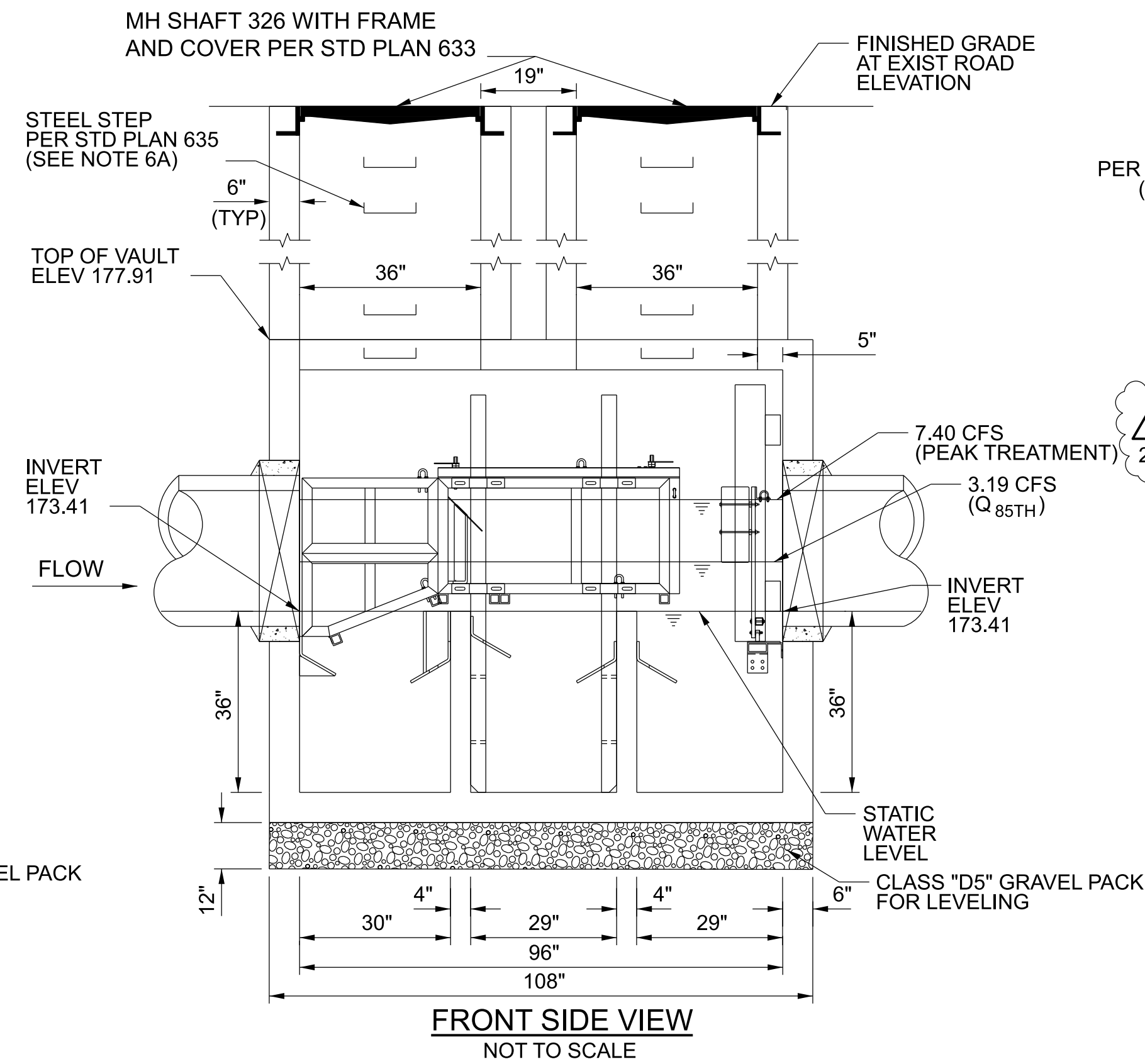
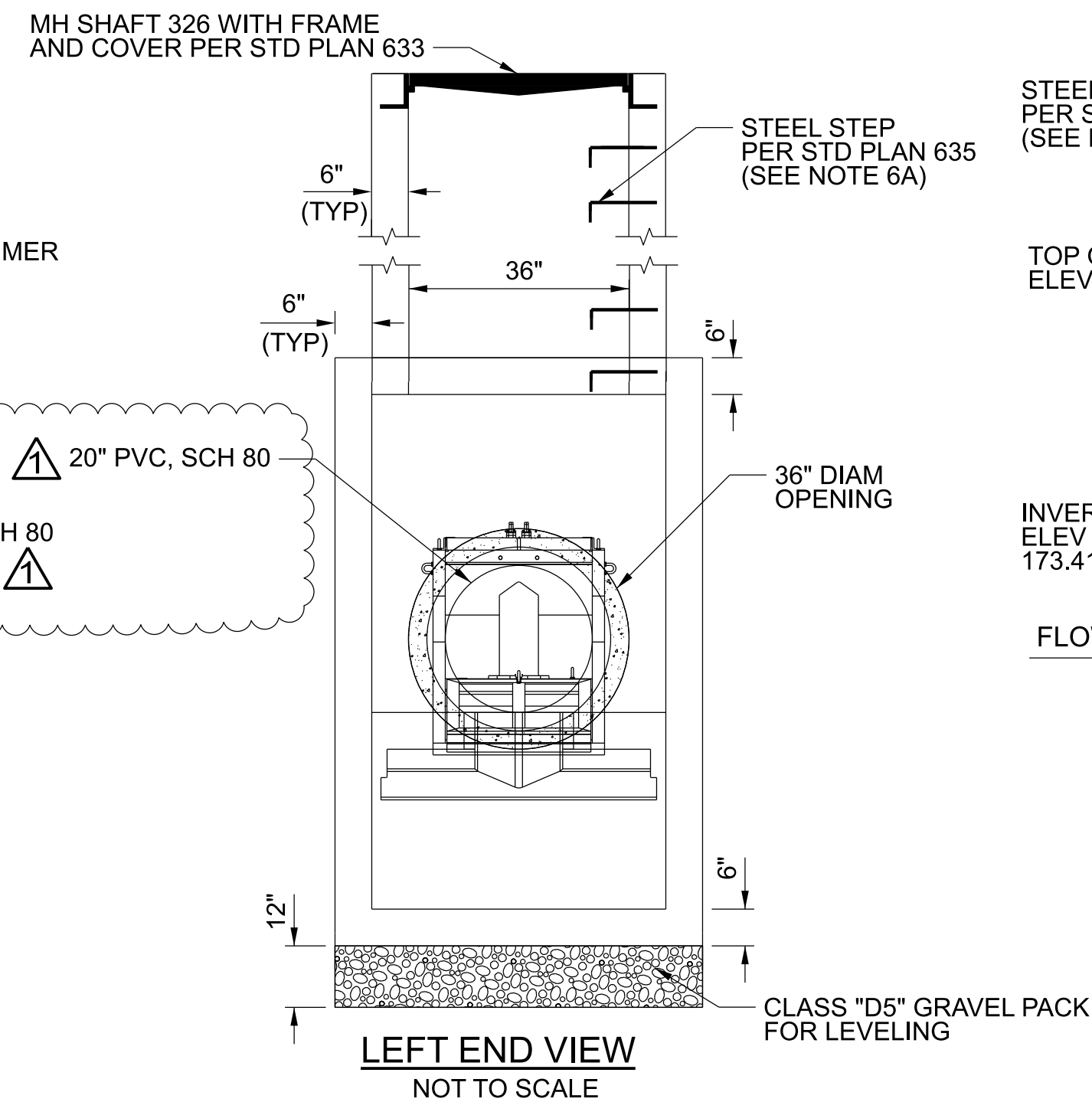
DR-14

LOS ANGELES COUNTY PUBLIC WORKS
MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS
 FILTRATION UNIT
 PLAN, DETAILS AND CROSS SECTIONS
 PROJECT ID NO. SWQ000005
 CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 14 OF 23



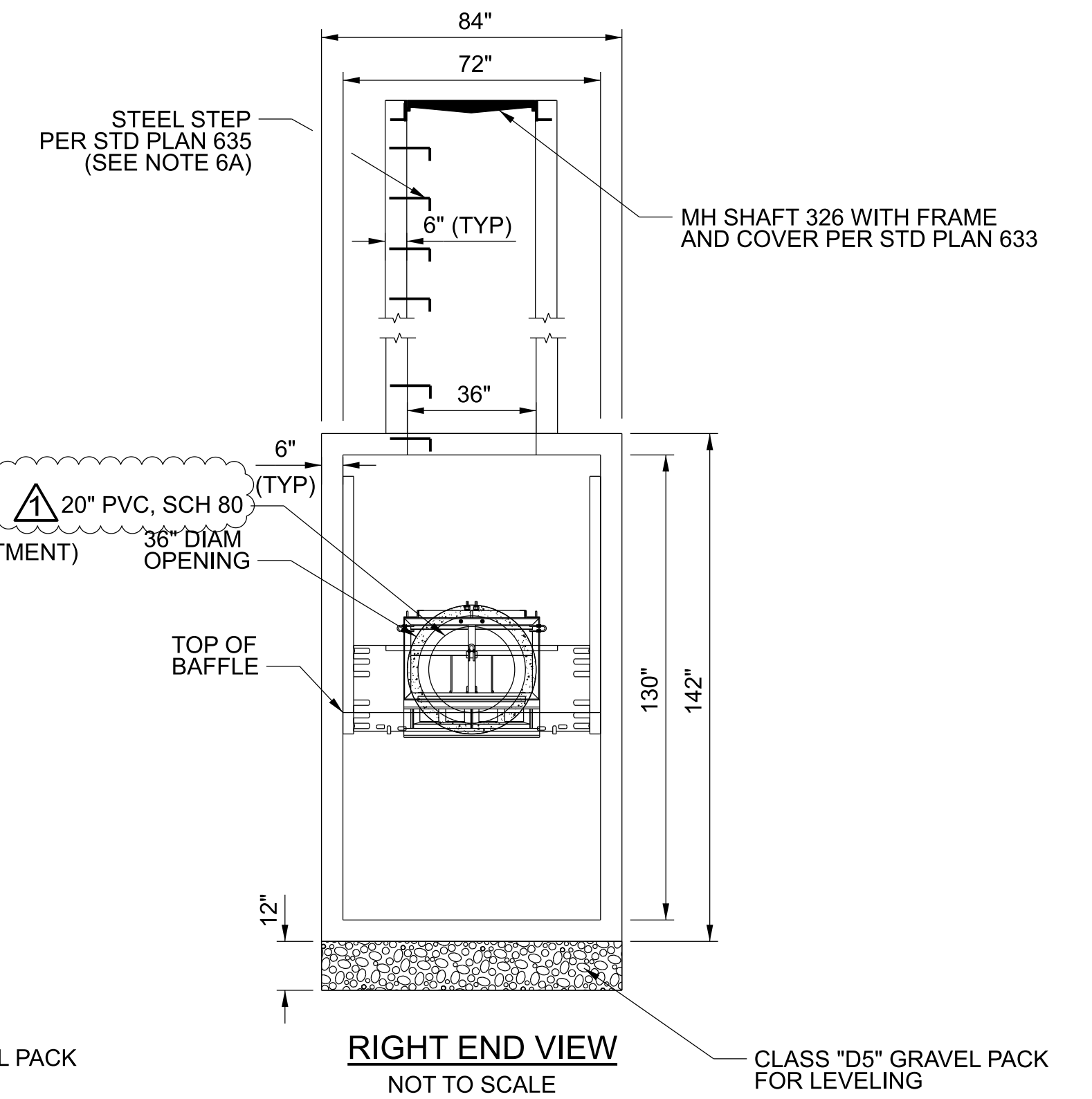
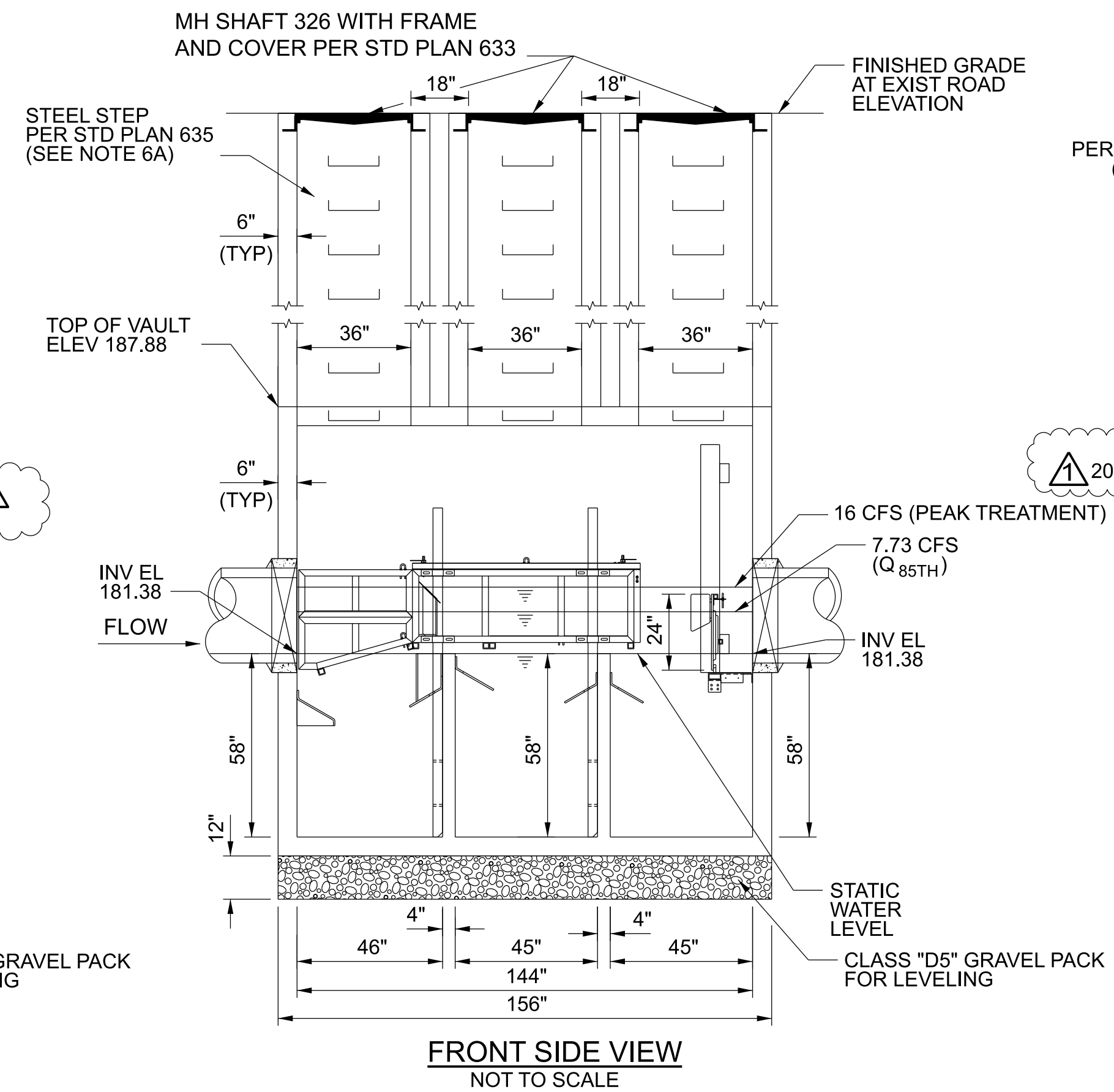
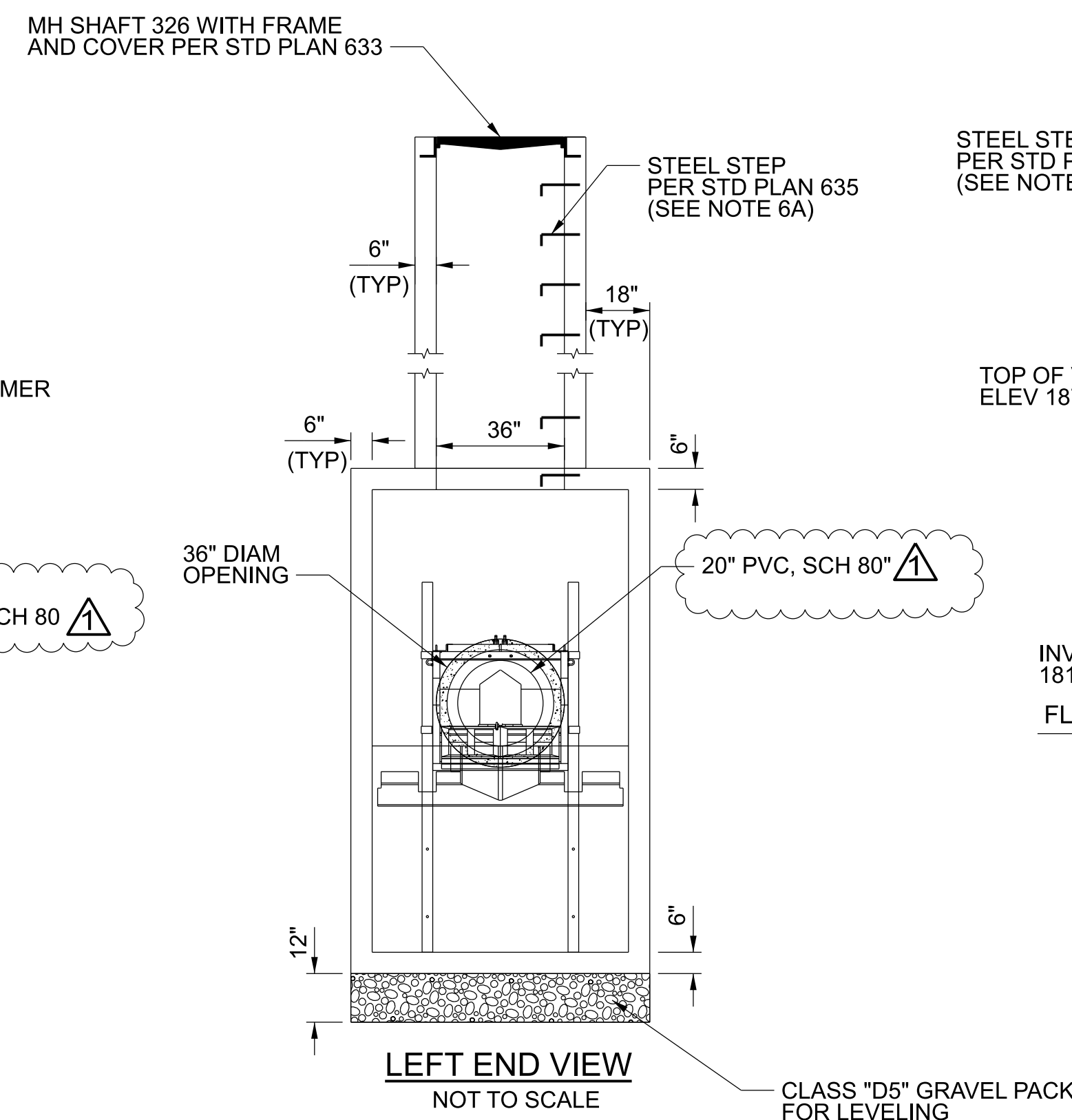
TREATMENT SPECIFICATIONS

- | | |
|--|----------|
| 1. INFLOW PIPE AREA (DRAWN AS 18" RCP) | 1.77 SF |
| 2. PEAK TREATMENT FLOW | 7.40 CFS |
| 3. SCREEN SYSTEM STORAGE VOLUME (MIN) | 21.2 CF |
| 4. TOTAL SEDIMENT VOLUME (MIN) | 70.0 CF |



TREATMENT SPECIFICATIONS

- | | |
|--|----------|
| 1. INFLOW PIPE AREA (DRAWN AS 20" PVC, SCH 80) | 3.14 SF |
| 2. PEAK TREATMENT FLOW | 16.0 CFS |
| 3. SCREEN SYSTEM STORAGE VOLUME (MIN) | 54.6 CF |
| 4. TOTAL SEDIMENT VOLUME (MIN) | 329 CF |



INSTALLATION NOTES

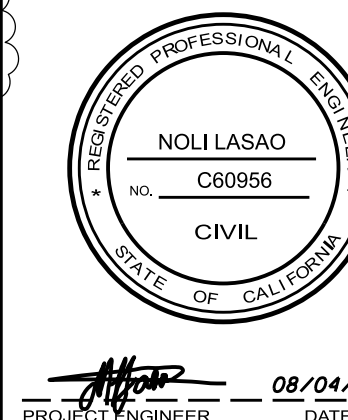
- 1A. INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. CANNOT INTRUDE BEYOND FLUSH.
- 2A. INFLOW AND OUTFLOW PIPE CONNECTIONS TO CONCRETE WALLS SHALL BE PER DETAIL "E", SH. DR-10.
- 3A. BAFFLES WILL BE SEALED TO THE WALLS AND FLOOR WITH GROUT.
- 4A. INVERT OF OUTFLOW PIPE SHALL BE EVEN WITH THE TOP OF THE BAFFLES.
- 5A. THE BOTTOM OF THE SKIMMER SHALL BE 6" BELOW THE INVERT OF THE OUTFLOW PIPE.
- 6A. INVERT OF THE INFLOW PIPE SHALL NOT BE BELOW THE INVERT OF THE OUTFLOW PIPE.
- 7A. THE ENGINEER SHALL DETERMINE THE SIDE OF THE MANHOLE SHAFT WHERE STEPS SHALL BE INSTALLED.

CONSTRUCTION NOTES

1. CONCRETE 28 DAYS COMPRESSIVE STRENGTH, F'c = 5,000 PSI
2. REINFORCING: ASTM A-615 GRADE 60
3. SUPPORTS AN H2O LOADING AS INDICATED BY AASHTO
4. JOINT SEALANT: BUTYL RUBBER SS-S-00210
5. ALL WALLS (TOP, BOTTOM, EXTERIOR SIDE) TO BE 6" THICK CONCRETE.

CADD PROJECT FILE NAME: SWQ000005.DGN
 CHECKER: R. LUI
 DESIGNER: N. LASAO
 DRAFTER: N. LASAO

DATE	MK	DESCRIPTION
11/17/22	N. L.	CHANGED INFLOW AND OUTFLOW PIPE FROM 24" RCP TO 20" PVC
REVISIONS		



DR-14

LOS ANGELES COUNTY PUBLIC WORKS
MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS
 FILTRATION UNIT
 PLAN, DETAILS AND CROSS SECTIONS
 PROJECT ID NO. SWQ000005
 CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 14 OF 23

November 23, 2022

NOTICE TO PROSPECTIVE BIDDERS
ADDENDUM NO. 3

PROJECT ID NO. SWQ000005

MONTEITH PARK STORMWATER CAPTURE PROJECT

The following revisions are hereby made a part of the Contract Documents and supersede or amend the corresponding information included in the original Contract Documents:

SPECIAL PROVISIONS

SECTION G:

2-4 COOPERATION AND COLLATERAL WORK. (Page G-8)

Add the following after the last paragraph:

The Agency (via California American Water Company) will be responsible for installing new water meters for the alley and the park site. The existing water meter at the park site, along Olympian Drive, will be abandoned as part of this work. The Contractor shall notify the Agency at least 45 Working Days prior to when this collateral work must be completed in order to minimize impacts during construction.

SECTION E:

E-8.1.2 CONTROL CABINET (page E-40)

Replace subheading A. with the following:

A. Equipment provided at this location shall include, but not limited to, Central Controller with the cellular modem/gateway to interface with the Automation Direct® PLC, control enclosure, HMI touch screen, power supplies, signal cables, antenna and antenna mast. (page E-40)

E-8.2.1 EQUIPMENT AND MATERIALS (page E-41)

Replace subheading C. with the following:

C. The modem/gateway part number shall be GX450, AT&T Cellular Model #11020364 North America - MC7354 with AT&T approval and shall be provided with the following features: (page E-41)

E-8.3.1 INSTALLATION (page E-43)

Replace subheading H. with the following:

H. The Contractor shall furnish and install a LAIRD 902-927 Antenna (Cabinet Roof Mount, Unity Gain, Black Moel#TRAB9023NP), no equal. Used for the radio link between PLC cabinets at Monteith Park and View Park Green Alley. (page E-44)

E-8.3.1 INSTALLATION (page E-43)

Add the following:

I. The Contractor shall furnish and install a LAIRD DS-FG902 Antenna (1016 6db 900-920 with FM2 Mounting Bracket), no equal. Used for bi-directional communication between the PLC cabinet at Monteith Park and Los Angeles Department of Public Works Headquarters building. Connect to Sierra Wireless Airlink (GX450, AT&T Cellular Model #11020364), no equal. (page E-44)

J. The Contractor shall furnish and install a MDS ECR-900 Spectrum Radio Link, Model #ECRU91NNNNNS1D1USUNNN, no equal. Used for the radio link between PLC cabinets at Monteith Park and View Park Green Alley. (page E-44)

K. LACDPW shall integrate the Modbus addresses of the monitoring data with LACDPW existing SCADA system located at LACDPW. (page E-44)

SECTION M:

M-7.1 General. (page M-17)

Replace the entire subsection with the following:

The gas sensor shall detect gas leakages.

The gas sensor shall be an explosion proof infrared gas detector, Dräger PIR 7000. The gas detection transmitter shall be Dräger REGARD-1 or Agency-approved equal.

PLANS

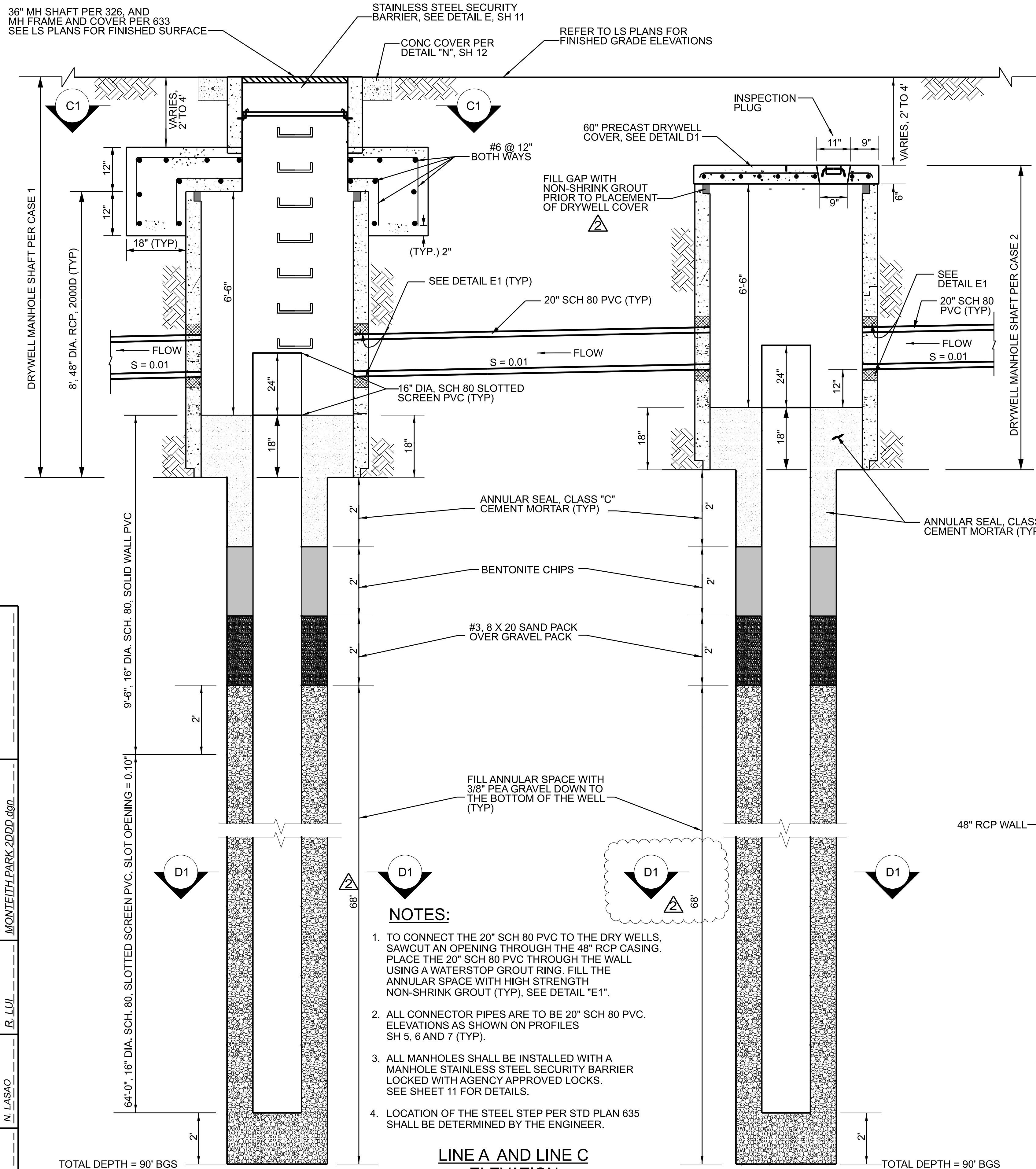
Replace the following sheets in the Plans with the attached revised sheets listed below:

- *Sheet DR-10 (sheet 10 of 70) – Revision 2*

MARK PESTRELLA, PE
Director of Public Works
County of Los Angeles

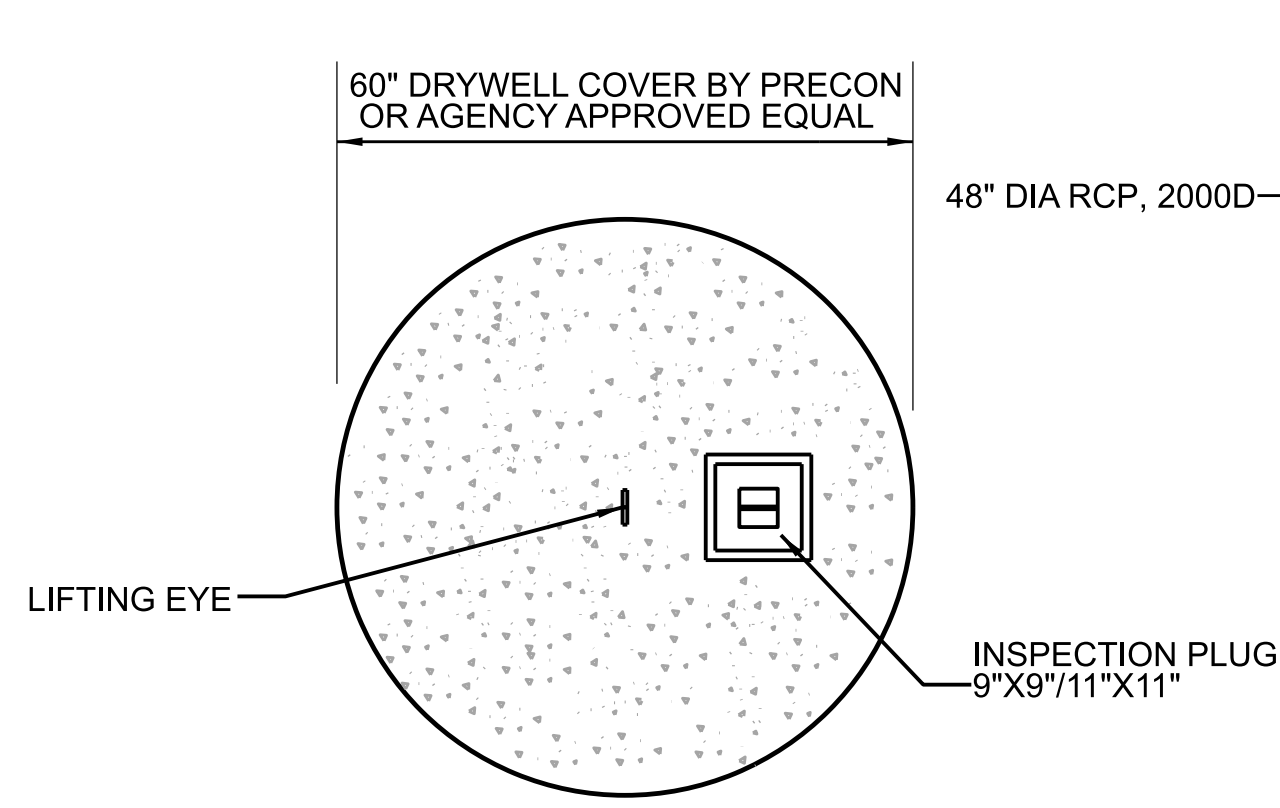
By  _____
Assistant Deputy Director

RE:ml
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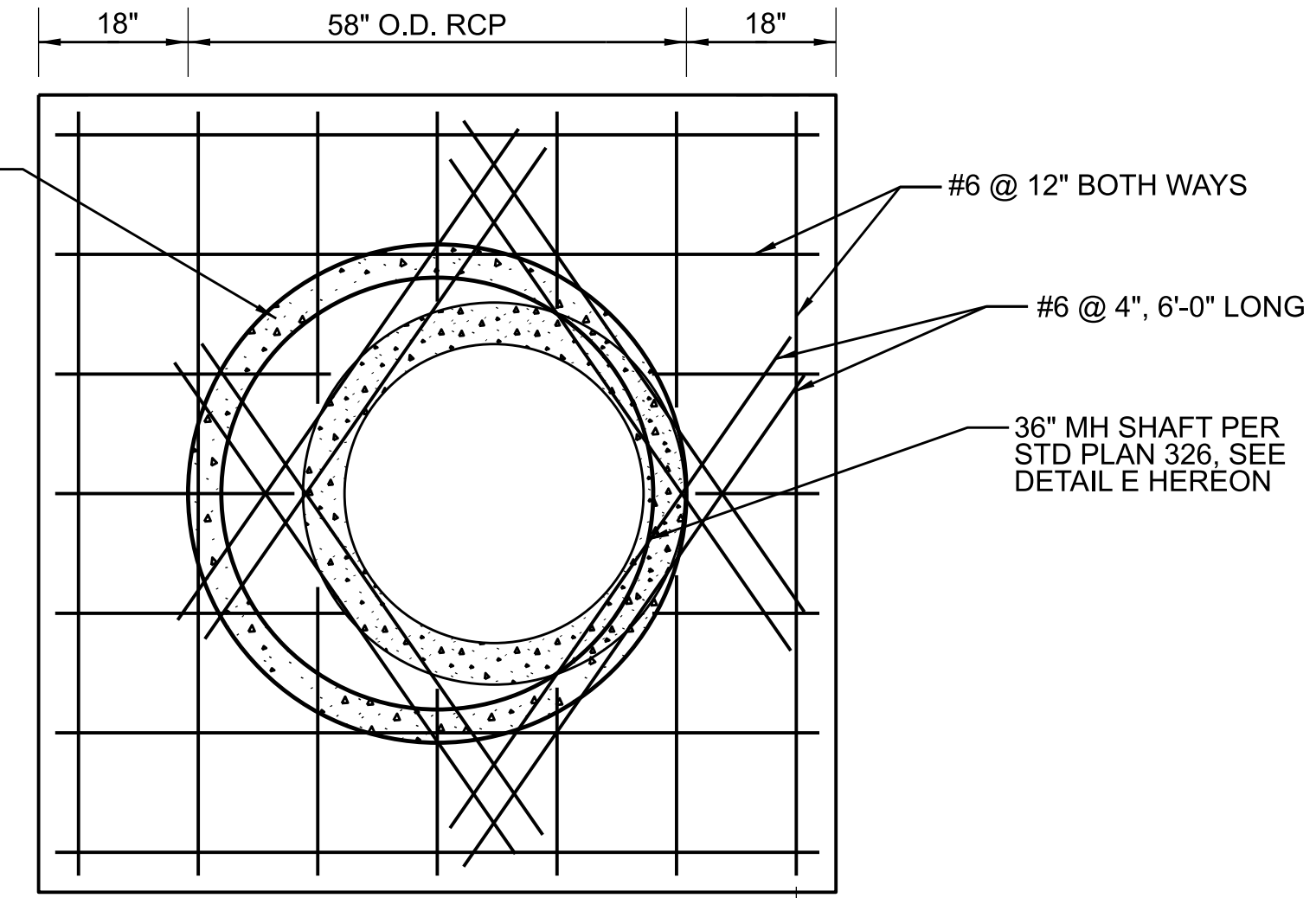


- NOTES:**
- TO CONNECT THE 20" SCH 80 PVC TO THE DRY WELLS, SAWCUT AN OPENING THROUGH THE 48" RCP CASING. PLACE THE 20" SCH 80 PVC THROUGH THE WALL USING A WATERSTOP GROUT RING. FILL THE ANNULAR SPACE WITH HIGH STRENGTH NON-SHRINK GROUT (TYP), SEE DETAIL "E1".
 - ALL CONNECTOR PIPES ARE TO BE 20" SCH 80 PVC. ELEVATIONS AS SHOWN ON PROFILES SH 5, 6 AND 7 (TYP).
 - ALL MANHOLES SHALL BE INSTALLED WITH A MANHOLE STAINLESS STEEL SECURITY BARRIER LOCKED WITH AGENCY APPROVED LOCKS. SEE SHEET 11 FOR DETAILS.
 - LOCATION OF THE STEEL STEP PER STD PLAN 635 SHALL BE DETERMINED BY THE ENGINEER.

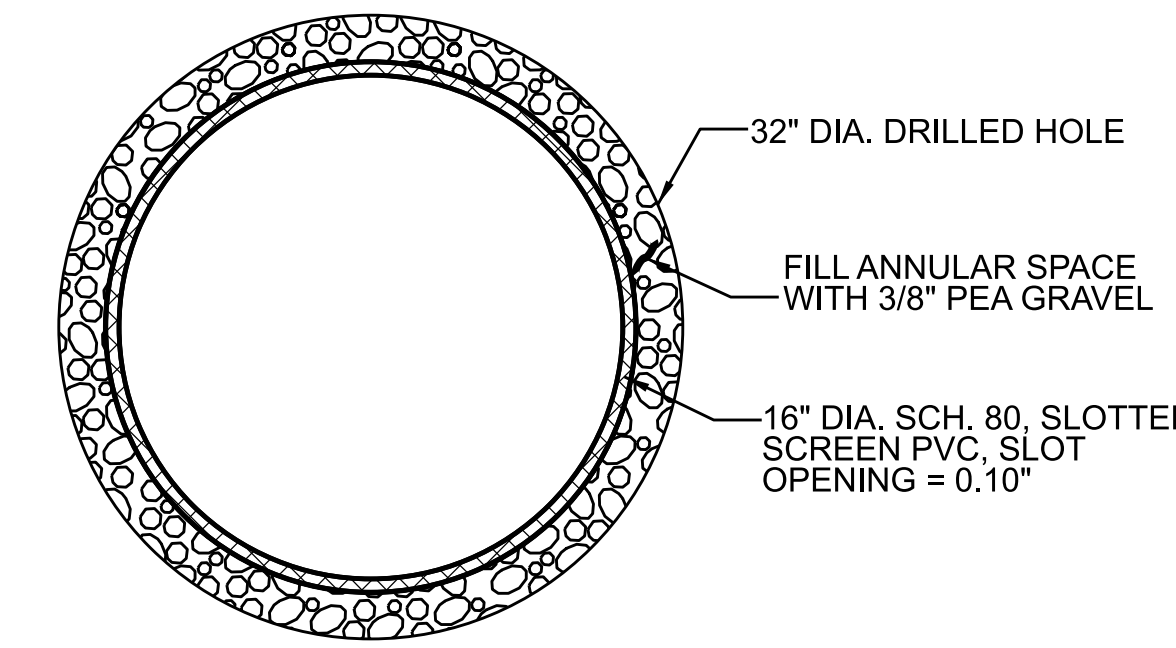
**LINE A AND LINE C
ELEVATION
DRYWELL DETAILS
NOT TO SCALE**



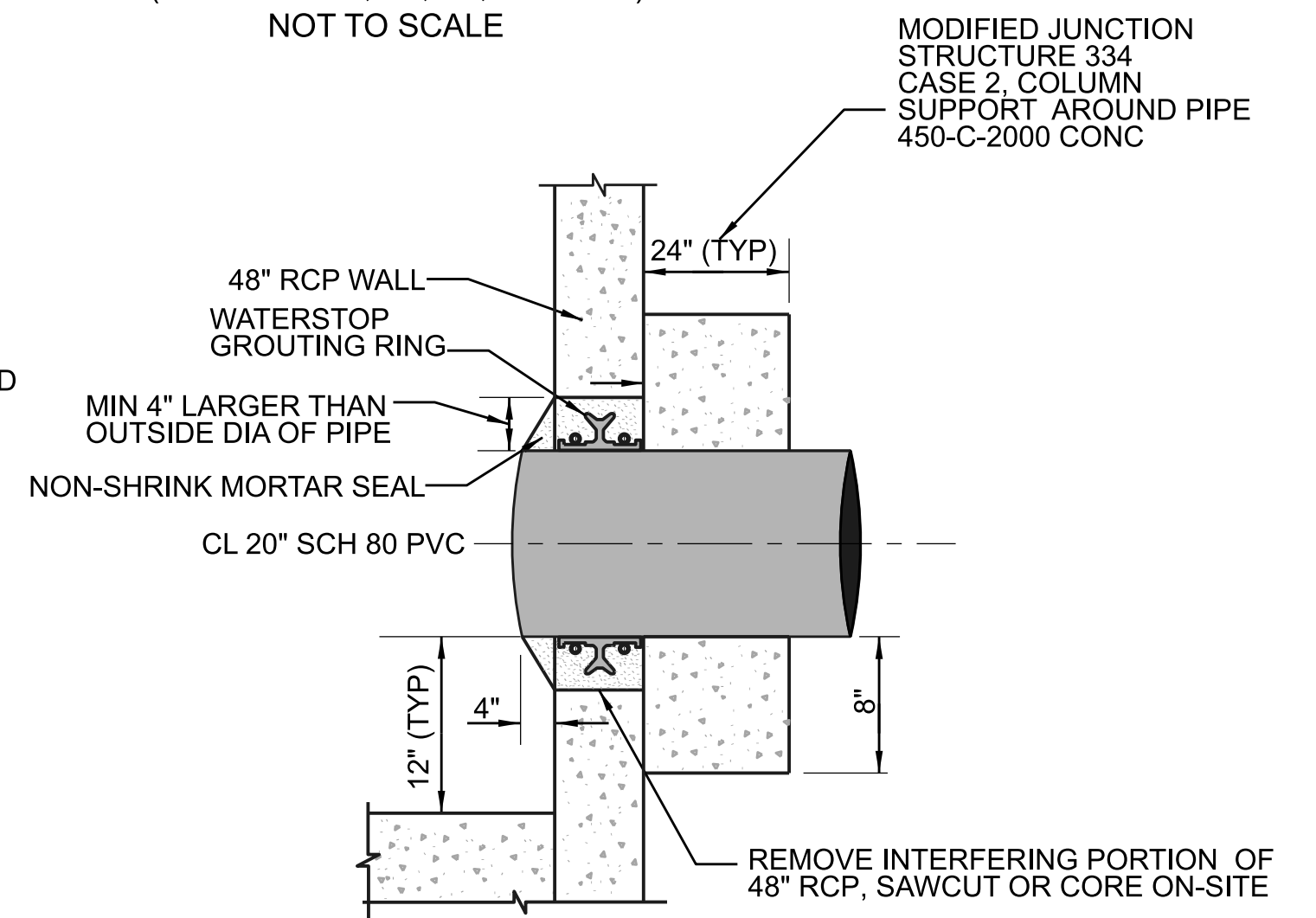
**DETAIL D1
60" PRECAST BELOW GRADE
DRYWELL PIT COVER DETAIL
NOT TO SCALE**



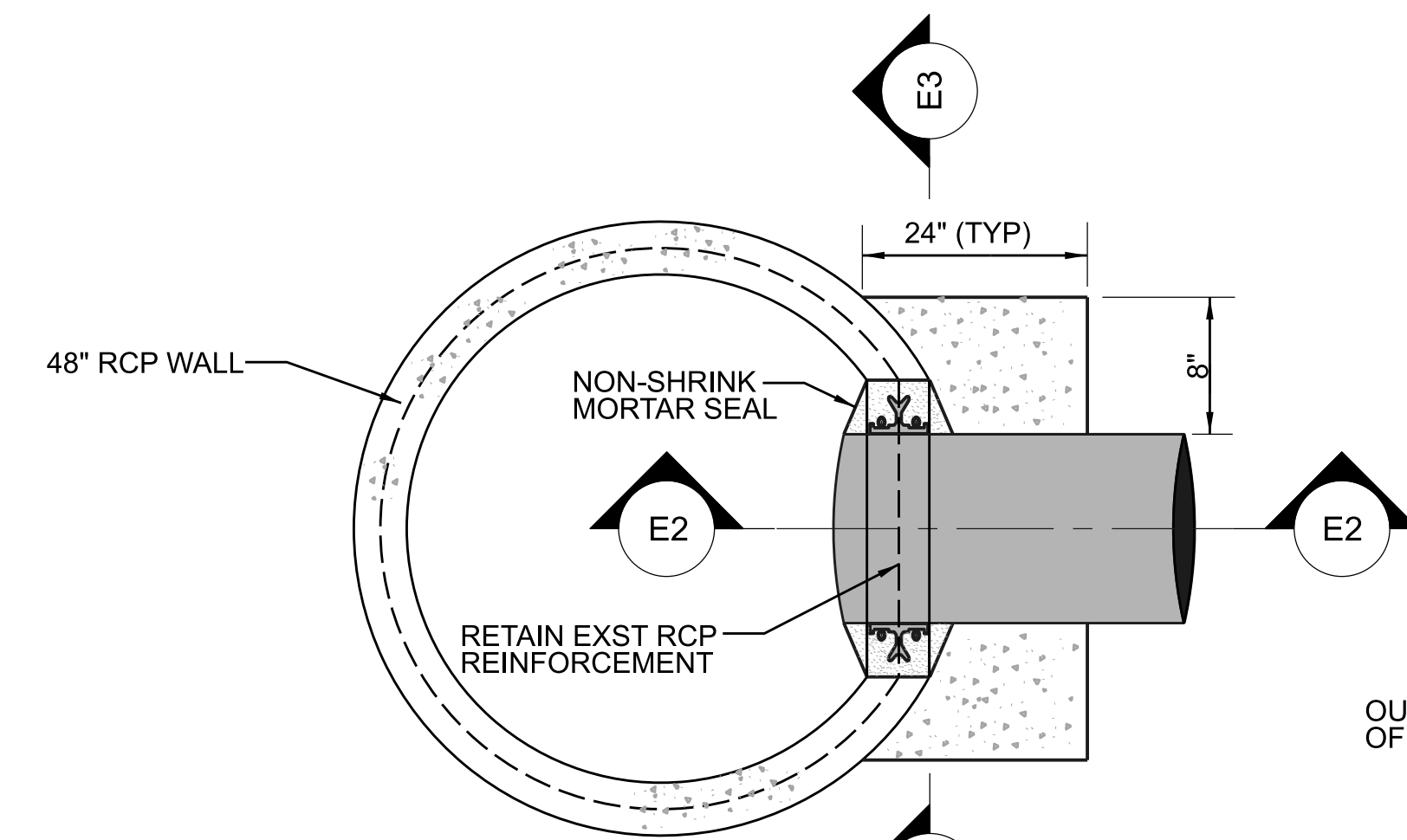
**SECTION C1-C1
DRYWELL COVER CASE 1
(DRYWELL B1, B2, B3, D7 & F15)
NOT TO SCALE**



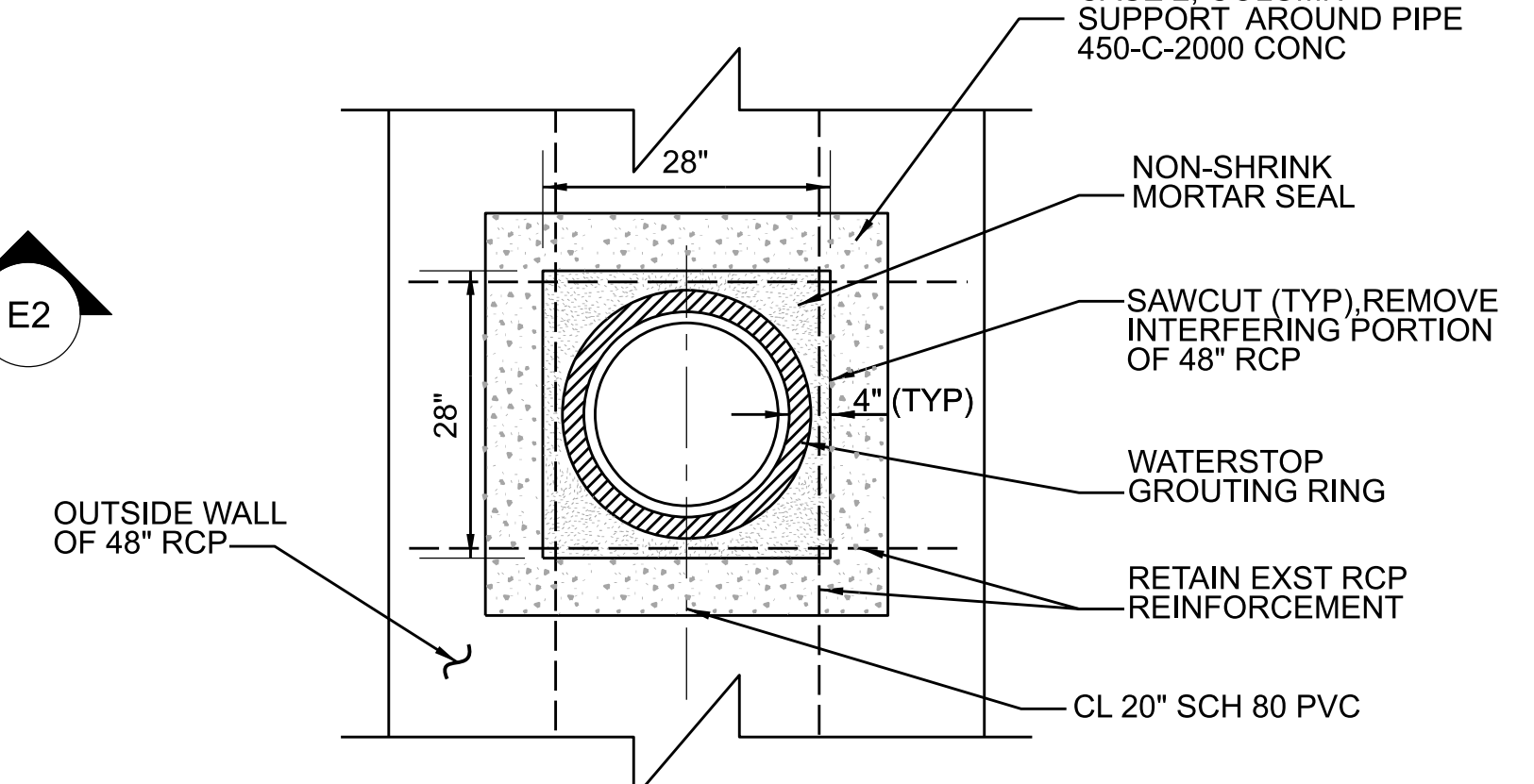
**SECTION D1-D1
16" SCH. 80 SLOTTED SCREEN
PVC DRYWELL CASING
NOT TO SCALE**



SECTION E2-E2



**PLAN
DETAIL E1
PIPE TO DRYWELL CONNECTION
NOT TO SCALE**



SECTION E3-E3

DATE	MK	DESCRIPTION
11/17/22	N. L.	CHANGED DEPTH FROM 78" TO 68", CHANGED LABEL



LOS ANGELES COUNTY PUBLIC WORKS
**MONTEITH PARK AND VIEW PARK GREEN
 ALLEY STORMWATER IMPROVEMENTS**
 LINE A AND LINE C DRYWELLS
 ELEVATION AND DETAILS
 PROJECT ID NO. SQW000005
 CAPITAL PROJECT NO. CP-69813 | LACFCD INDEX NO. 275-679-D4.3 | SHEET 10 OF 23

DATE	REVIEWED BY
CADD PROJECT FILE NAME	CHECKER
MONTEITH PARK 20DD 4601	R. LUI
DESIGNER	DRAFTER
N. LASAO	N. LASAO

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. SWQ0000005 CP-69813

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:

Colin S. McCarter

September 28, 2022

Date

Reviewed By:

Harry H. Ong

September 29, 2022

Date

TABLE OF CONTENTS

PART 1 - GENERAL PROVISIONS

SECTION 1 - GENERAL

1-2 TERMS AND DEFINITIONS	G-1
1-3 ABBREVIATIONS.....	G-4
1-3.2 Common Usage	G-4
1-6 BIDDING AND SUBMISSION OF THE BID	G-4
1-6.1 General.....	G-4
1-6.2 Subcontractor Listing.....	G-4
1-7 AWARD AND EXECUTION OF THE CONTRACT	G-5
1-7.1 General.....	G-5
1-7.2 Contract Bonds	G-5

SECTION 2 - SCOPE OF THE WORK

2-1 WORK TO BE DONE	G-6
2-2 PERMITS	G-6
2-2.1 General.....	G-6
2-3 RIGHT-OF-WAY	G-7
2-4 COOPERATION AND COLLATERAL WORK	G-8
2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES	G-8
2-5.1 General.....	G-8
2-7 CHANGES INITIATED BY THE AGENCY.....	G-9
2-10 DISPUTED WORK	G-9
2-11 MEETINGS	G-10
2-12 NOTIFICATIONS	G-10
2-13 REQUESTS FOR INFORMATION (RFI)	G-10
2-13.1 General.....	G-10
2-13.2 Submittals	G-11
2-13.3 RFI Log.....	G-12
2-13.4 RFI Response Time	G-12
2-13.5 Quality Assurance.....	G-13
2-13.6 Payment	G-13
2-14 PHOTOGRAPHIC DOCUMENTATION	G-13
2-14.1 General.....	G-13
2-14.2 Preconstruction Photographs	G-14
2-14.3 Periodic Construction Photographs	G-14
2-14.4 Engineer Directed Construction Photographs	G-14

TABLE OF CONTENTS

2-15 AS-BUILTS	G-15
2-15.1 General.....	G-15

SECTION 3 - CONTROL OF THE WORK

3-2 SELF-PERFORMANCE.....	G-16
3-5 INSPECTION.....	G-16
3-6 THE CONTRACTOR'S REPRESENTATIVE.....	G-17
3-7 CONTRACT DOCUMENTS	G-17
3-7.1 General.....	G-17
3-7.2 Precedence of the Contract Documents.....	G-19
3-8 SUBMITTALS.....	G-19
3-8.1 General.....	G-19
3-8.2 Working Drawings.....	G-21
3-8.3 Shop Drawings.....	G-22
3-8.4 Supporting Information	G-23
3-11 CONTRACTOR INFORMATION SIGNS.....	G-25
3-13 COMPLETION, ACCEPTANCE, AND WARRANTY	G-25
3-14 NONCOMPLIANCE WITH THE PLANS AND SPECIFICATIONS	G-26

SECTION 4 - CONTROL OF MATERIALS

4-2 PROTECTION	G-27
4-3 INSPECTION.....	G-28
4-4 TESTING	G-29
4-6 TRADE NAMES.....	G-30

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES

5-1 LAWS AND REGULATIONS.....	G-31
5-3 LABOR	G-31
5-3.1 General.....	G-31
5-3.2 Prevailing Wages	G-31
5-3.3 Payroll Records.....	G-32
5-3.6 Work Records	G-33
5-3.7 County Equal Employment Opportunity (EEO) Provisions	G-33
5-3.8 Local and Targeted Worker Hire Policy	G-33
5-3.9 Community Business Enterprise (CBE) Participation	G-46
5-3.10 Contractor Development and Bonding Program (CDABP).....	G-48

TABLE OF CONTENTS

5-4 INSURANCE.....	G-48
5-4.1 General.....	G-48
5-4.2 General Liability Insurance	G-49
5-4.3 Workers Compensation Insurance.....	G-51
5-4.4 Automobile Liability Insurance.....	G-51
5-4.5 Builder’s Risk Course of Construction Insurance.....	G-52
5-7 SAFETY	G-52
5-7.1 Work Site Safety.....	G-52
5-7.7 Security and Protective Devices.....	G-54
5-7.13 Use of Herbicides	G-54

SECTION 6 - PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK.....	G-55
6-1.1 Construction Schedule	G-55
6-1.2 Commencement of The Work	G-64
6-1.3 Management Meetings	G-66
6-2 PROSECUTION OF THE WORK	G-66
6-2.1 General.....	G-66
6-2.2 Work by Others Due to Unsatisfactory Work Prosecution	G-66
6-3 TIME OF COMPLETION	G-67
6-3.1 General.....	G-67
6-4 DELAYS AND EXTENSIONS OF TIME.....	G-67
6-4.1 General.....	G-67
6-4.2 Extensions of Time	G-67
6-5 USE OF IMPROVEMENT DURING CONSTRUCTION	G-67
6-7 TERMINATION OF THE CONTRACT FOR DEFAULT	G-68
6-8 TERMINATION OF THE CONTRACT FOR CONVENIENCE.....	G-68
6-9 LIQUIDATED DAMAGES.....	G-68

SECTION 7 - MEASUREMENT AND PAYMENT

7-2 LUMP SUM WORK.....	G-68
7-3 PAYMENT.....	G-69
7-3.1 General.....	G-69
7-3.2 Partial and Final Payment.....	G-69
7-3.3 Delivered Materials	G-70
7-3.4 Mobilization.....	G-71

TABLE OF CONTENTS

7-3.5 Contract Unit Prices.....	G-72
7-3.9 Allowance Items	G-72
7-4 PAYMENT FOR EXTRA WORK	G-73
7-4.2 Basis for Establishing Costs	G-73
7-4.3 Markup.....	G-74
7-6 CLAIMS.....	G-75

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-1 GENERAL	G-78
8-2 FIELD OFFICE FACILITIES	G-78
8-2.1 Class "A" Field Office.....	G-78
8-6 BASIS OF PAYMENT	G-81

PART 4 - EXISTING IMPROVEMENTS

SECTION 400 - PROTECTION AND RESTORATION

400-1 GENERAL	G-82
---------------------	------

SECTION 402 - UTILITIES

402-1 LOCATION.....	G-83
402-1.1 General.....	G-83
402-1.2 Payment	G-84
402-1.3 Exploratory Excavations	G-85
402-2 PROTECTION	G-86
402-2.1 General.....	G-86
402-4 RELOCATION	G-88
402-5 DELAYS DUE TO UTILITY CONFLICTS.....	G-88

LTWHP SAMPLE CALCULATIONS.....	G-92
LTWHP EMPLOYEE REQUEST FORM	G-94
EEO COMPLIANCE REQUIREMENTS	G-101
INSURANCE ENDORSEMENT SAMPLE.....	G-102

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 County of Los Angeles.

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.

As-Builts – A marked-up version of the Plans and Specifications, in accordance with Section 2-15.1 in Section G, used as the final record of any changes that occurred during the progress of construction after Work is completed and approved by the Agency.

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, also known as Acceptance or Final Acceptance. See 3-13.2 in Section G.

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.

Proceed Order – A written directive from the Agency authorizing the Contractor to proceed with Extra Work up to a specific dollar amount, while a Change Order for the Extra Work is processed for execution.

Project – See Work.

Punch List – A list of deficiencies with the Work or other unfinished or incomplete activities required in the Contract Documents that are to be addressed by the Contractor, in accordance with 3-13.1 of Section G, prior to Final Acceptance.

Redlines – A marked-up version of the Plans and Specifications, in accordance with 2-15.1 of Section G, used as a working record of any changes that occur during the progress of the Work.

Substantial Completion – The written determination by the Engineer that the Work has been completed in conformance with the Contract Documents as specified in 3-13.1.

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.

SECTION 2 - SCOPE OF THE WORK

2-1 WORK TO BE DONE. (Page 12 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.

a) The following permits have been obtained by the Agency and are included at the end of this Section G:

1. Construction and Demolition Recycling and Reuse Plan – RRP No. 092821-1000.

Any amendments to this permit by the Contractor shall be copied to the Engineer as a submittal in accordance with 3-8.1. See 301.6 in Section D for more information.

b) Approval for the following permit is included on the Plans:

1. Water Efficient Landscape Irrigation Permit – Reference No. EIMP2021000420

The Contractor shall submit 2 copies of the approved landscape plan and original signed water purveyor acknowledgement form (contact the Project Manager) to the public counter located at:

Building and Safety Headquarters Office, County of Los Angeles
900 S. Fremont Ave.
Alhambra, CA 91803
Contact: Cindy Joyce at (626) 458-6311 or CJoyce@dpw.lacounty.gov

2. Building Permit (Grading) – Plan check No. UNC-GRAD210520000242

Contractor to obtain no-fee grading permit from County Building & Safety Office (900 South Fremont Ave., Alhambra, CA 91803, (626) 458-6311). Complete the Owner Builder Declaration (copy provided at the end of this Section G) and include workers compensation certificate, authorization letter (if not the license holder) and a copy of photo ID. Submit these items to the Contact Permit Technician, Cindy Joyce by email to CJoyce@dpw.lacounty.gov.

c) The following permits have been applied for by the Agency:

1. Building Permit (Commercial Addition/Alteration) – Plan check No. UNC-BLDC210512000633.

The Project Manager will notify the Contractor when this permit is available (estimated date 10/31/2022).

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. (Page 12 of the SSPWC)

2-5.1 General.

Add the following at the end of the first paragraph:

Facilities shall have a clean appearance on the exterior and be free of any commercial advertisements, logos, slogans, writings, or other content not directly related to the project attached to or painted on the exterior of the facility. Facilities will only be allowed on the Work site at the sole discretion of the Engineer. Facilities will be subject to removal or corrective action at any time for failure to adhere to these requirements as determined by the Engineer.

Equipment shall be free of any commercial advertisements, logos, slogans, writings, or other content not directly related to the project attached to or painted on the exterior of the equipment, other than to identify the owner and/or manufacture. Equipment will be subject to removal or corrective action at any time for failure to adhere to these requirements as determined by the Engineer.

2-7 CHANGES INITIATED BY THE AGENCY.

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

Replace the entire subsection with the following:

The Agency may change the Plans, Specifications, character of the work, or quantity of work.

Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, and adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance.

2-10 DISPUTED WORK. (Page 13 of the SSPWC)

Add the following after the last paragraph:

If, in the opinion of the Director, it is in the County's best interest and it is deemed necessary to proceed with a required change in the Contract Documents, and time precludes thorough analysis of the Contractor's proposal, or the parties fail to reach an agreement, the Director may order the Contractor to proceed (Proceed Order) on the basis of a tentative price based on the best estimate available at the time, with the firm price to be determined later. If a Proceed Order is issued, the Contractor shall submit his proposal for the changes in the Work within thirty (30) Days after the Proceed Order or completion of the changed Work, whichever is later. All charges arising out of a Proceed Order are to be documented and verified in a manner acceptable to the Director.

Add the following subsections:

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.

2-12 NOTIFICATIONS. Twenty-one Days prior to the start of construction, the Contractor shall notify the schools and agencies listed below:

<u>School and address Or Service Agency</u>	<u>Contact Name</u>	<u>Telephone no.</u>
Los Angeles County Fire Dept. Station 38 3907 W 54th St, Windsor Hills, CA 90043	Captain Johnson	(323) 291-9130
Marina del Rey Sheriff's Station 13851 Fiji Way Marina del Rey, CA 90292	Front Counter	(310) 482-6000

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.

2-13 REQUEST FOR INFORMATION (RFI).

2-13.1 General. A RFI shall be submitted to the Engineer when:

- a) An unforeseen condition or constructability question occurs.
- b) Questions regarding information in the Contract Documents arise.

- c) Information not found in the Contract Documents is required.

2-13.2 Submittals. When possible, such clarification shall be requested either verbally or in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, the RFI shall be numbered and the response shall be entered into the meeting minutes. When the urgency of the need or the complexity of the item makes clarification at the next scheduled Project meeting impractical, a formal written RFI shall be submitted to the County. The Contractor shall use Primavera Expedition 9.1 (or the latest version) to prepare and submit RFIs unless otherwise instructed by the Engineer.

RFIs shall be submitted within a reasonable time frame so as not to interfere with or impede the progress of the Work. The Contractor shall make every effort to keep the number of RFIs to a minimum. If the number of RFIs becomes unwieldy, the Agency may require the Contractor to abandon the RFI process and submit requests as either submittals, substitutions, or requests for change.

When the response to an RFI effects the cost or time duration of the project, the Agency shall be notified in accordance with the 2-9 at the time of the submittal. Notification shall occur prior to commencing such work, so the Change Order process can be initiated. At the time of the RFI submittal, the Contractor shall notify the Agency of the time available before the response will cause a time or cost impact to the Project. An answered RFI shall not be construed as approval to perform extra work.

2-13.2.1 Submittal Form. An emailed RFI request shall be submitted. The written request shall be legible, on a standard CSI or AIA preprinted form or other such form as approved in advance by the Agency. Each RFI request shall include the following information:

- a) Project name and project identification number, as listed on the Contract Documents;
- b) Date;
- c) RFI number;
- d) Contractor's name, address, telephone and e-mail address;
- e) Number and title of affected Specification Section(s);

- f) Drawing numbers and detail numbers as appropriate;
- g) Whether the RFI will result in a time or cost impact;
- h) Clear, concise explanation of information or clarification requested;
- i) Blank, lined spaces for Engineer's response;
- j) Signature block for Agency to acknowledge review of Engineer's response;
- k) Each page of each RFI attachment shall be marked in the lower right corner with the RFI number;
- l) Submitted RFIs shall be numbered consecutively; and
- m) All RFI forms shall be signed and stamped.

RFIs from the subcontractor or material supplies shall be submitted through the Contractor. The Contractor shall review all such information request prior to submitting to the Engineer.

RFIs not meeting the requirements of this section will not be answered and any consequential impact on the Project shall be the sole responsibility of the Contractor. Unanswered RFIs will be returned with a stamp or notification "Not Reviewed."

2-13.3 RFI Log. The Contractor shall maintain a RFI log. The log shall be updated weekly and furnished to the Agency when requested. The log shall contain the following minimum information:

- a) RFI number
- b) Date submitted
- c) Brief description of content or subject
- d) Date answered

2-13.4 RFI Response Time. A minimum of five (5) Working Days shall be allowed for review and response. The response time will be increased if more information is required, when the RFI is submitted out of sequence, or if in the opinion of the Agency, more time is required to answer the RFI.

2-13.5 Quality Assurance. The Contractor shall review the Contract Documents carefully before submitting a RFI to the Agency. The information requested shall be verified that it is not indicated in the Contract Documents or cannot be determined from a careful review. The Agency will not answer RFIs for information that is readily available in the Contract Documents.

RFIs requesting clarification of coordination issues, shall include Contractor's suggested solution as an attachment to the RFI. Such coordination issues include, but are not limited to, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items. Scale drawings or sketches indicating the proposed solution shall be provided. RFIs which do not include a suggested solution will not be answered.

RFIs shall not be used for the following:

- a) To request approval of submittals,
- b) To request approval of substitutions,
- c) To request changes to the Contract Documents and to confirm action taken by the Contractor for requested changes/substitutions to the Contract Documents.

2-13.6 Payment. Payment for RFIs shall be considered as included in the prices in the Bid for the various items of work.

2-14 PHOTOGRAPHIC DOCUMENTATION.

2-14.1 General. The Contractor shall provide photographic documentation, which shall include preconstruction photographs and periodic construction photographs. Photographic documentation shall be submitted to the Engineer with the Monthly Schedule Updates.

The photographic documentation shall conform to the following requirements:

- a) Photographic images shall be digital images, which shall be in JPEG format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.
- b) Photographs shall be taken using the maximum range of depth of field, and that are in focus, to clearly show the work. Photographs with blurry or out-of-focus areas will not be accepted.

- c) A key plan shall be maintained with each set of construction photographs that identifies each photographic location.
- d) The digital images shall be submitted exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
- e) The date and time shall be included in the file name for each digital image.
- f) One set of digital images on a portable hard drive, USB drive or other Agency-approved media shall be maintained in the field office at the project site, available at all times for reference. These digital images shall have the same identification as those submitted to the Engineer.

2-14.2 Preconstruction Photographs. Before commencement of demolition or commencement of construction, photographs of the project site, staging areas, and surrounding properties, including existing items to remain during construction, shall be taken from different vantage points and submitted to the Engineer prior to issuance of Part 2 NTP.

2-14.3 Periodic Construction Photographs. Photographs shall be taken weekly and shall be submitted with the Monthly Schedule Updates. Vantage points shall be selected to show status of construction and progress since last photographs were taken.

2-14.4 Engineer Directed Construction Photographs. From time to time, the Engineer may instruct the Contractor about the number and frequency of photographs and subject, and the general directions or vantage points for photographs. Photographs shall show status of construction and progress since last photographs were taken.

Payment for photographic documentation shall be considered as included in the prices in the Bid for the various items of work.

2-15 RED LINES AND AS-BUILTS.

2-15.1 General. The Contractor shall keep one (1) complete and up-to-date set of prints (Plans and Specifications) at all times on the job, reserved for use as the Redlines. It shall be the responsibility of the Contractor to update and maintain the Redlines as a record of all variations from the Plans, including any deviations in line and grade for underground pipe, conduit and other facilities, as the Work is completed. Markups on the Redlines shall be neat and legible, in ink of a contrasting color or otherwise, and include dimensions from a fixed point, such as a street-curb line, or centerline, or a permanent, above-ground structure. The Redlined Plans shall be available to the Agency for review at any time during construction.

Progress payments will be contingent upon the Contractor updating the Redlined Plans and Specifications to reflect all Work completed to date. The Agency will withhold progress payments until the Redlined Plans and Specifications are updated and submitted.

As a condition to certifying the final payment under this Contract, within 30 Days after completion, the Contractor shall submit to the Engineer an electronic copy, in portable document format (pdf), of the As-Built Plans and Specifications. The As-Built Plans and Specifications shall conform to the following requirements:

- a) Markups on the Asbuilt Plans shall be added to a clean digital version of the Plans and Specifications, and not a scanned copy of the Redline Plans;
- b) Markups shall be made in a contrasting color using a PDF editor or other software;
- c) All markups from the Redline Plans shall be copied to the As-Built Plans, including all deviations in line and grade for underground pipe, and other facilities;
- d) Markups shall include all deviation in grades for finish grades, curb, gutter, sidewalk and concrete pads;
- e) As-Built Plans shall include any revised Plan sheets and construction details that were issued by the Agency through RFIs, approved Submittals and Change Orders;
- f) Where applicable, the RFI, Submittal and Change Order numbers shall be noted.

- g) New information that is important to the Agency, but was not shown on the Plans, shall be marked on the as-builts;
- h) For products and materials where the Contractor has the option to select for the Engineer's approval, identify the product or materials that was installed.
- i) The As-Built Plans shall be marked "AS-BUILTS" with the Completion date and any other pertinent information on the cover sheet of the Plans and Specifications.

Payment for updating the Redline Plans and preparing the As-Built Plans shall be considered as included in the prices in the Bid for the various items of work.

SECTION 3 - CONTROL OF THE WORK

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

Add the following as the second paragraph:

The following work will be considered "Specialty Items":

- a) Item 15 – DECOMMISSION MONITORING WELLS
- b) Item 20 – FILTRATION UNITS
- c) Item 21 – DRYWELLS
- d) Item 23 – ELECTRICAL WORK
- e) Item 24 – LANDSCAPING AND IRRIGATION

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.

The Contractor and the Engineer shall confer prior to the start of the Work and review the Contractor's schedule. The Engineer will designate those operations which will require continuous inspection by the Agency. Should the Contractor perform any operations requiring continuous inspection for more than eight hours on any Working Day or perform any work on a day other than a Working Day, the Agency will deduct from any monies due the Contractor the amount of \$100 per hour for each hour or portion thereof that the Contractor performs such work. The Agency reserves the option to waive this stipulation if it is in its best interests.

Unless otherwise directed by the Engineer, the Agency will perform one inspection and one re-inspection of underground conduit and appurtenant structures. Should subsequent re-inspections be required due to the work not being in conformance with the Plans and Specifications, the Agency will deduct from any monies due the Contractor the amount of \$300 per hour for each hour or portion thereof required for the time necessary to perform the second and subsequent re-inspections.

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) Drainage Plans (Plan DR)- 23 sheets
- 2) Landscaping Plans (Plan LS) - 18 sheets
- 3) Electrical Plans (Plan E) - 10 sheets
- 4) Mechanical Plans (Plan M) - 8 sheets
- 5) Plumbing Plan (Plan P) - 3 sheets
- 6) Worksite Traffic Control Plan (Plan TC) – 6 sheets

b) Standard Plans

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

100-2	101-2	112-2	120-2	122-2	132-3
133-3	134-2	224-2	225-2	305-3	308-2
313-3	320-2	321-2	326-2	327-2	331-3
332-2	333-2	334-2	335-2	342-2	380-4
431-1	520-4	523-2	602-2	633-4	635-3
636-2					

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

1010-0	3080-3	3090-1	3091-1	3093-1
3095-1	6002-1	6008-1	6009-1	

- 3) Caltrans Standard Plans, Various Editions (included herein at the end of Section D):

RSP A88A (2018)	RSP ES-8B (2015)	A73C (2018)	A87A (2010)
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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:

Mr. Louis Romero, Capital Projects Management Associate
Ms. Melina Harteni, Project Controls
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
Mobile No. (626) 614-6540
Email Address: LoRomero@pw.lacounty.gov
Email Address: MHarteni@pw.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.

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

Add the following to Table 3-8.2:

Item	Subsection Number	Title	Subject
15	306-7.9	Temporary Bulkheads for Storm Drains	Drainage
16	306-16.1.1	Submittals	Temporary Steel Casings
17	E-1.1.2	Submittals	Conduit Penetration Diagram
18	E-1.1.2	Submittals	Elementary and Interconnection Wiring Diagrams
19	E-3.1.2	Submittals	Conduit Layout Drawings
20	E-9.1.3	Submittals	Control Panel Layout
21	M-2.3.1	Basis for Design and Installation	Installation details and precise dimensions of equipment to be installed.
22	EC-3-12.3.2.3	Noise Mitigation Plan	Noise Control
23	2-15.1	As-Built Plans and Specifications	General

Working Drawings listed as Items 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, 9, 10, 11, and 22 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	207-2.1	General	Reinforced Concrete Pipe for Drywells
8	219-1.2	Submittals	Filtration Unit
9	306-16.1.1	Submittals	16" Schedule 90 PVC Casings
10	306-16.8.2	Materials	Dry Well Covers
11	D-217-5.3.1	Engineered Permeable Grass Paver System (Park)	Drainage
12	LS-303-4.3	Permeable Pavers (Alley)	Landscaping
13	LS-304-6.2	Submittals	Welded Wired Vine Trellis
14	LS-805-3.1.d	General	Interpretive Signage
15	LS-805-3.1.e	General	Grant Signage
16	LS-805-3.1.g	General	Pocket Park Monument Sign
17	E-1.1.2	Submittals	Equipment anchors and supports
18	E-4.1.2	Submittals	Grounding Electrode and Conductor Locations
19	E-6.1.2	Submittals	Power Service Pedestal
20	E-7.1.3	Submittals	Distribution Equipment
21	E-8.1.3	Submittals	Telemetry Drawings
22	E-9.1.3	Submittals	As-Built Control System Drawings
23	E-10.1.4	Submittal	Lighting Wiring Diagrams
24	M-1.1.1	Shop Drawings	Cast-Iron Slide Gate Assembly
25	M-1.1.1	Shop Drawings	Electric Motor Operator
26	M-1.1.1	Shop Drawings	Equipment vaults
27	M-1.1.1	Shop Drawings	Drive Shaft Covers
28	M-1.1.1	Shop Drawings	Bevel Gear Pedestals
29	M-1.1.1	Shop Drawings	Flow Meter
30	M-3.11	Pedestal Assembly	Pedestal Design
31	M-3.12	Bevel Gear Support Structure	
32	M-8.1	Shop Drawings	EMO Vaults

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

Add the following:

- n) Baseline Construction Schedule per Section G, 6-1.1.3
- o) On-Road Diesel-Powered Vehicle Emissions Inventory Form per Section EC, 3-12.2.2.2(a).
- p) Off-Road Diesel-Powered Equipment Emissions Inventory Form per Section EC , 3-12.2.2.2(b).
- q) Idling Restrictions and Emissions per Section EC, 3-12.2.2.8 and 3-12.2.2.9.
- r) BMP Manager qualifications per Section EC, 3-12.6.2.4.c.
- s) Accumulated Precipitation Procedure per Section EC, 3-12.6.2.5.
- t) Silica Exposure Control Plan per Section EC, 5-7.9.2.2.
- u) Concrete Mix Designs per Section D, 201-1.1.4 & 201-1.1.7.
- v) Reinforcing Steel mill reports and certificates per Section D, 201-2.4.1.
- w) Concrete Repair Product data sheets per Section D, 201-10.1.
- x) Manhole Security Barrier details per Section D, 206-7.2.
- y) Engineered permeable grass paver system per Section D, 217-5.3.1.
- z) Imported soil sampling and analysis data per Section D, 218-5.
- aa) Root Control Barriers per Section D, 300-1.2.1.1 and Section LS, 800-1.7.
- bb) Recycling Summary per Section D, 300-1.6.3.
- cc) Green Waste Summary per Section D, 300-1.7.
- dd) Drywell construction procedures, specifications and certificates per Section D, 306-16.1.1.

- ee) Monitoring Well Decommissioning per Section D, 401-5.1
- ff) See Landscaping Submittals List per Section LS, 800-1.9.
- gg) See Irrigation Submittals List per Section LS, 800-4.
- hh) Service Entrance Switchboard and slab per Section E, E-1.1.2.C.
- ii) Start-Up and Testing Manuals per Section E, E-1.1.2.
- jj) Maintenance Schedule and Manufacturers' Standard Binders per Section E, E-1.1.2.
- kk) Certificate of Compliance for Low Voltage materials per Section E, E-2.1.2.
- ll) Conduit material information and Certificates of Compliance per Section E, E-3.1.2.
- mm) Operation and Maintenance Manuals per Section E, E-5.1.4.
- nn) Insulation Testing per Section E, 6.2.4.
- oo) Short-Circuit, Protective Device Coordination, and Arc Flash Hazard Analysis: prepared, wet stamped, and signed by an Electrical Engineer registered by the State of California per Section E, E-7.1.3.
- pp) Manufacturer's Specifications and Installation information per Section E, E-8.1.3.
- qq) Control Components and Manufacturer Literature with Specifications per Section E, E-9.1.3.
- rr) Operation and Maintenance Manuals per Section E, E-9.1.3.
- ss) Programmable Logic Controller per 9.2.3.F, 9.3.1.D and 9.3.2.B.
- tt) Lighting System Product Data Per Section E, E-10.1.4.
- uu) Cast-Iron Slide Gate Assembly and Appurtenances per Section M, M-1.1.2.

- vv) Electric Motor Operator and Controller per Section M, M-1.1.2.
- ww) Bevel Gear Unit per Section M, M-1.1.2.
- xx) Flow Meter per Section M, M-1.1.2.
- yy) Pressure Transducer per Section M, M-1.1.2.
- zz) Instruction Manuals and Parts Catalog per Section M, M-1.3.
- aaa) Potable Water Line components and Water Efficient Fixture Documentation per Section M, M-10.2.
- bbb) Monitoring well decommissioning work plan and completion report per Section D, 401-5.1.
- ccc) Schedule and methods for alley closure per Section TC, 601-9.

3-11 CONTRACT INFORMATION SIGNS. (Page 18 of the SSPWC)

Replace the entire subsection with the following:

The name and/or business logo of the Contractor may be displayed on a single, removable sign no larger than 20 square feet, located on the side of any building or office trailer established for the Contractor's use in connection with the Work. No more than one sign per office trailer.

Advertising matter of Contractors, Subcontractors, suppliers, vendors or any organizations shall not be attached to or painted on the surfaces of buildings, trailers, containers, fences, canopies, or barricades.

The size, location, subject matter, and construction of all information signs within the Work site, and right-of-way provided by the Agency, shall be subject to the approval of the Engineer.

3-13 COMPLETION, ACCEPTANCE, AND WARRANTY

3-13.1 Completion. (Page 21 of the SSPWC)

Replace the entire subsection with the following:

The Contractor shall submit a written assertion that the Work has been completed following final inspection(s) by the Agency for the completed Work. If, in the Engineer's judgment, the Work has been completed in accordance with the Contract Documents, the Engineer will set forth in writing the date the Work was completed (Substantial Completion). This will be the date when the Contractor is relieved from responsibility to protect and maintain the Work and to which liquidated damages will be computed.

A complete and comprehensive Punch List will be prepared by the Engineer at the time of Substantial Completion and based on the final inspection(s) performed by the Agency. The Contractor shall complete all qualifying Punch List items prior to Final Acceptance.

3-13.2 Acceptance. (Page 21 of the SSPWC)

Replace the entire subsection with the following:

Acceptance, also referred to as Board Acceptance or Final Acceptance, will occur after all of the requirements contained in the Contract Documents, including all Punch List items, have been completed. Acceptance shall be written acceptance by the Board or delegated authority that the Contractor has fulfilled all of the requirements contained in the Contract Documents, as recommended by the Engineer.

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 6-4.2. 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.

4-3 INSPECTION. (Page 22 of the SSPWC)

Add the following subsection:

4-3.4 Inspection of Fabricated Signs. Upon fabrication, and prior to installation, the Agency will inspect fabricated signs for conformance to the Contract Documents. The Contractor shall not install fabricated signs without the approval of the Engineer

4-3.5 CASp Inspection. The Contractor shall retain a Certified Access Specialist (CASp) through the Division of the State Architect (DSA) to inspect Work for compliance with applicable state and federal construction-related accessibility standards. Prior to final completion of the project, the Contractor shall furnish the County with a signed and dated inspection report stating that, in the opinion of the CASp, that all applicable Work meets construction-related accessibility requirements.

Payment for CASp inspection shall be considered as included in various items of the Bid.

4-3.6 Inspection Hold Points. The following are subject to, but not limited to, Agency inspection prior to proceeding with subsequent Work:

- a) Reinforced Concrete Pipe plant inspection prior to delivery per SSPWC 207-1.9 and Section D, 207-2.9.1
- b) Fine grading prior to seeding or sod installation per Section LS, 801-4.1.d.3.v
- c) Irrigation pressure test prior to backfilling per Section LS, 801-5.1.a.1
- d) Irrigation head locations prior to installation per Section LS, 801-5.1.a.2
- e) Backflow device inspection test per Section LS, 801-5.4.g.4
- f) Irrigation system coverage test prior to planting Section LS, 801-5.1.a.3
- g) River rock cobble inspection prior to planting per Section LS, 804-4.4
- h) Inspection of Plants at Nursery per Section LS, 800-1.4.1 and 801-4.1.d.3.iii
- i) Inspection of Plants following delivery to site per Section LS, 800-1.4.1 and 801-4.1.d.3.ii
- j) Plant locations per Section LS, 801-4.1.d.3.iv
- k) Planting inspection to initiate plant establishment period per Section LS, 801-4.1.d.2 and Section LS, 801-4.1.d.3.vi

- l) Completion of Plant Establishment Period per Section LS, 801-4.1.d.3.vii
- m) Wire and cable package inspection prior to opening per Section E, E-2.3.1
- n) Ground connections with exothermal welds per Section E, E-4.3.1.C.2
- o) Option for Inspection at Place of Manufacture per Section M, M-1.2
- p) Fabricated sign inspection prior to installation per Section G, 4-3.4
- q) Final Inspection prior to Substantial Completion per Section G, 3-13.1

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 \$200 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, except for the components identified by specific brand or trade name in Enclosure A, included at the end of this Section G. Pursuant to Public Contract Code, Section 3400, the Board has made a finding that those products are designated by brand or trade name in order to match other products in use on a particular public improvement either completed or in the course of completion and to obtain a necessary item that is available from only one source.

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 Hiring Policy.

5-3.8.1 Mandatory Hiring Goals.

The County of Los Angeles has implemented a Local and Targeted Worker Hiring 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 Hiring 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-E. 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 hiring 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). The Contractor and its subcontractors shall submit a copy of all CPRs to the County on a monthly basis, no later than on the first Monday of the subsequent month. Contractor and its subcontractors shall submit CPRs to the County electronically through an online system elected by the County.

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 local union 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 local union, 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 Hiring Status Report – A monthly report required to be submitted to the County as listed on Form 00 09 12-D.

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

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-A.

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

Workforce Utilization Plan – When requested by the County, Form 00 09 12-B shall be submitted by the Contractor on behalf of itself and its Subcontractors, 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. When updates are requested by the County, the Contractor shall submit updates to the workforce hiring plan for approval until substantial compliance is achieved.

Forms 00 09 12-A through 00 09 12-E are included at the end of this Section G.

5-3.8.3 Local and Targeted Worker Hiring 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 5-3.8.2, 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 Residency Preference Area (listed under Form 00 09 12-A), must first be exhausted in the manner specified in Section 5-3.8.4(e) before employing worker(s) from Tier 2 Residency Preference Area (listed under Form 00 09 12-C).
- c) All California Construction Labor Hours shall be included in the calculation for the percentage requirements set forth in Section 5-3.8.3.
- 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) When requested by the Engineer, the Contractor, on behalf of itself and its Subcontractors, shall submit a Workforce Utilization Plan 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 and Targeted Hiring requirement. The Contractor, thereafter, shall submit updates of the Workforce Utilization Plan to reflect changes in Project conditions, schedule, or subcontractors.
- d) 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.

- e) *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 to the Project Manager a statement 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.
- f) The Contractor and its Subcontractors shall use the Craft Employee Request Form (00 09 12-A) 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.
- g) No later than the 1st 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.

- h) 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.
- i) No later than the 15th calendar day of each month, the Contractor and all its Subcontractors shall submit the Local and Targeted Hiring 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.
- j) The Contractor's compliance 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:

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

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

- 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).

- k) 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).

- 1) 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 (if one was requested), 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:

- 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-E, 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-E (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/Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning owned Business Enterprises (M/W/D/DVBE/LGBTQQ).
- 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.

5-3.10 Contractor Development and Bonding Program (CDABP).

The Contractor Development and Bonding Program (CDABP) is administered by the Chief Executive Office of the County of Los Angeles for all County Construction Contracting Departments. The CDABP provides a broad range of contractor technical assistance, training, and support in qualifying for bonds, as well as contract financing for County awarded contracts. The CDABP assistance is available to you prime and subcontractors. The CDABP is a County funded resource designed to reduce the barriers to small and diverse firms seeking to bid and contract on County projects. For information on the CDABP please contact contract administrator. Additional information on the CDABP is included in the attachments titled “Los Angeles Regional Contractor Development and Bonding Program” and “Los Angeles Regional Contractor Development and Bonding Program Frequently Asked Questions” included at the end of this Section G.

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.....	\$2,000,000
Each Occurrence.....	\$2,000,000
Products/Completed Operations Aggregate	\$2,000,000
General Aggregate.....	\$5,000,000

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 and the State of California, along with their Special Districts, elected officials, officers, employees, and agents shall be named under the policy as an insured(s) or additional insured(s) 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 \$2,000,000 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.

Add the following subsection:

5-4.5 Builder's Risk Course of Construction Insurance. The Contractor shall provide evidence of and maintain builder's risk course of construction insurance until acceptance of the Contract by the Agency. Such insurance shall insure against damage from perils covered by the Causes-of-Loss Special Form (ISO policy form CP 10 30), and be endorsed to include earthquake, flood, ordinance or law coverage, coverage for temporary offsite storage, debris removal, pollutant cleanup and removal, preservation of property, excavation costs, landscaping, shrubs and plants, and full collapse coverage during construction (without restricting collapse coverage to specified perils). Such insurance shall be extended to include machinery coverage for air conditioning, heating, hoist, and other equipment during testing.

Coverage shall be written on a completed-value basis and cover the entire value of the Contract against loss or damage until completion and acceptance by the Agency.

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 subsections:

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 lump sum price in the Bid for "SITE PREPARATION AND DEMOLITION".

Add the following subsections:

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 prices in the Bid for the Bid items 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.

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) Utility relocations per 402-4.
 - 2) Schedule impacts due to the protection, removal, or relocation of utilities per 402-5.
 - 3) 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 7:00 a.m. and 3:30 p.m., unless otherwise approved by the Engineer.
 - 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 1st 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 1st 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 until monthly updates have been submitted to the Engineer.

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 (including but not limited to licensing, DIR registration, proposal forms, CBE participation, list of subcontractors, jury duty form, industrial safety record form, IIPP & CSP, unresolved disallowed costs, bid bond, questionnaire, insurance, and performance bond) 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.
- 1) Baseline Schedule per Section G, 6-1.1.3
 - 2) Subsurface Installation Location Data per Section G, 402-1.1
 - 3) Preconstruction Photographs per Section G, 2-14.2
 - 4) Workforce Utilization Plan per Section G, 5-3.8.2 and 5-3.8.4
 - 5) Jobs Coordinator per Section G, 5-3.8.4
 - 6) Schedule of Values per Section G, 7-2
 - 7) Emission Standards per Section EC, 3-12.2.2.2

- 8) Noise Mitigation Plan per Section EC, 3-12.3.2.3
 - 9) Designated BMP Manager's name and qualifications per Section EC, 3-12.6.2
 - 10) Respirable Crystalline Silica Exposure Control Plan per Section EC, 5-7.9.2.2
 - 11) Documentation of Site Discrepancies per Plan Sheet LS-1.00 General Construction and Removal Note 1
 - 12) Amendments to the Construction Demolition Recycling and Reuse Plan per Section D, 300-1.6.3
 - 13) Drywell Construction Procedures per per Section D, 306-16.1.1
 - 14) Monitoring Well Decommissioning work plan per Section D, 401-5.1
- 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 required per 2-2.

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, Schedule of Values, and Noise Mitigation Plan, 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.

6-3 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 **150** 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

7-2 LUMP SUM WORK. (Page 34 of the SSPWC)

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

The Contractor shall submit, in accordance with 3-8 and 6-1.2, a detailed schedule of values to be used only as a basis for determining progress payments for all lump sum Bid items, including those items in the Bid with detailed schedules.

Payment for preparation of detailed schedule of values will be made at the Stipulated Unit Price for “PREPARATION OF THE SCHEDULE OF VALUES.” No payment will be made until the detailed schedule of values has been accepted by the Engineer.

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 **6th** 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 following have been completed and accepted by the Engineer:

- a) Photographic documentation per 2-14.1
- b) Updated set of Redlined Plans and Specifications per 2-15.1
- c) Schedule update per 6-1.1.3

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)

Replace the entire subsection with the following:

If a change is ordered in an item of work covered by a Contract Unit Price in a Detailed Schedule of Prices for a Lump Sum item in the Bid, and such change does not involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based on the increase or decrease in quantity and the Contract Unit Price in the Detailed Schedule of Prices for a Lump Sum item in the Bid.

If a change is ordered in an item of work covered by a Contract Unit Price in a Detailed Schedule of Prices for a Lump Sum item in the Bid, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per 7-3.7.

There will be no adjustment in Contract Unit Price should there be variation in the final quantity of any item of work covered by a Contract Unit Price in the Bid and constructed in conformance with the Plans and Specifications.

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 twice per 7 Days, janitorial and other maintenance services as defined by industry standards, 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 contains two separate interior offices with a minimum of 160 square feet per office, two work stations per office (four total), 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. All door locks shall be opened with the same key. Provisions shall be made for the locking of windows from the inside and all windows shall have security bars and blinds. 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 shelves for supplies, 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 5-foot long motorized height adjustable desks, two under desk file cabinets with lockable drawers, two ergonomic multi-adjustable task chairs, and two anti-fatigue floor mats.
- e) Two 6-foot long, 30-inch wide, 30-inch tall table and 8 chairs,
- f) one plan table and one drafting stool, trash receptacles for each office, restroom and common area,
- g) a photocopier/scanner/fax (“all in one”) machine with wi-fi capability for the sole use of the Engineer, powered by standard 110V and having a manufacturing date of not more than 5 years,
- h) broadband internet service with wi-fi capability for two computers to access simultaneously,

- i) Two 27-inch monitors and one 32-inch monitor with 3840 × 2160 pixels of resolution and 300 cd/m² brightness, two sets of wireless ergonomic keyboard and mouse, two laptop cooling pads, two Microsoft Surface Docking Stations, three HDMI cables, three Mini Displayport to HDMI Adapter.
- j) Two HEPA type air purifiers (one per room) with replacement filters provided by the Contractor,
- 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 may also elect to lease a facility meeting the requirements of the Class "A" Field office. 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" after the issuance of NTP 2.

PART 4 EXISTING IMPROVEMENTS

SECTION 400 - PROTECTION AND RESTORATION

400-1 GENERAL. (Page 479 of SSPWC)

Replace the fifth paragraph with the following:

The Contractor shall give at least 14 Days' notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way, which are designated for removal and would be destroyed because of the Work.

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>
AT&T Distribution	Carl Randolph	(310) 515-4029 <u>Cr2936@att.com</u>
California American Water	Abdul Samim Hajizada	(916) 568-4219 <u>Abdulsamim.hajizada@amwater.com</u>
Charter Communications	Leigha Jameison	(310) 216-5574 <u>C-Leigha.Jameison@charter.com</u>
Crown Castle	Michael Moats	(949) 936-0043 <u>Michael.Moats@crowncastle.com</u>
Los Angeles County Public Works – Sewer Maintenance Division	Paolo Capili	(626) 300-3360 <u>pcapili@dpw.lacounty.gov</u>
Los Angeles Department of Water and Power	Ronald R. Perry	(213) 367-4694 <u>Ronald.Perry@ladwp.com</u>
Southern California Edison – Distribution	Ervin S. Perez	(310) 315-3255 <u>Ervin.Perez@sce.com</u>
SoCal Gas Company – Distribution	Zakee Singleton	(310) 605-7931 <u>zsingleton@semprautilities.com</u>

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.

402-4 RELOCATION. (Page 482 of the SSPWC)

Replace the fourth paragraph with the following:

Unless otherwise indicated on the Plans, the Agency will arrange for the alteration or permanent relocation of all service connections (except sewer house connections) which interfere with the Work. Such alteration or permanent relocation will be performed by others and paid for by the Agency.

Add the following:

Some existing utility facilities may remain in place. The Contractor shall work around and pave up to said facilities. During paving operations, the Contractor shall raise sleeve-type valve covers to the new grade. For non-sleeve type valve covers and all other utility facilities which are required to be raised to the new grade, the Contractor shall, prior to the start of paving operations, notify the utility owners to adjust their facilities to the new grade. Payment for raising sleeve-type valve covers and utility owner notifications shall be considered as included in the lump sum price in the Bid for “RESTORATION OF EXISTING IMPROVEMENTS”.

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.

CSM:__

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The Contractor Development and Bonding Program assists contractors with their contracting capacity and business growth.



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- Enrollment in our Contractor Development and Bonding Program.
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- One-on-one consultation to develop a work plan aligned with your business needs and goals.
- Facilitated referrals to Program Partners and resources.
- Contracting opportunities and industry-related workshops and events sent via our *LA Contractor Weekly* bulletin.
- Referrals to specific project opportunities.

Bonding, Contract Financing & Project Assistance

- Assistance with obtaining or increasing bonding.
- Access to collateral support for bid performance and payment bonds for qualified contractors.*
- Contract review, project assessment, and field support for Program-bonded or financed contracts.
- Assistance with project risk identification and mitigation.
- Access to contract cash flow funding.
- Accounting cost subsidy for CPA-prepared financial statements.

*L.A. County has limited capacity.

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- Group Classes on public construction best practices led by industry experts.
- Contract-specific support on Regional Bond Program-supported contracts.
- Creation of individualized Contractor Profile to assist with business marketing.

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FREQUENTLY ASKED QUESTIONS

*“An inclusionary program to
build a stronger region”*

What services does the County’s Contractor Development and Bonding Program (CDABP) provide?

The County’s CDABP extends comprehensive capacity building, technical, bonding and contract financing assistance to small and diverse contractors seeking to pursue County construction-related contracts. Starting with a thorough assessment of your current business status, we identify areas of opportunity in order to help you better position your firm to successfully compete for and complete County contracts.

After your assessment, you’ll be assigned a dedicated Account Manager who will work closely with you to tailor a technical assistance work plan and financial resources specific to your needs, which may include:

- ✓ One-on-one consultations
- ✓ Training clinics and learning immersion academies
- ✓ Help with prime contractor pre-qualifications
 - » Facilitation of prime or prime-sub contractor introductions
 - » Project/bid matches
- ✓ Assistance obtaining bonding, including bonding collateral support, if needed, and contract financing
- ✓ If you are awarded a County-related contract with bonding support, you will also receive on-going project assistance to help you successfully complete your contract.

Who is eligible to participate in the CDABP? Eligible firms include local small and diverse businesses who are certified or eligible for certification within one of the County’s business enterprise categories. For detailed information on the County’s certification programs, visit their Small Business Certifications webpage (https://iddweb.isd.lacounty.gov/DCA_eComplaint/SmallBusinessCertifications).

Why should small and diverse businesses enroll in the CDABP? LA County’s CDABP provides game-changing resources for small and diverse businesses who want to expand their capacity and improve their opportunities for winning County contracts. For example, the inability to secure or increase bonding often impedes small and diverse contractors from bidding and/or pre-qualifying with prime firms and participating on public works projects. This program helps reduce such barriers, even offering bonding collateral support (standard surety bond premiums and commissions charged are not covered by the CDABP).

Similarly, not having access to the capital needed to fund the cost of doing the contract work that you’ve been awarded can be a major challenge, and little to no assistance is available through traditional lending sources. Through the CDABP, the County provides for up to \$250,000 of contract-based financing with a low origination fee and very low interest rate, and not tied to your financials or credit.

This is a particularly good time to enroll, because in November 2021, President Joe Biden signed a \$1.2 trillion infrastructure investment plan supporting a range of construction projects in localities across the nation, including Los Angeles County. If you are a small or diverse local business, the CDABP can assist you in competing for upcoming construction contracts!

My subcontracted work hasn't required bonding in the past, so how would I benefit from participating in the CDABP? While you may not always need to provide a bond for some subcontracted work, a bond will always be required if you want to bid directly with the County on small prime contracts – and being “bondable” is a significant competitive advantage when bidding on many subcontracting opportunities. Becoming “bondable” demonstrates that your company's capacity to perform work has been assessed and vetted by a third party, which is then reflected in the dollar amount for which you can bond. Even when a bond for subcontract work is not required, it is quite common to be asked to demonstrate that your company is “bondable” in order to meet contract owner or prime requirements. Pre-qualification requirements often include demonstrating your bond underwriting and/or financial capacity to perform work. The CDABP will assist you in meeting advance requirements with primes or prime-sub contractors pursuing or performing County work.

What is the cost to participate in the CDABP? The CDABP is sponsored by the County of Los Angeles, so, with one exception, all services are offered at no cost to participating contractors! If needed, the only cost you may incur is for having a Certified Public Accountant (CPA) prepare a financial statement for your company, a requirement for bonding. For those who qualify, the program even provides a one-time subsidy toward this CPA-prepared company financial statement. If the subsidy is provided to you, you will be asked to pay the first \$500 toward the preparation of your financial statement and any costs in excess of what the \$3,200 subsidy covers.

The CDABP is one of the County's tools to effectively support and increase the inclusion and participation of small and diverse contractors on County projects. Because barriers impede access, CDABP is intended to reduce and eliminate barriers wherever possible.

When should I look to enroll in the County's program? Should I wait until I've identified a County project for which I want to bid? Don't wait, enroll now! The earlier you enroll and have your company assessed, the sooner you'll be able to receive expert guidance and support in bidding suitable County projects. For example, getting pre-approved for a specific bonding amount will not only boost your company's credentials, but will also help you confidently identify and pursue County contracting opportunities within that range. Your CDABP Account Manager will be helping you every step of the way, including steering you toward opportunities with CDABP program prime partners. By planning ahead, your firm will be better positioned for consideration by the County's prime and larger contractors, who are always seeking qualified and certified firms to meet their project participation goals.

How long will it take for me to get approved for bonding or contract financing? The timing of the bonding or contract financing process depends mostly on you. The initial steps of preparing an underwriting package for bonding or prequalifying you for contract financing require gathering information about your company. If you have the necessary documentation and information complete and readily available, then the next steps of the process can move quickly. Your CDABP Account Manager is always on hand to answer questions and help guide you through the process.

Must I already be working with a bonding broker in order to participate? You do not already need to be working with a bonding broker. The CDABP will work with any bonding broker with whom you've already established a relationship that you wish to continue. In fact, the program can also work with your current surety agent to increase your existing bonding capacity with them as well. However, if you do not have a current broker, the program can provide for your consideration a list of brokers who work with smaller contractors and with program surety partners.

We look forward to hearing from you! Reach us at:

213-258-3000 | MWISInfo@imwis.com | www.LAConDev.com



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.



(Contractor and Subcontractor Name)

DISPATCH REQUESTOR: _____

DATE: _____

**LOCAL AND TARGETED WORKER HIRE PROGRAM
00 09 12-A CRAFT EMPLOYEE REQUEST FORM - MANDATORY**

Monteith Park And View Park Green Alley Stormwater Improvements

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 2.01E 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 **Monteith Park And View Park Green Alley Stormwater Improvements**.

90001	90003	90005	90006	90007	90008	90010	90011	90015	90016	90018	90019	90020	90034	90035	90036
90037	90043	90044	90047	90062	90089	90301	90302	90303	90304	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 **Monteith Park And View Park Green Alley Stormwater Improvements**. See Form 00 09 12-C.

CRAFT WORKER REQUEST:

QTY#	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: _____

Requested Dispatch Available for Dispatch Unavailable for Dispatch

Tier 1 Residency Worker *See instruction below.
 Tier 2 Residency Worker 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: _____

FORM 00 09 12-B - LTRHP Workforce Utilization Plan
Contractor: All Contractors

Workforce Utilization Plan / Projection Hours

Project Name: _____
Project Duration: _____
Date: _____

	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Total
PROJECTED PROJECT HOURS														
Total Hours (WH)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Hours (Tier 1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Hours (Tier 2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Targeted Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Local Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Local Hours (%)														
ACTUAL PROJECT HOURS														
Total Hours (WH)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Hours (Tier 1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Hours (Tier 2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Targeted Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Local Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Local Hours (%) - To Date														

WH = Workforce Hours

**COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY QUALIFYING ZIP CODES
Form 00 09 12-C**

Tier 1, 2 and Qualifying Zip Codes are defined as:

Tier 1 Zip Code: A Tier 1 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within five (5) miles of the proposed project site; and (2) is within a Qualifying Zip Code. If a qualifying Zip Code is partially located within the 5-mile radius, then the entire Zip Code is considered as a Tier I Zip Code, and workers living in that entire Zip Code area may qualify as Tier I hiring.

Tier 2 Zip Code: A Tier 2 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within a Qualifying Zip code; and (2) that Qualifying Zip Code is beyond five (5) miles of the proposed project site.

Qualifying Zip Code: A Qualifying Zip Code is defined as a zip code within the County of Los Angeles, where either: (1) the average percentage of households living below 200 percent of the Federal Poverty Level (FPL) for that individual's primary residency's Zip Code is greater than the County average for such households; or (2) the Zip Code is one of 11 additional Zip Codes determined by the Board on September 6, 2011 to be a Zip Code where at least 30 percent of the population is living in poverty, and with an unemployment rate of at least 150 percent of the national average.

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
90001	Florence / South Central (City of LA)		X		X	
90002	Watts (City of LA)		X		X	
90003	South Central (City of LA)		X			
90004	Hancock Park (City of LA)	X	X	X		
90005	Koreatown (City of LA)		X			
90006	Pico Heights (City of LA)	X	X			
90007	South Central (City of LA)	X	X			
90008	Baldwin Hills / Crenshaw (City of LA) / Leimert Park (City of LA)		X			
90010	Wilshire Blvd (City of LA)		X			
90011	South Central (City of LA)	X	X			
90012	Civic Center (City of LA) / Chinatown (City of LA)	X				
90014	Los Angeles	X				
90015	Downtown Los Angeles (City of LA)	X	X			
90016	West Adams (City of LA)		X			
90017	Los Angeles	X				
90018	Jefferson Park (City of LA)		X			
90019	Country Club Park (City of LA) / Mid City (City of LA)		X			
90020	Hancock Park (City of LA)		X			
90021	Downtown Los Angeles (City of LA)	X				
90022	East Los Angeles	X			X	
90023	East Los Angeles (City of LA)	X			X	
90026	Echo Park / Silverlake (City of LA)	X				
90028	Hollywood (City of LA)			X		X
90029	Downtown Los Angeles (City of LA)	X		X		
90031	Montecito Heights (City of LA)	X				
90032	El Sereno (City of LA) / Monterey Hills (City of LA)	X				
90033	Boyle Heights (City of LA)	X				
90034	Palms (City of LA)		X	X		
90035	West Fairfax (City of LA)		X	X		
90036	Park La Brea (City of LA)		X	X		
90037	South Central (City of LA)		X			
90038	Hollywood (City of LA)			X		
90040	Commerce, City of	X			X	
Zip Code	Region	SD1	SD2	SD3	SD4	SD5

COUNTY OF LOS ANGELES
 LOCAL AND TARGETED WORKER HIRE POLICY QUALIFYING ZIP CODES
 Form 00 09 12-C

90042	Highland Park (City of LA)	X				
90043	Hyde Park (City of LA) / View Park / Windsor Hills		X			
90044	Athens		X			
90047	South Central (City of LA)		X			
90057	Westlake (City of LA)	X				
90058	Vernon	X	X		X	
90059	Watts (City of LA) / Willowbrook		X		X	
90061	South Central (City of LA)		X			
90062	South Central (City of LA)		X			
90063	City Terrace	X				
90089	Exposition Park(City of LA)		X			
90201	Bell / Bell Gardens / Cudahy				X	
90220	Compton / Rancho Dominguez		X			
90221	East Rancho Dominguez		X		X	
90222	Compton / Rosewood / Willowbrook		X		X	
90242	Downey				X	
90247	Gardena		X			
90250	Hawthorne (Holly Park) / Lawndale (Federal Bldg)		X			
90255	Huntington Park / Walnut Park		X		X	
90262	Lynwood				X	
90270	Maywood				X	
90280	South Gate		X		X	
90301	Inglewood		X			
90302	Inglewood		X			
90303	Inglewood		X			
90304	Lennox		X			
90401	Santa Monica			X		
90501	Torrance		X		X	
90601	Whittier	X			X	
90602	Whittier	X			X	
90640	Montebello	X			X	
90706	Bellflower				X	
90716	Hawaiian Gardens				X	
90723	Paramount				X	
90731	San Pedro (City of LA) / Terminal Island (City of LA)				X	
90744	Wilmington (City of LA)		X		X	
90802	Long Beach				X	
90804	Long Beach				X	
90805	North Long Beach (Long Beach)		X		X	
90806	Long Beach				X	
90810	Carson / Long Beach		X		X	
90813	Long Beach				X	
91001	Altadena					X
91046	City of Glendale					X
91103	Pasadena					X
91201	Glendale					X
91203	Glendale					X
91204	Glendale (Tropico)					X
91205	Glendale (Tropico)					X
91303	Canoga Park (City of LA)			X		
91331	Arleta (City of LA) / Pacoima (City of LA)			X		X
91335	Reseda (City of LA)			X		
91340	San Fernando			X		
91342	Lake View Terrace (City of LA) / Sylmar (City of LA)			X		X
91343	North Hills (City of LA)			X		
91352	Sun Valley (City of LA)			X		X
Zip Code	Region	SD1	SD2	SD3	SD4	SD5

COUNTY OF LOS ANGELES
 LOCAL AND TARGETED WORKER HIRE POLICY QUALIFYING ZIP CODES
 Form 00 09 12-C

91401	Van Nuys (City of LA)			X		
91402	Panorama City (City of LA)			X		
91405	Van Nuys (City of LA)			X		
91406	Van Nuys (City of LA)			X		
91411	Van Nuys (City of LA)			X		
91502	Burbank					X
91601	North Hollywood (City of LA)					X
91605	North Hollywood			X		X
91606	North Hollywood			X		X
91702	Angeles National Forest	X				X
91706	Baldwin Park / Irwindale	X				X
91731	El Monte	X				
91732	El Monte	X				
91733	South El Monte	X				
91744	Cityof Industry / La Puente / Valinda	X				
91746	Bassett / City of Industry / La Puente	X				
91754	Monterey Park	X				
91755	Monterey Park	X				
91766	Phillips Ranch / Pomoona / Chino	X				
91767	Pomona	X				X
91768	Pomona	X				

LOCAL AND TARGETED HIRE STATUS REPORT
LOS ANGELES COUNTY



Project: CALIFORNIA
 Supervisory District: 504
 Project Code: PVI13560
 Contractor(s): Multiple Contractors
 Contract Start Date: 08/01/2016
 Contract Completion Date: 08/31/2016
 Mandatory Local and Targeted Hiring Goal: 36.00%

From Date: 9/1/2016
 To Date: 9/30/2016
 Total # of Employees: 0
 Total Project Hours to Date: 0.00
 Total Hours Percent Complete: 0.00%

Area	Total Number of Workers Sep 01-Sep 30	% of Total Workers Sep 01-Sep 30	Total Hours Worked Sep 01-Sep 30	% of Total Hours Worked Sep 01-Sep 30	Cumulative Total Number of Workers	Cumulative % of Total Workers	Cumulative Total Hours Worked	Cumulative % of Total Hours Worked	Cumulative Wages w/ Benefits	Cumulative Number of Foremen	Cumulative Foremen Hours	Cumulative Foremen %	Cumulative Number of Journeymen	Cumulative Journeyman Hours	Cumulative Journeyman %	Cumulative Number of Apprentices	Cumulative Apprentice Hours	Cumulative Apprentice %
Tier 1	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Tier 2	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other in LA County (non-local)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Outside of LA County	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Employees Not in Specified Zip Lists	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Local and Targeted Workers	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Local Resident (Tier 1 + Tier 2)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Targeted Worker	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Demographic Profile																		
African American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Asian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Caucasian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Hispanic	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Native American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Not Specified	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Two Or More Races	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Male	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Female	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Veteran	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00%	0.00%	0	0.00	0.00%	0	0.00	0.00%
Total Employees	0		0.00		0		0.00		\$0.00	0			0	0.00		0	0.00	

SAMPLE

JOB COORDINATOR PANEL

as of May 2022

<p>Casamar Group, LLC Joe Garcia 23335 Alamos Lane Newhall, CA 91321 TEL: 661.254-2373 Fax: 661.253.0549 jgarcia@casamargroup.com</p>	<p>Del Richardson & Associates, Inc. Del Richardson 510 S. La Brea Avenue Inglewood, CA 90301 TEL: 310.645.3729 ext. 229 FAX: 310.645.3355 Del.Richardson@drainc.com</p>
<p>Harris & Associates John W. Harris 865 S. Figueroa Street Los Angeles, CA 90017 TEL: 213.489.9833 FAX: 626.316.7103 john@jwharrislaw.com</p>	<p>Managed Career Solutions, Inc. Philip Starr 3333 Wilshire Blvd., Suite 405 Los Angeles, CA 90010 TEL: 213.355.5312 FAX: 213.381.5053 pstarr@mcs-careergroup.com</p>
<p>Mindful Integration of Construction Services Theodora Oyie P.O. Box 180156 Los Angeles, CA 90018 TEL: 323.241.7787 toyie@mindfulintegrationervices.com</p>	<p>Modern Times, Inc. Joseph Hernandez 1892 E. Altadena Drive Altadena, CA 91001 TEL: 213.810.6105 FAX: 626.316.7103 joe@moderntimesinc.com</p>
<p>Onesimus, Inc Michael Richardson 129 E. 136th Street Los Angeles, CA 90061 TEL: 310.701.0359 profitableanduseful@gmail.com</p>	<p>Pacific Resources Services Corporation Ben Ocasio 11421 Lambert Ave. El Monte, CA 91732 TEL: 626.800.4006 FAX: 626.800.4140 bocasio@pacificresourceservices.com</p>
<p>Padilla & Associates, Inc. Patricia Padilla 211 East City Place Drive Santa Ana, CA 92705 TEL: 714.225.0116 ppadilla@padillainc.com</p>	<p>PDA Consulting, Inc. Pamela Penn 8901 S. La Cienega Blvd. Suite 201 Inglewood, CA 90301 TEL: 310.910.0940 pamela.penn@pdaconsultinggroup.com</p>
<p>Playa Vista Job Opportunities and Business Services Mary Taylor 4112 S. Main Street Los Angeles, CA 90037 TEL: 323.432.3955 FAX: 323.432.3995 mtaylor@pvjobs.org</p>	<p>TransCal Services, LLC Jeffery Henderson 6109 S. Western Ave., Suite 308 Los Angeles, CA 90047 TEL: 323.305.6470 FAX: 323.305.6471 jhenderson@transcalservices.com</p>
<p>TSG Enterprises, Inc. dba The Solis Group Elizabeth Solis 131 N. El Molino Ave., Suite 100 Pasadena, CA 91101 TEL: 626.685.6989 FAX: 626.685.6985 elizabeths@thesolisgroup.com</p>	<p>Power2Workers Christiana Faulkner 5505 S. Vermont Ave. Los Angeles, CA 90037 TEL: 323.920.6674 christiana@power2workers.org</p>



**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

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: MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS

Project ID No.: SWQ0000005

**County of Los Angeles,
And the State of California**

Shall be named under the policy as insured or additional insured 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 County of Los Angeles.

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 County of Los Angeles by registered mail, return receipt requested, sent to the County of Los Angeles c/o County of Los Angeles, Public Works, Project Management Division III, 8th Floor, Attention Irma Vargas, 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.

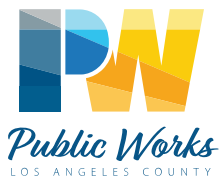
ENCLOSURE A

LIST OF SPECIFIC BRAND NAMES IN ACCORDANCE WITH CALIFORNIA PUBLIC CONTRACT CODE SECTION 3400

	Item/Category	Manufacturer	Model	Purpose
1	4' X 4' Cast Ductile Iron ASTM A536 Hatch Cover	Neenah Foundry	NF-6662T17	In order to match other products in use on a particular public improvement either completed or in the course of completion.
2	Engineered Permeable Grass Pavers	NDS	EZ-Roll	In order to obtain a necessary item that is only available from one source.
3	Irrigation Gate Valve	Nibco	T-113k	In order to match other products in use on a particular public improvement either completed or in the course of completion.
4	ADA Drinking Fountain	Haws	3300	In order to match other products in use on a particular public improvement either completed or in the course of completion.
5	Irrigation Controller/ Landscape and Irrigation	WeatherTrak	LC+ with Flow Key/ CIM-5yr (w/5yr data service)	In order to match other products in use on a particular public improvement either completed or in the course of completion.
6	Flow sensor and Master Valve/ Landscape and Irrigation	WeatherTrak	Flow 3	In order to match other products in use on a particular public improvement either completed or in the course of completion.
7	Cast Iron Slide Gate	Waterman	S-500	In order to match other products in use on County facilities either completed or in the course of completion.
8	Electric Motor Operators	Limitorque	MX-10 Series	In order to match other products in use on County facilities either completed or in the course of completion.
9	Gas Sensor	Drager	PIR 7000	In order to match other products in use on County facilities either completed or in the course of completion.
10	AS950 Portable Automated Sampler	Hach	ASP.CSXXS221XX	In order to match other products in use on County facilities either completed or in the course of completion.
11	Submerged Area-Velocity Sensor	Hach	77064-XXX	In order to match other products in use on County facilities either completed or in the course of completion.
12	AV sensor cable	Hach	77155-PRB	In order to match other products in use on County facilities either completed or in the course of completion.
13	AV9000 Module	Hach	9504600	In order to match other products in use on County facilities either completed or in the course of completion.
14	AV9000S to Port Hardware Kit	Hach	9506900	In order to match other products in use on County facilities either completed or in the course of completion.
15	Tubing, Vinyl Intake 3/8-in (100 ft)	Hach	923	In order to match other products in use on County facilities either completed or in the course of completion.

ENCLOSURE A

	Item/Category	Manufacturer	Model	Purpose
16	Strainer, High Velocity and Shallow Depth	Hach	4652	In order to match other products in use on County facilities either completed or in the course of completion.
17	I/O 9004 Module	Hach	9494600	In order to match other products in use on County facilities either completed or in the course of completion.
18	Junction box	Hach	9501000	In order to match other products in use on County facilities either completed or in the course of completion.
19	1.5-lb Refill Bottle of Desiccant	Hach	8755500	In order to match other products in use on County facilities either completed or in the course of completion.
20	Telog RU32 Logger	Trimble	20-1084 RU32mA-L1V	In order to match other products in use on County facilities either completed or in the course of completion.
21	Pole Mount Antenna	Trimble	A-CBA-LTE	In order to match other products in use on County facilities either completed or in the course of completion.
22	Programmable Logic Controller (PLC) CPU	Automation Direct	H2-DM1E	In order to match other products in use on County facilities either completed or in the course of completion.
23	Programmable Logic Controller (PLC) Base	Automation Direct	D2-06BDC1-1	In order to match other products in use on County facilities either completed or in the course of completion.
24	Programmable Logic Controller (PLC) Discrete Input Module	Automation Direct	D2-16ND3-2 discrete input module	In order to match other products in use on County facilities either completed or in the course of completion.
25	Programmable Logic Controller (PLC) Relay Output Module	Automation Direct	F2-08TR relay output module	In order to match other products in use on County facilities either completed or in the course of completion.
26	Programmable Logic Controller (PLC) Analog Input Module	Automation Direct	F2-08AD4DA analog input/output module	In order to match other products in use on County facilities either completed or in the course of completion.
27	Programmable Logic Controller (PLC) Ethernet Module	Automation Direct	D2-DCM data communication module	In order to match other products in use on County facilities either completed or in the course of completion.
28	Programmable Logic Controller (PLC) Filler Module	Automation Direct	F2-Fill filler module	In order to match other products in use on County facilities either completed or in the course of completion.
29	PLC Programming Software	Automation Direct	Do-more PLC programming software and C-more programming software	In order to match other products in use on County facilities either completed or in the course of completion.
30	Touch Panel	Automation Direct	EA9-T8CL touch screen	In order to match other products in use on County facilities either completed or in the course of completion.
31	Pre-Wired Connector Module	Automation Direct	ZL-RTB20 connector, ZL-D2-CBL-19 cables	In order to match other products in use on County facilities either completed or in the course of completion.



Los Angeles County Public Works

2023

MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS PROJECT ID NO. SWQ000005

January							February							March							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
										1	2	3	4				1	2	3	4	
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8		10	11	12	13	14	12	13	14	15	16	17	18	12	13	14	15	16	17	18	
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22		24	25	26	27	28	26	27	28					26	H	28	29	30	31		
29	30	31																			
April							May							June							
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July							August							September							
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29	30	31												31							

No Work Allowed

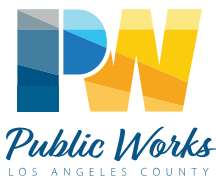


Working Day



Holiday

H



Los Angeles County Public Works

2024

MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS PROJECT ID NO. SWQ000005

January							February							March						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	H	2	3	4	5	6					1	2	3						1	2
7	8	9	10	11	12	13	4	5	6	7	8	9	10	3	4	5	6	7	8	9
14	H	16	17	18	19	20	11	12	13	14	15	16	17	10	11	12	13	14	15	16
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28	29	30	31				25	26	27	28	29			24	H	26	27	28	29	30
														31						
April							May							June						
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	1	2	3	4	5	6				1	2	3	4							1
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28	29	30					26	H	28	29	30	31		23	24	25	26	27	28	29
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7	8	9	10	11	12	13	4	5	6	7	8	9	10	1	H	3	4	5	6	7
14	15	16	17	18	19	20	11	12	13	14	15	16	17	8	9	10	11	12	13	14
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28	29	30	31				25	26	27	28	29	30	31	22	23	24	25	26	27	28
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October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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6	7	8	9	10	11	12	3	4	5	6	7	8	9	1	2	3	4	5	6	7
13	H	15	16	17	18	19	10	H	12	13	14	15	16	8	9	10	11	12	13	14
20	21	22	23	24	25	26	17	18	19	20	21	22	23	15	16	17	18	19	20	21
27	28	29	30	31			24	25	26	27	H	H	30	22	23	24	H	26	27	28
														29	30	31				

No Work Allowed

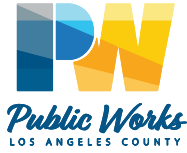


Working Day



Holiday

H



LOS ANGELES COUNTY PUBLIC WORKS
ENVIRONMENTAL PROGRAMS DIVISION

CONSTRUCTION AND DEMOLITION DEBRIS
RECYCLING AND REUSE PLAN APPROVAL SHEET

RRP Number: 092821-1000

Date: 9/28/2021

Applicant: Ghassan Haidar

Project Address: 4616 S. Mullen Avenue, View Park , 90043

The Recycling and Reuse Plan(RRP) submitted for the above project has been approved.

Please note the following:

- A Final Compliance Report is due no later than 45 days after project completion along with all weight tickets. The Final Compliance Report is due by 7/10/2023.
- Source separation of debris is required for one of more of the facilities you have chosen to use. Coordinate this with your contractor, hauler, and facility to ensure the material is recycled.
- Changes to the project scope, will require submittal of an Amended Recycling and Reuse Plan.
- Weight tickets are required to be submitted with the Final Compliance Report and must account for all waste generated from the project.
- Notify all interested parties(contractor, subcontractors, owner) of recycling requirement and of recycling and disposal facilities to be used.

NOTE: Maximum penalty of \$50,000

Estimated soil export: 384.75 tons



Failure to accurately account for all C&D project debris by submitting the required documentation and the Final Compliance Report constitutes a violation of the C&D Ordinance which may incur **penalty fees of no less than \$100 per ton**.

C&D forms and other reference material are available at www.LACountyCND.com

For further assistance please call the C&D Unit, Evans, David at (626) 458-3517

Construction and Demolition Recycling and Reuse

Attachment 1

Provide the following information to the County of Los Angeles Department of Public Works Environmental Programs Division Construction & Demolition Debris Recycling and Reuse Unit by emailing this form to CND@dpw.lacounty.gov

Name of the Project: Monteith Park and View Park Green Alley Stormwater Improvements

Address: 4616 S. Mullen Ave, View Park CA 90043

Project Description: Construction of Stormwater capture system include diversion structures, pretreatment systems and infiltration wells. The above ground components include landscaping, Planters, new concrete walkways and decorative entry.

Estimated Tonnage or Cubic Yard of Debris Generated from:

Grading:

Demolition: 0

Construction: 0

Contractor Project Manager: TBD

Email Address: ___TBD

County Project Manager: Ghassan Haidar

Email Address: ghaidar@dpw.lacounty.gov

Submitted by:

Date:

Email Address:

Ghassan Haidar

09/28/2021

ghaidar@dpw.lacounty.gov__

Office Use Only:

Project is encouraged to make a good-faith effort to reduce, reuse, and/or recycle the debris generated to the maximum extent feasible.

Project is subject to Part 3 of Section 01 74 19. Submit a Recycling and Reuse Plan (Attachment 2)

Reviewed by: David Evans

Date: 10/4/2021





L.A. County requires C&D debris from projects in County unincorporated areas to be diverted from landfills in accordance with Chapter 20.87 of the L.A. County Code or the most recent CalGreen Manual (the more stringent of the two). Additional information is available online at www.LACountyCND.com. If you have any further questions, please call (626) 458-3517


When completed, submit this form and all appropriate attachments by one of the following methods:

- **By E-mail to:** CND@pw.LACounty.gov
- **By Mail to:**
 Los Angeles County Public Works
 Environmental Programs Division
 P.O. BOX 1460
 Alhambra, CA 91802-1460
- **In person to:**
 Los Angeles County Public Works
 Annex Bldg., 3rd Floor
 900 South Fremont Avenue
 Alhambra, CA 91803
 Monday—Thursday, 7:00am-5:00pm
- **By Fax to:** (626) 270-4066

STEP 1: Project Details— An asterisk (*) denotes a required field	
Address*: 4616 S. Mullen Avenue	
City*: View Park (unincorporated County)	Zip*: CA 90043
Parcel Number: 5012018900	Plan Check Number: UNC-BLDC210512000633
Estimated Start Date*: 05/26/2022	Estimated End Date: 08/05/2023

STEP 2: Project Scope – Provide a description of the scope of work
The proposed project includes construction of stormwater capture systems. The project components include 2 diversion structures, 2 pretreatment systems and 12 infiltration wells. The treated stormwater will be diverted to the infiltration wells to percolate into the ground. The above ground components include landscaping, Planters, new concrete walkways and decorative entry.

STEP 3: Project Type – Choose all types below that apply to the project
<input type="checkbox"/> Residential Project – Complete Pages 1 through 5 <input type="checkbox"/> Non-residential Project – (Commercial, Industrial, Mixed use, etc.) Complete Pages 1 through 5 <input checked="" type="checkbox"/> County-managed Project – Complete Pages 1 through 5 AND Attachment 1
Will grading/excavation of soil be involved with this project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

FOR PUBLIC WORKS USE ONLY	
RRP ID: <u>092821-1000</u> Approved by (Print): <u>David Evans</u> <input type="checkbox"/> Exempt, Reason: _____ Approval Date: <u>9/28/2021</u> Approver Signature: <u></u>	Date Received: 9/21/2021
<p style="color: red; font-weight: bold;">Failure to provide a FINAL COMPLIANCE REPORT, including all necessary documentation, within 45 days of completion of the project may incur a PENALTY OF UP TO \$50,000.</p> Notes/Comments:	



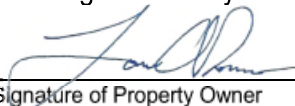
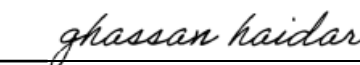
STEP 4: Contact Information — <i>An asterisk (*) denotes a required field</i>			
Applicant Information			
Name: Ghassan Haidar		Company: LA County	
Address: PO Box 1460			
City: Alhambra		Zip: 91802	
Phone: 310-619-8654		Fax:	
E-mail: ghaidar@dpw.lacounty.gov			
Relation to project (Check one below):			
<input type="checkbox"/> Owner	<input type="checkbox"/> Contractor	<input checked="" type="checkbox"/> Project Manager	<input type="checkbox"/> Other, Specify:
Owner Information			
Name*: louis Romero		Company: LA County	
Address*: PO Box 1460			
City*: Alhambra		Zip*: 91802	
Phone*: 626-614-6540		Fax:	
E-mail: loromero@dpw.lacounty.gov			

STEP 5: Acknowledgement of C&D Requirements — *Read and sign below if you are the owner, contractor, or project manager assigned to the project.*

Unless expressly waived by Public Works, the property owner must sign the signature page below as well as the Owner Acknowledgement of Responsibility form. If a representative of the property owner, such as a contractor, architect, permit runner, etc., is submitting the application on the owner's behalf, such representative must also sign the signature page, but we will not accept an application or approve a Plan that is not signed by the owner. The signature of the property owner is necessary in order to demonstrate that the owner of the subject property acknowledges and understands that a violation of the requirements of the Plan could subject them to penalties, as described below.






Note that any violation of the provisions of Chapter 20.87 of the C&D Debris Recycling and Reuse Ordinance will be subject to an administrative penalty, enforcement, and collection proceedings, as set forth in the chapter and authorized by Section 53069.4 of the California Government Code. The Director of Public Works may withhold approval of any and all Recycling and Reuse Plans submitted by the responsible person on any project until the applicable administrative penalty has been paid. In addition, the amount of any unpaid administrative penalty may be declared a lien on any real property on which the project took place, as provided in Section 20.87.120 of the Ordinance.

The undersigned fully acknowledges the requirements of Chapter 20.87, Title 20 – Utilities of the Los Angeles County Code, C&D Debris Recycling and Reuse Ordinance, Section 20.87.090.

X	 _____ Signature of Property Owner	<u>louis Romero</u> _____ Print Name	<u>9/21/2021</u> _____ Date
X	_____ Signature of Authorized Contractor	_____ Print Name	_____ Date
X	 _____ Signature of Project Manager	<u>Ghassan Haidar</u> _____ Print Name	<u>09/21/2021</u> _____ Date



STEP 6: PROPERTY OWNER ACKNOWLEDGEMENT OF RESPONSIBILITY—Must read and initial each statement if you are (1) **the registered property owner** or (2) if the property is owned by a corporation, partnership, limited partnership, or limited liability company, an officer of such company with authority to sign on the company's behalf.

 Initial here	I understand this is a legally binding contract that I and my project manager(s), general contractor(s), contractor(s), and waste hauler(s) agree to fulfill.
 Initial here	I acknowledge that I have been given a list of recycling facilities listed on Table 1 and I understand that Public Works has confirmed that these facilities meet the requirements of Los Angeles County Code, Chapter 20.87. I understand that if my project manager(s), general contractor(s), contractor(s), and waste hauler(s) intends to take the construction and demolition debris to a facility that is not on this list, they must obtain prior approval from Public Works. Failure to do so could result in a violation the minimum recycling requirements of Los Angeles County Code, Chapter 20.87.
 Initial here	I understand that I am responsible for making sure that my project manager(s), general contractor(s), contractor(s), and waste hauler(s) fulfill the minimum recycling requirements of Los Angeles County Code, Chapter 20.87, and that if these minimum requirements are not fulfilled, I may be responsible for monetary penalties.
 Initial here	I understand that I am responsible for making sure that my project manager(s), general contractor(s), contractor(s), and waste hauler(s) obtain copies of any and all weight tickets from any facility which receives debris from this project. This includes facilities which are listed in this Plan, and those facilities which are not listed in this Plan. The use of facilities which are not listed on the Recycling and Reuse Plan may result in a violation of Los Angeles County Code, Chapter 20.87, and monetary penalties.
 Initial here	I understand that once the project is complete, a Final Compliance Report must be filed. If either my project manager(s), general contractor(s), contractor(s), and waste hauler(s) or I fail to file a Final Compliance Report or meet the minimum recycling requirements for the project by the required date, for any reason, I may be subject to a notice of violation and a maximum penalty of no less than \$100 for every ton which needed to be recycled.

X 

 Officer's/Owner's signature

louis Romero

 Print Name

9/21/2021

 Date



STEP 7: Provide the dimensions of the project below where applicable. For help filling out this attachment, call the C&D unit at (626) 458-3517 or email CND@pw.LACounty.gov

Project Scope	Area to be DEMOLISHED (ft ²)	Area to be CONSTRUCTED (ft ²)
RESIDENTIAL—House (SFR, ADU, addition, etc.)		
RESIDENTIAL—Garage/Carport		
RESIDENTIAL —Patio/Gazebo/Storage Shed		NOT APPLICABLE
NON-RESIDENTIAL—Wood-frame/Metal Structure		
NON-RESIDENTIAL—Concrete/Masonry Structure		
Driveway/Parking Lot/Walkway		NOT APPLICABLE
Renovation/remodel/conversion/legalization	NOT APPLICABLE	
Tenant Improvement		

Walls To be removed	Total length to be removed (ft)
INTERIOR WALLS ONLY	
EXTERIOR WALLS ONLY	
BRICK/CINDER BLOCK WALLS (including retaining walls)	Height (ft): Width (ft): Length (ft):
Other (specify):	

STEP 8: Check the box that best describes the grading/excavation activity of the project. If this does not apply for this project, mark the box labeled "N/A" below then proceed to Step 9.

- Soil will be exported/imported. Include estimated volumes below.
- N/A, Soil will balance on-site. Include estimated volumes to be balanced below.
- N/A, this project will export **contaminated soil**. Call the Methane Unit at (626) 458-3517.
- N/A, this project will not export any soil off-site. Proceed to Step 9.

	Estimated Volume (yd ³)	Estimated Tons (PW USE ONLY)
Cut	285	** x 1.35 tons/yd ³
Fill		** x 1.35 tons/yd ³

FOR PUBLIC WORKS USE ONLY	
Total Estimated C&D Debris (Tons)*:	
Min. Estimated C&D Debris to be recycled (Tons):	
Total Estimated weight of soil (Tons):	384.75
MAXIMUM PENALTY FEE OF \$50,000	

* Factors taken from U.S. Environmental Protection Agency. "Estimating 2003 Building-Related Construction and Demolition Materials Amounts." (2003)

** Factors determined by Los Angeles County Public Works (2019).



STEP 9: *Choose at least one C&D recycling facility* from the list below, then **proceed to STEP 10 below**. Note the debris that the listed facilities accept. For facilities that manage land clearing debris only, please go to the following link: https://pw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf.

If you represent a facility that would like to be added to the list mentioned above, please contact the C&D Unit at (626) 458-3517 or CND@pw.lacounty.gov

ALL DEBRIS — Wood, drywall, metal, cardboard, Inert Debris, Land Clearing Debris, Soil		
Location	Facility Name	Phone
Canyon Country	Ranfam/Rent-A-Bin	(661) 250-5333
Gardena	California Waste Services	(800) 839-5550
Lancaster	WM - Lancaster Landfill	(661) 726-3468
Long Beach	American Industrial Services	(800) 500-3881
Los Angeles (Downtown)	WM - Downtown Diversion	(213) 612-5005
Los Angeles (East LA)	Direct Disposal	(323) 262-1604
Los Angeles (near Glendale)	American Reclamation	(323) 245-0125
Palmdale	WM - Palmdale Landfill	(661) 947-7197
Santa Clarita	Burrtec Services	(866) 270-5370
Santa Clarita	Republic Services	(800) 299-4898
Santa Monica	Southern California Disposal	(310) 828-6444
South Gate	Construction and Demolition Recycling, Inc.	(323) 357-6900
Sun Valley	Crown Recycling Services	(818) 767-0675
Sun Valley	WM - East Valley Diversion	(818) 252-0019

INERT DEBRIS ONLY — Asphalt, asphalt concrete, concrete, concrete blocks, gravel, rocks, soil		
Location	Facility Name	Phone
Lancaster	Arrow Transit Mix, Inc.	(661) 945-7600
X Long Beach (North)	Hanson Aggregates	(626) 856-6700, Option 1
Long Beach (South)	Hanson Aggregates	(636) 856-6700, Option 1
Los Angeles (Boyle Heights)	Security Paving Company, Inc. (formerly 25th Street Recycling)	(818) 362-9200
Monrovia	Peck Road Grave	(626) 574-1855
Sun Valley	Vulcan Materials	(818) 983-0146
Sun Valley	RAMCO	(818) 767-0700
Sun Valley	Security Paving company, Inc. (formerly Bradley Recycling)	(818) 362-9200

NOTES:

STEP 10: *Choose one of the County-approved hauling options below.*

- [OPTION 1] **Self-Haul:** Applicant will use a personal or company-owned vehicle to transport all C&D debris to the facility indicated in Step 9 of this Application Form.
- [OPTION 2] **Roll-off Bins:** Applicant will use roll-off bins provided by a hauler listed on the County Authorized Waste Hauler list that can be found online at the following link:
<https://pw.lacounty.gov/epd/swims/TrashCollection/docs/AuthorizedCommercialWasteHaulers.pdf>
Name & number of hauler to be used:
- [OPTION 3] **End Dump Truck:** Applicant will contract hauling of material to a trucking company.
Name & number of company to be used: TBD



If there are any changes in the project scope as described in the latest Recycling and Reuse Plan, please fill out this form and submit using one of the following methods:

- **By E-mail to:** CND@pw.LACounty.gov
- **By Mail to:**
Los Angeles County Public Works
Environmental Programs Division
P.O. BOX 1460
Alhambra, CA 91802-1460
- **In person to:**
Los Angeles County Public Works
Annex Bldg., 3rd Floor
900 South Fremont Avenue
Alhambra, CA 91803
Monday—Thursday, 7:00am-5:00pm
- **By Fax to:** (626) 270-4066

STEP 1: RRP Information— Please list all pertinent changes to the scope of work below.

RRP ID Number:

Project Address, City, Zip:

List all changes to the project scope, including new end date, if applicable:

STEP 2: Applicant Information

Name	Company		
Address:			
City:	Zip:		
Phone:	Fax:		
E-mail:			
Relation to project (Check one below):			
<input type="checkbox"/> Owner	<input type="checkbox"/> Contractor	<input type="checkbox"/> Project Manager	<input type="checkbox"/> Other, Specify:

STEP 3: Acknowledgement of C&D Requirements— *Read and sign below if you are the owner, contractor, or project manager assigned to the project.*

The undersigned fully acknowledges the requirements of Chapter 20.87, Title 20 – Utilities of the Los Angeles County Code, C&D Debris Recycling and Reuse Ordinance, Section 20.87.090.

X	Signature of Property Owner	Print Name	Date
X	Signature of Authorized Contractor	Print Name	Date
X	Signature of Project Manager	Print Name	Date

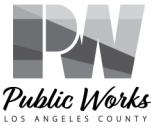
FOR PUBLIC WORKS USE ONLY

Approved by (Print): _____

Approval Date: _____

Approver Signature: _____

Date Received:



Upon completion of your project, fill out this form and submit to the C&D Unit with all proper documentation pertaining to C&D Debris generated by the project by one of the following methods:

- **By E-mail to:** CND@pw.LACounty.gov
- **By Mail to:**
Los Angeles County Public Works
Environmental Programs Division
P.O. BOX 1460
Alhambra, CA 91802-1460
- **In person to:**
Los Angeles County Public Works
Annex Bldg., 3rd Floor
900 South Fremont Avenue
Alhambra, CA 91803
Monday—Thursday, 7:00am-5:00pm
- **By Fax to:** (626) 270-4066

STEP 1: Project Details	
RRP ID Number: _____	
Address: _____	
City: _____	Zip: _____

STEP 2: Documentation

Attach copies of **all documentation** pertaining to all C&D debris generated by the project described in Step 1 of this form. **Documentation includes weight tickets from C&D debris recycling facilities, a subscription order form or bill of rights from authorized commercial franchise haulers, and any other documentation that accounts for material hauled to a location that is legally permitted to collect that material.**

STEP 3: Acknowledgement of C&D Requirements— <i>Read and sign below if you are the owner, contractor, or project manager assigned to the project.</i>

The undersigned fully acknowledges the requirements of Chapter 20.87, Title 20 – Utilities of the Los Angeles County Code, C&D Debris Recycling and Reuse Ordinance, Section 20.87.090.

X	Signature of Property Owner	Print Name	Date
X	Signature of Authorized Contractor	Print Name	Date
X	Signature of Project Manager	Print Name	Date

FOR PUBLIC WORKS USE ONLY	
Recycle Rate for this RRP: _____	Date Received: _____
Approved by (Print): _____	
Approval Date: _____	
Approver Signature: _____	
<u>PENALTY FEE DUE:</u> Notes/Comments: _____	

OWNER BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractors' State License Law for the reason(s) indicated below by the checkmark(s) I have placed next to the applicable item(s) (Section 7031.5, Business and Professions Code): Any city or county that requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for the permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors' State License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt from licensure and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.):

I, as owner of the property, or my employees with wages as their sole compensation, will do all of or portions of the work, and the structure is not intended or offered for sale (Section 7044, Business and Professions Code: The Contractors' State License Law does not apply to an owner of property who, through employees' or personal effort, builds or improves the property, provided that the improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the Owner-Builder will have the burden of proving that it was not built or improved for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed Contractors to construct the project (Section 7044, Business and Professions Code: The Contractors' State License Law does not apply to an owner of property who builds or improves thereon, and who contracts for the projects with a licensed Contractor pursuant to the Contractors' State License Law).

I am exempt from licensure under the Contractors' State License Law for the following reason:

By my checking here I acknowledge that, except for my personal residence in which I must have resided for at least one year prior' to completion of the improvements covered by this permit, I cannot legally sell a structure that I have built as an owner-builder if it has not been constructed in its entirety by licensed contractors. I understand that a copy of the applicable law, Section 7044 of the Business and Professions Code, is available upon request when this application is submitted or at the following Web site: <http://www.leoinfo.castovicalaw.html>.

Date: _____ Signature of Property Owner or Authorized Agent _____

LICENSED CONTRACTOR'S DECLARATION

By checking here, I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

License Class: _____ License No. _____ Date ____/____/____ Contractor Signature: _____

LOBBYIST ORDINANCE CERTIFICATION

Complete this section for permits in Unincorporated Los Angeles County only

This is to certify that I, as permit applicant, am familiar with the requirements of Los Angeles County Code Chapter 2.160 et seq., (relating to the Los Angeles County Lobbyist Ordinance) and that all persons acting on behalf of myself complied and will continue to comply therewith through the application process.

Applicant (Print Name) _____ Applicant Signature _____

Company Name _____ Date ____/____/____

WORKERS COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are: Carrier _____

Policy Number _____ Expiration Date ____/____/____ Name of Agent _____ Phone Number _____

I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions

Signature of Applicant _____ Date ____/____/____

HAZARDOUS MATERIAL DECLARATION

Will the applicant or future building occupant handle a hazardous material or a mixture containing a hazardous material equal to or greater than the amount specified on the hazardous materials information guide? Yes No

Will the intended use of the building by the applicant or future building occupant require a permit for construction or modification from the South Coast Air Quality Management District (SCAQMD)? See permitting checklist for guidelines. Yes No

I have read the hazardous materials information guide and the SCAQMD permitting checklist, I understand my requirements under the Los Angeles County Code Title 2, Chapter 220 Sections 220.100 through 220.140 concerning hazardous material reporting and for obtaining a permit from the SCAQMD

ASBESTOS NOTIFICATION

Notification letter sent to AQMD and/or EPA I declare that notification of asbestos removal is not applicable to addressed project.

DECLARATION REGARDING CONSTRUCTION LENDING AGENCY

I hereby affirm under penalty of perjury that there is a Construction lending agency for the performance of the work for which this permit is issued (Section 3097, Civil Code).

Lender's Name _____

Lender's Address _____

By my signature below, I certify to each of the following:

I am the property owner or authorized to act on the property owner's behalf.

I have read this application and the information I have provided is correct.

I agree to comply with all applicable city and county ordinances and state laws relating to building construction.

I authorize representatives of this county to enter the above-identified property for inspection purposes

I am performing work in at least two trades that exceed the \$500.00 minimum to qualify as unrelated specialty trades or crafts. (Applies to Class B Contractor)

Signature of Property Owner or Authorized Agent _____ Date _____

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. SWQ0000005

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:

Oscar R. Enriquez

09/29/2022

Date

Reviewed By:

Fernando Villaluna

09.29.2022

Date



PART 1 - GENERAL PROVISIONS

SECTION 2 – SCOPE OF THE WORK

2-5	THE CONTRACTOR’S EQUIPMENT AND FACILITIES	EC-1
2-5.1	General	EC-1
2-5.	Haul Routes.....	EC-1

SECTION 3 - CONTROL OF THE WORK

3-12	WORK SITE MAINTENANCE	EC-1
3-12.1	General.....	EC-1
3-12.2	Air Pollution Control	EC-2
3-12.3	Noise Control.....	EC-9
3-12.6	Water Pollution Control.....	EC-14

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES

5-7	SAFETY	EC-22
5-7.1	Work Site Safety	EC-22
5-7.9	Site-Specific Health and Safety	EC-22
5-25	SPECIES PROTECTION	EC-23
5-25.1	General.....	EC-23
5-25.2	Bird Nesting Surveys	EC-23
5-25.7	Payment	EC-22
5-27	CULTURAL RESOURCES.....	EC-23
5-27.1	Archaeological Resources	EC-23
5-27.2	Paleontological Resources	EC-24
5-27.4	Payment	EC-24

SECTION 2 – SCOPE OF THE WORK

2-5 THE CONTRACTOR’S EQUIPMENT AND FACILITIES.

2-5.4 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)

Add the following to the end of the first paragraph:

The Contractor shall schedule truck trips outside of peak traffic hours, to the extent feasible, to avoid adverse impacts on traffic flow. The Contractor shall develop and use haul routes minimizing truck traffic on local roadways to the extent possible.

Per LAMC Section 62.61, peak traffic hours within the City of Los Angeles are defined as Monday through Friday, 6:00 am to 9:00 am and 3:30 pm to 7:00 pm.

SECTION 3 - CONTROL OF THE WORK

3-12 WORK SITE MAINTENANCE.

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

Replace the second paragraph 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 vacuum street sweeper(s) per 3-12.2.2.5. Such equipment shall be hereinafter referred to as “vacuum street sweeper.” Vacuum 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 vacuum street sweeper, to the satisfaction of the Engineer.

Sweeping operations shall be in accordance with 3-12.2.2.5 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 vacuum street sweepers 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 Not Used.

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 of Section G:

- 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 A 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:
- 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 B 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.

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 NO_x 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.

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 vacuum street sweepers with an operational water spray system.

Information regarding the SCAQMD Rule 1186 Certified PM₁₀-efficient 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>

Vacuum 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:

<http://www.aqmd.gov/home/permits/permit-requirements-and-procedures>

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. Unless otherwise specified in the Plans or Approved by the Engineer, vehicles or equipment shall not be staged or parked, for any duration, on any public streets. Vehicles or equipment shall not enter the Work site prior to 7:00 am on any Working Day. Equipment shall not be started or operated until 7:00am.

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

Payment for obtaining off-site staging areas if required shall be considered as included in the lump sum price in the Bid for "TRAFFIC CONTROL."

3-12.2.2.8 Idling Restrictions. Diesel-powered vehicles and equipment shall limit idling to no more than 5 minutes for any reason. The 5-minute idling restriction shall apply to vehicles and equipment queuing while waiting for loading or any other activity. In the event vehicles 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). Diesel-powered on-road vehicles shall limit idling in accordance with the CARB General Requirements for In-Use Off-Road Diesel-Fueled Fleets (Title 13, CCR, Section 2485).

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

The Contractor shall be responsible for training 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 of Section G.

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 2449 and 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 of Section G 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.

- 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.

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, PSIP testing, complying with the emission standards contained within these Specifications, preparation and implementation of the staging and idling plan 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.

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. 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) 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.

3-12.2.3.2 Not Used.

3-12.2.3.3 Not Used

3-12.2.3.4 Implementation and Enforcement. The Contractor shall be responsible for fugitive dust control compliance and the implementation of SCAQMD Rule 402 and Rule 403 from the date of issuance of the notice to proceed until the Work is completed, 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 SCAQMD Rule 402 and Rule 403.

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.

Enforcement used in this Subsection, shall be per 3-12.6.2.8. 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.

3-12.2.3.5 Payment. Payment for complying with the control of fugitive dust contained within these Specifications shall be considered as included in the various items in the Bid.

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 unincorporated areas of Los Angeles County and is subject to the following noise ordinances:

- a) Chapter 12.08 of Title 12 of the Los Angeles County Code, entitled “Noise Control Ordinance of the County of Los Angeles.

The Contractor shall be responsible for the implementation of the following noise mitigation measures throughout the duration of Work.

- a) Place noise-generating construction activities (e.g., operation of compressors and generators, cement mixing, general truck idling) as far as possible from the nearest noise-sensitive land uses.
- b) Locate stationary construction noise sources as far from adjacent noise-sensitive receptors as possible.

3-12.3.1.1 Not Used.

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 of Section G:

3-12.3.2.1 Not Used.

3-12.3.2.2 Not Used.

3-12.3.2.3 Noise Mitigation Plan. The Noise Mitigation Plan shall include, at a minimum, the following:

- a) Site map(s) showing the locations of the temporary sound barriers and all other required noise mitigation measures.
- b) Model and manufacturer of the temporary sound barrier.
- c) Vehicle and Equipment Reverse Signal Alarm Mitigation per 3-12.3.5.
- d) Working Drawings, Shop Drawings, and supporting information, including structural calculations, for the temporary sound barrier conforming to 3-12.3.4.
- e) All other applicable information or data requested by the Engineer.

3-12.3.3 Not Used.

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 at least 8 feet high and constructed without visible openings or gaps as determined by the Engineer.

The temporary sound barrier shall be constructed at the following Station Locations:

- a) Green Alley on Northside - Station Location 16+80 to Station Location 17+80.
- b) Monteith Park – 120 linear feet along Mullen Avenue (as determined by the Engineer).
- c) Monteith Park – 210 linear feet along Mullen Pl. (as determined by the Engineer).

The temporary sound barrier shall be free standing or secured to the temporary fencing. 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 of Section G.

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. 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, 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.

Place noise-generating construction activities (e.g., operation of compressors and generators, cement mixing, general truck idling) as far as possible from the nearest residential property boundary.

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 Not Used.

3-12.3.6.3 Not Used

3-12.3.6.4 Not Used.

3-12.3.6.5 Enforcement. The Contractor shall implement corrective actions identified by the Engineer, to maintain compliance with the noise control requirements, the Noise Mitigation Plan, and the Vehicle and Equipment Reverse Signal Alarm Mitigation. 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.

3-12.3.7 Payment. Payment for preparation of the Noise Mitigation Plan, including all required revisions, will be made at the Stipulated Unit Price in the Bid for “PREPARATION OF THE NOISE MITIGATION PLAN (STIPULATED UNIT PRICE OF \$5,000).”

No separate or additional payment will be made for implementation of the Noise 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.” The provisions of 7-3.5.2 and 7-3.5.3 of the SSPWC shall not apply to this Bid Item.

Payment for maintenance of the temporary sound barrier (excluding graffiti removal/abatement) will be made at the Contract Unit Price in the Bid for “MAINTENANCE OF TEMPORARY SOUND BARRIER.” Graffiti removal/abatement shall be the responsibility of the Contractor. The provisions of 7-3.5.2 and 7-3.5.3 of the SSPWC shall not apply to this Bid Item.

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

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

Add the following to subsection 3-12.6.2:

3-12.6.2 Best Management Practices (BMPs). The Contractor shall be responsible for BMP compliance from the date of issuance of the notice to proceed until the Work is completed. BMPs 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 these BMPs.

3-12.6.2.1 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.

Best Management Practices (BMPs) – shall be defined as specified in the permits listed in 3-12.6.2.4.

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.

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

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

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.

3-12.6.2.2 Abbreviations.

<u>Abbreviation</u>	<u>Word or Words</u>
APP	Accumulated Precipitation Procedure
BMP	Best Management Practice
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SWRCB.....	State Water Resources Control Board

3-12.6.2.3 General. This Project lies within the boundaries of the County of Los Angeles and shall conform to the following requirements:

- a) Water Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) and Urban Runoff Discharges within the County of Los Angeles (Order No. R4-2021-0105)” is available at:
https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/regional_permit.html
- b) Within the unincorporated areas of the County of Los Angeles, Los Angeles County Code, Chapter 12.80.

3-12.6.2.4 Best Management Practices (BMPs).

- a) **General.** The Contractor shall effectuate a year-round program for implementing, inspecting, and maintaining BMPs for wind erosion control, tracking control, erosion and sediment control, non-storm water control, and waste management and materials pollution control.

Best Management Practices conforming to the “Minimum Requirements” specified in Table 3-12.6.2.4 shall be implemented throughout the duration of the Project.

The National Weather Service weather forecast shall be monitored by the Contractor on a daily basis. Whenever a rain event is predicted, the contractor shall implement all required BMPs according to the BMP Manual and these Special Provisions.

- b) **BMP Manual.** Water pollution control work shall conform to the requirements in the BMP Manual. This manual is available from the following website address:

<http://dpw.lacounty.gov/cons/specs/BMPManual.pdf>

The Contractor shall have a minimum of one readily accessible copy of the BMP Manual on the Project site at all times

- c) **BMP Manager.** The Contractor shall designate a BMP Manager that is a Qualified SWPPP Practitioner (QSP) that is currently certified by the State Water Resources Control Board as meeting the requirements of Order No. 2009-0009-DWQ.

The Contractor shall provide a BMP manager full-time on the Project site during working hours and rain events.

The BMP Manager shall have the responsibility and authority to fully implement, maintain and inspect the required BMP's in accordance with the Contract Documents and as directed by the Engineer. The BMP Manager shall be fully knowledgeable of the requirements in the BMP Manual.

The designated BMP Manager's name and qualifications shall be submitted in accordance with 3-8 of Section G prior to issuance of the Part 2 NTP.

- d) **Minimum Requirements.** The Contractor shall implement an effective combination of erosion and sediment controls and maintain the appropriate Construction Site BMPs shown in Table 3-12.6.2.4. The BMPs shown in this table meet or exceed the Waste Discharge Requirements referenced in 3-12.6.2.3.

TABLE 3-12.6.2.4

Construction Site BMPs		
ID	BMP Name	Minimum Requirement
Temporary Soil Stabilization⁽¹⁾		
SS-1	Scheduling	X
SS-2	Preservation of Existing Vegetation	X
SS-3	Hydraulic Mulch	
SS-4	Hydro seeding	
SS-5	Soil Binders ⁽²⁾	
SS-6	Straw Mulch	
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats ⁽¹⁾	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	Streambank 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	
NS-3	Paving and Grinding Operations	X
NS-4	Temporary Stream Crossing	
NS-5	Clear Water Diversion	
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	
NS-14	Concrete Finishing	X
NS-15	Structure Demolition Over or Adjacent to Water	
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

- (1) All temporary soil stabilization and temporary sediment control BMPs that contain plant material (including but not limited to fiber rolls, erosions control blankets/mats, straw, mulch, and seeds mixes) shall be certified weed-free, biodegradable, and approved by the Engineer prior to use.

Additional BMPs may be required as a result of actual field conditions, Contractor activities, or construction operations.

- e) **Year-Round Implementation Requirements.** Implementation shall conform to the requirements in the BMP Manual and the following:

1) **Temporary Soil Stabilization**

- i) Active Areas of Construction shall be stabilized, and temporary sediment controls implemented prior to a rain event.

2) Temporary Sediment Control

- i) Sediment shall not be discharged offsite or to the storm drain system or receiving waters.
- ii) Stockpiles shall be removed from roadways at the end of each Working Day and shall be covered and bermed with perimeter sediment controls prior to every rain 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 Work site shall be stabilized utilizing TC-1. Traffic entering/exiting the Work site shall be directed so as to only use such stabilized entrances/exits. Tracking of mud and/or sediment 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 Accumulated Precipitation Procedure (Section 7.2 of the BMP Manual).
- 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 3-12.6.2.3.

6) Waste Management and Material Pollution Control

- i) Material and waste stockpiles shall be covered prior to all rain events.
- ii) Stockpiles of temporary asphalt concrete (“cold mix”) shall be covered at all times.
- iii) The Contractor shall have a minimum of 3 spill response cleanup on the Project site at all times.
- iv) Spills and leaks shall be cleaned up within one hour after spillage and disposed of off the Project site.
- v) 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 into the underlying soil or onto the surrounding areas. Concrete waste shall be considered as including, but not be limited to, slurry, cement, wash waters, additives, or grout.
- vi) Secondary spill containment shall be installed for all restroom facilities.
- vii) Drip pans or absorbent pads shall be used during all vehicle and equipment at all times when not in use, as determined by the Engineer. Drip pans or absorbent pads shall be used for stationary equipment at all times, as determined by the Engineer.

3-12.6.2.5 Accumulated Precipitation Procedure (APP). The Contractor shall prepare an accumulated precipitation procedure (APP) for review and approval by the Engineer before any discharge from the Work site and as required by the Engineer. The APP shall describe the location of proposed discharges, the BMPs to be implemented (e.g., NS-2), and the actual equipment to be used. The APP shall be prepared and submitted in accordance with BMP NS-2 and the Section 7 of the BMP Manual.

3-12.6.2.6 BMP Inspections. The Work site shall be inspected by the BMP Manager and documented on the LACDPW BMP checklist (contained in the BMP Manual) as follows:

- a) Within 24 hours prior to a rain event.
- b) Within 48 hours after a rain event (0.01 inch or more of accumulated precipitation).
- c) At 24-hour intervals during extended rain events.

d) Once every week.

3-12.6.2.7 Non-Storm Water Discharge Reporting. If the Contractor identifies any non-storm water discharge(s) as identified in Section III of the Waste Discharge Requirements referenced in 3-12.6.2.3, or if the Work site receives a written notice or order from any regulatory agency, the Contractor shall so inform the Engineer within 24 hours. The Contractor shall submit a written report to the Engineer within 5 Days of the discharge event, notice or order. The report shall include the following information:

- a) The date, time, location, nature of the operation and type of discharge, including the cause or nature of the notice or order.
- b) The BMPs implemented before the discharge event, or prior to receiving the notice or order.
- c) The date of deployment and type of water pollution control practices deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent recurrence.
- d) The Contractor shall conduct applicable water quality monitoring per Section III A.4 and Table 8 of the Waste Discharge Requirements referenced in 3-12.6.2.3.

3-12.6.2.8 Progressive Enforcement. The Agency, as a permittee, is subject to enforcement action by the State Water Resources Control Board (SWRCB), Environmental Protection Agency, California Department of Fish and Wildlife, 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 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.

3-12.6.2.9 Payment. Payment for the implementation of BMPs, including the BMP Manager, construction, deployment, inspection, maintenance, removal, and the furnishing of all necessary labor, equipment, materials, and all other related costs shall be considered as included in the Lump Sum Bid Price for "IMPLEMENTATION OF BMPs."

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

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES

5-7 SAFETY

Add the following subsections:

5-7.9 Site Specific Health and Safety.

5-7.9.1 General. 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 Subsections 5-7 through 5-24 shall be:

Oscar Enriquez
oenrique@dpw.lacounty.gov

5-7.9.2 Respirable Crystalline Silica.

5-7.9.2.1 General. The existing concrete contains respirable 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 Title 8, CCR Section 1532.3 and Section 5204, "Occupational Exposures to Respirable Crystalline Silica, including all subsections.

5-7.9.2.2 Submittal. The Contractor shall submit a copy of their written Respirable Crystalline Silica Exposure Control Plan (RCSECP) per 3-8 of Section G. The RCSECP

shall be prepared in accordance with Title 8, CCR Section 1532.3 and Section 5204, “*Occupational Exposures to Respirable Crystalline Silica*”, including all subsections.

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.

5-7.9.2.3 Implementation. The Contractor shall comply with their RCSECP for all Work that disturbs existing concrete may expose workers to health hazards.

The Contractor shall perform personal exposure air monitoring in accordance with Title 8, CCR Section 1532.3 and Section 5204, “*Occupational Exposures to Respirable Crystalline Silica*”, including all subsections. The Contractor shall submit copies of the personal exposure air monitoring test results for review to the Engineer within (5) working days.

The Contractor shall notify the Engineer a minimum of 2 working days prior to any concrete disturbance activities.

5-7.9.2.4 Payment. Payment for complying with the Respirable Crystalline Silica contained within these Specifications shall be considered as included in the various items in the Bid.

5-8 THROUGH 5-24. NOT USED.

5-25 SPECIES PROTECTION.

5-25.1 General. The Agency will provide a biologist to monitor construction activities, as necessary, to protect species that may be harmed during the Work.

5-25.2 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.

5-25.3 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.

5-26 NOT USED.

5-27 CULTURAL RESOURCES.

5-27.1 Archaeological Resources. The potential for unknown archaeological resources may exist and may be disturbed during the Work. The Agency may retain an archaeologist to monitor the Work, as needed.

In the event historic or archaeological resources are discovered, the Contractor shall immediately cease all operations in the vicinity (minimum of 50 feet) of the discovery, or as directed by the Engineer. The archaeologist 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 archaeologist evaluates the discovery and the Engineer approves the resumption of excavation.

Pursuant to Section 5097 of the Public Resources Code, if human remains are found, the Contractor shall immediately cease all operations in the vicinity (minimum of 50 feet) of the discovery, or as directed by the Engineer, until the County Coroner identifies the remains and makes recommendations regarding their appropriate treatment.

5-27.2 Paleontological Resources. In the event that paleontological resources are discovered during the Work, the Agency will retain a paleontologist to monitor construction activities, as needed.

In the event paleontological resources are discovered during the Work, 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.

5-27.3 Not Used.

5-27.4 Payment. No separate or additional payment will be made for cultural resources, except as allowed in accordance with 6-6.2. Payment shall be considered as included in the various items in the Bid.



EXHIBIT A

LOS ANGELES COUNTY PUBLIC WORKS
 STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
ON-ROAD DIESEL-FUELED VEHICLES EMISSIONS REPORTING FORM

Project Name	Monteith & View Park Stormwater Improvements Project	Project ID No.	SWQD000005
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	Executive Order No. ⁽⁴⁾	Date of Certificate of Reporting Compliance ⁽⁵⁾

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) Attach copy of the Executive Order issued by California Air Resources Board.
- (5) Attach copy of the Certificate of Reporting Compliance issued by the California Air Resources Board for this fleet.



EXHIBIT A

**LOS ANGELES COUNTY PUBLIC WORKS
STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
ON-ROAD DIESEL-FUELED VEHICLES EMISSIONS REPORTING FORM**

Project Name	Monteith & View Park Stormwater Improvements Project	Project No.	SWQD000005
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	Executive Order No.(5)	Date of Certificate of Reporting Compliance(6)



LOS ANGELES COUNTY PUBLIC WORKS
STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
OFF-ROAD DIESEL-FUELED EQUIPMENT EMISSIONS REPORTING FORM

EXHIBIT B

Project Name	Monteith & View Park Stormwater Improvements Project	Project ID	SWQD0000005
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.



LOS ANGELES COUNTY PUBLIC WORKS
STORMWATER QUALITY DIVISION – ENVIRONMENTAL COMPLIANCE UNIT
OFF-ROAD DIESEL-FUELED EQUIPMENT EMISSIONS REPORTING FORM

EXHIBIT B

Project Name	Monteith & View Park Stormwater Improvements Project		Project ID	SWQD0000005	
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⁾

PUBLIC WORKS LOS ANGELES COUNTY

PROJECT ID NO. SWQ000005 CP-69813

SPECIAL PROVISIONS

SECTION D –DRAINAGE STRUCTURES, UNDERGROUND CONDUIT CONSTRUCTION, AND ROADWAY

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:

Manolito Lasao

09/27/22

Date

Reviewed By:

Raymond Lui

09/27/22

Date

TABLE OF CONTENTS

PART 1 - GENERAL PROVISIONS

SECTION 3 - CONTROL OF THE WORK

3-12 WORK SITE MAINTENANCE	D-1
3-12.7 Drainage Control	D-1

PART 2 - CONSTRUCTION MATERIALS

SECTION 201 - CONCRETE, MORTAR, AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE	D-2
201-1.1 Requirements	D-2
201-1.2 Materials	D-5
201-1.3 Proportioning	D-5
201-2 REINFORCEMENT FOR CONCRETE	D-5
201-2.2 Steel Reinforcement.....	D-5
201-2.4 Samples for Testing	D-6
201-10 CONCRETE REPAIR PRODUCTS.....	D-6
201-10.1 Materials	D-6

SECTION 203 – BITUMINOUS MATERIALS

203-6 ASPHALT CONCRETE.....	D-7
203-6.1 General.....	D-7
203-6.7 Production.....	D-7

SECTION 206 – MISCELLANEOUS METAL ITEMS

206-7 MANHOLE SECURITY BARRIER.....	D-8
206-7.1 General.....	D-8
206-7.2 Submittals	D-8
206-7.3 Requirements	D-8
206-7.4 Materials	D-9
206-7.5 Measurement and Payment.....	D-9

TABLE OF CONTENTS

SECTION 207 - GRAVITY PIPE

207-2 REINFORCED CONCRETE PIPE (RCP).....	D-9
207-2.1 General.....	D-9
207-2.2 Materials	D-9
207-2.4 Reinforcement.....	D-9
207-2.9 Basis for Acceptance	D-10

SECTION 211 - MATERIAL TESTS

211-1 COMPACTION TESTS.....	D-11
211-1.1 Laboratory Maximum Density	D-11
211-1.3 Relative Compaction.....	D-11

SECTION 213 – ENGINEERING GEOSYNTHETICS

213-5.3 GEOTEXTILE AND GEOGRIDS.....	D-12
213-5.4 PAYMENT	D-12

SECTION 217 - BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL	D-12
217-1.1 General.....	D-12
217-2 TRENCH BACKFILL	D-12
217-2.1 General.....	D-12
217-2.2 Imported Trench Backfill	D-13

SECTION 218 - IMPORTED FILL MATERIAL

218-1 GENERAL	D-13
218-2 SAMPLING FREQUENCY AND LOCATION	D-13
218-3 SOIL SAMPLE ANALYSIS	D-14
218-4 QUALITY CONTROL	D-14
218-5 REPORTING AND DOCUMENTATION.....	D-15
218-6 APPROVAL.....	D-15
218-7 PAYMENT.....	D-15

TABLE OF CONTENTS

SECTION 219 – FILTRATION UNIT

219-1 FILTRATION UNIT	D-15
219-1.1 General	D-15
219-1.2 Submittals	D-15
219-2 PRODUCTS	D-16
219-2.1 Filtration Unit Manufacturers	D-16
219-2.2 System Performance, Structural Loading.....	D-16
219-2.3 Materials	D-17

PART 3 - CONSTRUCTION METHODS

SECTION 300 - EARTHWORK

300-1 CLEARING AND GRUBBING	D-17
300-1.2 Root Pruning, Tree Trimming, and Tree Removal.....	D-17
300-1.4 Payment.....	D-20
300-1.6 Construction and Demolition Debris Recycling.....	D-21
300-1.7 Green Waste Recycling Requirements	D-24
300-2 UNCLASSIFIED EXCAVATION	D-25
300-2.1 General	D-25
300-2.8 Measurement.....	D-25
300-2.9 Payment.....	D-25
300-3 STRUCTURE EXCAVATION AND BACKFILL	D-25
300-3.3 Foundation Material Treatment	D-25
300-3.6 Measurement.....	D-25
300-3.7 Payment.....	D-25
300-4 UNCLASSIFIED FILL	D-26
300-4.9 Measurement.....	D-26
300-4.10 Payment.....	D-26

SECTION 301 – TREATED SOIL, SUBGRADE PREPARATION, AND PLACEMENT OF BASE MATERIALS

301-2.4 Measurement and Payment.....	D-26
--------------------------------------	------

TABLE OF CONTENTS

SECTION 302 - ROADWAY SURFACING

302-5 ASPHALT CONCRETE PAVEMENT	D-26
302-5.1 General	D-26
302-5.5 Distribution and Spreading	D-27
302-5.6 Rolling.....	D-27
302-5.7 Joints	D-27
302-5.9 Measurement and Payment.....	D-27
302-6 PORTLAND CEMENT CONCRETE PAVEMENT	D-28
302-6.2 Forms and Headers	D-28
302-6.3 Placing Concrete	D-28
302-6.4 Finishing	D-28
302-6.5 Joints	D-30
302-6.6 Curing	D-30
302-6.8 Measurement and Payment.....	D-30

SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

303-1 CONCRETE STRUCTURES	D-31
303-1.5 Removal of Forms for Cast-In-Place Reinforced Concrete Box (CIPRCB) Sections	D-31
303-1.7 Placing Reinforcement.....	D-34
303-1.8 Placing Concrete	D-34
303-1.12 Payment.....	D-34
303-1.13 Drill and Bond Dowel (Epoxy Cartridge).....	D-36
303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INETERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.....	D-38
303-5.1 Requirements	D-38
303-5.3 Placing Concrete.....	D-38
303-5.5 Finishing	D-38
303-5.8 Backfilling and Clean-Up.....	D-39
303-5.9 Measurement and Payment.....	D-39

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-3 TRENCH EXCAVATION.....	D-40
306-3.2 Removal of Surface Improvements	D-40
306-3.3 Removal and Abandonment of Existing Conduits and Structures	D-40
306-3.5 Maximum Length of Open Trench	D-40
306-4 SHORING AND BRACING	D-42

TABLE OF CONTENTS

306-4.1 General.....	D-42
306-4.2 Additional Requirements.....	D-43
306-4.3 Submittals.....	D-45
306-4.4 Agency Review.....	D-46
306-4.5 Construction.....	D-47
306-4.6 Vertical Shores for Supporting Trench Excavations.....	D-48
306-5 DEWATERING.....	D-50
306-6 BEDDING.....	D-50
306-6.1 General.....	D-50
306-7 PREFABRICATED GRAVITY PIPE.....	D-50
306-7.3 Reinforced Concrete Pipe (RCP).....	D-50
306-7.9 Temporary Bulkheads for Storm Drains.....	D-51
306-12 BACKFILL.....	D-51
306-12.1 General.....	D-51
306-12.3 Mechanically Compacted Trench Backfill.....	D-53
306-12.4 Jetted Trench Backfill.....	D-54
306-12.7 Concrete Backfill.....	D-55
306-13 TRENCH RESURFACING.....	D-56
306-13.1 Temporary Resurfacing.....	D-56
306-14 MEASUREMENT.....	D-57
306-14.3 Gravity Pipe.....	D-57
306-15 PAYMENT.....	D-57
306-15.1 General.....	D-57
306-15.2 Shoring and Bracing.....	D-58
306-15.3 Dewatering.....	D-59
306-15.7 Buried Structures.....	D-59
306-15.9 Temporary Resurfacing.....	D-59
306-15.10 Permanent Resurfacing.....	D-59
306-16 DRY WELL CONSTRUCTION.....	D-60
306-16.1 General.....	D-60
306-16.2 Drilling.....	D-61
306-16.3 Polyvinyl Chloride (PVC) Well Casing.....	D-62
306-16.4 Gravel Packing.....	D-63
306-16.5 Sand Pack Layer.....	D-64
306-16.6 Bentonite Transition Seal.....	D-65
306-16.7 Grouting Wells.....	D-66
306-16.8 Dry Well Cover.....	D-66
306-16.9 Dry Well Manhole Shaft.....	D-67
306-16.10 Abandon Monitoring Well.....	D-68

TABLE OF CONTENTS

PART 4 - EXISTING IMPROVEMENTS

SECTION 401 - REMOVAL

401-2 ASPHALT CONCRETE PAVEMENT D-68
401-3 CONCRETE AND MASONRY IMPROVEMENTS D-68
401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Driveways and Alley
 Intersections D-68
401-5.1 Monitoring Well Decommissioning D-68
401-6 MEASUREMENT..... D-69
401-7 PAYMENT..... D-69

EXHIBIT A Proper Pruning Procedures D-72
EXHIBIT B Drop Crotch Pruning..... D-73
EXHIBIT C Clearance Trim D-74

PART 1

GENERAL PROVISIONS

SECTION 3 - CONTROL OF THE WORK

3-12 WORK SITE MAINTENANCE. (Page 18 of the SSPWC)

Add the following subsection:

3-12.7 Drainage Control.

3-12.7.2 Damage from Elements and Control of Water. It shall be the Contractor's responsibility to divert and take all necessary precautions to protect the construction and existing improvements from damage due to water from any source. The Contractor is cautioned that construction of Bid items under this Contract entails working within an active flood control facility. Water in varying amounts flow in the system throughout the year.

The Contractor shall construct temporary by-pass facilities for water flows within the flood control facility from whatever source. The Contractor shall maintain the temporary by-pass facilities during the construction of the diversion structure. The Contractor shall use inflatable rubber pipe plugs if necessary to prevent water from the diversion structure from entering work areas.

All temporary improvements installed and/or constructed by the Contractor for dewatering and control of water, but not specified to become a permanent part of the Project, shall be removed upon completion of the Work.

All costs associated with the diversion of water from all sources, including nuisance water, shall be included in the lump sum price in the Bid for "RESTORATION OF EXISTING IMPROVEMENTS".

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 of SSPWC. The concrete shall contain not less than 560 pounds of cement per cubic yard for concrete strengths of 3,250 psi or greater, in accordance with Table 201-1.1.2 of the Standard Specifications. The water-cement ratio for concrete mix shall not exceed 0.45. The concrete shall contain an Agency-approved water-reducing admixture. The combined aggregate gradation 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 Agency. 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 Agency.

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 one of 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) The concrete mix design includes an Agency-approved water-reducing admixture and a minimum of 650 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 combined aggregate gradation shall be submitted in accordance with 3-8 of SSPWC. 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 after the test listing:

The Contractor shall furnish all materials required by ASTM C31, C39, C143, C172, C470, 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:

201-1.1.7 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, and sewer manholes.

The Contractor shall provide concrete mix designs for all high early strength concrete applications that meet the specified strength requirements. The proposed mix designs and aggregate gradations shall be submitted in accordance with 3-8 of SSPWC.

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 650 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 650 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 after the sentence including Certificate of Compliance:

The Certificate of Compliance shall be sent to the Materials Analysis Unit, Geotechnical and Materials Engineering Division, 4th Floor, Los Angeles County 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 by 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, shall be Grade 60 for design pipe, box conduit, open channels, tunnel lining, and transition structures to be constructed per SPPWC Standard Plans; open channel transition structures; dry well covers; and special structures. Longitudinal steel shall be Grade 60.

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 of SSPWC 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 of SSPWC. 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.

Add the following subsection:

201-10 CONCRETE REPAIR PRODUCTS.

201-10.1 Materials.

1. Restoration and bonding materials shall be manufactured by Agency-approved products as listed in Table 201-10.1A. Repair products for each category shall be from one manufacturer to assure product compatibility.
2. Product data sheets shall be submitted to the Agency for review and approval per 3-8 of SSPWC.

TABLE 201-10.1A

Category	Type of Repair	Repair Product
Restoration	Concrete repair and restoration	<ul style="list-style-type: none"> • SikaRepair 224 • BASF MasterInject 1380 • Hilti RM 800 PC Repair Mortar • Euclid Concrete Top Supreme
Bonding	Bonding agent – New pipe to pipe wall	<ul style="list-style-type: none"> • SikaGrout 212 • BASF MasterFlow 100 • Hilti CB-G EG • Euclid Dural 452 Gel

SECTION 203 - BITUMINOUS MATERIALS**203-6 ASPHALT CONCRETE.****203-6.1 General.** (Page 95 of the SSPWC)

Replace the entire subsection with the following:

Asphalt concrete shall be the product of mixing mineral aggregate and up to 25 percent reclaimed asphalt pavement (RAP) with asphalt binder at a central mixing plant. Asphalt concrete for placement as a surface course may contain up to 20 percent RAP. For all other placement applications, asphalt concrete may contain up to 25 percent RAP.

At the Contractor's option, asphalt concrete may be produced using a warm mix asphalt technology conforming to 203-6.7.2.

Asphalt concrete mixtures shall conform to 203-6.4.

203-6.7 Production. (Page 102 of the SSPWC)**203-6.7.2 Warm Mix Asphalt (WMA) Technologies.**

Replace the first paragraph with the following:

At the Contractor's option, asphalt concrete mixtures may be produced using a WMA technology. The WMA technology used shall be on the Caltrans list of approved technologies for warm mix asphalt in effect as of the date of advertisement of the contract, http://www.dot.ca.gov/hq/esc/approved_products_list/pdf/wma_list.pdf. Either an additive technology or a water injection technology may be used.

Add the following:

When using a WMA technology, asphalt concrete mixtures shall be produced within the temperature range of 250°F to 290°F.

SECTION 206 – MISCELLANEOUS METAL ITEMS

206-7 MANHOLE SECURITY BARRIER.

206-7.1 General. Manhole security barriers (Barrier) shall be installed in manhole shafts as shown on the Plans. These barriers shall be made of stainless steel and intended to prevent unauthorized access, control odors and vectors and use the Agency padlocks as the locking mechanism.

206-7.2 Submittals. The Contractor shall submit the following in accordance with subsection 3-8 of Section G that detail the components and sequence of installation including the following:

- Manufacturer's standard details: Clearly mark those portions that apply specific to the Project and those parts that do not apply
- Materials and details: Show materials, details of components, sealants, and locking mechanism, for approval

206-7.3 Requirements.

The Barrier shall comply with the following items.

- 1) The Barrier shall be designed to prevent unauthorized access into the manhole. The Agency shall provide padlocks for the locking mechanism.
- 2) The Barrier shall work independently from the manhole frame and cover. The Barrier cover shall have its own subring for locking.
- 3) Any damage to the manhole shaft during the installation of the Barrier shall be repaired to the satisfaction of the Engineer.
- 4) The Barrier shall have an odor controlling seal and contain no holes or gaps when closed/locked.
- 5) Opening/closing the Barrier for ingress/egress shall be with minimal effort.
- 6) All parts/components shall be sized to fit through the manhole opening.

206-7.4 Materials. The manhole security barriers shall be made of ASTM A240 Type A316 stainless steel.

206-7.5 Measurement and Payment.

All labor, material, and equipment necessary to install the manhole security barrier including furnishing the steel barrier, rubber seal, and steel hardware shall be considered as included in the lump sum price in the Bid for "DRAINAGE".

SECTION 207 - GRAVITY PIPE

207-2 REINFORCED CONCRETE PIPE (RCP).

207-2.1 General. (Page 140 of the SSPWC)

Add the following:

The Contractor shall submit Shop Drawings showing details of the 48" RCP dry well pipe, including the steel reinforcement.

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 of SSPWC.

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 LACPW 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.

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

Add the following subsection:

207-2.9.6 Hydrostatic Pressure Test. The pipe to be tested will be selected in accordance with 207-2.9.2 of SSPWC.

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 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 213 – ENGINEERING GEOSYNTHETICS

213-5.3 GEOTEXTILE AND GEOGRID.

217-5.3.1 General. The engineered permeable grass pavers shall allow for light to heavy traffic over turf area. It shall consist of hexagonal cells that shall allow healthy grass growth. The grass pavers shall be installed per the manufacturer’s recommended installation method.

The Contractor shall submit shop drawings with related product data sheets and specifications for all components of the engineered permeable grass paver system in accordance with subsection 3-8 of Section G. The components include but are not limited to the underdrain pipe, base rock, filter fabric, permeable pavers and topsoil.

217-5.4 PAYMENT. All labor, material, and equipment necessary to install the engineered permeable grass paver system including, preparation of subgrade, underdrain, base rock, filter fabric, furnishing the permeable paver product with connectors and clips and topsoil shall be considered as included in the lump sum price in the Bid for “DRAINAGE”.

SECTION 217 - BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL.

217-1.1 General. (Page 262 of the SSPWC)

Add the following:

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 Agency.

The material obtained from the open trench excavations *cannot be used* as bedding material.

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 Trench Backfill. (Page 263 of the SSPWC)

Add the following:

If imported trench backfill is required or if the Contractor elects to import material from a source outside the Project limits for use as trench 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 will perform other testing as deemed appropriate by the Engineer. The Engineer will determine the suitability of the material for use as imported backfill.

Add the following section:

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 lump sum price for “DRYWELLS”, or at the lump sum Bid price for “DRAINAGE”, whichever is applicable.

Add the following section:

SECTION 219 – FILTRATION UNIT

219-1 FILTRATION UNIT.

219-1.1 General. Filtration unit shall be designed for HS-20 truck loading with impact applied. Manholes shall be as shown on the Plans.

219-1.2 Submittals. The Contractor shall submit Shop Drawings in accordance with subsection 3-8.3 of Section G that detail the system components and sequence for installation including the following:

- System configuration and dimensions.

- Materials and details: Show materials, details of components, methods of joining, sealants, openings, and pipe locations.

219-2 PRODUCTS.

219-2.1 Filtration Unit Manufacturers. The following products have been approved for use on this Project:

1. Suntree Technologies, Inc.
 - a. Address: 798 Clearlake Road, Suite 2, Cocoa, Florida 32922
 - b. Phone: (323) 637-7552
 - c. Website: www.suntreetech.com
2. Bioclean Environmental Services, Inc.
 - a. Address: 398 Via El Centro, Oceanside, CA 92058
 - b. Phone: (855) 566-3938
 - c. Website: www.biocleanenvironmental.com
3. Hydro International, Inc.
 - a. Address: 94 Hutchins Drive, Portland, ME 04102
 - b. Phone: (207) 756-6200
 - c. Website: <https://www.hydro-int.com/>

219-2.2 System Performance, Structural Loading. Filtration unit shall accommodate HS-20 truck loading with impact applied.

Each filtration unit shall demonstrate to the Engineer's satisfaction that they will meet the following performance specifications at the design treatment capacities, as listed below:

Location (per Plan DR)	Design Treatment Capacity	Minimum Suspended Sediment Mass Removal Efficiency	Horizontal Dimensions
Olympiad Dr at Line A (Sheets 3 and 5)	7.41 CFS	80%	4'W X 8'L
Mullen Place at Line B (Sheets 3 and 6)	15.98 CFS	80%	6'W X 12'L
View Park Alley at Line D (Sheet 4 and 7)	4.51 CFS	80%	4'W X 8'L

Each filtration unit shall include sediment removal chambers that eliminate re-suspension of previously captured sediment; a screening system designed to capture and store solid debris in a dry state; and a skimmer system to remove oils, grease, and floating pollutants.

Each filtration unit and all of its components shall be housed within one structure. Each filtration unit shall be capable of retaining all captured trash and materials within the unit for flows greater than the design flow rate.

Removal efficiencies shall only be considered valid if they are verified by independent third-party testing and be based on mass basis and have a manufacturer's Certificate of Compliance.

219-2.3 Materials. Filtration unit shall be reinforced concrete. Furnish per Manufacturer's instructions and as specified in Section 201 of SSPWC.

PART 3 CONSTRUCTION METHODS

SECTION 300 - EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.2 Root Pruning, Tree Trimming, and Tree Removal. (Page 265 of the SSPWC)

Replace the entire subsection with the following:

300-1.2.1 Root Pruning.

300-1.2.1.1 General. Root pruning shall conform to SPPWC Standard Plan 523 and the provisions herein. Root control barriers shall conform to 300-1.2.1.2. Trees to be root pruned shall be trimmed by the crown reduction method in accordance with 300-1.2.2. Root pruning and tree trimming shall be performed by ISA Certified Tree Workers. Supporting information for root control barriers and root sealer fabric shall be submitted in accordance with 3-8.4 of Section G.

Root pruning equipment shall be specifically designed for this purpose, sharpened adequately to sever roots in a clean manner, and equipped with padded tracks or rubber tires to prevent scraping or marking of the roadway or curbs.

Roots shall be pruned immediately adjacent to the edge of the curb. Cuts shall be at the back of curb and shall be 4 inches wide and 18 inches deep as measured from the top of curb. The cuts shall extend 6 feet in each direction along the curb from the center of the tree trunk for a total length of 12 feet or as directed by the Engineer. When root pruning adjacent to sidewalk is required, the same details shall apply.

Root sealer fabric shall be applied to cut root areas which are larger than 2 inches in diameter. The root sealer fabric shall be "Bio Barrier," www.biobarrier.com, or Agency-approved equal. Root sealer fabric shall be applied as soon as practical after the cuts have been made.

The Contractor shall repair or replace utility service connections and sprinkler systems within the right-of-way which are damaged or removed as a result of root pruning operations. Repairs shall be initiated immediately upon the occurrence of damage or removal and completed by the end of each working day. Repairs and replacements shall be the equivalent of, or better than, the existing improvements in material, dimension, and function. Repair and replacement shall be at the Contractor's expense and to the satisfaction of the Engineer.

300-1.2.1.2 Root Control Barriers. Refer to 800-1.7 of Section LS.

300-1.2.2 Tree Trimming (Crown Reduction). Trimming shall be done by the crown reduction method (see Exhibit B). Crown reduction trimming is the size reduction of tops, sides, under branches or individual limbs by trimming back to a strong crotch able to sustain the sap flow of the parent branch.

Crown reduction shall include reduction, shaping, thinning and cleaning of heavy weight as necessary to leave the tree in a balanced, symmetrical-looking condition. Trimming shall be done to bring out or emphasize the natural characteristics of the tree.

Crown reduction shall also include removal of deadwood and weak, split, diseased, insect infested, broken, low or crossing limbs. Branches with extremely narrow angles of attachment shall be removed. Stubs 1 inch in diameter and larger throughout the tree shall be removed. Any structural weaknesses, dead or diseased trees, decayed trunks or branches shall be reported to the Engineer.

Laterals shall be cut to preserve the natural form and shape of the tree. Limbs which extend beyond the natural perimeter or where such overburden appears likely to cause breakage of the limb shall be shortened. The crown shall form a symmetrical shape with the weight evenly distributed when trimming is completed.

Foreign vegetation, vines entwined in trees, and all vines and sucker growth on tree trunks shall be removed. Vine tendrils shall be removed without injury to trees and cleared at least 18 inches from the base of the trees.

The work shall also include trimming to provide adequate clearance for moving vehicles within the traveled roadway, for pedestrians on sidewalks, and for structures with their connecting utility lines. Final minimum clearance under trees shall be as shown on Exhibit C. When trimming the bottom branches, care shall be taken to obtain a balanced appearance when viewed from the opposite side of the street immediately opposite the tree.

Limbs 2 inches in diameter or over shall be pre-cut to prevent splitting. When there is a chance of bark tearing below the crotch, large limbs shall be removed with three cuts (see Exhibit A). The first cut "(A)" shall be made on the underside of the branch 1 to 2 feet from the crotch. The undercut shall be at least 1/3 of the diameter. The second cut "(B)" shall be made on the upper side of the branch a distance equal to the diameter of the limb further from the crotch than the first. The final cut "(C)" shall be made at the crotch in a manner to favor the earliest possible covering of the wound by callus growth. Cuts shall not be made so large that they will prevent sap flow. This requires that the cut be as small as practical, be reasonably flush within the shoulder or sap ring area, and that the cambium tissues at the edge of the cut be alive and healthy. Flush cuts which produce large wounds and weaken the tree at the cut shall not be made.

On all trees known or suspected to be diseased, pruning tools as well as cut surfaces shall be disinfected with a 20 percent chlorine bleach solution or 70 percent methyl alcohol solution after each cut and between trees where there is danger of transmitting the disease on tools or as directed by the Engineer. Fresh solution shall be mixed daily.

Trees shall be trimmed to clear all adjacent structures by a minimum of 4 feet. Trimming of the trees shall provide adequate clearance for any obstructed street light standards, mast arms or globes.

Branches shall be cut back to a lateral branch not less than 1/3 of the diameter of the branch being removed. Wounds made by splitting limbs shall be cleaned of torn and broken wood fibers and bark traces to ensure proper healing. Unbroken branches shall be headed back to balance cuts made on broken branches particularly to reduce exposure to future high winds.

As part of crown reduction trimming, trees over 45 feet shall be reduced in height approximately 33 percent. Trees less than 45 feet tall may be reduced in height; however, this height reduction shall not exceed 33 percent. Height reduction shall not be performed when this treatment is incompatible with the species.

300-1.2.3 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 some other means, such as a tree crane. 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.

Extreme care shall be taken to prevent limbs, branches, and trunks from falling and damaging adjacent structures, driveways, sidewalks, streets, fences, lawns 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 with Class “A” Topsoil conforming to 800-1.1.2 and planted in accordance with 801 with grass seed or sod of the same variety as the adjacent lawn. Topsoil used for backfill shall be subject to the approval of the Engineer.

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. No stump removal chips or debris shall be left on the parkway overnight. The Project site shall be raked and swept.

300-1.2.4 Cleanup. Debris generated by root pruning and trimming operations shall be removed from the Project site at the end of each working day and properly disposed of outside the right-of-way.

The Contractor shall clean the Project site daily when work is completed, including the raking of leaves, twigs, chips, etc., from lawns and parkways and the sweeping of streets. However, fireplace size logs may be left on parkway areas for pickup by adjacent property owners for a period of up to 4 Days following tree trimming or removal. All wood shall be removed from the Project site within 5 Days of the trimming or removal.

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 shall be included in the lump sum Bid price for “SITE PREPARATION AND DEMOLITION”.

Payment for excavation, root pruning, furnishing and installing root sealer fabric and root control barriers, backfilling, cleanup, and all other appurtenant work shall be included in the lump sum Bid price for "SITE PREPARATION AND DEMOLITION".

Payment for crown reduction for the various diameter sizes and all work required for conformance to the requirements specified in 300-1.2.2 and 300-1.2.4 shall be included in the lump sum Bid price for "SITE PREPARATION AND DEMOLITION".

Payment for trees to be cut, removed, and disposed of including stump and root removal for trees having a trunk 6 inches in diameter or greater shall be included in the lump sum Bid price for "SITE PREPARATION AND DEMOLITION". 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.

Add the following subsection:

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 the approved Construction and Demolition Recycling and Reuse Plan as identified in the attachment to Section G 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 adhere to the requirements of the approved Construction and Demolition Recycling and Reuse Plan (CDRRP) for this Project included as an attachment in Section G. The Contractor may amend the CDRRP using the amendment form, also included with the attachment. If the CDRRP is amended, a copy of the amended/approved CDRRP shall be submitted to the Engineer in accordance with 3-8 of Section G. Within 30 Calendar Days after Field Acceptance of the Work, a Final Compliance Report form (also included in the attachment) shall be submitted with all required supporting documentation. A copy of this submittal shall also be submitted to the Engineer in accordance with 3-8 of Section G.

Failure of the Contractor to submit the CDRRP Final Compliance Report 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 lump sum Bid price for "SITE PREPARATION AND DEMOLITION". 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 all excavation, including roadways, unless separately designated. Unclassified excavation **will not include** structure excavation as specified in 300-3, 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 shall be included in the lump sum Bid price for “DRAINAGE” or “LANDSCAPING AND IRRIGATION”, whichever is applicable.

300-3 STRUCTURE EXCAVATION AND BACKFILL.**300-3.3 Foundation Material Treatment.** (Page 268 of SSPWC)

Add the following to the end of the second paragraph:

If unsuitable material is encountered when the structure excavation has progressed to required grades, as indicated on the Plans, such unsuitable materials shall be excavated and backfilled with suitable material to the required grades, with the prior approval of, and as directed by the Engineer.

300-3.6 Payment. (Page 270 of the SSPWC)

Replace the entire subsection with the following:

Payment for structure excavation for dry well Work shall be considered as included in the lump sum price for “DRYWELLS”.

Payment for structure backfill for dry well Work shall be considered as included in the lump sum price for “DRYWELLS”.

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 lump sum Bid price for “DRAINAGE” or “LANDSCAPING AND IRRIGATION”, whichever is applicable.

SECTION 301 – TREATED SOIL, SUBGRADE PREPARATION, AND PLACEMENT OF BASE MATERIALS

301-2.4 Measurement and Payment. (Page 281 of the SSPWC)

Add the following:

Payment for crushed miscellaneous base shall be included in the lump sum Bid price for “ROADWAY”.

SECTION 302 - ROADWAY SURFACING

302-5 ASPHALT CONCRETE PAVEMENT

302-5.1 General. (Page 316 of the SSPWC)

Add the following:

The Contractor shall schedule the paving work such that no longitudinal drop-offs on the pavement will remain overnight in the travelled way. Any transverse drop-offs in the

pavement over 1 inch in height that will remain overnight shall be ramped with temporary AC pavement.

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.

Add the following after the sixth paragraph:

A fully automatic screed control system will not be required for the work described in 302-5.

302-5.6 Rolling. (Page 317 of the SSPWC)

302-5.6.2 Density and Smoothness.

Replace “b)” in the third paragraph with the following:

- b) California Test Method 308, Method A (modified to use zinc stearate) when slabs or cores are taken for laboratory testing.

302-5.7 Joints. (Page 320 of the SSPWC)

Add the following:

Longitudinal joints shall coincide with the traffic lines.

302-5.9 Measurement and Payment. (Page 320 of the SSPWC)

Add the following:

Payment for asphalt concrete pavement placed adjacent to curb and gutter, curb ramps and cross gutters, where the trench width shown on the Plans is 2 feet or less, prior to resurfacing shall be considered as included in the lump sum Bid price for “ROADWAY”.

302-6 PORTLAND CEMENT CONCRETE PAVEMENT.**302-6.2 Forms and Headers.** (Page 320 of the SSPWC)**302-6.2.1 General.**

Replace the first sentence with the following:

Forms and headers for PCC pavement shall be metal except for bus pad construction where wood forms may be used.

302-6.2.3 Metal Forms.

Add the following as the first sentence:

Metal forms shall be designed specifically for PCC pavement construction.

302-6.3 Placing Concrete. (Page 321 of SSPWC)**302-6.3.1 General.**

Add the following:

Prior to placement against construction joints, curing compound shall be applied and allowed to dry.

Add the following subsection:

302-6.3.3 Roller Screed. A self-propelled, ride-on roller screed shall be used to spread and screed concrete during placement. The roller screed shall be equipped with a minimum of 2 roller tubes. The following roller screeds conform to the aforementioned requirements:

- a) Multiquip Superscreed (WRS-Series Ride-On Roller Screed), www.multipquip.com.
- b) Allen RS800 Series, www.alleneng.com.

The roller screed shall ride on a chair and rail system. The roller screed shall neither ride directly on the edge of an existing concrete gutter nor on an existing pavement edge.

302-6.4 Finishing. (Page 322 of the SSPWC)

302-6.4.2 Tamping.

Add the following:

If vibrators are used:

- a) High-frequency vibrators shall be used within 15 minutes of depositing concrete to uniformly consolidate the concrete across the paving width.
- b) The vibration rate shall be a minimum of 3,500 cycles per minute for surface vibrators and 5,000 cycles per minute for internal vibrators.
- c) The amplitude of vibration must cause perceptible concrete surface movement at least 1 foot from the vibrating element.
- d) A calibrated tachometer shall be used for measuring the frequency of vibration.
- e) Vibrators shall not rest on side forms or new concrete pavement.
- f) Power to vibrators must automatically cease when forward or backward motion of the roller screed is stopped.

302-6.4.4 Final Finishing.

Replace the entire subsection with the following:

- a) After floating has been completed, edges of initial paving widths shall be rounded to a 1/2-inch radius. Transverse construction joints and the edge of longitudinal construction joints adjacent to hardened concrete pavement shall be rounded to a 1/4-inch radius.
- b) Prior to curing, the pavement surface shall be given an initial and a final texturing. Initial texturing shall be performed with a burlap drag or broom device capable of producing striations parallel with the centerline. Final texturing shall be performed with a broom device.
- c) Initial and final texturing shall produce a pavement surface having a minimum coefficient of friction of 0.30 when tested in accordance with California Test 342.

302-6.5 Joints. (Page 323 of the SSPWC)

302-6.5.2 Construction Joints.

Replace the entire subsection with the following:

Construction joints are those made by placing fresh concrete against hardened concrete at the locations shown on the Plans. Longitudinal construction joints not shown on the Plans shall coincide with traffic lane lines or be placed in the middle of a traffic lane. Transverse construction joints shall be perpendicular to traffic lane lines.

Construction joints, both longitudinal and transverse, shall be constructed with a keyway and tie-bars, and as shown on SPPWC Standard Plan 134.

302-6.5.4 Weakened-Plane Joints.

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

Weakened-plane joints shall be formed by cutting a groove in the pavement with a power-driven saw. Weakened-plane joints shall be constructed transversely at 15 feet on center and shall be a minimum of 5 feet from any transverse construction joint. Weakened-plane joints shall not deviate by more than 1-1/4 inches from either side of a 12-foot straight line.

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

Tie bars shall be placed in the PCC pavement prior to final tamping operations. Said tie bars shall be placed at the last 4 transverse saw cuts at each end of the new construction. Tie bars shall conform to Standard Plan 134.

302-6.6 Curing. (Page 324 of the SSPWC)

Add the following:

When side forms are removed within 72 hours of the start of curing, the concrete pavement edges shall also be cured.

302-6.8 Measurement and Payment. (Page 324 of the SSPWC)

Add the following:

Payment for PCC pavement shall be considered as included in the lump sum Bid price for "ROADWAY".

No separate or additional payment will be made for grinding necessary to achieve the specified smoothness requirements.

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 lump sum Bid price for "DRAINAGE" or "FILTRATION UNITS", whichever is applicable.

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 therefore.

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 lump sum Bid price for "DRAINAGE" for the various structure items to be constructed per Standard Plans.

Payment for constructing local depressions per SPPWC Standard Plan 313, or as shown on the Plans, shall be considered as included in the lump sum Bid price for "DRAINAGE" for the catch basin involved.

Add the following subsections:

303-1.12.2 Payment for Catch Basins.

The construction of catch basins shall include structure excavation, structure backfill, formwork, furnishing and placing of materials, pipe connections, and all other necessary Work.

Payment for catch basins will be made in accordance with 303-1.12.1 and shall be included in the lump sum Bid price for "DRAINAGE".

303-1.12.3 Payment for Filtration Unit. The construction of the filtration units shall include structure excavation, structure backfill; furnishing and placing of all materials including filtration units and manholes; gravel pack; pipe connections; and all other necessary Work.

Payment for filtration unit installations shall be considered as included in the lump sum price for "FILTRATION UNITS".

303-1.12.4 Payment for 5' X 6' RCB Trash/Slide Gate Manhole. The construction of the 5' X 6' RCB Trash/Slide Gate manhole shall include structure excavation, structure backfill, formwork, furnishing and placing of all materials, concrete backwall, 5' X 6' RCB,

trash rack assembly, pipe connections, concrete cap, manhole frame and cover, and all other necessary Work.

Payment for 5' X 6' RCB Trash/Slide Gate Manholes shall be considered as included in the Contract Unit Price for "MECHANICAL WORK".

303-1.12.5 Payment for Influent Monitoring Manhole 321. The construction of the Influent Monitoring Manhole 321 shall include structure excavation, structure backfill, formwork, furnishing and placing of all materials, pipe connections, concrete cap, manhole per SPPWC Standard Plan 321, manhole frame and cover, and all other necessary Work.

Payment for Influent Monitoring Manhole 321 shall be considered as included in the lump sum price for "DRAINAGE".

303-1.12.6 Payment for Effluent Monitoring Manhole 321. The construction of the Effluent Monitoring Manhole 321 shall include structure excavation, structure backfill, formwork, furnishing and placing of all materials, pipe connections, concrete cap, manhole per SPPWC Standard Plan 321, manhole frame and cover, and all other necessary Work.

Payment for Influent Monitoring Manhole 321 shall be considered as included in the lump sum price for "DRAINAGE".

Add the following subsection:

303-1.13 Drill and Bond Dowel (Epoxy Cartridge). Drilling and bonding dowels with epoxy cartridge systems shall conform to the details shown on the Plans and the requirements in these Special Provisions.

The epoxy cartridge system shall comply with the 2009 International Building Code and evaluated in accordance with ICC-ES Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete (AC308). The Contractor shall provide one of the following epoxy cartridge systems or Agency-approved equal:

1. Hilti, Inc., HIT-RE 500-SD
2. Simpson Strong-Tie Co., Inc, SET-XP
3. Sakrete, High Strength Anchoring Epoxy

The epoxy cartridge system used shall be appropriate for the ambient concrete temperature and installation conditions at the time of installation in conformance with the manufacturer's specifications.

Epoxy cartridges shall be accompanied by a Certificate of Compliance as provided in Section 4-5 of SSPWC, "Certificates of Compliance," of the Standard Specifications. The certificate shall state that the material complies in all respects to the requirements of ICBO AC58 and Caltrans Augmentation/Revisions to ICBO AC58.

Each epoxy cartridge shall be clearly and permanently marked with the manufacturer's name, model number of the epoxy cartridge system, manufacturing date, and lot number. Each carton of epoxy cartridges shall contain the manufacturer's recommended installation procedures, minimum cure time, and such warning or precautions concerning the contents as may be required by Federal or State laws and regulations.

The holes shall be drilled by methods that will not shatter or damage the concrete adjacent to the holes. If reinforcement is encountered during drilling, before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves, in writing, coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth recommended by the manufacturer. The holes shall be drilled by methods that will not shatter or damage the concrete adjacent to the holes. If reinforcement is encountered during drilling, before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves, in writing, coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth recommended by the manufacturer.

The drilled holes shall be cleaned in conformance with the manufacturer's instructions and shall be dry at the time of placing the epoxy cartridge bonding material and the steel dowels. The bonding material shall be a 2-component epoxy system contained in a cartridge having 2 separate chambers and shall be inserted into the hole using a dispensing gun and replaceable mixing nozzle approved by the manufacturer. Unless otherwise specified, the depth of hole and the installation procedure shall be as recommended by the manufacturer. A copy of the manufacturer's recommended installation procedure shall be provided in accordance with 3-8.5 of SSPWC to the Engineer at least 2 days prior to beginning the bonding of dowels or threaded rods.

Immediately after inserting the dowels into the epoxy, the dowels shall be supported as necessary to prevent movement during curing and shall remain undisturbed until the epoxy has cured a minimum time as specified by the manufacturer. Dowels that are improperly bonded, as determined by the Engineer, will be rejected. Adjacent new holes shall be drilled, and new dowels shall be placed and securely bonded to the concrete. All work necessary to correct improperly bonded dowels shall be performed at the Contractor's expense.

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.

Add the following subsection:

303-5.1.4 Curb Ramps. Curb ramps shall conform to the Standard Plans referenced, and details shown, on the Plans.

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, unless shown otherwise on Plans. Concrete for such shall not be placed until a minimum of 4 hours after concrete for the adjoining curb or gutter has been placed.

303-5.5 Finishing. (Page 360 of SSPWC)**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.

303-5.5.5 Alley Intersections, Access Ramps, and Driveways.

Add the following:

A detectable warning surface shall be constructed in the areas shown on the Plans and Standard Plans. Detectable warning surfaces shall be the cast-in-place type and consist of a rigid, pre-cast tile embedded into fresh concrete. The detectable warning surface shall have the dimensions and dome spacing shown on the Standard Plan. The color shall be yellow conforming to Federal Standard 595B, Color No. 33538.

Detectable warning surfaces shall be one of the following:

- a) Cast-In-Place Replaceable Tactile Pavers as manufactured by ADA Solutions:
www.adatale.com/replaceable_wet_set.php
- b) “Alert Cast” as manufactured by Detectable Warning Systems, Inc.:
<http://detectable-warning.com/products/alertcast/>
- c) “Armor-Tile Replaceable Herculite” series as manufactured by Armor-Tile.:
<http://www.armor-tile.com/herculite-series.html>

Detectable warning surfaces shall be installed in accordance with the manufacturer’s installation instructions.

303-5.8 Backfilling and Clean-Up. (Page 361 of the SSPWC)

Add the following:

All parkway areas that 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.

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, curb ramps, cross gutters, and driveways shall be considered as included in the lump sum Bid price for “ROADWAY”.

Payment for the construction of retaining curbs integral with curb ramps, if so required by the curb ramp case and type specified on the Plans, shall be considered as included in the lump sum Bid price for "ROADWAY".

Payment for construction of detectable warning surfaces shall be considered as included in the lump sum Bid price for "ROADWAY". The payment shall include the underlying concrete, and furnishing and installing the precast tile.

Payment for admixtures or additional cement to achieve high early strength, if so directed by the Engineer, will be made on the basis of Extra Work in accordance with 7-4 of SSPWC for the additional cost of the materials only.

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 of SSPWC 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 Stormwater Maintenance Division yards:

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, should it be in the best interests of the Agency.

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 5 feet or greater. 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 LACPW Standard Plan 6008. If an exception as specified on LACPW Standard Plan 6008 Sheet 2 exists, barricades conforming to LACPW 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 LACPW Standard Plan 3090. Where the use of shields is proposed in lieu of shoring, their use shall conform to LACPW 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 LACPW 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 values and soil types for use in the design of shoring of excavations are as follows:

Line	Station Limits	Kw (pcf)	Soil Types
Monteith Park and View Park Green Alley	-	25	CL, SM, SP-SM, GW

The recommended Kw values are predicated on the water table being below the bottom of the excavation shoring. For a water table above the bottom of the excavation shoring, contact the Contractor for a revised Kw value.

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 LACPW 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 LACPW 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 LACPW 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 of SSPWC 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 LACPW 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 LACPW Standard Plan 3091.
- f) Notes as shown on LACPW 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 LACPW 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 LACPW 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 LACPW 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 of SSPWC. However, where the in-situ material is granular and free-draining, the backfill may be sand conforming to 200-1.5 of SSPWC. 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:

Line	Station Limits	Case No.	Soil Parameters			Distance D_1 ft
			A (pcf)	B (psf)	E (pcf)	
Monteith Park and View Park Green Alley	-	1	126	340	-	-

The recommended shoring parameters are predicated on the water table being below the bottom of the excavation shoring. For a water table above the bottom of the excavation shoring, contact the Contractor for a revised Kw value.

The soils encountered in the borings may be classified as Type C as defined in the California Code of Regulation Title 8, Division 1, Chapter 4, Subchapter 4, Article 6, Appendix A.

Applicable Case Nos., D_1 and soil parameters are provided in the Special Provisions and are to be used in conjunction with LACPW 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 LACPW 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.

Add the following subsection:

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 of SSPWC, 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 of SSPWC, jetted in accordance with 306-12.4 of SSPWC, 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 the second paragraph:

For reinforced concrete box or other cast-in-place structures within street right-of-way where the cover is 3 feet or less, the backfill 1 foot immediately above the structure shall be bedding material conforming to 217-1.1 of SSPWC, except that the sand equivalent value shall not be less than 30. However, at the Contractor's option, crushed miscellaneous base conforming to 200-2.4 of SSPWC may be placed from the top of the box or structure to pavement subgrade.

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 of SSPWC. 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 is not allowed.

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 sheepfoot 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 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.

- b) 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 of SSPWC.

The Contractor shall perform compaction tests on mechanically compacted trench backfill as part of its Quality Control Program. The Contractor shall perform a minimum of 1 compaction test per lift for each 300 feet of mechanically compacted trench backfill placed unless otherwise directed by the Engineer.

The Contractor will determine the maximum dry density to be used in determining relative compaction. The Contractor shall furnish representative backfill material samples for the Contractor's use. The Contractor will determine the maximum dry densities prior to the start of the Work and during the progress of the Work as deemed necessary by the Engineer.

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 of SSPWC.

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 LACPW 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.

306-14 MEASUREMENT.

306-14.3 Gravity Pipe. (Page 441 of the SSPWC)

Replace the third sentence with the following:

Pipe for storm drain connector pipes to and between catch basins will be measured for payment along the center longitudinal axes of said connector pipes. Distances will be measured between the inside faces of all catch basins or other storm drain structures involved.

306-15 PAYMENT.

306-15.1 General. (Page 442 of the SSPWC)

Replace the entire subsection with the following:

Payment for diversion structure, diversion berm, junction structure, transition structure, influent manhole, effluent manhole, pipe and conduit shall be included in the lump sum Bid price for "DRAINAGE". The lump sum Bid price shall include payment for:

- a) the control of surface waters;
- b) trench excavation; unclassified excavation; structure excavation (See Attachment A)
- c) removal of interfering portions of existing conduits and improvements;
- d) the sealing or removal 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) sawcut, place waterstop, and mortar PVC pipe in-place
- n) sealing open ends of pipe or cast-in-place conduit;
- o) drying, blending, transporting, and importing backfill;
- p) backfilling the trench, including compaction;
- q) temporary resurfacing;
- r) drill and bond (epoxy cartridge); and
- s) 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 shall be included in the lump sum Bid price for "SHORING OF OPEN EXCAVATIONS".

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.

306-15.3 Dewatering. (Page 442 of the SSPWC)

Replace the entire paragraph with the following:

Payment for dewatering shall be included in the lump sum Bid price for "DRAINAGE".

306-15.7 Buried Structures. (Page 443 of the SSPWC)

Add the following:

Payment for constructing connector pipe inlets (junction structures) into the mainline conduits per SPPWC 331, 332, 333, and 335 shall be considered as included in the lump sum Bid price for "DRAINAGE".

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.

Add the following subsection:

306-15.10 Permanent Resurfacing. Payment for permanent resurfacing shall be included in the lump sum Bid price for "ROADWAY".

The Agency does not guarantee the accuracy of the limits, type and thickness of existing pavement as shown on the Plans or as specified in the Contract Documents and the Contractor shall so consider this in preparing its Bid. However, additional costs incurred in the removal of pavement which is found to be over 1 inch greater in thickness than that indicated on the Plans or in the Special Provisions will be considered as Extra Work. In addition, costs incurred for the removal of Portland cement concrete found to underlie pavement which is indicated on the Plans to be entirely bituminous will be paid for as Extra Work.

Add the following subsection:

306-16 DRY WELL CONSTRUCTION.

306-16.1 General. Dry well construction shall consist of drilling the dry well hole; installing a temporary steel casing in case of caving; installing solid wall and slotted screen PVC casings; maintaining alignment of the casings; packing the annular space with gravel, sand, bentonite, and cement mortar; removing the temporary steel casing, structural excavation for the inspection manhole shaft; constructing the inspection manhole shaft and dry well cover; installing steel steps, manhole frame and cover, and placing structure backfill. The dry well shall be constructed as shown on the Plans. This work shall be performed only by qualified well drilling contractor with current California C-57 contractor's license.

A geotechnical engineer and/or engineering geologist from the Agency's Geotechnical and Materials Engineering Division (GMED) shall be present during excavation to verify subsurface conditions and to make additional recommendations as necessary. The Contractor shall inform the Engineer to contact GMED at least 1 week prior to construction.

306-16.1.1 Submittals. The contractor shall submit the following in accordance with 3-8 of SSPWC:

- Drilling methods, equipment for placing temporary steel casing, solid wall and slotted screen PVC casings, gravel pack, sand pack, bentonite transition seal, and cement mortar mix.
- Methods and equipment for verifying that the bottom of drilled hole is clean before placing leveling pad gravel pack
- Methods, equipment, and sequence for placing, positioning, and supporting PVC casings
- Working Drawings for temporary steel casings
- Methods, equipment, and sequence for:
 - Installation and removal of temporary steel casing
 - Placing gravel pack, sand pack, bentonite transition seal, and cement grout in annular space
 - Determining depth of gravel pack, sand pack layer, bentonite transition seal, and cement grout in annular space

- Verifying volume of gravel pack, sand pack layer, bentonite transition seal, and cement grout in annular space
- Gravel pack, sand pack, and bentonite transition seal gradation specifications and samples
- Shop drawings of 16” solid wall and slotted schedule 80 PVC casings.
- Copy of the Well Drilling Contractor’s California C-57 license certificate including a list of similar projects completed by the Contractor.

306-16.2 Drilling.

306-16.2.1 General. Drilling the dry well hole shall be accomplished using rotary bucket auger or similar drilling methods approved by the Engineer. The Contractor shall always maintain the stability of the hole during drilling until the completion of the construction of the dry well. Slurry wet methods and polymer drilling fluids are not allowed.

At the Contractor’s option, the dry well hole may be drilled without a temporary steel casing. If caving soils are encountered, as determined by the Engineer, the Contractor shall cease drilling operations until the temporary steel casing are installed to the depth drilled before continuing. Temporary steel casings with lengths equivalent to the total depth of the hole to be drilled shall always be available on site.

High voltage overhead utility lines are in near proximity of the Project. All equipment is required to maintain a minimum clearance of 10 feet from the conductor per CalOSHA Title 8 requirements. The Contractor shall evaluate if the use of Limited Access Rig is necessary to meet this requirement.

The project sites are located near residential areas. The level of noise from the drill rig shall be reduced by providing a temporary sound barrier enclosure around the drill rig.

306-16.2.2 Plumbness and Alignment. All holes shall be drilled round, plumb, and true to line as defined herein. The horizontal deflection from the plumb line shall be measured in two planes, 90° from each other. The horizontal drift of the casing or hole shall not exceed 1 inch throughout the depth of the hole. Plumbness and alignment shall be measured at least every 10 feet of holes drilled.

306-16.2.3 Cleanup and Disposal of Materials. The Contractor shall always keep Monteith Park and View Park Alley clean. Drill cuttings shall be confined near the holes

and placed in soil storage bins as drilling progresses. The Contractor shall effectively implement and maintain appropriate Construction Site BMPs, as provided in 3-12.6.2 of SSPWC.

The Contractor shall be responsible for all costs incurred in the disposal of well drill cuttings as prescribed by the Agency. All this material shall be disposed at locations which have been legally approved for this disposal. The Contractor shall provide soil storage bins in the vicinity of each well site in numbers sufficient to contain all soil generated by the drilling operations. The well drill cuttings shall be disposed offsite within 24 hours after the completion of the drilling of each well.

306-16.2.4 Measurement and Payment. Drilling of the dry well hole shall be measured by the linear foot (LF) of a 32"-diameter circular area.

All labor, materials, and equipment necessary to drill the dry well hole including setup of the drilling rig, drilling the dry well hole, installation of steel casings, as necessary; sounding the drilled hole for plumbness and alignment, cleanup of work area affected by drilling operations, and disposal of excess drill cuttings shall be considered as included in the lump sum price in the Bid for "DRYWELLS".

306-16.3 Polyvinyl Chloride (PVC) Well Casing.

306-16.3.1 General. The work shall include furnishing and placing blank and slotted casings; maintaining alignment of the casings; and furnishing all labor, equipment, and materials necessary to place the casings complete in place, in accordance with the Plans and Special Provisions.

306-16.3.2 Materials Casing for the wells shall be 16 inches nominal diameter PVC. The casing shall conform to the material compound requirements for Class 12454-B or 12454-C, as established in ASTM D1784, and the pipe requirements as specified in ASTM 1785. The 16-inch PVC pipe shall be installed in standard 20-foot lengths except where otherwise shown on the drawings or except where impractical. The lengths of pipe shall be flush threaded at each end as manufactured by Johnson Screens or an Agency-approved equal. The Contractor shall exercise care to avoid damage to the pipe and pipe ends. Any pipe which is damaged and cannot be repaired to the satisfaction of the Engineer shall be replaced by the Contractor at no additional cost to the Agency.

306-16.3.3 Screen Casing (Slotted). The slotted pipe to be used as screen casing shall conform to the requirements for Schedule 80 PVC pipe as to materials, dimensions, and tolerances. The slots on the screen casing shall have an open area of 56.8 square inches per

foot with standard slot opening of 0.10 as manufactured by Johnson Screens, or an Agency-approved equal.

306-16.3.4 Measurement and Payment.

All labor, materials, and equipment necessary to place 16-inch solid wall RCP including furnishing the pipe, placing the pipe, and sounding the pipe for plumbness and alignment shall be considered as included in the Lump Sum Price in the Bid price for "DRAINAGE".

All labor, materials, and equipment necessary to place 16-inch slotted wall PVC including furnishing the pipe, placing the pipe, installing centralizers, and sounding the pipe for plumbness and alignment shall be considered as included in the Lump Sum Price in the Bid price for "DRAINAGE".

306-16.4 Gravel Packing.

306-16.4.1 General. Gravel packing shall consist of the furnishing and placing of select gravel as bedding on the bottom of the drilled well and packing in the annular space between the dry well pipe and drilled hole.

The work shall include obtaining, hauling, and delivery of gravel; and all labor, material, and equipment necessary to place the gravel pack, sound the gravel pack levels, and to otherwise place the gravel pack in the dry wells to the satisfaction of the Engineer.

306-16.4.2 Materials. Gravel pack used in the construction shall be 3/8" pea gravel. The gravel for all wells shall conform to the following gradation:

Sieve Size	Percent of Weight Passing
1/2 inch	100
3/8 inch	85-100
#4 mesh	10-30
#8 mesh	0-10
#16 mesh	0-5

The gravel pack shall be clean and thoroughly washed before delivery and shall be composed of sound, durable, well-rounded material with no organic or other deleterious material contained herein. Gravel pack delivered to the Project site shall not be dumped on the ground but shall be stored in suitable containers such as sacks, supersacks, or equivalent, until installed in the well. Gravel pack dumped on the ground shall be rejected.

Samples of the gravel pack must be submitted to and approved by the Agency before placing in the wells.

306-16.4.3 Placing Gravel Pack. The gravel pack shall be placed to form a continuous unbroken column placed within the limits shown in the Plans. The gravel pack shall not be placed by dropping the materials from the top of the well hole. The gravel pack shall be placed by means of a tremie pipe starting from the bottom. The tremie shall be pulled upwards as the gravel is placed in the annular space. The depth of the top of the gravel pack shall be carefully checked and the volume of emplaced gravel shall be verified to determine that the gravel pack materials have not bridged into the area where the sand pack will be placed.

306-16.4.4 Measurement and Payment.

All labor, material, and equipment necessary to place the gravel pack layer including furnishing, placing, and sounding the gravel pack shall be considered as included in the lump sum price in the Bid for "DRYWELLS".

306-16.5 Sand Pack Layer.

306-16.5.1 General. The sand pack layer shall consist of the furnishing and placing of sand above the gravel pack in the annular space between the dry well pipe and drilled hole.

The work shall include obtaining, hauling, and delivery of sand; and all labor, material, and equipment necessary to place the sand, sound the sand pack levels, and to otherwise place the sand pack in the dry wells to the satisfaction of the Engineer. Sand pack delivered to the Project site shall not be dumped on the ground but shall be stored in suitable containers such as sacks, supersacks, or equivalent, until installed in the well. Sand pack dumped on the ground shall be rejected.

306-16.5.2 Materials. Sand pack used in the construction shall be #3 8x20 washed, cleaned, and dried sand.

306-16.5.3 Placing Sand Pack Layer. The sand pack layer shall be placed using similar method as 306-16.5.3. The depth of the top of the sand pack shall be carefully checked and the volume of emplaced sand shall be verified to determine that the sand pack materials have not bridged into the area where the bentonite transition seal will be placed.

306-16.5.4 Measurement and Payment.

All labor, material, and equipment necessary to place the sand pack layer including furnishing, placing, and sounding the sand pack shall be considered as included in the Contract Unit Price in the Bid for “DRYWELLS”.

306-16.6 Bentonite Transition Seal.

306-16.6.1 General. The bentonite transition seal shall consist of the furnishing and placing of bentonite chips above the sand pack layer in the annular space between the dry well pipe and drilled hole.

The work shall include obtaining, hauling, and delivery of bentonite chips; and all labor, material, and equipment necessary to place the bentonite chips, hydrate the bentonite chips, sound the bentonite seal levels, and to otherwise place the bentonite seal in the wells to the satisfaction of the Engineer.

306-16.6.2 Materials. The composition of bentonite shall be dried, natural, bentonite clay chips medium size (3/8” diameter).

306-16.6.3 Placing Bentonite Transition Seal. The bentonite chips shall be placed by means of a tremie pipe starting from the top of the sand pack layer to the limits as shown on the Plans. The tremie shall be pulled upwards as the bentonite chips is placed in the annular space. The depth of the top of the bentonite seal pack shall be carefully checked and the volume of emplaced bentonite shall be verified to determine that the bentonite materials have not bridged into the area where the cement mortar grout will be placed.

Bentonite chips shall be hydrated with the placement of fresh water through the tremie. The amount water and the time for full hydration shall be in accordance with the bentonite manufacturer’s recommendation. Cement grout shall not be placed until the bentonite transition seal has fully hydrated.

306-16.6.4 Measurement and Payment.

All labor, material, and equipment necessary to place the bentonite transition seal including furnishing, placing, and hydrating the bentonite chips shall be considered as included in the Contract Unit Price in the Bid for “DRYWELLS”.

306-16.7 Grouting Wells.

306-16.7.1 General. The work shall consist of grouting the annular space between the dry well pipe and drilled hole.

306-16.7.2 Materials. The grout used in the construction shall be Class "C" cement mortar grout conforming to the requirements of 201-5 of SSPWC. The cement shall conform to 201-1.2.1 of SSPWC, Portland cement, Type II. The grout shall contain 3% bentonite which shall be mixed with the cement before the water is added to the grout mix.

The grout shall contain the minimum amount of water (not over 8-1/2 gallons per sack of cement) required to give a mixture of such consistency that it can be placed in the well through a tremie pipe.

306-16.7.3 Placing Cement Mortar Grout. The Contractor shall calculate the volume of the annular space between the outside of dry well pipe and the drilled hole. The calculated annular volume will be reviewed by the Engineer prior to placement. The Contractor shall keep a record of the volume of grout used.

The grout shall be placed by means of a tremie pipe. The grout shall fill the entire annular space through the designated limits shown on the Plans. The Contractor shall exercise extreme care to avoid having the grout enter the perforations of the dry well pipe.

306-16.7.4 Measurement and Payment.

All labor, material, and equipment necessary to place the cement mortar grout including furnishing and placing the grout shall be considered as included in the lump sum price in the Bid for "DRYWELLS".

306-16.8 Dry Well Cover.

306-16.9.1 General. The work shall consist of obtaining, hauling, and delivery of the necessary materials and equipment for laying out reinforcing steel and formwork, pouring concrete, and installing the safety grate assembly to construct the dry well cover.

306-16.8.2 Materials. The reinforcing steel used in the construction of dry well covers shall conform to 201-2.2.1 of SSPWC. The concrete used in the construction of dry well covers shall conform to 201-1 of SSPWC. The steel used for the safety grate assembly including the circular grating, steel angles, and anchors shall conform to 206-1 of SSPWC.

The Contractor must submit shop drawings to be approved by the Agency before constructing the dry well cover.

306-16.8.3 Measurement and Payment. There will be no additional payment for reinforcing steel.

All labor, material, and equipment necessary to construct the dry well cover including the obtaining, hauling, and delivery of concrete materials, reinforcing steel, and formwork shall be considered as included in the lump sum price in the Bid for “DRYWELLS”.

306-16.9 Dry Well Manhole Shaft.

306-16.9.1 General. The work shall consist of obtaining, hauling, and delivery of the necessary materials and equipment for laying out reinforcing steel and formwork, pouring concrete, and installing the dry well manhole shaft per the Plans.

306-16.9.2 Materials. The Contractor shall refer to the Plans for materials used in the construction of the dry well manhole shaft.

306-16.9.3 Construction of Dry Well Manhole Shaft. The Contractor shall refer to the dry well case (Case 1 or Case 2) detail on the Plans for depths and elevations pertaining to the dry well manhole shafts.

306-16.9.4 Measurement and Payment.

All labor, material, and equipment necessary to install the Case 1 dry well manhole shaft including structure excavation and structure backfill; removal of interfering portion of existing dry well; installation of 48” RCP, manhole shaft per 326, steel steps per 635, manhole frame and steel cover per 633 per the Plans shall be considered as included in the lump sum price in the Bid for “DRYWELLS”.

All labor, material, and equipment necessary to install the Case 2 dry well manhole shaft including structure excavation and structure backfill; installation of 48” RCP shaft including 60” precast dry well cover, manhole shaft per 326, steel steps per 635, manhole frame and steel cover per 633 per the Plans shall be considered as included in the Contract Unit Price in the Bid for “DRYWELLS”.

PART 4 EXISTING IMPROVEMENTS

SECTION 401 - REMOVAL

401-2 ASPHALT CONCRETE PAVEMENT. (Page 480 of the SSPWC)

Add the following:

If the edge of trench is within 12 inches of the edge of an existing concrete gutter (including integral curb and gutter) or edge of concrete pavement, the existing bituminous pavement shall be completely removed and replaced to join the existing concrete edge of gutter (including integral curb and gutter), or edge of concrete pavement.

Existing bituminous pavement to be removed to accommodate new asphalt concrete pavement, as shown on the Plans, shall be removed by the use of cold milling machines.

401-3 CONCRETE AND MASONRY IMPROVEMENTS.

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Driveways and Alley Intersections. (Page 480 of the SSPWC)

Add the following:

Concrete removal shall include removal of existing asphalt concrete ramps adjacent to curb, gutter, sidewalk, driveways, and curb ramps to be constructed.

Where portions of existing concrete are designated to be removed, cutting or removal will not be permitted until approved by the Engineer. Longitudinal saw cuts in the flow line of curb and gutter will not be allowed.

401-5.1 Monitoring Well Decommissioning.

Existing monitoring wells to be decommissioned per the Plans shall be removed and sealed in accordance with the requirements of Los Angeles County Department of Public Health (LACDPH), Los Angeles County and State requirements.

Contractor shall obtain well decommissioning permit from Los Angeles County Department of Public Health by completing and submitting the well decommissioning application form including work plan and other information requested in the application form, filing a service request, paying the required fee, and coordinating inspections. The

Contractor shall prepare and submit the work plan for decommissioning the monitoring and extraction wells to Engineer for approval in accordance with Section G, 3-8.4, prior to obtaining a permit from the LACDPH. Additional information is available at http://www.publichealth.lacounty.gov/eh/docs/ep_dw_well_app.pdf. Contractor shall obtain the permit and submit a copy to Engineer prior to the issuance of NTP2. The requirements for well construction/Decommissioning are available at http://www.publichealth.lacounty.gov/eh/docs/ep_dw_decommission_req.pdf. Contractor needs to obtain a permit from the LACDPH for decommissioning of the wells and pay the required fee.

Minimum requirements for well decommissioning:

1. Verify and remove all obstructions, if present inside the well.
2. Excavate around well casing and cut casing at 5 feet below grade.
3. Fill the casing with neat cement by pressure grouting through tremie pipe from bottom up and allow the neat cement to form a mushroom cap over the casing.
4. Backfill with fill material and compact up to grade.

Contractor shall submit a completion report to the California Department of Water Resources and copy the Engineer as a submittal in accordance with Section G, 3-8.4.

401-6 MEASUREMENT. (Page 480 of the SSPWC)

Add the following:

Existing improvements will not be measured separately for removal.

401-7 PAYMENT. (Page 480 of the SSPWC)

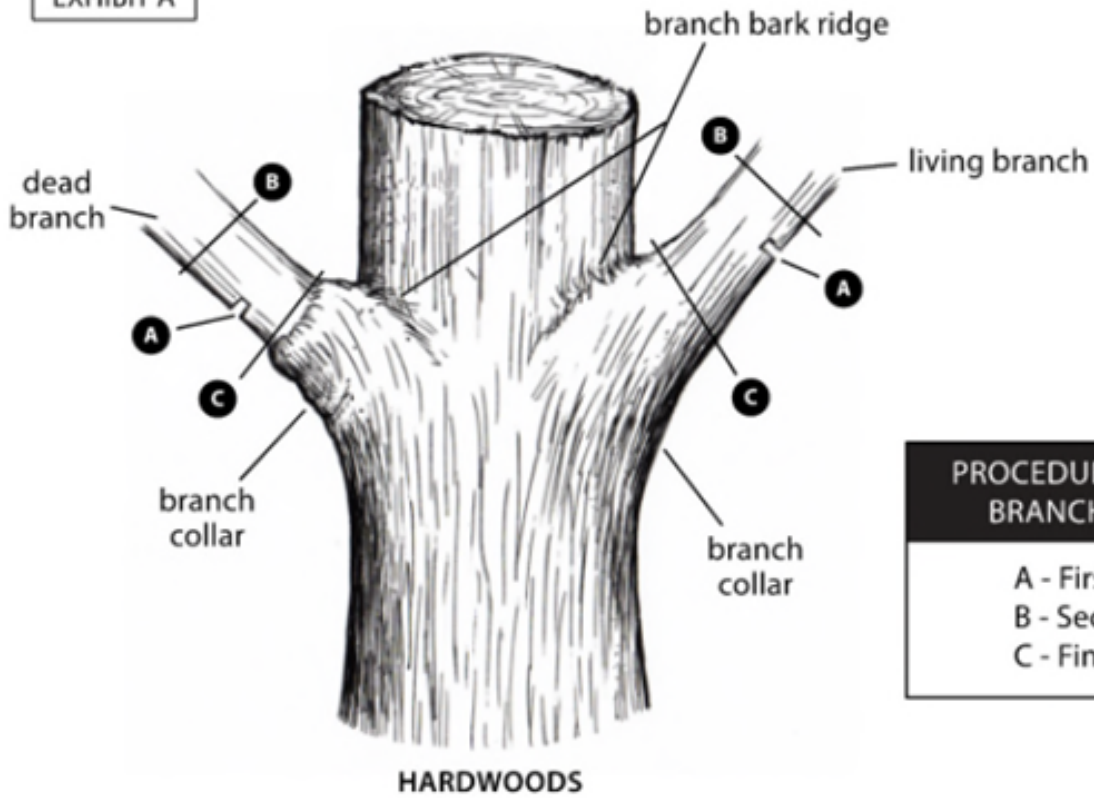
Add the following:

Payment for the removal of existing improvements including bituminous pavement, non-reinforced concrete, and reinforced concrete shall be included in the lump sum Bid price for "ROADWAY" or "DRAINAGE", whichever is applicable.

Payment for the decommissioning of all monitoring wells, including assessment of the existing wells, preparation of the work plan and completion report, permits and fees shall be considered as included in the lump sum Bid price for " DECOMMISSION MONITORING WELLS."

PROPER PRUNING PROCEDURES

EXHIBIT A

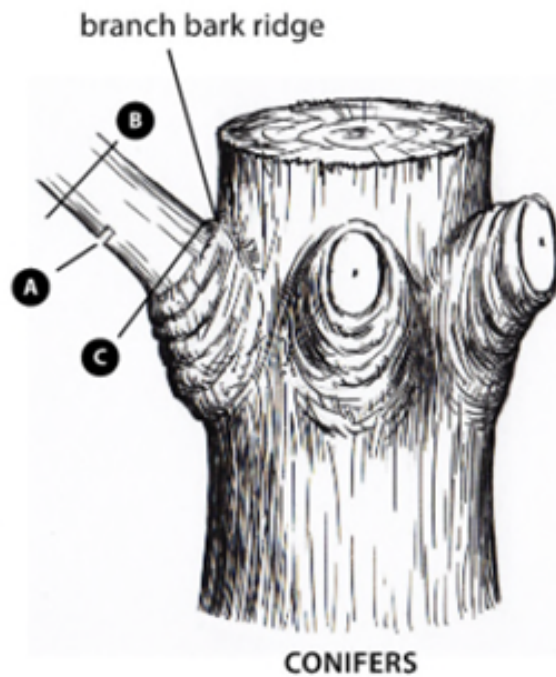


PROCEDURE FOR LARGE BRANCH REMOVAL

A - First Cut
B - Second Cut
C - Final Cut

DO NOT

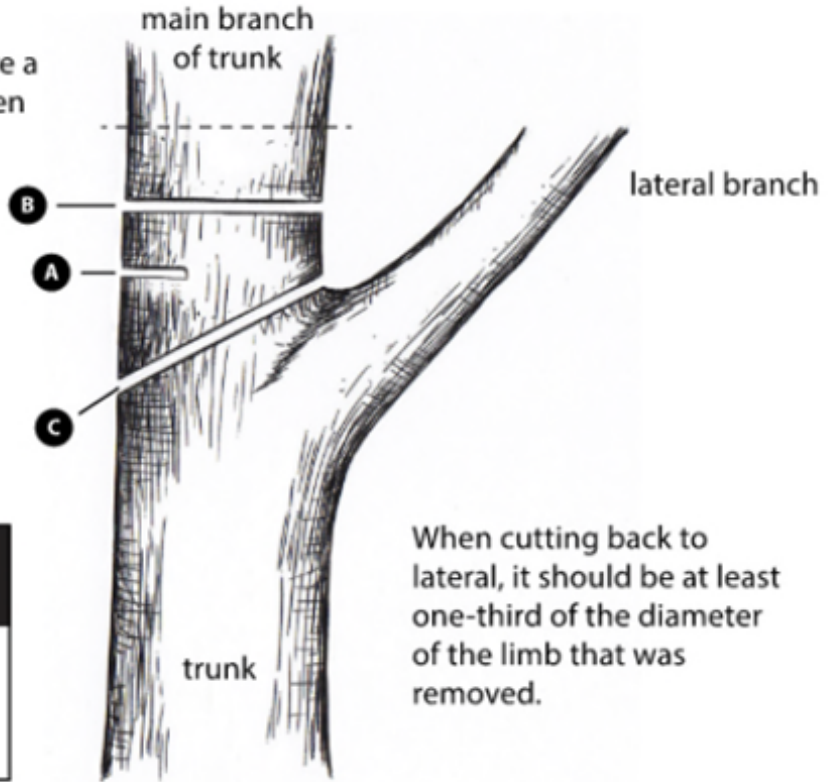
1. Cut behind the branch bark ridge.
2. Leave stubs.
3. Cut the branch collar which is part of the trunk wood.
4. Paint cuts, except for cosmetic reasons, or when specified for sprout regrowth control.



DROP CROTCH PRUNING

EXHIBIT B

Do not leave a flat top when topping.



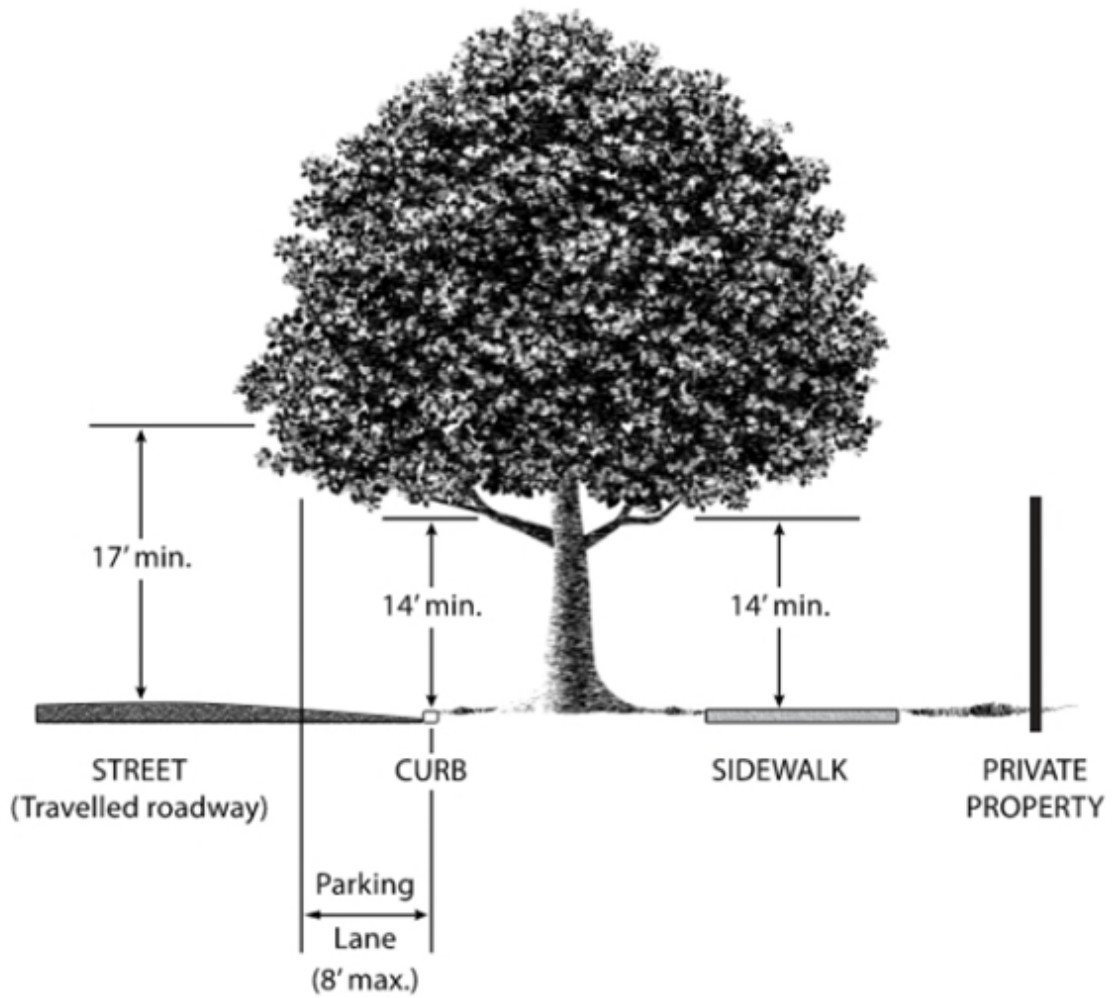
DROP CROTCH PRUNING PROCEDURE
A - First Cut
B - Second Cut
C - Final Cut



Drop Crotch Trimming

CLEARANCE TRIM

EXHIBIT C



NOTE: At locations where there is no parking lane, the tree shall be trimmed to provide 17' of clearance all the way to the curb or the edge of pavement.

STANDARD PLANS



2000
EDITION

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

HARRY W. STONE, DIRECTOR

ASPHALT CONCRETE PAVEMENT LEGEND

P1	SURFACE COURSE	C2-AR-4000
	BASE COURSE	B -AR-4000
P2	SURFACE COURSE	C2-AR-2000
	BASE COURSE	B -AR-4000
P3		CI -AR-4000
P4		C2-AR-4000
P5		DI -AR-4000
P6		D2-AR-4000
P7		D2-AR-2000

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PAVEMENT LEGEND

STANDARD PLAN

1010-0

SHEET 1 OF 1

APPROVED

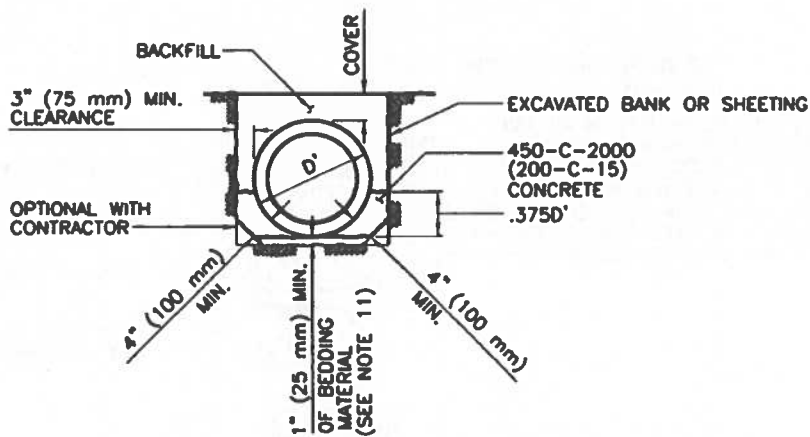
Thomas A. Williamson
DIRECTOR OF PUBLIC WORKS

5/31/1992

DATE

REVISIONS

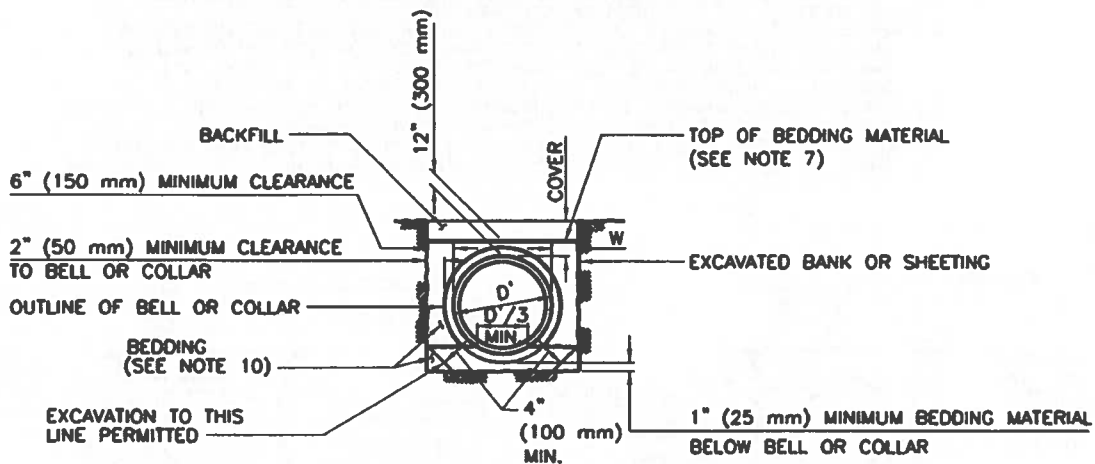
C4.FLD.894012.1010-0



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

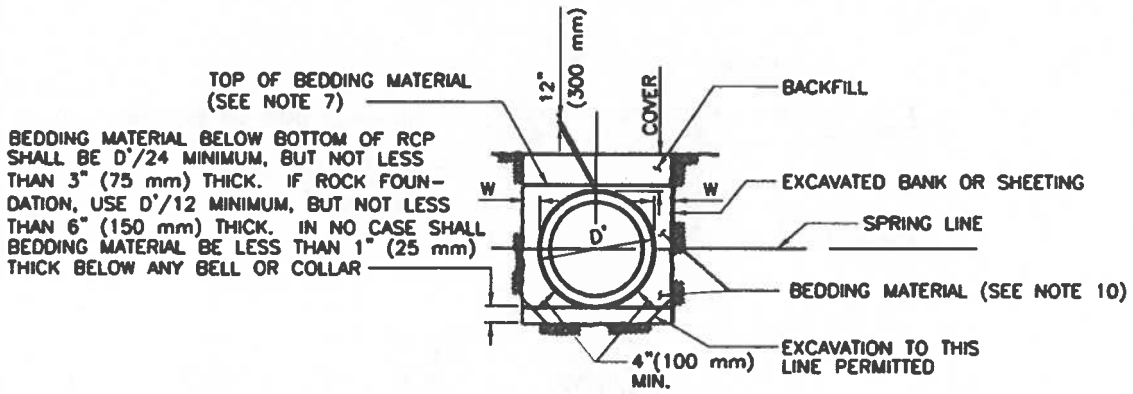
Thomas A. Gilmanson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1995, 1999, 2007

REVISIONS

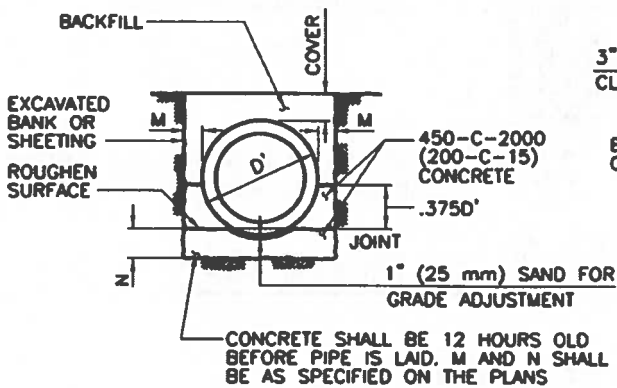
SHEET 1 OF 3



CASE 3
REINFORCED CONCRETE PIPE

NOTES:

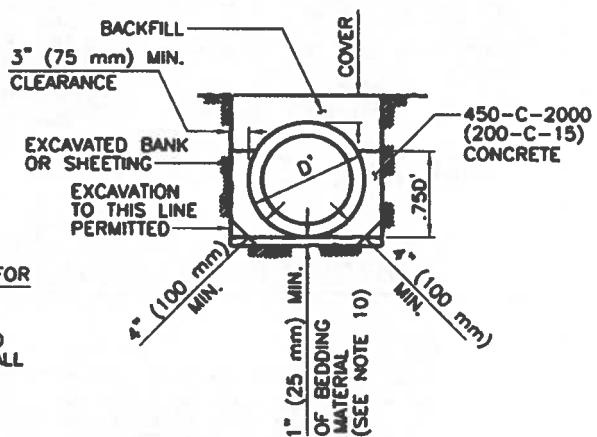
- CASE 3 BEDDING & BACKFILL AROUND RCP (LOAD FACTOR 2.2 TO 2.5)
- (a) W AT SPRING LINE SHALL NOT BE LESS THAN THE FOLLOWING: 6" (150 mm) FOR RCP 60" (1500 mm) OR LESS IN DIAMETER, 10" (250 mm) FOR RCP 63" (1575 mm) TO 108" (2700 mm) INCLUSIVE IN DIAMETER, AND 12" (300 mm) FOR PIPE LARGER THAN 108" (2700 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 SHEETING OR UNSTABLE TRENCH WALLS IF SO REQUIRED BY THE ENGINEER.

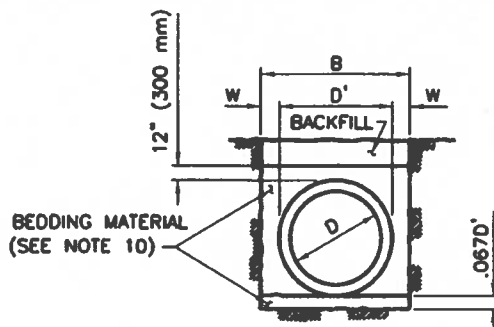
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PIPE BEDDING IN TRENCHES

STANDARD PLAN

3080-3

SHEET 2 OF 3



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

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

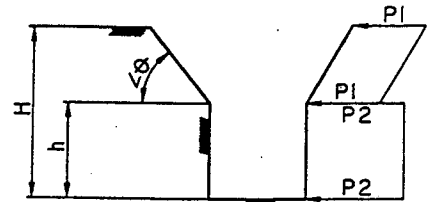
STANDARD PLAN
3080-3
SHEET 3 OF 3



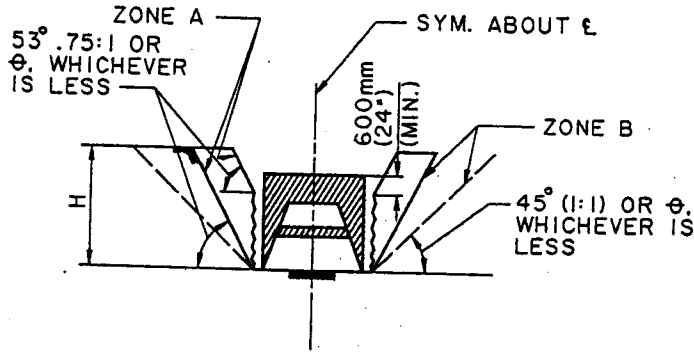
CASE 1
VERTICAL



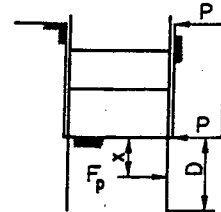
CASE 2
SLOPING



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

STANDARD PLAN
METRIC
3090-1
SHEET 3 OF 4

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

3090-1

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

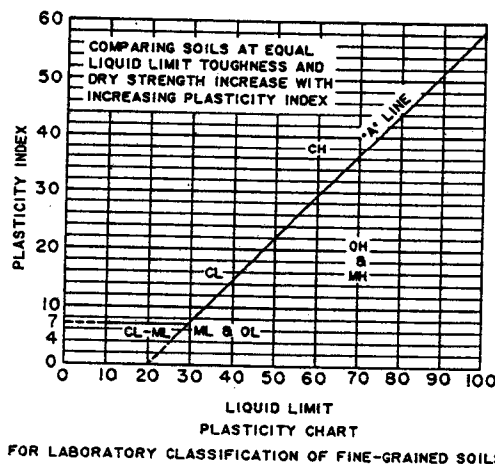
SC

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.

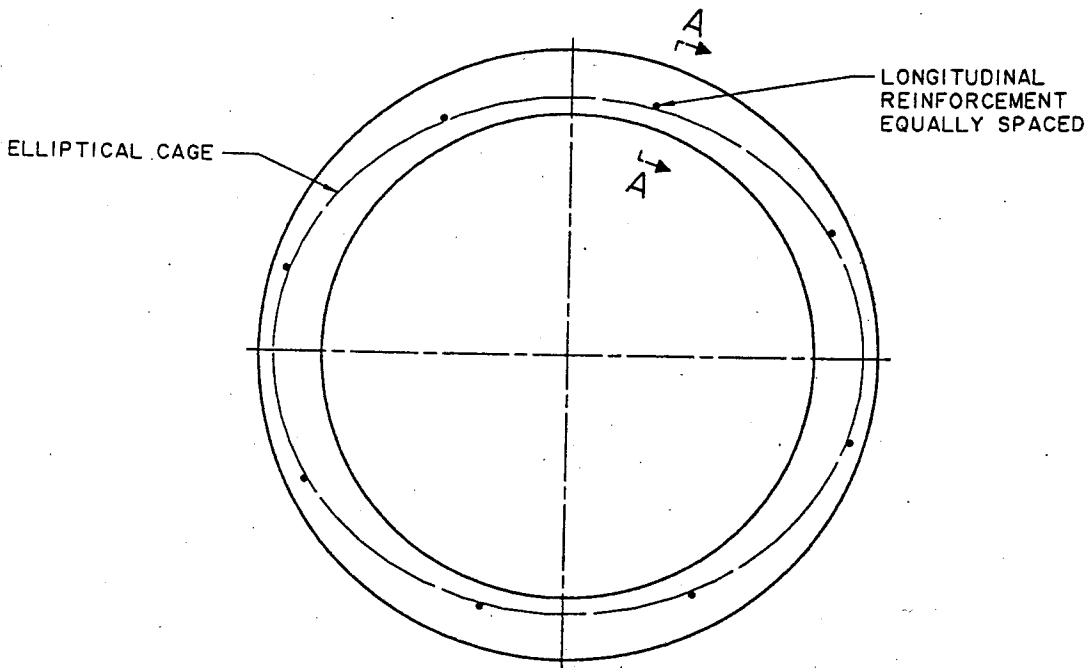
TOUGHNESS (CONSISTENCY NEAR PLASTIC LIMIT)

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.

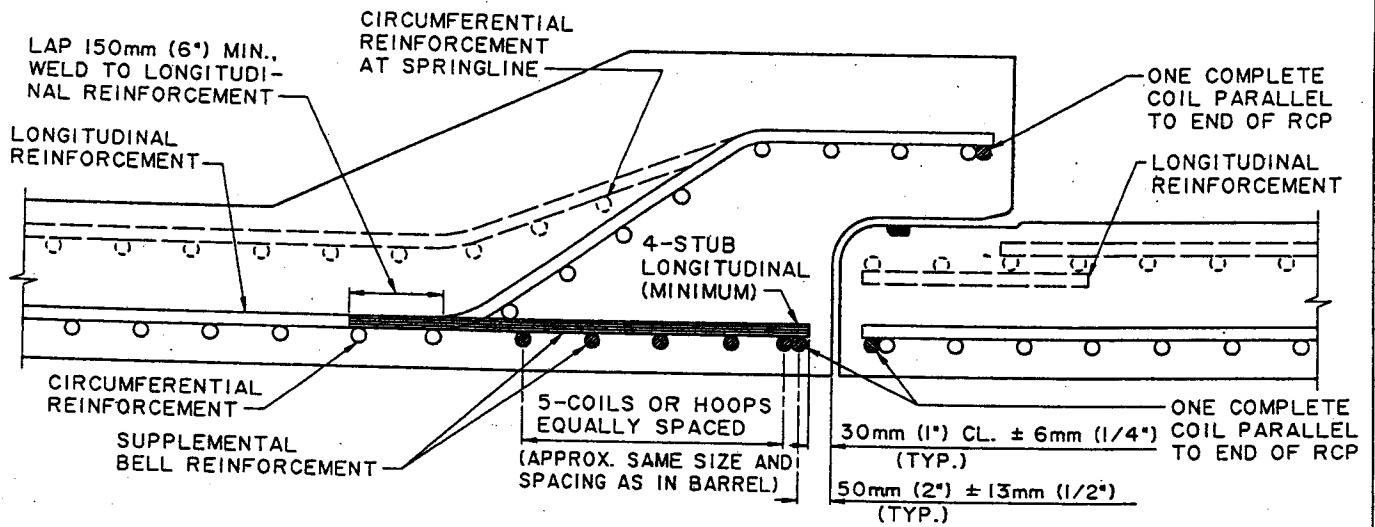
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PLAN
METRIC
3093-1
SHEET 3 OF 3



SECTION THROUGH BARREL



SECTION A-A

LEGEND			
NORMAL CIRCUMFERENTIAL REINFORCEMENT	○		NORMAL LONGITUDINAL REINFORCEMENT
ADDITIONAL CIRCUMFERENTIAL REINFORCEMENT	●		ADDITIONAL LONGITUDINAL REINFORCEMENT

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

ADDITIONAL REINFORCEMENT
FOR BELL END OF RCP

STANDARD PLAN
METRIC

3095-1

APPROVED

Thomas A. Anderson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

SHEET 1 OF 2

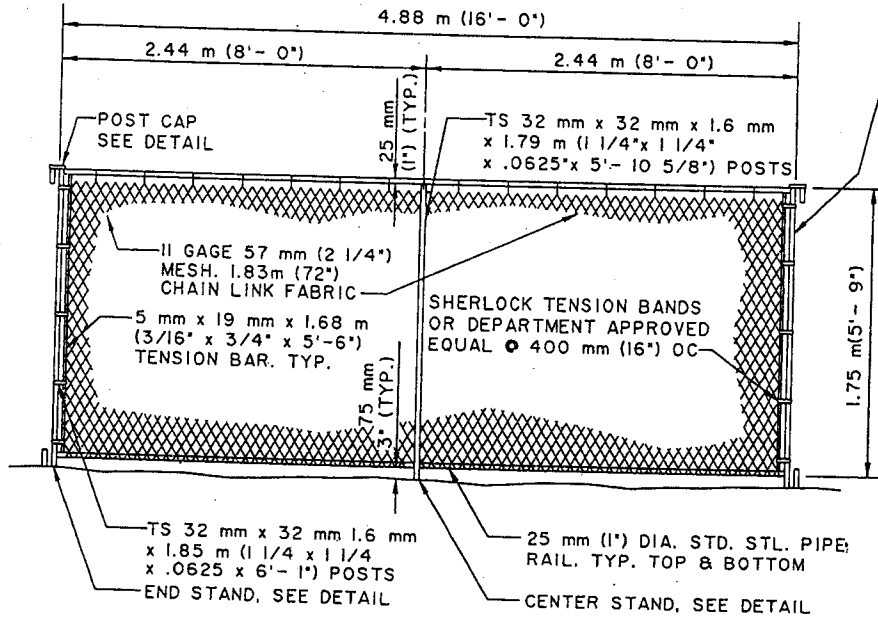
NOTES

1. THIS DETAIL APPLIES WHERE A SINGLE ELLIPTICAL CAGE IS USED. WHERE ONE ELLIPTICAL CAGE AND ONE INNER CIRCULAR CAGE IS USED, THE SIZE AND SPACING OF THE ADDITIONAL CIRCUMFERENTIAL REINFORCEMENT SHALL BE THAT OF THE ELLIPTICAL CAGE. WHERE TWO CIRCULAR CAGES ARE USED THE ADDITIONAL REINFORCEMENT IS NOT REQUIRED.
2. THE ADDITIONAL REINFORCEMENT SHOWN IS NOT REQUIRED, PROVIDED:
 - A. THE NORMAL CIRCUMFERENTIAL REINFORCEMENT WITHOUT CHANGE IN DIAMETER(S) IS CARRIED TO WITHIN APPROXIMATELY 50mm (2") OF THE RCP END AND ONE COMPLETE COIL IS PLACED PARALLEL TO THE END OF THE RCP.
 - B. A MINIMUM OF THREE COILS, INCLUDING ONE COMPLETE COIL PARALLEL TO THE END OF THE RCP, IS PLACED IN THE BELL.
3. 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

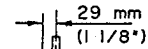
ADDITIONAL REINFORCEMENT
FOR BELL END OF RCP

STANDARD PLAN
METRIC
3095-1
SHEET 2 OF 2



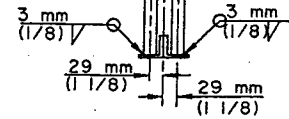
TYPICAL FENCE ELEVATION

TS 32 mm x 32 mm x 1.6 mm
x 1.85 m (1 1/4" x 1 1/4"
x .0625" x 6'-1") POSTS

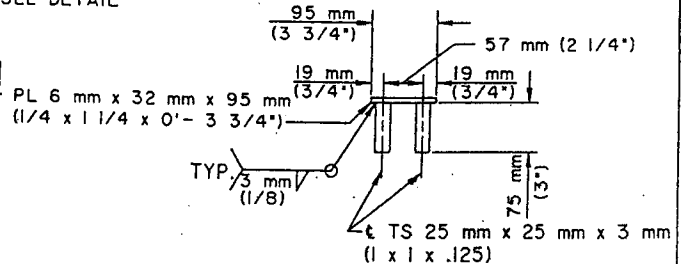


SECTION A-A

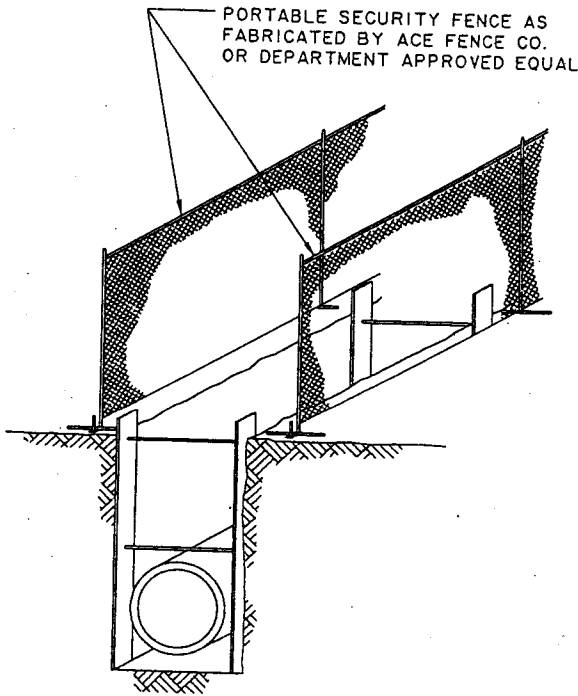
TS 25 mm x 25 mm
x 3 mm (1 x 1 x .125)



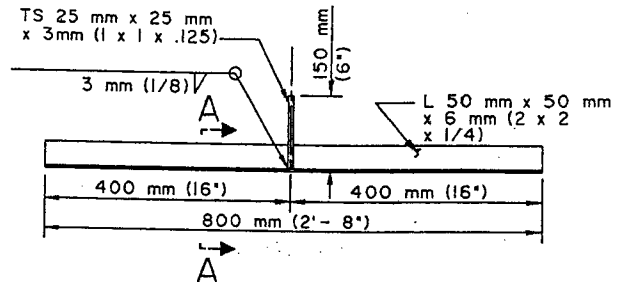
SECTION B-B



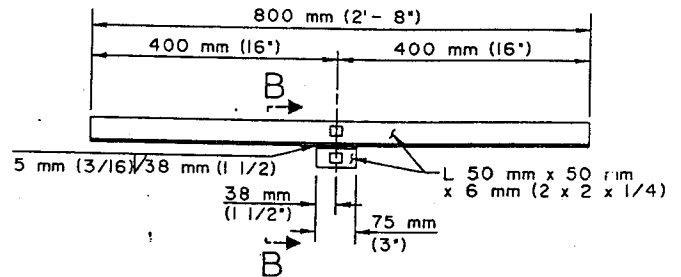
POST CAP DETAIL



TYPICAL FIELD INSTALLATION



CENTER STAND DETAIL



END STAND DETAIL

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PORTABLE SECURITY FENCE
FOR OPEN TRENCHES

STANDARD PLAN
METRIC

APPROVED

Thomas A. Pedersen
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

6002-1

SHEET 1 OF 2

NOTES

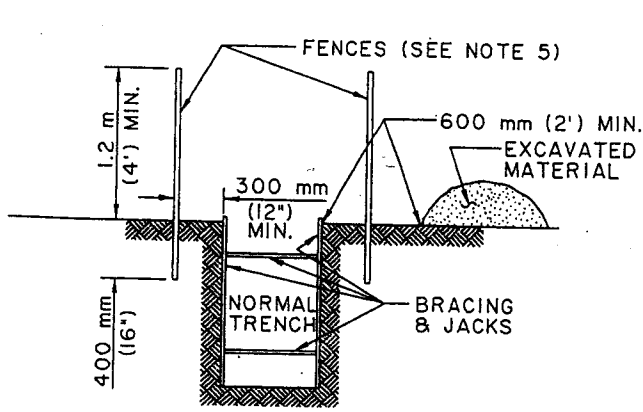
1. ALL CHAIN LINK FENCE MATERIAL SHALL CONFORM TO "STANDARD SPECIFICATIONS" UNLESS OTHERWISE SPECIFIED.
2. FABRIC SHALL BE TIED TO TOP AND BOTTOM RAILS AND CENTER POSTS WITH 3mm(11 GA.) WIRE AT MAX. 375mm (15") INTERVAL.
3. POST RAIL JOINTS SHALL BE WELDED ALL AROUND WITH 3 mm (1/8") FILLET WELD.
4. IN LIEU OF GALVANIZING, POSTS MAY BE PAINTED WITH A ZINC CHROMATE PRIMER COAT AND AN ALL PURPOSE ALUMINUM FINISH COAT.
5. FENCE PANELS SHALL BE HOSED OFF WITH WATER WHEN NECESSARY TO REMOVE ACCUMULATED DIRT SO THAT A CLEAN APPEARANCE IS MAINTAINED AT ALL TIMES.
6. SAND BAGS SHALL BE PLACED ON THE END STANDS TO INCREASE STABILITY WHEN OVERTURNING IS A PROBLEM, AS DETERMINED BY THE ENGINEER.
7. 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

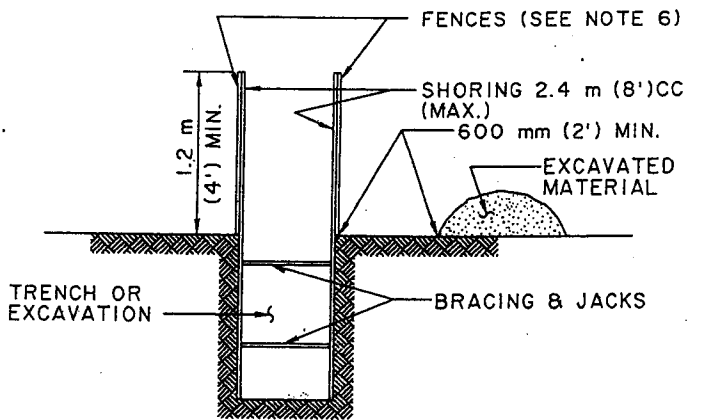
PORTABLE SECURITY FENCE
FOR OPEN TRENCHES

STANDARD PLAN
METRIC
6002-1
SHEET 2 OF 2

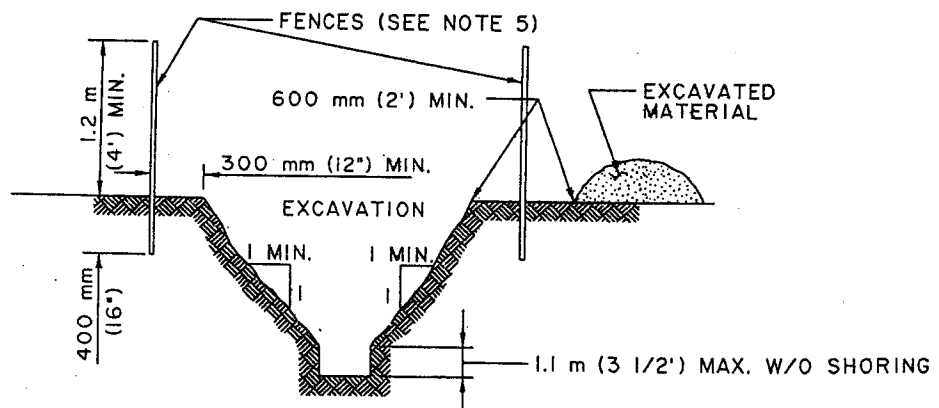
PRIOR TO THE END OF EACH WORKDAY, AND WHENEVER WORKERS ARE NOT WITHIN VISUAL SIGHT OF THE EXCAVATION, THE CONTRACTOR SHALL EITHER BACKFILL THE EXCAVATION OR ERECT AND MAINTAIN FENCES AROUND THE EXCAVATION OR COVER THE EXCAVATION. THE FOLLOWING ARE MINIMUM ACCEPTABLE MEASURES ONLY AND COMPLIANCE WITH THIS STANDARD DOES NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO PROTECT THE PUBLIC BY ALL NECESSARY MEANS.



CASE A

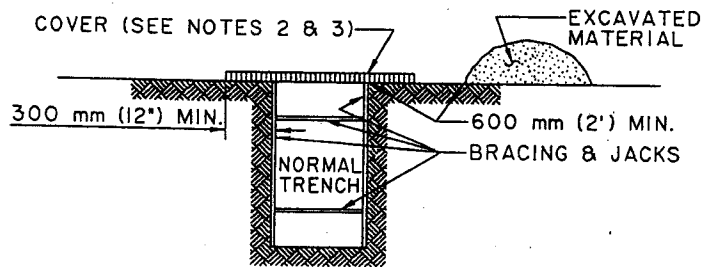


CASE C



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

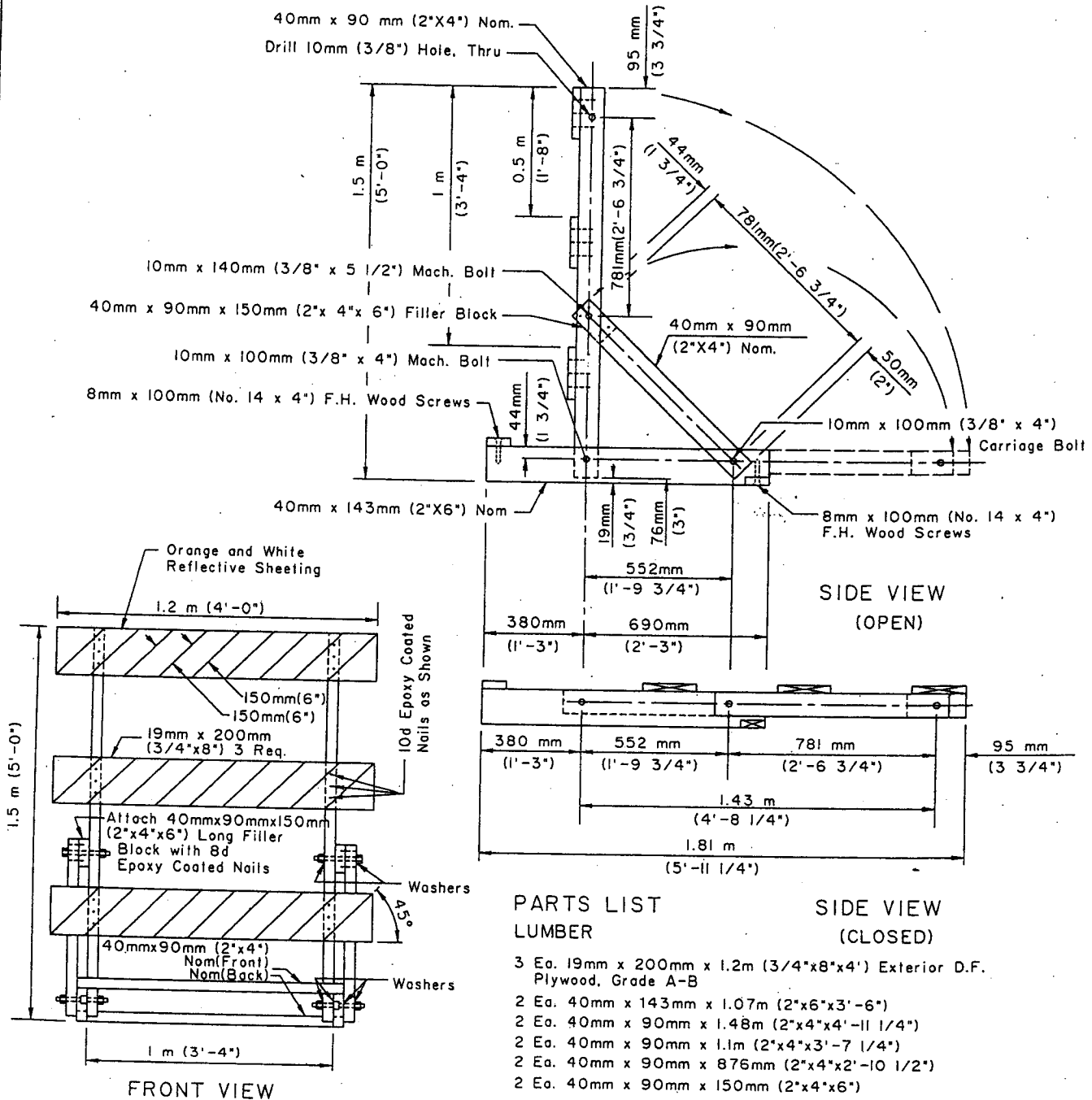
NOTES

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



PARTS LIST

LUMBER

- 3 Ea. 19mm x 200mm x 1.2m (3/4"x8"x4') Exterior D.F. Plywood, Grade A-B
- 2 Ea. 40mm x 143mm x 1.07m (2"x6"x3'-6")
- 2 Ea. 40mm x 90mm x 1.48m (2"x4"x4'-11 1/4")
- 2 Ea. 40mm x 90mm x 1.1m (2"x4"x3'-7 1/4")
- 2 Ea. 40mm x 90mm x 876mm (2"x4"x2'-10 1/2")
- 2 Ea. 40mm x 90mm x 150mm (2"x4"x6")

HARDWARE

- 2 Ea. 10mm x 140mm (3/8"x5 1/2") Hex Head Mach. Bolts.
- 2 Ea. 10mm x 100mm (3/8"x4") Hex Head Mach. Bolts.
- 2 Ea. 10mm x 100mm (3/8"x4") Carriage Bolts.
- 4 Ea. 8mm x 100mm (No. 14 x 4") Flat Head Wood Screws.
- 4 Ea. Washers 13mm (1/2")
- 10 Ea. Washers 10mm (3/8")
- 18 Ea. 10d Epoxy Coated Nails.
- 8 Ea. 8d Epoxy Coated Nails

GENERAL NOTES

1. All Wood Surfaces to be Painted with Approved LA Co. White Paint for Barricade Coating.
2. Use Std. Galvanized Cut Washers with All Bolts.
3. Weight = 46.7kg (103 lbs.) + Hardware.
4. DIMENSIONS SHOWN ON THE PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES.

APPROVED

Thomas A. Anderson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1999

REVISIONS

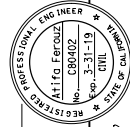
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

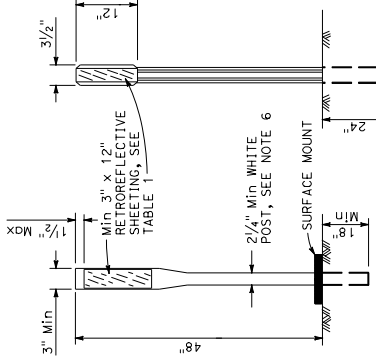
BARRICADE - TYPE III

STANDARD PLAN
METRIC

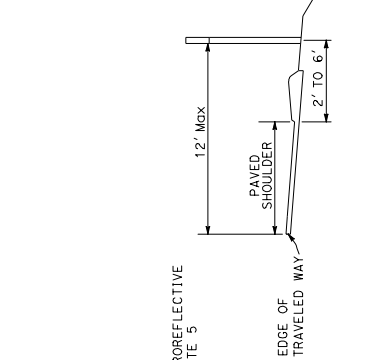
6009-1

SHEET 1 OF 1

DIST. COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
				
REGISTERED CIVIL ENGINEER Atif Farouk MAY 31, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENCIES SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS OR FOR THE ACCURACY OR COMPLETENESS OF THIS PLAN SHEET.				

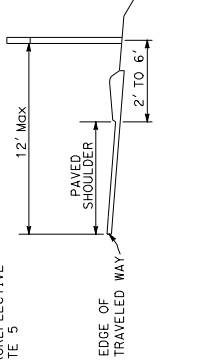


CLASS 1 FLEXIBLE POST DELINEATORS



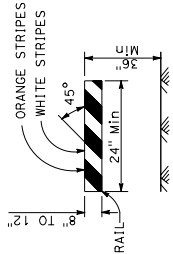
CLASS 2 METAL POST DELINEATORS

DELINEATOR POSITIONING

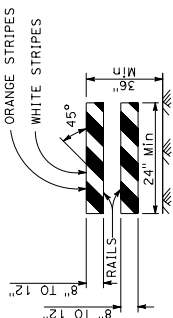


CHANNELIZERS

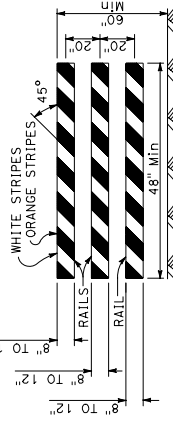
* 36" Min where speeds are 40 miles/h or less.



TYPE I BARRICADE
See Note A



TYPE II BARRICADE



TYPE III BARRICADE

BARRICADES (See Note 3)
Only face of rails shown. Barricade construction materials and supports as specified in the specifications.

BARRICADE	TYPE I	TYPE II	TYPE III
WIDTH OF RAIL	8" Min - 12" Max *	8" Min - 12" Max *	8" Min - 12" Max *
LENGTH OF RAIL	24" Min	24" Min	48" Min
WIDTH OF STRIPES **	6"	6"	6"
HEIGHT	36" Min	36" Min	60" Min
NUMBER OF RETROREFLECTIVE RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTION

* For the wooden option dimensions are nominal lumber dimensions.
** For rails less than 36" long, 4" wide stripes shall be used.

NOTE A:

Barricades to have a minimum of 270 square inches of retroreflective area facing traffic when used on freeways, expressways, and other high speed highways.

TYPE	RETROREFLECTIVE SHEETING	
	FRONT	BACK
E	WHITE	WHITE (SEE NOTE 1)
F	WHITE	NONE
G	YELLOW	NONE
J	RED	NONE

NOTES:

- The retroreflective sheeting used on the back of delineator shall be a minimum size of 3" x 3".
- The type of delineator to be installed will be designated on the plans.
- All barricade stripes shall be retroreflective and sloped downward in the direction of the opened traffic lane.
- See Standard Plan A73B for Metal Post Details.
- Unless shown otherwise on the plans, or as directed by the Engineer, the color of the retroreflective sheeting for permanent delineators shall be white. The color of the pavement markings it supplements.
- Except, Class 1 (Flexible Post) temporary delineators and temporary channelizers in work zones shall be orange post with white retroreflective sheeting.

DELINEATORS, CHANNELIZERS AND BARRICADES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

A73C

DIST	COUNTY	ROUTE	POST MILES	SHEET TOTALS
			TOTAL PROJECT	NO. SHEETS

MAY 20, 2011
 REGISTERED CIVIL ENGINEER
 Michael J. Jarama
 No. 41789
 Exp. 03-31-12
 CIVIL
 STATE OF CALIFORNIA
 BOARD OF CIVIL ENGINEERS

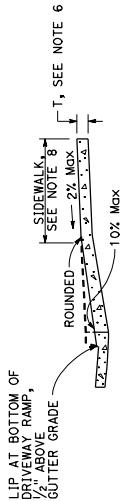
THIS STATE OF CALIFORNIA SEAL IS VALID ONLY FOR THE DATE AND SIGNATURE OF THE REGISTERED PROFESSIONAL ENGINEER. ANY REISSUE SHALL NOT BE RESPONSIBLE FOR THE ORIGINAL SEAL OR THE ORIGINAL PLAN SHEET.

CURB QUANTITIES

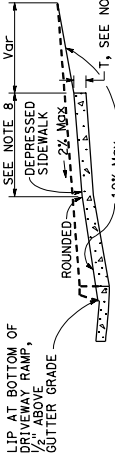
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

CURB TYPE	"H1"	"H2"	"W1"	"W2"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-6"	2"	2"
A3-6	6"	5"	7 1/4"	1 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"	4"
B2-4	1'-0"	4"	2'-7 1/2"	2 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"	4"
B3-4	4"	3"	7"	2"	2"
B3-6	6"	5"	8 1/2"	3 1/2"	3 1/2"
D-4	1'-0"	4"	1'-6"	1'-1"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"	1'-9"



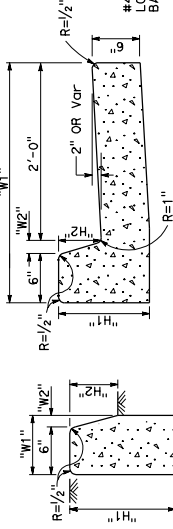
CASE A
Typical driveway, sidewalk not depressed



CASE B
Driveway with depressed sidewalk

SECTIONS

DRIVEWAYS

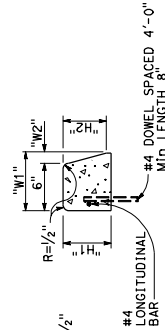


ELEVATION

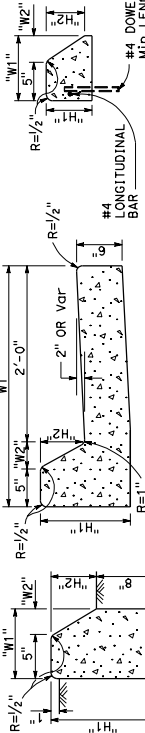
TYPE A1 CURBS
See Table A

TYPE A2 CURBS
See Table A

TYPE A3 CURBS
Super-imposed on existing pavement
See Table A



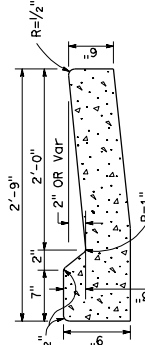
TYPE D CURBS
See Table A



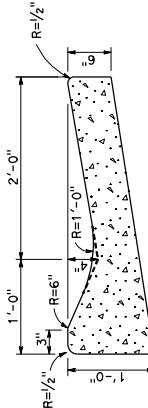
TYPE B1 CURBS
See Table A

TYPE B2 CURBS
See Table A

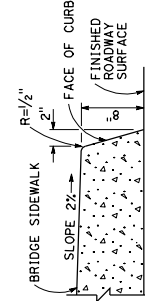
TYPE B3 CURBS
Super-imposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE E CURB



TYPE H CURB
On Bridges

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and the point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

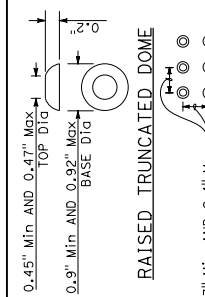
CURBS AND DRIVEWAYS

NO SCALE

A87A

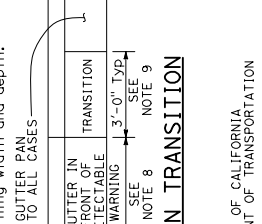
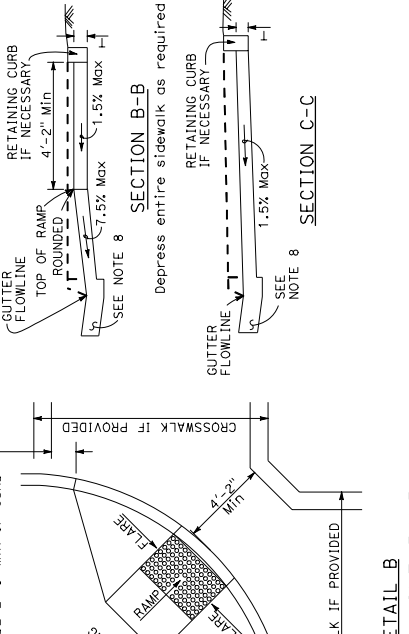
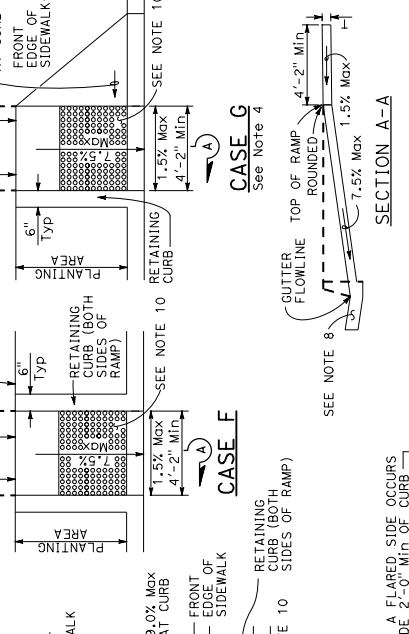
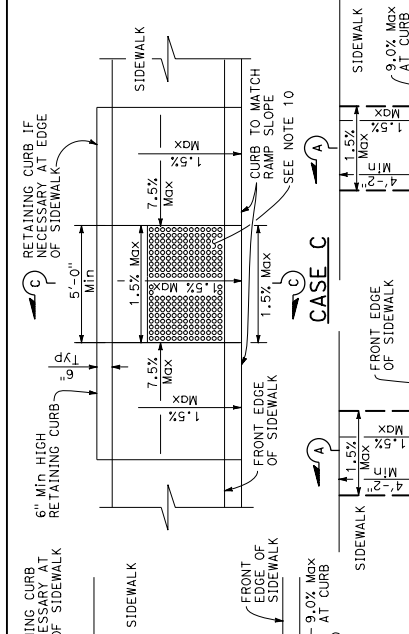
Dist	COUNTY	ROUTE	POST MILES	TOTAL SHEETS

REGISTERED CIVIL ENGINEER
 MAY 31, 2018
 PLANS APPROVAL DATE
 PROJECT NO. CS415
 PROJECT DESCRIPTION: DEPRESSIBLE GUTTER
 DRAWING NO. 12-31-19
 SHEET NO. 1 OF 1



DETECTABLE DOME PATTERN (IN-LINE)

NOTES:
 1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A ramp may be used in Case B situations where the curb is located on the left side of the ramp. Case B curb ramps may be used in Case A situations where the curb is located on the right side of the ramp. Cases C and D are for configurations that conform to existing sidewalk, see Project Plans.
 2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B or C or may be widened as in Case D.
 3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
 4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
 5. The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
 6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
 7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
 8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
 9. Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
 10. The detectable warning surface will be a rectangle as shown at back of curb, in the case of Case A, B, and C, and will extend the full width and 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
 11. Sidewalk and ramp thickness, "T", shall be 3/4" minimum.
 12. Utility pull boxes, manholes, vaults, and all other utility facilities within the boundaries of the curb ramp shall be relocated and raised to grade by the owner prior to, or in conjunction with, curb ramp construction.
 13. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
 NO SCALE
A 88A

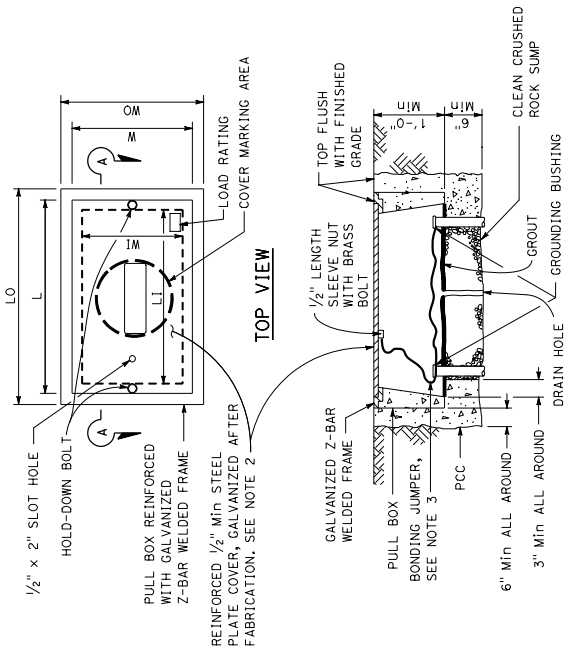
DIST	COUNTY	ROUTE	POST MILE	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER	REGISTERED PROFESSIONAL ENGINEER
<i>H.R.F.</i>	<i>H.R.F.</i>
PLANS APPROVAL DATE	PLANS APPROVAL DATE
JULY 21, 2017	JULY 21, 2017
THE STATE OF CALIFORNIA OR ITS OFFICERS	THE STATE OF CALIFORNIA OR ITS OFFICERS
FOR THE MAINTENANCE OF THE PUBLIC SAFETY	FOR THE MAINTENANCE OF THE PUBLIC SAFETY
AND THE INTEGRITY OF THE ELECTRICAL	AND THE INTEGRITY OF THE ELECTRICAL
INDUSTRY OR THE SAFETY OF MAN	INDUSTRY OR THE SAFETY OF MAN
AND THE SAFETY OF THE STATE	AND THE SAFETY OF THE STATE

TO ACCOMPANY PLANS DATED _____

NOTES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Bonding jumper for metal covers shall be 3' long, minimum.
4. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
5. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".



SECTION A-A
No. 3 1/2(T), No. 5(T) AND
No. 6(T) TRAFFIC PULL BOX

DIMENSION TABLE

PULL BOX	PULL BOX					COVER		
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	LO	LI	MO	WI	L **	W **
No. 3 1/2(T)	1 1/2"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6 1/2"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" - 1'-8 1/2"	1'-1" - 1'-2"
No. 5(T)	1 3/4"	1'-0"	2'-0" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3 1/2"	1'-4" - 1'-4 1/2"
No. 6(T)	2"	1'-0"	2'-11" - 3'-1"	2'-6" - 2'-7"	1'-10" - 2'-0"	1'-5" - 1'-6"	2'-9" - 2'-9 1/2"	1'-8" - 1'-8 1/2"

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(TRAFFIC PULL BOX)**
NO SCALE

RSP ES-8B DATED JULY 21, 2017 SUPERSEDES RSP ES-8B DATED APRIL 15, 2016 AND STANDARD PLAN ES-8B DATED OCTOBER 30, 2015 - PAGE 474 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-8B

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. SWQ000005 CP-69813

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:

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10/03/22

Date

Reviewed By:

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10/03/22

Date

TABLE OF CONTENTS

PART 6 - TEMPORARY TRAFFIC CONTROL

SECTION 600 - ACCESS

600-1 GENERAL TC-1
600-2 VEHICULAR ACCESS..... TC-1

**SECTION 601 - TEMPORARY TRAFFIC CONTROL FOR
MAINTENANCE AND WORK ZONES**

601-1 GENERAL TC-2
601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES TC-2
601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS
..... TC-4
601-9 STREET CLOSURES AND DETOURS..... TC-5
601-10 PAYMENT TC-6

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:

Vehicular access to properties within the vicinity of the Work, for the purpose of waste collection, shall be maintained for the duration of the Project. Any temporary changes in the frequency of collection or the collection day(s), requested by the Contractor for their operations, must be agreed upon by the service provider and approved by the Engineer. Once approved, the Contractor shall notify all affected properties at least 14 Days in advance of the change in the waste collection schedule. A second notice shall be posted 1 Day prior to the change in the waste collection schedule. Waste collection map(s), including service provider contact information, will be provided to the Contractor after award of the Contract.

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:

<https://dot.ca.gov/programs/safety-programs/sign-specs>

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.

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.

The roadway shall be cold milled and/or paved to full width at the end of each day.

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, <https://dot.ca.gov/programs/safety-programs/sign-specs>, 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."

601-3.7 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 the 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.

601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS.

601-4.1 General. (Page 530 of the SSPWC)

Add the following:

Temporary striping and pavement markings shall be defined as those installed for temporary or long term traffic control.

Striped roadways shall be delineated with temporary raised reflective markers when left without striping overnight.

601-4.3 Removal. (Page 531 of the SSPWC)

Add the following:

Temporary striping and pavement markings shall be removed by wet sandblasting.

601-4.5 Payment. (Page 531 of the SSPWC)

Add the following:

No separate or additional payment will be made for the removal of temporary traffic striping and pavement markings. Payment shall be considered as included in the lump sum Bid price for, "TRAFFIC CONTROL."

601-8 NOT USED.

601-9 STREET CLOSURES AND DETOURS. The Contractor shall comply with all applicable State, County and City requirements for the closure of streets. The Contractor shall provide flag persons and watch persons as required to control traffic and advise the public of detours and construction hazards. The Contractor shall also be responsible for compliance with additional public safety requirements which may arise during construction.

At least 48 hours in advance of closing, or partially closing, or reopening, any street, alley, or other public thoroughfare, the Contractor shall notify the Police, Fire, traffic and engineering departments of jurisdictional agencies involved, and comply with their requirements. Proposed deviations from this procedure must first be approved in writing by the Engineer.

The Contractor shall submit in accordance with 3-8 of Section G its proposed schedules for street and lane closures, and its proposed methods for traffic control to comply with the requirements specified in 601-3.1 and 601-3.2. Key traffic control schedule activities and milestones shall be included in the Contractor's construction schedule as specified in 6-1 of Section G. This submittal shall be made sufficiently in advance of any rerouting or diversion of traffic by the Contractor to allow for review and approval of the proposed traffic control by the Agency. Street closure schedules must be submitted 20 Days prior to closing any street.

Where streets in which storm drain, waterline, or sewer line conduit is being constructed are to be closed to through traffic, it shall be understood that such closures shall apply only to the portions of such streets where construction is actually in progress. Unless otherwise specified, the Contractor shall provide access for local vehicular and pedestrian traffic on streets closed to through traffic.

Any street or alley, which intersects the street in which mainline conduit construction work is being done and for which traffic requirements are not otherwise specified, may be closed at its intersection with the Work provided that two adjacent streets are not closed simultaneously. However, where the street in which mainline conduit construction work is being done is the only access to a cul de sac or dead-end street or alley, vehicular access thereto shall be maintained at all times.

Where access to the Work sites involves passage through locked gates, the Contractor shall furnish its own locks in order to provide passage through the gates while maintaining security.

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 temporary raised reflective markers;
- c) removal and disposal of damaged barricades, including those furnished by the Agency; and
- d) 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. SWQ0000005 (CP-69813)

SPECIAL PROVISIONS

SECTION E - ELECTRICAL

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 that parallels the Standard Specifications.

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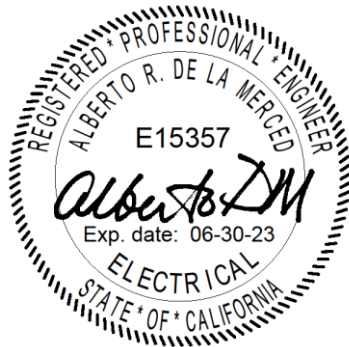


TABLE OF CONTENTS

SECTION E-1 BASIC ELECTRICAL METHODS AND REQUIREMENTS.....	1
E-1.1 GENERAL	1
E-1.1.1 DESCRIPTION	1
E-1.1.2 SUBMITTALS	2
E-1.2 PRODUCTS	3
E-1.2.1 TEST STANDARDS	3
E-1.2.3 QUALIFICATIONS.....	4
E-1.2.4 MANUFACTURED PRODUCTS	4
E-1.2.5 EQUIPMENT REQUIREMENTS	4
E-1.2.6 EQUIPMENT PROTECTION	4
E-1.2.7 DRAWINGS AND INTENTION.....	5
E-1.2.8 POWER SERVICE ENTRANCE	5
E-1.2.9 TEMPORARY ELECTRICAL POWER.....	5
E-1.3 EXECUTION.....	5
E-1.3.1 WORK PERFORMANCE	5
E-1.3.2 STRUCTURAL PENETRATION CONTROL	6
E-1.3.3 STRUCTURAL STRUT SUPPORT CHANNEL	6
E-1.3.4 STRUCTURAL ANCHORS	6
E-1.3.5 EQUIPMENT INSTALLATION AND REQUIREMENTS.....	7
E-1.3.6 EQUIPMENT IDENTIFICATION	7
E-1.3.7 RECORD DRAWINGS	7
E-1.3.8 TRAINING	7
E-1.3.9 POWER SERVICE ENTRANCE	8
E-1.4 PAYMENT.....	8
SECTION E-2 CABLES, LOW VOLTAGE (600 VOLTS AND BELOW)	9
E-2.1 GENERAL	9
E-2.1.1 DESCRIPTION	9
E-2.1.2 SUBMITTALS	9
E-2.2 PRODUCTS	10
E-2.2.1 CABLE AND WIRE (POWER AND LIGHTING).....	10
E-2.2.2 SPLICES AND JOINTS.....	10
E-2.2.3 CONTROL WIRING.....	11
E-2.2.4 COMMUNICATION AND SIGNAL WIRING	11
E-2.2.5 GROUNDING AND BONDING CONDUCTORS.....	12
E-2.2.6 WIRE MARKERS	12
E-2.3 EXECUTION.....	12

TABLE OF CONTENTS

E-2.3.1 MATERIALS DELIVERY	12
E-2.3.2 INSTALLATION	12
E-2.3.3 SPLICE INSTALLATION	13
E-2.3.4 FEEDER IDENTIFICATION	13
E-2.3.5 FIELD TESTING	13
E-2.4 PAYMENT	14
SECTION E-3 CONDUIT SYSTEMS, BOXES AND WIRING DEVICES	15
E-3.1 GENERAL	15
E-3.1.1 DESCRIPTION	15
E-3.1.2 SUBMITTALS	15
E-3.2 PRODUCTS	15
E-3.2.1 CONDUIT	15
E-3.2.2 CONDUIT FITTINGS	16
E-3.2.3 ENCLOSURES, BOXES, AND WIRING DEVICES	17
E-3.3 EXECUTION	19
E-3.3.1 PENETRATIONS	19
E-3.3.2 INSTALLATION	19
E-3.3.3 EXPOSED WORK INSTALLATION	20
E-3.3.4 BURIAL INSTALLATION	20
E-3.3.5 CONDUIT TERMINATIONS	21
E-3.3.6 MOTORS, TRANSFORMERS, AND VIBRATING EQUIPMENT	21
E-3.3.7 EXPANSION JOINTS	21
E-3.3.8 CONDUIT SUPPORTS AND INSTALLATION	21
E-3.3.9 BOX INSTALLATION	22
E-3.4 PAYMENT	23
SECTION E-4 GROUNDING	24
E-4.1 GENERAL	24
E-4.1.1 DESCRIPTION	24
E-4.1.2 SUBMITTALS	24
E-4.2 PRODUCTS	24
E-4.2.1 GROUNDING WIRES	24
E-4.2.2 GROUND RODS	24
E-4.3 EXECUTION	24
E-4.3.1 INSTALLATION	24
E-4.3.2 SECONDARY EQUIPMENT AND CIRCUITS	25
E-4.3.3 GROUND RESISTANCE	26

TABLE OF CONTENTS

E-4.3.4 GROUND ROD INSTALLATION	26
E-4.4 PAYMENT	27
SECTION E-5 TESTING, DEMONSTRATION AND TRAINING	28
E-5.1 TESTING, DEMONSTRATION, AND TRAINING	28
E-5.1.1 BASIC REQUIREMENTS.....	28
E-5.1.2 DEFINITION	28
E-5.1.3 QUALITY ASSURANCE.....	29
E-5.1.4 SUBMITTALS – FOR APPROVAL BY THE AGENCY	29
E-5.1.5 REQUIRED EQUIPMENT	29
E-5.2 EXECUTION.....	30
E-5.2.1 PREPARATION FOR FINAL TESTS, DEMONSTRATION, AND TRAINING	30
E-5.2.2 FINAL TESTS AND DEMONSTRATION	30
E-5.2.3 TRAINING AND DEMONSTRATION.....	30
E-5.3 PAYMENT	31
SECTION E-6 POWER SERVICE PEDESTAL	32
E-6.1 GENERAL	32
E-6.1.1 DESCRIPTION.....	32
E-6.1.2 RELATED WORK.....	32
E-6.1.2 SUBMITTALS	32
E-6.2 PRODUCTS	33
E-6.2.1 BASIC REQUIREMENTS.....	33
E-6.2.2 UTILITY METERING COMPARTMENTS	34
E-6.2.3 MAIN DISCONNECT DEVICES AND CIRCUIT BREAKERS.....	34
E-6.2.4 TESTING	34
E-6.2.5 CIRCUIT BREAKER TESTING.....	34
E-6.3 EXECUTION.....	35
E-6.4 PAYMENT	35
SECTION E-7 SHORT CIRCUIT/COORDINATION & ARC-FLASH STUDY	36
E-7.1 GENERAL	36
E-7.1.1 SCOPE	36
E-7.1.2 REFERENCES	36
E-7.1.3 SUBMITTALS	37
E-7.1.4 QUALIFICATIONS.....	37
E-7.2 PRODUCTS	38
E-7.2.1 STUDIES	38
E-7.2.2 EQUIPMENT LABELS	38

TABLE OF CONTENTS

E-7.3 EXECUTION.....	38
E-7.3.1 FIELD ADJUSTMENT	38
E-7.3.2 ARC-FLASH WARNING LABELS	38
E-7.3.3 ARC-FLASH TRAINING	39
E-7.4 PAYMENT	39
SECTION E-8 TELEMETRY	40
E-8.1 GENERAL	40
E-8.1.1 DESCRIPTION	40
E-8.1.2 CONTROL CABINET	40
E-8.1.3 SUBMITTALS	41
E-8.2 PRODUCTS	41
E-8.2.1 EQUIPMENT AND MATERIALS	41
E-8.3 EXECUTION.....	43
E-8.3.1 INSTALLATION.....	43
E-8.4 PAYMENT	44
E-9 CONTROL PANELS AND APPURTENANCES.....	45
E-9.1 GENERAL	45
E-9.1.1 DESCRIPTION	45
E-9.1.2 OVERVIEW	46
E-9.1.3 SUBMITTALS	46
E-9.2 PRODUCTS	49
E-9.2.1 GENERAL CONTROL PANEL FABRICATION REQUIREMENTS	49
E-9.2.2 HMI/CENTRAL CONTROLLER	50
E-9.2.3 PLC.....	52
E-9.3 EXECUTION.....	54
E-9.3.1 INSTALLATION.....	54
E-9.3.2 TESTING	55
E-9.3.3 TRAINING	57
E-9.3.4 SPARE PARTS	57
E-9.4 PAYMENT	58
SECTION E-10 LIGHTING.....	59
E-10.1 GENERAL	59
E-10.1.1 DESCRIPTION	59
E-10.1.2 DEFINITION	59
E-10.1.3 RELATED WORK.....	59
E-10.1.4 SUBMITTALS	59

TABLE OF CONTENTS

E-10.1.4 QUALITY ASSURANCE	60
E-10.2 PRODUCTS	60
E-10.2.1 DESCRIPTION	60
E-10.2.2 MANUFACTURERS	60
E-10.2.3 LUMINAIRES, GENERAL REQUIREMENTS	60
E-10.3 EXECUTION.....	61
E-10.3.1 INSTALLATIONS.....	61
E-10.3.2 GROUNDING	61
E-10.3.3 ADJUSTING AND CLEANING	61
E-10.3.4 FIELD QUALITY CONTROL	61
E-10.4 PAYMENT	61

SECTION 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, cables, control cabinets, motor control, and other items are shown on the Plans.
- B. Ampacities specified or shown on the Plans are based upon copper conductors, with the conduits and raceways accordingly sized. Aluminum conductors are prohibited.
- C. Electrical service entrance and equipment shall conform to power company's requirements and with the California Electrical Code (CEC). Power Company refers to Southern California Edison (SCE) service planner as shown on the Plans.
- D. Electrical apparatus on all equipment shall be installed complete and placed in readiness for proper operation.
- E. Unless otherwise specified in these Specifications or Plans, conduit shall be full weight rigid galvanized steel.
- F. Maintain a legible set of Electrical Plans and Specifications and approved submittals at the Work Site.
- G. The work of this section includes, but is not limited to, furnishing and installing the major items and all work incidental thereto:
 - 1. SECTION E-2 CABLES, LOW VOLTAGE (600 VOLTS AND BELOW)
 - 2. SECTION E-3 CONDUIT SYSTEMS, BOXES AND WIRING DEVICES
 - 3. SECTION E-4 GROUNDING
 - 4. SECTION E-5 TESTING, DEMONSTRATION AND TRAINING
 - 5. SECTION E-6 POWERSERVICE PEDESTAL
 - 6. SECTION E-7 SHORT CIRCUIT/COORDINATION & ARC-FLASH STUDY
 - 7. SECTION E-8 TELEMETRY
 - 8. SECTION E-9 CONTROL PANELS AND APPURTENANCES
- H. 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, at the time the construction Contract is awarded.

- I. 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:
 - 1. ANSI - American National Standards Institute.
 - 2. ASTM - American Society for Testing and Materials.
 - 3. Fed Spec - Federal Specification.
 - 4. ICEA - Insulated Cable Engineers Association.
 - 5. IEEE - Institute of Electrical and Electronics Engineers.
 - 6. IES - Illuminating Engineering Society.
 - 7. NEMA - National Electrical Manufacturers Association.
 - 8. NFPA - National Fire Protection Association.
 - 9. UL - Underwriters' Laboratories.
- J. 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.
- K. Nothing in these Specifications shall be construed to permit work not conforming to the most stringent of applicable codes.
- L. 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 that 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 that does not have a design penetration, Contractor shall lay out 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 existing structure, and the size of the penetration. Contractor shall 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. Prior to finalizing and pouring equipment pad for Service Entrance Switchboard and other items requiring housekeeping pads (equipment pads), submit detailed dimensions of

equipment and slab for approval by the Agency. Submittal shall also show location of conduit entry. The Agency shall in no way be responsible for discrepancies in dimensions between construction documents and manufacturer's actual equipment sizes. Where equipment pads are poured and are incorrectly sized for the equipment, the Contractor shall remove and replace the pad, pouring new pads (unless otherwise approved by the Agency). All repair cost or cost for demo of pad and re-pour shall be borne solely by the Contractor.

D. 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. Submittals shall also be sent as digital files in Acrobat PDF file format.

E-1.2 PRODUCTS

E-1.2.1 TEST STANDARDS

- A. Equipment covered by this section shall be listed by UL, or by a nationally recognized third party testing laboratory (CSA Group, Intertek). All costs associated with obtaining the listing shall be the responsibility of the Contractor. If no third-party 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-1.2.3 QUALIFICATIONS

- A. All electrical work shall be performed by electricians that hold a valid C-10 state of California license.

E-1.2.4 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, switchboards 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-1.2.5 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, wires, feeders, controls, component and equipment sizes, phasing adjustments, and installation methods.

E-1.2.6 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 the Contractor 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. Enclosures, equipment, controls, controllers, conduit, circuit protective devices, and other items required as a part of this Contract, shall be protected during installation 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 priority 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 to the satisfaction of the Engineer or the equipment replaced at no cost to the Agency.

E-1.2.7 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 shall apply such as largest size, greatest quantity, lowest tolerance, and most durable equipment or device shall apply.

E-1.2.8 POWER SERVICE ENTRANCE

- A. New electrical service(s) will be applied and paid for by the Agency prior to the starting of the project.
- B. The Contractor shall coordinate all electrical installation & connection work with SCE service planner. Field verify locations of the new electrical meter service switchboard(s) or pedestal(s).
- C. The Contractor shall notify the utility company as to when services are required.

E-1.2.9 TEMPORARY ELECTRICAL POWER

- A. The project will require a new electrical service(s) from SCE and temporary power is not required.

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 each utility's 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.
- D. To the fullest extent possible, ensure that conduit sleeves, conduits, boxes 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. Contractor shall compensate the Agency for damages resulting from conduit and equipment not being cast in place. Cost for any additional work shall be borne by the Contractor.

E-1.3.2 STRUCTURAL PENETRATION CONTROL

- A. To the fullest extent possible, ensure that conduit sleeves, conduits, boxes, and other components 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 with boxes 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 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 shall be part of a strut channel system. Requirements for channel shall also include all fittings.
- B. Channel shall be 1-5/8" 12 GA Hot Dipped Galvanized ASTM A123, 2.6 MIL zinc coating.
- C. Strut Channel System nuts, bolts and springs shall be Type 304 stainless steel.
- D. Structural strut system shall be manufactured by one of the following:
 - 1. Unistrut
 - 2. Power Strut
 - 3. B-Line P1000
 - 4. Agency-approved equal.

E-1.3.4 STRUCTURAL ANCHORS

- A. Mounting bolts and anchors shall be Type 304 stainless steel 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.

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, to what is 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 conductor splices, and other equipment, piping, and ductwork.

E-1.3.6 EQUIPMENT IDENTIFICATION

- A. In addition to the requirements of the CEC, Contractor shall install an identification sign/label that 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 switchgear and motor control assemblies, control devices, and other significant equipment.
- B. All cabinets and safety switches shall have nameplates of laminated black phenolic resin with a white core and engraved lettering that is 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 Plans. All changes to the Plans shall be clearly recorded on this set of prints. Upon substantial completion 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-1.3.9 POWER SERVICE ENTRANCE

- A. The Contractor shall consult with the local utility company (SCE) regarding their service installation requirements, and shall furnish any and all service equipment in compliance with these requirements. Power service equipment shall include but not limited to cables. Conduit, grounding materials, and service entrance fittings required by the utility and for compliance with codes and regulations.

E-1.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on the Plans and required in these Special Provisions, shall be included in the lump sum Bid price for "ELECTRICAL WORK".

SECTION 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:
 - 1. ANSI- American National Standards Institute.
 - 2. ASTM - American Society for Testing and Materials.
 - 3. Fed Spec - Federal Specification.
 - 4. ICEA- Insulated Cable Engineers Association.
 - 5. IEEE- Institute of Electrical and Electronics Engineers.
 - 6. IES- Illuminating Engineering Society.
 - 7. NEMA - National Electrical Manufacturers Association.
 - 8. NFPA - National Fire Protection Association.
 - 9. UL - Underwriters' Laboratories.
- C. Equipment covered by this section shall be listed by UL, or by a nationally recognized third-party testing laboratory. All costs associated with obtaining the listing shall be the responsibility of the Contractor. If no third-party 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:
 - 1. Manufacturer's Literature and Data: Showing each cable type and rating.
 - 2. The Contractor shall deliver to the Agency six 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 AWG and larger. Solid for sizes No. 10 AWG and smaller.
- 3. Minimum size No. 12 AWG, except where smaller is indicated for controls.

B. Insulation:

- 1. Dual rated THHN and THWN-2, per U.L. standards. Insulation 600 volt.

C. Color code:

- 1. Secondary service, feeder, and branch circuit conductors, shall be color coded as follows:

208/120 Volt	Phase	480/277 Volt
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. For phase conductors No. 6 and larger:
 - 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 AWG 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 600 VAC, 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. Size power and lighting control wiring as specified on the plans. The minimum size shall be not less than No. 14 AWG.
- 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 one of the following:
 - 1. Brady "EZ Code"
 - 2. Panduit "Insta-Code"
 - 3. 3M "Scotch Code"
 - 4. Agency-approved equal.

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:
- B. Underwriters' labels.
- C. Kind, Size, and insulation.
- D. Name of manufacturing company and trade name.
- E. 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. Tie the cables in individual circuits for panelboards, cabinets, wireways, switches, and

equipment assemblies, neatly form train.

E. Wire Pulling:

1. Provide installation equipment that will prevent the cutting or abrasion of insulation during pulling of cables.
2. Use ropes for pulling feeders made of nonmetallic material.
3. Attach pulling lines for feeders by means of either woven basket grips or pulling eyes attached directly to the conductors.
4. 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 pull box 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 also 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 degree 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

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this Special Provisions, shall be included in the lump sum Bid price for "ELECTRICAL WORK".

SECTION 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 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. All types of conduit to be furnished. The submittal shall include the conduit manufacturer and type, and sufficient data to indicate that the conduit meets 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 has been properly installed.

E-3.2 PRODUCTS

E-3.2.1 CONDUIT

- A. Conduit Size: In accordance with the NEC, but not less than 0.75-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. 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.
 - b. 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.
 - c. 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.
 - d. PVC-coated rigid steel conduit shall be manufactured by one of the following:
 - (a) Ocal
 - (b) Perma-Cote
 - (c) Plasticbond
 - (d) Agency-approved equal.
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 1 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 either 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-degree 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 either ASTM A240 or A276, P1000 or provide equivalent approved channel.
 2. Pipe Straps and Conduit Hangers: Shall be as indicated in SMACNA as approved by the Agency or 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 size 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 weights 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 in order to facilitate the pulling of wires or cables. Exposed boxes shall be 14 GA, provided with removable covers, secured with matching screws. Junction box covers shall be identified with the system that it houses (e.g., Serv. SWBD, MCC Feeder).
2. All surfaces of boxes and covers, inside and out, shall be given a primer coat and one coat 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. Pull boxes shall be pre-cast concrete with bolt-down traffic covers suitable for H-20 vehicle loading, pulling irons and conductor supports and shall comply with utility company requirements. Covers shall have raised engraved lettering reading.

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 one of the following:
 - a. Hubbell
 - b. Arrow-Hart
 - c. Bryant
 - d. Agency-approved equal.
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 V AC. Local switches shall be as manufactured by Hubbell, Arrow-Hart, Bryant, or Agency-approved equal.

D. Wiring Device Plates:

1. Plates shall be supplied for every local switch, receptacle, telephone outlet, 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 0.040" satin-finish Type 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. 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, and obtain the approval of the Engineer 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 Engineer 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:

1. In complete runs before pulling in cables or wires.
2. Flattened, dented, or deformed conduit is not permitted. Remove and replace the damaged conduits with new undamaged material.
3. Assure conduit installation does not encroach into the ceiling height head room, walkways, or doorways.
4. Cut square with a hacksaw, ream, remove burrs, and draw up tight.
5. Conduit system shall be mechanically and electrically continuous.
6. Independently support conduit. Do not use other supports i.e., (suspended ceilings, suspended ceiling supporting members, lighting fixtures, mechanical piping, or

mechanical ducts).

7. Support within three feet of changes of direction, and within three feet of each enclosure to which connected.
8. 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.
9. 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.
10. Flashing of penetrations of the roof membrane at conduit penetrations shall be made watertight.

C. Conduit Bends:

1. Make bends with standard conduit bending machines.
2. Conduit hickey may be used for slight offsets, and for straightening stubbed out conduits and as indicated on the Plans.
3. 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 polyethylene (HDPE), 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 building entrances, at outdoor terminations for equipment, and at bottom of electrical cabinets. U.L. sealing fitting are required. Provide suitable compound 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 liquid tight 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 building structural or architectural elements.

E-3.3.7 EXPANSION JOINTS

- A. Equip conduits three inches and larger, that are rigidly secured to the building structure on opposite sides of a building expansion joint, with expansion and deflection couplings. Install the 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. In lieu of this flexible conduit, expansion and deflection couplings as specified above for three inches and larger conduits are acceptable.
- C. Provide conduits rigidly secured to the building structure on opposite sides of a building 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 AND 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.
 - 2. Existing Construction:
 - a. Steel expansion anchors not less than 1/2 inch bolt size and not less than 3" inch embedment.
 - b. Power set fasteners not less than 1/2 inch diameter with depth of penetration not less than three inches.
 - c. Use vibration and shock resistant anchors and fasteners for attaching to concrete ceilings.
- 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 plugs, 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

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this Special Provisions, shall be included in the lump sum Bid price for "ELECTRICAL WORK".

SECTION 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 for approval:

1. Shop Drawings:

a. 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.

3. 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. Copper clad steel, 0.75-inch diameter by 10 feet long. Connectors shall be U.L. listed ground clamps CEC's Requirements.

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 CEC's 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. Engine mounting frame, 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.

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: Provide grounding bushings for metallic conduits that 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 equipment and all 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

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this Special Provisions, shall be included in the lump sum Bid price for "ELECTRICAL WORK".

SECTION E-5 TESTING, DEMONSTRATION AND TRAINING

E-5.1 TESTING, DEMONSTRATION, AND TRAINING

E-5.1.1 BASIC REQUIREMENTS

- A. Perform as a minimum testing of all systems as indicated in these Plans 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 also 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 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-5.1.2 DEFINITION

- 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 Engineer is required.
- C. Final Tests: Tests, witnessed by the Engineer, 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-5.1.3 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 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-5.1.4 SUBMITTALS – FOR APPROVAL BY THE AGENCY

- A. All submittals shall be made per Subsection 3-8 of Section G.
 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 test, 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 titles 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-5.1.5 REQUIRED EQUIPMENT

- A. Contractor shall furnish all required testing, demonstration and training equipment necessary. As a minimum, Contractor shall furnish the following equipment:
 1. Ground Impedance Tester

2. Digital Volt-Ohm Meter – True RMS
 3. Digital Clamp On Amp Meter – True RMS
 4. Phase Detection Meter
 5. Meg-Ohm meter (insulation tests), major electrical equipment tests.
 6. Vibration meter(s). Vibration meter(s) shall be per manufacturer’s recommendation.
 7. Other 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-5.2 EXECUTION

E-5.2.1 PREPARATION FOR FINAL TESTS, DEMONSTRATION, 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-5.2.2 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-5.2.3 TRAINING AND DEMONSTRATION

- A. Demonstrate operation and maintenance of equipment and systems and perform training to Agency personnel no more than four weeks prior to scheduled Agency activation and operation of the pumping plant.
- 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-5.3 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this Special Provisions, shall be included in the lump sum price in the Bid for "ELECTRICAL WORK".

SECTION E-6 POWER SERVICE PEDESTAL

E-6.1 GENERAL

E-6.1.1 DESCRIPTION

- A. This section specifies the furnishing, installation, and connection of the service equipment.
- B. Furnish and install the service equipment as herein specified and shown on the electrical Plans. The service equipment shall meet Underwriters' Laboratories requirements and shall be furnished with an Underwriters' Laboratories service entrance label.
- C. Design Tests: Design tests shall have been performed on a type or style of service equipment similar to that being furnished for this project. Tests shall be in accordance with NEMA PB 2 and UL 891.
- D. Production Tests: Dielectric, mechanical operation, grounding of instrument transformer cases, electrical operation and control wiring, and ground fault sensing equipment tests shall be performed on the service equipment provided for this project. Tests shall be in accordance with NEMA and U.L. standards.
- E. Nameplates: Provide laminated black phenolic resin with white core with 3/8 inch high engraved lettered nameplates for each circuit breaker (switch) to indicate the feeder, panelboards and equipment served. Mount, with plated screws, on metal adjacent to front of breaker.
- F. The electrical subcontractor shall consult the serving electrical utility regarding their service installation requirements, and shall furnish any and all service equipment in compliance with these requirements. Power service equipment shall include but not be limited to cables, conduit, grounding materials, and service entrance fittings required by the utility and for compliance with codes and regulations. The new electrical service equipment shall be installed in accordance with the approved serving electrical utility drawing.

E-6.1.2 RELATED WORK

- A. SECTION E-1 BASIC ELECTRICAL METHODS AND REQUIREMENTS
- B. SECTION E-6 CABLES, LOW VOLTAGE (600 VOLTS AND BELOW)
- C. SECTION E-3 CONDUIT SYSTEMS, BOXES AND WIRING DEVICES
- D. SECTION E-4 GROUNDING
- E. SECTION E-5 TESTING, DEMONSTRATION AND TRAINING
- F. SECTION E-7 SHORT CIRCUIT/COORDINATION & ARC-FLASH STUDY

E-6.1.2 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. The Contractor shall submit shop drawings.
- C. Sufficient information, clearly presented, shall be included to determine compliance with Plans and Specifications.
- D. Include electrical ratings, dimensions, mounting details, required clearances, plan, front, side, circuit breaker frame sizes, trip and short-circuit rating, long-time, short-time, instantaneous, accessories, and device nameplate data.
- E. Wiring diagrams shall have their terminals identified to facilitate installation, maintenance, and operation.
- F. Wiring diagrams shall indicate internal wiring for each item of equipment and the interconnection between the items of equipment.
- G. Manufacturer Seismic Qualification Certification: Submit certification that the switchboard, overcurrent protective devices, accessories, and components will withstand Zone 4 seismic forces.
- H. Electrical Service Metering Equipment shall comply with Utility Company Requirements.
- I. Prior to the start of any electrical work, the Contractor shall submit Arc-Flash Study and Coordination Study and shall determine and submit the calculation to the Agency of the arc Flash Protection Boundary (FPB) and the recommended Personal Protective Equipment (PPE). Provide an arc flash hazard label on the equipment as required in section 10-16 of the NEC.

E-6.2 PRODUCTS

E-6.2.1 BASIC REQUIREMENTS

- A. Structures
 - 1. The service cabinet shall be totally enclosed, dead front, free standing, front and rear aligned with front accessibility. The switchboard shall be NEMA Type 4X 316SS stainless steel. Ventilation shall be provided when required.
 - 2. Provide rodent barriers.
- B. Finish
 - 1. All painted parts shall be pretreated and provided with a corrosion-resistant, UL Listed acrylic baked paint finish.
- C. Fault withstandability
 - 1. The entire service cabinet shall be suitable for operation at the specified available fault current as shown on the Plans or as specified by serving utility company. The

service cabinet shall be labeled to indicate the maximum available fault current rating. The branch circuit devices short circuit current rating shall be fully rated or determined by UL labeled series connected ratings.

2. UL listed multifunction power meter shall be provided as shown on Plans.

E-6.2.2 UTILITY METERING COMPARTMENTS

- A. The service cabinet utility metering compartment shall be located in the service entrance section of the switchboard and shall have all necessary components required by serving utility company for metering. The utility metering compartment shall be barriered and covered with a single hinged door double hinged door with sealing provisions. All cost associated with serving utility company metering requirements shall be borne by the Agency.

E-6.2.3 MAIN DISCONNECT DEVICES AND CIRCUIT BREAKERS

- A. Furnish and install service cabinet in accordance with the NEC, as shown on the Plans, and as recommended by the manufacturer.
- B. The main disconnect device shall be a molded case thermal magnetic circuit breaker, rated 600V, frame size and amperage trip per plans.

E-6.2.4 TESTING

- A. Prior to energizing of service equipment, inspect and test insulation levels in strict accordance with manufacturer recommendations. Record all test results and submit to the Agency for approval.
- B. Conduct a complete inspection before the service cabinet is energized to ensure that all components function and operate properly.
- C. As a minimum perform the following:
 1. Check all accessible connections for tightness.
 2. Check all factory and field-installed lug terminations for tightness.
 3. Check the enclosure for dents or other damage that reduces electrical clearances inside the service cabinet.
 4. Remove all foreign materials. Use a vacuum cleaner, not compressed air.
 5. Manually open and close all switches, circuit breakers, and other operating mechanisms, checking for correct alignment and free operation.
 6. Conduct an electrical insulation resistance (megger) test to ensure that the service cabinet is free from short circuits and undesirable grounds.

E-6.2.5 CIRCUIT BREAKER TESTING

- A. Check the insulation resistance, perform the following steps:
 - 1. De-energize and isolate the circuit breaker.
 - 2. Using a megohmmeter with a capacity of 500–1000 Vdc, apply voltage from:
 - a. Each phase-to-ground with the circuit breaker on (circuit breaker contacts closed)
 - b. Phase-to-phase with the circuit breaker on (circuit breaker contacts closed)
 - c. Between each line and load terminal with the circuit breaker off (circuit breaker contacts open).
- B. Record resistance values. Resistance values of less than one megohm (1,000,000) shall not be used, coordinate with manufacturer for replacement.

E-6.3 EXECUTION

- A. See electrical plans for installation detail.

E-6.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on the Plans and required in these Special Provisions, shall be included in the lump sum Bid price for “ELECTRICAL WORK”.

SECTION E-7 SHORT CIRCUIT/COORDINATION & ARC-FLASH STUDY

E-7.1 GENERAL

E-7.1.1 SCOPE

- A. The Agency shall be furnished short-circuit, protective device coordination and arc-flash hazard analysis studies.

E-7.1.2 REFERENCES

- A. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - B. IEEE 141 – Recommended Practice for Electric Power Distribution and Coordination of Industrial and Commercial Power Systems
 - C. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
 - D. IEEE 399 – Recommended Practice for Industrial and Commercial Power System Analysis
 - E. IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings
 - F. IEEE 1015 – Recommended Practice for Applying Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems.
 - G. IEEE 1584 -Guide for Performing Arc-Flash Hazard Calculations Short Circuit Study shall be performed in accordance with ANSI standard C37 and IEEE standard 141 (Red Book).
- H. American National Standards Institute (ANSI):
 - 1. ANSI C57.12.00 – Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
 - 2. ANSI C37.13 – Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures
 - 3. ANSI C37.010 – Standard Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
 - 4. ANSI C 37.41 – Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches and Accessories.
- I. The National Fire Protection Association (NFPA)
 - 1. NFPA 70 -National Electrical Code, latest edition

- 2. NFPA 70E – Standard for Electrical Safety in the Workplace

E-7.1.3 SUBMITTALS

- A. All submittals shall be made per Subsection 3.8 of Section G.
- B. The results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. The report shall include the following sections:
 - 1. Executive Summary including Introduction, Scope of Work and Results/Recommendations.
 - 2. Short-Circuit Methodology Analysis Results and Recommendations
 - 3. Short-Circuit Device Evaluation Table
 - 4. Protective Device Coordination Methodology Analysis Results and Recommendations
 - 5. Protective Device Settings Table
 - 6. Time-Current Coordination Graphs and Recommendations
 - 7. Arc Flash Hazard Methodology Analysis Results and Recommendations including the details of the incident energy and flash protection boundary calculations, along with Arc Flash boundary distances, working distances, Incident Energy levels and Personal Protection Equipment levels.
 - 8. Arc Flash Labeling section showing types of labels to be provided. Section will contain descriptive information as well as typical label images.
 - 9. One-line system diagram that shall be computer generated and will clearly identify individual equipment buses, bus numbers used in the short-circuit analysis, cable and bus connections between the equipment, calculated maximum short-circuit current at each bus location, device numbers used in the time-current coordination analysis, and other information pertinent to the computer analysis.
- C. The short-circuit and protective device coordination studies shall be submitted to the design engineer prior to or along with the distribution equipment shop drawings and/or prior to release of equipment drawings for manufacturing. If formal completion of the studies may cause delay in equipment manufacturing, approval from the engineer may be obtained for preliminary submittal of sufficient study data to ensure that the selection of device and characteristics will be satisfactory.

E-7.1.4 QUALIFICATIONS

- A. The short-circuit, protective device coordination and arc flash hazard analysis studies shall be signed and stamped by a Professional Engineer (Electrical) licensed in the State of California, under whose direction the study was performed. The licensed Professional Engineer (Electrical) shall be a full-time employee of the equipment manufacturer

engineering service division with a minimum of 5 years' experience and specialize in power system studies.

B. The studies shall be performed using one of the following software packages:

1. SKM Power Tools
2. ETAP
3. Easypower
4. Agency-approval equal.

E-7.2 PRODUCTS

E-7.2.1 STUDIES

- A. Contractor to furnish short-circuit and protective device coordination studies as prepared by equipment manufacturer. By using the equipment manufacturer, the study allows coordination of proper breakers, fuses, and current transformers. The coordination study shall begin with the utility company's feeder protective device and include all of the electrical protective devices down to and include the largest feeder circuit power distribution panelboards.
- B. Prior to the start of any electrical work, The Contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E – Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D.

E-7.2.2 EQUIPMENT LABELS

- A. Installed warning labels (orange) or danger labels (red) in accordance with ANSI Z535.4-2011.

E-7.3 EXECUTION

E-7.3.1 FIELD ADJUSTMENT

- A. Adjust relay and protective device settings according to the recommended settings table provided by the coordination study. Field adjustments to be completed by the engineering service division of the equipment manufacturer at Startup and Acceptance Testing.
- B. Make minor modifications to equipment as required to accomplish conformance with short circuit and protective device coordination studies.

E-7.3.2 ARC-FLASH WARNING LABELS

- A. The vendor shall provide a 3.5 in. x 5 in. thermal transfer type label of high adhesion polyester for each work location analyzed.
- B. Labels for outdoor equipment shall be vinyl and UV resistant to avoid fading.

- C. The label shall have an orange header with the wording, “WARNING, ARC FLASH HAZARD”, and shall include the following information:
 - 1. Location designation
 - 2. Nominal voltage
 - 3. Flash protection boundary
 - 4. Hazard risk category
 - 5. Incident energy
 - 6. Working distance
 - 7. Engineering report number, revision number and issue date
- D. Labels shall be machine printed, with no field markings
- E. Arc flash labels shall be provided in the following manner and all labels shall be based on recommended overcurrent device settings.
 - 1. For each 480 and applicable 208-volt panelboards and disconnects, one arc flash label shall be provided
 - 2. For each low voltage switchboard, one arc flash label shall be provided
 - 3. For each switchgear, one flash label shall be provided
- F. Labels shall be field installed by the engineering service division of the equipment manufacturer under the Startup and Acceptance Testing contract portion.

E-7.3.3 ARC-FLASH TRAINING

- A. The equipment vendor shall train personnel of the potential arc flash hazards associated with working on energized equipment (minimum of 4 hours). Maintenance procedures in accordance with the requirements of NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces, shall be provided in the equipment manuals. The training shall be certified for continuing education units (CEUs) by the International Association for Continuing Education Training (IACET).

E-7.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on the Plans and required in these Special Provisions, shall be included in the lump sum Bid price for “ELECTRICAL WORK”.

SECTION E-8 TELEMETRY

E-8.1 GENERAL

E-8.1.1 DESCRIPTION

- A. This section specifies the furnishing, installation, and connection, and testing of the telemetry system and associated equipment.
- B. Central Controller and local panels shall be provided as a complete real-time control and monitoring system to retrieve I/Os such as flow, level, LEL data, to control and monitor the position of the electric motor operated (EMO) slide gate, and to transmit data to the existing supervisory control and data acquisition (SCADA) system control station as specified on the Plans and these Specifications.
- C. Telemetry system shall be based on the following main components:
 1. Central Controller with the functionality of the data logger, located in the electrical cabinet.
 2. Existing supervisory control and data acquisition (SCADA) system with the control station, located the County of Los Angeles Department of Public Works Headquarters building.
 3. Local control panels, located at various sites as shown on the Plans.
- D. Telemetry system shall use wireless cellular technology to connect the Central Controller and the existing control station SCADA system for viewing continuous real-time data, collected by the local control panels and to allow the control station, located the County of Los Angeles Department of Public Works Headquarters building to send (EMERGENCY SHUTDOWN) to stop treatment or infiltration processes remotely.

E-8.1.2 CONTROL CABINET

- A. Equipment provided at this location shall include, but not limited to, Central Controller with the cellular modem/gateway to interface with the Automation Direct® PLC, control enclosure, HMI touch screen, power supplies and voltage conditioners, signal cables, voltage surge and lighting protection systems, antenna and antenna mast.
- B. Central Controller PLC shall have hardwired connection with the control panels.
- C. Central Controller PLC shall have hardwired connection with the local control panels, located at various sites: Slide gate actuator (EMO).
- D. Actuator (EMO) vault.
 1. Slide gate actuator connected for operation on 240 volts, 1 phase, 60Hz power with the type of cable suitable for submersible application with the length as required to be connected to the control panel without splicing. .
- E. Influent manhole.

1. Flow sensor shall be provided and installed with all required miscellaneous items to continuously measure and transmit water flow data using 4-20mA or analog signal to Central Controller PLC via hardwired connection.

F. Drywells.

2. Water level laser shall be provided and installed with all required miscellaneous items to continuously measure and transmit water level data using 4-20mA or analog signal to Central Controller PLC via hardwired connection.

- G. Related equipment and materials may include, but will not be limited to, equipment pad, anchors, mounting hardware, raceways, and conduit seals as shown on the Plans.

E-8.1.3 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 in 2018 of Section G.
- B. Submit sufficient information, clearly presented that shall demonstrate compliance with drawings and Specifications.
- C. Submit the following for approval by Agency:
 1. Shop Drawings
 - a. Shop drawings shall include dimensioned outline drawings, mounting provisions, and details showing locations of connections and components, and connection diagram.
 2. Supporting Information
 - a. Technical data sheets: include published performance, electrical rating, catalog cuts, pictures, manufacturer's Specifications.
 - b. Installation information.

E-8.2 PRODUCTS

E-8.2.1 EQUIPMENT AND MATERIALS

- A. The modem/gateway shall be capable of monitoring and transmitting status of all Central Controller's digital and analog inputs, shown on the drawings to SCADA system at Headquarters building. The Department SCADA system software shall be programmed by the Department Information Technology Division, Telecommunications Shop to produce screens for monitoring the Central Controller remotely. In addition, by use of the touch screen or mouse, the operator at Headquarters building shall be able to initiate the Emergency Shutdown routine of the Central Controller.
- B. The modem/gateway shall be manufactured by Sierra Wireless, or Agency approved equal, factory tested and inspected prior shipment to the job site.
- C. The modem/gateway part number shall be GX450 North America - MC7354 with AT&T

approval and shall be provided with the following features:

1. Support the following protocols:
 - a. Network: TCP/IP, UDP/IP, DNS
 - b. Routing: NAT, Host Port Routing, DHCP, PPPoE, VLAN, VRRP
 - c. Application: SMS, Telnet/SSH, SMTP, SNMP, SNTP
 - d. Serial: TCP/UDP PAD Mode, Modbus (ASCII, RTU, Variable), PPP
 2. VPN/Security:
 - a. IPsec, SSL, and GRE VPN client
 - b. Up to 5 VPN tunnels
 - c. IKE encryption
 - d. Port forwarding and DMZ
 - e. Port filtering
 - f. Trusted IP
 - g. MAC address filtering
 3. Gateway Management:
 - a. AirLink Management Service cloud-based gateway management application
 4. Input/Output:
 - a. Configurable I/O on power connector
 - b. Input ON voltage: 3.3 VDC to 30 VDC
 - c. Input OFF voltage: 0 VDC to 1.2 VDC
 - d. Output maximum switching capability 200 mA @ 30 VDC
 5. Environmental Specifications:
 - a. Operating temperature: -30°C to +70°C (-22°F to +158°F)
 - b. Storage temperature: -40°C to +85°C (-40°F to +185°F)
 - c. Humidity: Maximum 95% RH @ 60°C (140°F)
- D. The modem/gateway shall be provided with the following accessories:

1. DC power cable
 2. AC power adapter
- E. The modem/gateway shall be provided with the following options:
1. Wi-Fi X-Card
 2. Serial port
 3. Ethernet port
- F. Uninterruptible Power Supply (UPS) UL1778, CSA:
1. Specifications:
 - a. Power Capacities: 2200VA/1980W, 3000VA/2700W
 - b. Nominal Input & Output Voltages: 120 VAC / 120 VAC
 - c. Input Connections: 5-20P (2200VA), L5-30P (3000VA)
 - d. Output Connections (NEMA): (8) 5-15R, (2) 5-20R
 - e. Battery Type: Maintenance-free sealed lead-acid with suspended electrolyte, leak proof.
 - f. Runtime (@ full load): 7 mins (2200VA), 6 mins (3000VA)
 2. UPS shall be from one of the following:
 - a. APC SMART UPS
 - b. VERTIV LIEBERT
 - c. CYBER POWER
 - d. Agency-approved equal.

E-8.3 EXECUTION

E-8.3.1 INSTALLATION

- A. The Contractor shall provide and install the modem/gateway in accordance with manufacturer's instructions. SIM card shall be provided by the Department.
- B. The Contractor shall furnish and install a shielded twisted pair transmission line, of adequate length to connect the antenna to the modem/gateway without splice.
- C. The Contractor shall furnish and install the LTE network antenna, LAIRD E-Model TRAB806-1703P, no equal.

- D. The Contractor shall furnish and install a 2” rigid galvanized conduit from telemetry unit housing to a minimum of 10 feet above the finish grade, taking into account proper structural integrity of the conduit and surrounding support structures, for mounting of the above specified antenna herein. The conduit shall be installed according to all NEC, local codes and best workmanship practices. The Contractor shall install a 2” weather head at the top of the conduit. All outside coaxial connections shall be waterproofed with a minimum of two layers of Scotch 33 plastic tape, no equal.
- E. The Contractor shall furnish and install the UPS, APC Smart-UPS2200VA, model SMT2500US, no equal.
- F. The Contractor shall load AirLink gateway software and configure the modem/gateway to establish communication link between the Central controller and SCADA system at Headquarters.
- G. The Contractor shall provide the Modbus addresses of the data monitoring points shown on the HMI-101 and HMI 102 diagrams. The Contractor shall furnish the Modbus addresses to Los Angeles County Department of Public Works (LACDPW).
- H. LACDPW shall integrate the Modbus addresses of the monitoring data with LACDPW existing SCADA system located at LACDPW.

E-8.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for the control panels 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-9 CONTROL PANELS AND APPURTENANCES

E-9.1 GENERAL

E-9.1.1 DESCRIPTION

- A. This section specifies the furnishing, installation, and connection of the central controller, HMI screen, control panels and enclosures.
- B. Contractor shall furnish and install instrumentation and control system, complete, including the actuator vault EMO slide gate control; equipment status indicating; telemetry system and other miscellaneous controls.
- C. The following items shall be furnished and installed:
 1. Control panel, NEMA 3R
- D. All work shall be performed and materials shall be furnished in accordance with the latest NEC –National Electrical Code, UL 508A, NESC –National Electrical Safety Code, California OSHA Construction of Safety Orders, LA County Code Title 27, and the following standards where applicable:
 1. American National Standards Institute (ANSI):
 - a. ANSI C39.1 Requirements For Electrical Analog Indicating Instruments
 2. Institute of Electrical and Electronics Engineers (IEEE):
 - a. IEEE C37.90-1989 IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus
 - b. IEEE C37.90.1-1989 IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems
 3. National Electrical Code (NEC):
 - a. NEC-2017 National Electrical Code
- E. Equipment furnished under this section and under the related sections listed in the paragraph above shall be designed, coordinated, and supplied by the Contractor. The Contractor shall furnish and install all control system related items, to checkout and calibrate instruments, and to perform all testing, training, and startup activities specified to be provided.
- F. Systems supplied under this section shall be designed and coordinated for proper operation with related equipment and materials furnished by other suppliers under other sections of these Specifications, and, where applicable, with related existing equipment. All equipment shall be designed and installed in full conformity with the Plans, Specifications, engineering data, instructions, and recommendations of the manufacturer, and the manufacturer of the related equipment.

1. Related equipment and materials may include, but will not be limited to, instrumentation, slide gate actuators, conduit, cable, and piping as described in other sections of this specification.

E-9.1.2 OVERVIEW

- A. The term “control system” as used in this document consists of a Programmable Logic Controller (PLC) Panel, located in the electrical cabinet.
- B. The control system obtains the following data:
 1. The level data, measured in feet, through a hard-wired analog signal from water level lasers to the PLC for the sites:
 - a. Drywell
 - (a) Lasers or ultrasonic level transmitters signals are designated for HMI and Central Controller.
 2. The level data, measured in feet, through a hard-wired analog signal from water level transmitter to the PLC.
- C. The control system controls and monitors the whole system at each location shown on the plans.

E-9.1.3 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 the following for approval by Agency:
 1. Working Drawings.
 - a. Master drawing index.
 - b. Front view elevation.
 - c. Nameplate schedule.
 - d. Assembly rating including:
 - (a) Short-circuit rating.
 - (b) Voltage.
 - (c) Continuous current.
 - e. Cable terminal sizes.

- f. Product data sheets.
2. Shop Drawings.
- a. Final as-built drawings and information listed in section E-9.1.2(B), and shall incorporate all changes made during the manufacturing process.
 - b. Submit shop drawings of control systems and sub-systems. Shop drawings shall facilitate ease of system comprehension, troubleshooting and replacement of failed
 - c. 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.
 - d. 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.
3. Supporting Information.
- a. Wiring diagrams with wire numbers and terminals identified to facilitate installation, maintenance and operation.
 - b. Technical data sheets: include published performance, electrical rating, catalog cuts, pictures, manufacturer's Specifications.
 - c. Operation and maintenance manuals:
 - (a) Submit complete operating and maintenance manuals for the control systems and including wiring diagrams, technical data sheets and information for ordering replaceable parts.
 - (b) Include complete diagrams of the internal wiring for each of the items of equipment.
 - (c) The diagrams shall have their terminals identified to facilitate installation, operation and maintenance.
 - (d) 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.

- d. Certified productions test reports.
 - e. Installation information.
 - f. A block diagram or schematic drawing showing the principal items of equipment furnished, including model numbers, and their interrelationships.
 - g. Drawings showing floor space or desktop area requirements for all equipment items, including allowances for door swings and maintenance access.
 - h. Environmental and power requirements, including heat release information for each equipment item.
4. Required Equipment/Component Submittal – Minimal Requirements:
- a. Control component literature –to include all relay types and mountings (including intrinsically safe relays), 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
 - b. 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.
 - (a) Programmable Logic Controller
 - (b) D.C. Power supply, DC to AC converter
 - (c) Water Level Lasers.
 - (d) Flow Meter
 - (e) Digital Meter Controller/Displays
 - (f) Human Machine Interface (HMI)/ Operator Touch Panel
 - (g) Wireless Cellular Gateway
 - (h) Phase Failure, Voltage Sensing Monitor
 - (i) Antenna
 - (j) Uninterruptible Power Supply (UPS)
 - (k) Pilot lights
 - (l) Terminal blocks
5. Components listed for submittal are minimal requirements. The Agency 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-9.2 PRODUCTS

E-9.2.1 GENERAL CONTROL PANEL FABRICATION REQUIREMENTS

- A. All panels furnished shall conform to the requirements of NEMA ICS-6 and current NEC for wet areas with the exception of panels in the control building. Unless indicated otherwise on the plans, the general fabrication requirements for the local control panels and other enclosures shall be as described in the following paragraphs:
1. **Instrument Wiring:** All internal instrument and component device wiring shall be of the type normally furnished by the manufacturer. HMI screen and indicating light circuits shall be at least 16 AWG. Electronic analog circuits shall be 16 AWG twisted and shielded pairs rated for at least 300 volts. Analog circuits shall be separated power and control circuits.
 2. All wiring shall be grouped or cabled and firmly supported inside the panel. Each individual wire in power, control, and instrumentation circuits shall be provided with identification markers at each point of termination. The wire markers shall be positioned to be readily visible for inspection and the identification numbers shall match the identification on the supplier's panel wiring drawings. Wiring shall be bundled in groups and bound with nylon cable ties or routed in Panduit or similar nonmetallic slotted ducts. Ducts shall be readily accessible within the panel, with removable covers, and with space equal to at least 40 percent of the depth of the duct remaining available for future use after completion of installation and field wiring. Sufficient space shall be provided between cable groups or ducts and terminal blocks for easy installation or removal of cables.
 3. **Power Wiring:** Power distribution wiring on the line side of panel fuses shall be at least 12 AWG. Secondary power distribution wiring and wiring for control circuits shall be at least 14 AWG. Wiring for ac power distribution, dc power distribution, and control circuits shall be of different colors which shall agree with the color coding legend on the Contractor's panel wiring diagrams. With the exception of electronic circuits, all interconnecting wiring and wiring to terminals for external connection shall be stranded copper, insulated for at least 600 volts, and shall have a moisture-resistant and flame-retardant covering rated for at least 90 C.
 4. **Terminal Blocks:** Terminal blocks for external connections shall be suitable for 12 AWG wire and shall be rated 30 amperes at not less than 300 volts. Terminal blocks shall be fabricated complete with marking strip, covers, and pressure connectors. Terminals shall be labeled to agree with the identification on the schematic diagrams. A terminal shall be provided for each conductor of external circuits, plus one ground for each shielded cable. At least 25 percent spare terminals shall be provided. Not less than 8 inches of clearance shall be provided between the terminal strips and the base of vertical panels for conduit and wiring space. Each control loop or system shall be individually fused, and all fuses or circuit breakers shall be clearly labeled and located for easy maintenance.

5. Nameplates: Nameplates shall be provided on the face of the panel or on the individual device as required. Panel nameplates shall be made of laminated phenolic material, shall have dimensions and legends as indicated on the plans, with engraved letters approximately 3/16-inch high extending through the black face into layer, and shall be secured firmly to the panel.
6. Painting: Both the interior and exterior surfaces of all panels shall be thoroughly cleaned and coated with rust-inhibitive primer. All pits and blemishes in the exterior surface shall be filled. The panel interior shall be painted white with the manufacturer's standard coating. The panel exterior shall be painted with one or more finish coats of the manufacturer's standard coating. The finish coats shall have a dry film thickness of at least 4 mils. One quart of finish paint shall be furnished with the panels for future touchup.

E-9.2.2 HMI/CENTRAL CONTROLLER

- A. To guarantee undivided responsibility and ensure compatibility, the same manufacturer shall produce both "software" and "hardware". The manufacturer shall be Automation Direct.
- B. The HMI/Central Controller shall be designed for control applications. Display and control "hardware" and "software" shall be provided for easy access to control set points and timing functions and shall be easily field programmable by personnel with no prior programming experience.
- C. All program and control functions shall be accomplished using 15" Touch Panel. No external interfacing equipment or special tools shall be required to display and set the field programmable set points.
- D. In addition, selected control functions shall be accomplished using conventional operator interface (e.g. push buttons, selector switches, pilot lights).
- E. Additional functions:
 1. The following set-points shall be provided in the HMI/Central Controller,
 - a. Actuator in Remote Selection
 - b. Actuator is fully open position
 - c. Actuator is fully closed position
 - d. Actuator open percentile
 - e. Influent manhole flow reading
 - f. Drywell water level
 2. Alarms & Overrides:

- a. Drywell High Level.
 - b. Control Panel –High Temperature
 - c. Power failure. Combination of any of the alarm signals detected by Power Quality Meter.
3. Display outputs on Touch Screen Panel and/or status lights:
- a. Flowrates (gpm); (Touch Screen Panel);
 - b. Water levels (ft); (Touch Screen Panel/Digital Display);
 - c. SCADA system EMERGENCY SHUTDOWN (Touch Screen Panel/ RED (R) light);
 - d. EMOs statuses (Touch Screen Panel);
 - e. Power failure. (Touch Screen Panel)
4. Central Controller outputs to Telemetry (SCADA):
- a. Flowrates (gpm);
 - b. Water levels (ft);
 - c. EMERGENCY SHUTDOWN;
 - d. EMO statues (OPEN/CLOSED)
- F. The HMI/Central Controller shall use 10” (diagonal measurement) Color Touch Panel with the following key features:
- 1. 10" diagonal color TFT LCD display with 64K colors;
 - 2. 800 x 600 pixel resolution;
 - 3. 50,000 hour average backlight lifetime, user replaceable;
 - 4. USB port (program/download) and USB port (USB device options);
 - 5. Ethernet 10/100 Base-T port (program/download & PLC communication);
 - 6. Serial PLC interface (RS-232/422/485);
 - 7. CompactFlash card slot, built-in;
 - 8. 110 VAC powered;
 - 9. 40 MByte project memory;
 - 10. Data logging;

11.0 to 50°C (32 to 122°F) operating temperature range; UL, cUL, CSA & CE agency approvals;

E-9.2.3 PLC

- A. The PLC processor shall be furnished with sufficient memory; speed; and math and PID instruction sets to meet the specified control and monitoring performance criteria. The processor shall utilize IEC 1131-3 compliant programming languages. The processor shall have an operating temperature range of 0° to +60°C.
- B. To guarantee undivided responsibility and ensure compatibility, the same manufacturer shall produce both “software” and “hardware”. The name for the programmable logic controller shall be Automation Direct.
- C. The processor shall be equipped with battery-backed static RAM memory modules.
- D. The processor shall support multi-tasking operations permitting multiple control tasks to operate independently within the same processor.
- E. The Contractor shall provide adequate memory for the amount of I/O, control algorithms, and communications in the initial system.
- F. Each programmable logic controller shall include provisions for future expansion and shall have 100 percent spare memory capacity and 100 percent spare data capacity installed. The spare memory capacity shall be documented by submitting to the Agency, during factory testing, a statement indicating the amounts of memory of all types being utilized and the total amount available in each system. The statement shall include an estimate of the total program and data memory necessary, including spare memory, based on the I/O hardware for the system, and previous programming experience.
- G. PLC input/output enclosure shall be provided with at least 25 percent spare inputs and outputs of each type. Spare I/O shall be installed, wired, and interfaced properly to the terminal strip. The spare I/O shall be in addition to any I/O installed and reserved for future process signals as may be indicated in the I/O list. In addition, each PLC input/output enclosure shall be capable of accommodating 25 percent of additional input/output capacity of each type as originally assembled, without the need for additional expansion racks or PLC power supplies.
- H. The programmable logic controller processor shall be an industrial-type rack-mounted unit that utilizes battery-backed CMOS type or nonvolatile type memory. Battery backed memory shall include integral batteries with sufficient capacity for at least 6 months' memory retention without power to the processing unit. Standby and shelf life of the batteries shall be at least 5 years.
- I. The processor shall be programmable using the IEC 1131 international programming standards and ladder logic programming. IEC 1131 programming shall include the following:
 - 1. Functional Block Diagram.

2. Sequential Function Chart.
 3. Instruction List.
 4. Structured Text.
 5. Ladder Diagram.
- J. Ladder logic programming shall include a minimum of the following capabilities:
1. Contacts, coils, branching.
 2. Data comparisons.
 3. On-delay and off-delay timers.
 4. Counters with comparators.
 5. Floating point Math and Logical instructions.
 6. PID loop control.
 7. Jumps and Subroutine functions.
 8. Master control relay.
 9. Transitional or one-shot outputs.
 10. Standard and user-defined data tables for discrete and analog value storage.
 11. Remote I/O capability.
 12. Fault-mode subroutine.
- K. Processors shall be configured for standard rack mounting. Each programmable logic controller processor shall include integral communications ports for the programming device, remote input/output, HMI device, or remote communications interfaces as required.
- L. Input/output hardware shall be entirely contained within the PLC enclosure, and shall be arranged as indicated on the Drawings. Programmable logic controller systems shall support the following types of input/output modules.
1. 120 volt ac discrete input and output.
 2. 4-20 mA dc analog input and output.
- M. All input/output modules shall utilize easily removable plugin or hinged field wiring terminals to allow removal of modules without disconnecting individual wires.
- N. Discrete input modules shall sense voltages between 100 and 130 volts ac and shall

have LED indicators for each point to display the status of the field contact. Each input module shall be suitable for being connected to a separate voltage source and return. Return voltage may be common to the entire input module. Discrete input modules shall have multiple inputs.

- O. Discrete output modules shall control voltages from 100 to 130 volts ac and shall be rated at least 1 ampere. Outputs shall be individually fused and shall have LED indicators to display output status. Outputs shall withstand a surge of at least 80 amperes for one cycle and shall have an off-state leakage current not to exceed 2.0 mA. Discrete output modules shall have multiple outputs.
- P. Analog input modules shall accept linear 4-20 mA dc signals from field transmitters. Analog to digital conversion accuracy shall be at least 12-bit (0-4095 count) resolution. Analog input modules shall have multiple inputs.
- Q. Analog output modules shall transmit linear 4-20 mA dc signals to field devices. Loop power for all analog outputs shall be provided by regulated power supplies in each input/output enclosure and shall be capable of driving a 0 to 600 ohm load. Digital to analog conversion accuracy shall be at least 12-bit (0-4095 count) resolution. Analog output modules shall have multiple outputs.
- R. All PLC input/output signals for field connections shall be terminated through panel enclosure terminal strips. Direct connection of field wiring to the I/O module terminals is not acceptable.
- S. Interposing relays shall be incorporated on all I/O circuits as required by the application to isolate foreign power sources, and where the continuous output rating of the PLC relay discrete output module is not sufficient to power the connected device or equipment. Interposing relays shall be mounted in the PLC enclosure containing the output module that activates the relays.
- T. Regulated dc power supplies for instrument loops shall be provided as required for correct operation of the system.
- U. The Contractor shall furnish one licensed copy of the PLC programming software and install the software in the programmable laptop for the Agency. The software shall be functionally identical and shall be suitable for running on the programming device. A full legal set of programming software documentation, both printed and on CD, shall accompany each copy of the software. Each copy of the programming software shall include all necessary device drivers and add-on software packages.

E-9.3 EXECUTION

E-9.3.1 INSTALLATION

- A. Installation Test Equipment. Unless otherwise specified, all necessary testing equipment for calibration and checking of system components shall be provided by the Contractor for the duration of the testing work and this test equipment will remain the property of the Contractor. The Contractor shall also furnish calibration and maintenance records for all testing and calibration equipment used on the site if requested by the Agency.

- B. Field Calibration. After each instrument has been installed, a technical representative of the Contractor shall calibrate each instrument and shall provide a written calibration report for each instrument, indicating the results and final settings. The adjustments of calibrated instruments shall be sealed or marked, insofar as possible, to discourage tampering.
- C. Instrument calibration shall be done before checkout of the system operation. A typical instrument calibration report is attached to the end of this section.
- D. SYSTEMS CHECK. In addition to the usual calibration and checkout requirements, the Contractor shall provide at least 10 calendar days of system installation and startup assistance by factory-trained engineering and programming personnel. On-site personnel shall assist the installers in understanding installation requirements and the Contractor's submittal drawings and wiring diagrams. The Contractor shall train personnel directly involved with installation of the system in the proper installation and wiring procedures. During the startup period, these personnel shall thoroughly check all equipment, correct any deficiencies, and verify the proper operation of all components.
- E. Field Manager. The Contractor shall appoint a field services manager who shall be responsible for all system check-out and startup activities, and who shall be immediately available to the Agency by phone, e-mail, and/or on site visits for the duration of this project.
- F. External Connection Check. After installation and wiring connections are complete, the Contractor shall verify that each external connection to the system is correctly wired and all field process components and devices are functioning as intended.
- G. Analog Signals. Analog input signals shall be simulated at the transmitting source, and verified to be received in the desired scale at the proper register address in the control system. Analog outputs shall be generated at the control system, and verified to be received with the correct polarity, in the desired scale at the respective receiving device.
- H. Discrete Signals. Discrete input and output signals shall likewise be simulated and verified that they are received at the respective receiving device, and at the proper voltage.
- I. Existing Devices. If interrelated existing devices such as valve actuators, motor controls, and instruments, do not perform properly at the time of system checkout, the Contractor shall use suitable test equipment to introduce simulated signals to and/or measure signals from these devices to locate the sources of trouble or malfunction.
- J. Test Report. A written report on the results of such tests shall be submitted to the Agency. Additional documentation shall be furnished as requested by the Agency to establish responsibility for corrective measures. The Contractor shall verify, in writing, to the Agency that the external connection check has successfully been completed before beginning system startup or field acceptance testing.

E-9.3.2 TESTING

- A. The system shall be acceptance tested at the factory and on site.

- B. The Contractor shall prepare a testing procedure to be approved by the Agency that shall demonstrate that the system conforms to the specifications. The testing procedure shall be submitted at least 30 calendar days in advance of testing. The testing shall be conducted by the Contractor and witnessed by the Agency.
- C. The Contractor shall notify the Agency in writing at least 14 calendar days before the proposed testing date. If the factory acceptance test is concluded unsuccessfully, the test shall be repeated. The Contractor shall reimburse the Agency for all expenses incurred in connection with attending repeated factory or site testing necessitated by system failure or inadequate preparation.
- D. Hardware Test. Processors, processor modules, and peripheral devices associated with the system shall be assembled together as they will be installed in the field and shall be tested. The test shall demonstrate proper operation of each hardware device and communications among devices, and shall include verification of selected analog and discrete inputs and outputs.
- E. Software Test. All system software modules specified herein shall be demonstrated. Software tests shall include running all diagnostics, debugging routines, and system test routines. The operating system, advanced process control language compiler, and all associated drivers shall be fully tested and operable for the system test. Software "patches" or changes to bypass failed or flawed modules during the test will not be acceptable.
- F. Site Acceptance Testing. After installation and checkout by the Contractor's personnel, the system shall be subjected to an acceptance test. Site acceptance testing shall be scheduled after receipt of the System Check Out Report and the completion of field verification of the wiring between field devices and the control system to ensure that all field I/O points are properly connected in agreement with the Contractor's field termination diagrams, and verification by the Contractor that field signal changes are reflected in the proper address locations in the system database.
- G. The site acceptance testing shall follow the same procedure as the factory testing. The entire system, including all peripherals and associated software, shall be tested under actual operating conditions. Fault conditions shall be simulated.
- H. The field acceptance testing shall include at least 30 calendar days continuous operation without loss of basic functions. The operational demonstration shall confirm that the status, alarm, and process variable signals are valid and are being updated appropriately, and that the discrete and analog output signals from the control system are being correctly transmitted and implemented. Any errors or abnormal occurrences shall be recorded by the Contractor's field representative. The Contractor's field representative need not be continuously present during the site acceptance testing, but shall be available to respond to the site within one hour of notification. The Contractor or its representative shall inspect the system for faults at least once every 24 hours and shall log or record any noted problems. The log shall include a description of the problem, its apparent cause, and any corrective action taken.
- I. Failure of Redundant Equipment. Failure of redundant equipment shall not be considered

downtime provided that automatic failover occurs as specified and, in the opinion of the Agency, the failure was not caused by deficiency in design or installation. In the event of repeated failure of any hardware component or software module, the acceptance test shall be terminated and re-started.

- J. Completion of Test. Successful completion of the field acceptance test, including the operational demonstration, is prerequisite to Substantial Completion as specified in the Supplementary Conditions.

E-9.3.3 TRAINING

- A. The Contractor shall conduct one 8-hour training course for personnel selected by the Agency for each level, for a total of three 8-hour training courses. Training at three levels -- maintenance, operator, and programmer -- shall be conducted by experienced instructors who are familiar with the specific system supplied.
- B. General Training Requirements. In general, the Contractor's standard training courses may be used to meet the training objectives specified. Where standard courses do not meet these objectives, additional coursework shall be developed. Clock hour requirements for each level of training are listed below. A "clock hour" is defined as one hour of instruction or supervised training exercise. The requirements listed for each training category are minimums. Additional training time shall be provided if considered necessary to meet the training objectives.
- C. Training Costs. All costs associated with the training program, excluding travel, lodging, and per diem expenses for the Agency's personnel to attend off-site training programs, shall be the responsibility of the Contractor and shall be included in the contract price.
- D. Training Classes. All maintenance training shall be conducted at the Agency's facilities. One training session of at least eight clock hours shall be provided.
- E. Content of Training Classes. The training shall cover at least the following topics:
 - 1. Preventive, scheduled maintenance for all equipment.
 - 2. Function and normal operation of circuit boards and modules.
 - 3. Diagnosis of hardware failures to the faulted board or module.
 - 4. Removal and replacement of removable circuit boards and modules.
 - 5. Emergency maintenance and restoration procedures.

E-9.3.4 SPARE PARTS

- A. All spare parts shall be of the same material, workmanship, and manufacturer as the corresponding original parts, completely interchangeable and packaged for long-term storage.
- B. Spare parts shall include the following:

1. Ten control power fuses for each size used.
2. Ten lamps for each type used.
3. One auxiliary control relay for each type used.
4. One spare power supply for each type used.
5. One spare digital display module for each type used.
6. One spare PLC CPU module.
7. One spare PLC communication module for each type used.
8. One spare PLC I/O module for each type used.
9. One spare PLC power supply module for each type used.

E-9.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this section for the control panels for which no separate items are included in the Bid, shall be included in the Lump Sum Price in the Bid for "ELECTRICAL WORK".

SECTION E-10 LIGHTING

E-10.1 GENERAL

E-10.1.1 DESCRIPTION

- A. This section includes furnishing, installing and testing complete luminaires, lamps, drivers, ballasts, and accessories as indicated on the plans and as specified herein.

E-10.1.2 DEFINITION

- A. CRI: Color-rendering index.
- B. Luminaire: Complete lighting fixture, including ballast housing if provide.

E-10.1.3 RELATED WORK

- A. SECTION E-1 BASIC ELECTRICAL METHODS AND REQUIREMENTS
- B. SECTION E-2 CABLES, LOW VOLTAGE (600 VOLTS AND BELOW)
- C. SECTION E-3 CONDUIT SYSTEMS, BOXES AND WIRING DEVICES
- D. SECTION E-4 GROUNDING
- E. SECTION E-5 TESTING, DEMONSTRATION AND TRAINING

E-10.1.4 SUBMITTALS

- A. All submittals shall be made per Subsection 3-8 of Section G.
- B. Shop Drawings:
 - 1. Wiring Diagrams: Power wiring.
- C. Product Data: For each luminaire and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:
 - 1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
 - 2. Details of attaching luminaires and accessories.
 - 3. Luminaire materials.
 - 4. Photometric data based on the laboratory tests of each luminaire type, complete with indicated lamps, ballasts, and accessories.
 - 5. Lamps, including life, output, and energy-efficiency data.
 - 6. Materials, dimensions, and finishes of poles.

- 7. Means of attaching luminaires to supports, and indication that attachment that is suitable for components involved.

E-10.1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NPFA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with IEEE C2, “National Electrical Safety Code”.
- C. Comply with NFPA 70 and IEC.

E-10.2 PRODUCTS

E-10.2.1 DESCRIPTION

- A. Luminaire and accessories shall be as indicated in lighting fixture schedule.
- B. Provide luminaire listed and labeled by UL.

E-10.2.2 MANUFACTURERS

- A. Luminaire manufacturers:
 - 1. Cooper Crouse-Hinds.
 - 2. Emerson.
 - 3. Hubbell.
 - 4. Agency-approved equal.
- B. LED driver manufacturers:
 - 1. General Electric.
 - 2. Advance.
 - 3. Lithonia.
 - 4. Agency approved equal.

E-10.2.3 LUMINAIRES, GENERAL REQUIREMENTS

- A. Luminaires shall be UL listed for UL 844, UL 1598, and UL 1598A.
- B. Luminaires shall be listed and labeled for installation in Class 1 Division 2 locations by an NRTL acceptable to authorities having Jurisdiction.
- C. Metal Parts: Free of burrs and sharp corners and edges.

- D. External Hardware Material: Stainless steel.
- E. Product Testing: Test according to IES LM-79 and LM-80.
- F. Drivers: Operation to be at standard rated voltage of driver, and not “over-driven”.

E-10.3 EXECUTION**E-10.3.1 INSTALLATIONS**

- A. Provide labor and materials to install and structurally support fixtures in accordance with all applicable codes and safety practices.
- B. Provide mounting brackets and/or structural mounting support for fixtures. Do not support fixtures from conduit system. And/or outlet boxes.
- C. Install with approved mounting hardware following manufacturer’s recommendations.
- D. Fixture mounting heights and locations indicated on the Plans are approximately and are subject to revision in the field where necessary to avoid conflicts and obstructions.
- E. See installation details on plan sheet E11.

E-10.3.2 GROUNDING

- A. Ground metal housing: Install grounding conductor in the luminaire housing to grounding system.

E-10.3.3 ADJUSTING AND CLEANING

- A. Wipe all lighting fixture reflectors, lenses, lamps, and trims clean after installation and prior to acceptance of the project.

E-10.3.4 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damage luminaires and components.
- B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.

E-10.4 PAYMENT

- A. All cost for furnishing and installing all the Electrical Work shown on plans and required under this Special Provisions, shall be included in the lump sum price in the Bid for “ELECTRICAL WORK”.

PUBLIC WORKS LOS ANGELES COUNTY

PROJECT ID NO. SWQ0000005 CP-69813

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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9/22/2022

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9/27/2022

Date

TABLE OF CONTENTS

M-1 SPECIAL REQUIREMENTS

M-1.1 SUBMITTALS	M-1
M-1.1.1 SHOP DRAWINGS	M-1
M-1.1.2 SUPPORTING INFORMATION	M-1
M-1.2 INSPECTION AT PLACE OF MANUFACTURE	M-1
M-1.3 INSTRUCTION MANUALS AND PARTS CATATLOGS	M-2
M-1.4 FIELD TESTS	M-2
M-1.5 PAYMENTS	M-3

M-2 MISCELLANEOUS MECHANICAL WORK

M-2.1 GENERAL	M-4
M-2.2 SCOPE OF WORK	M-4
M-2.3 INSTALLATION OF EQUIPMENT AND THE APPURTENANCES	M-4
M-2.3.1 BASIS FOR DESIGN AND INSTALLATION	M-4
M-2.4 METAL WORK	M-4
M-2.4.1 MATERIALS	M-4
M-2.4.1.1 STRUCTURAL STEEL	M-4
M-2.4.1.2 SHEET METAL	M-4
M-2.4.1.3 BOLTS, NUTS, AND STEEL WASHERS	M-4
M-2.4.1.4 WASHERS	M-4
M-2.4.1.5 PIPE	M-4
M-2.4.1.6 STAINLESS STEEL PLATE	M-5
M-2.4.1.7 STAINLESS STEEL BOLTS AND NUTS	M-5
M-2.4.2 WORKMANSHIP	M-5
M-2.4.2.1 WELDING	M-5
M-2.4.2.2 GALVANIZING	M-5
M-2.4.2.3 BOLTED CONNECTIONS	M-5
M-2.4.2.4 CONCRETE EXPANSION ANCHORS	M-5
M-2.4.2.5 ADHESIVE ANCHORS	M-5
M-2.4.3 HANGERS AND SUPPORTS	M-5
M-2.5 PAINTING AND COATING	M-6
M-2.5.1 PAINT PRIMER	M-6
M-2.5.2 PAINT FINISH COATS	M-6
M-2.5.3 PAINT SCHEDULE	M-6
M-2.5.4 EPOXY COATING - LIQUID APPLIED	M-6
M-2.6 PAYMENT	M-7

M-3 CAST IRON SLIDE GATE ASSEMBLY

M-3.1 GENERAL	M-8
M-3.2 FRAME	M-8
M-3.3 DISC	M-8
M-3.4 DISC GUIDE	M-8

TABLE OF CONTENTS

M-3.5 WEDGES.....	M-9
M-3.6 SEAT FACES	M-9
M-3.7 FLUSH BOTTOM CLOSURE	M-9
M-3.8 THRUST NUT.....	M-9
M-3.9 STEM	M-9
M-3.10 YOKE	M-9
M-3.11 PEDESTAL ASSEMBLY	M-9
M-3.12 BEVEL GEAR SUPPORT STRUCTURE.....	M-10
M-3.13 MATERIALS	M-10
M-3.14 PAYMENT	M-10

M-4 ELECTRIC MOTOR OPERATORS AND APPURTENANCES

M-4.1 GENERAL	M-11
M-4.2 OPERATIONAL REQUIREMENTS	M-11
M-4.3 MOTOR	M-11
M-4.4 OPERATOR REDUCTION GEARING.....	M-11
M-4.5 STEM NUT	M-12
M-4.6 MANUAL OPERATION	M-12
M-4.7 HAMMERBLOW DEVICE.....	M-12
M-4.8 POSITION LIMIT SWITCH	M-12
M-4.9 ANALOG POSITION TRANSMITTER	M-12
M-4.10 TORQUE SWITCH	M-12
M-4.11 REVERSING MAGNETIC STARTER.....	M-12
M-4.12 HEATER	M-12
M-4.13 ELECTRICAL CONTROL ENCLOSURE.....	M-12
M-4.14 ELECTRICAL MOTOR OPERATOR CONTROL STATION	M-13
M-4.15 PROTECTIVE COATING AND PAINTING.....	M-13
M-4.16 BEVEL GEAR OPERATORS	M-13
M-4.16.1 DRIVE SHAFT ASSEMBLY.....	M-14
M-4.17 EMO REMOTE CONTROLLER.....	M-14
M-4.18 EQUIPMENT VAULT.....	M-14
M-4.19 PAYMENT	M-14

M-5 FLOW METER SENSORS

M-5.1 FLOW METER.....	M-15
M-5.2 FLOW MODULE.....	M-15
M-5.3 FLOW METER SENSOR DATA LOGGER.....	M-15
M-5.4 PAYMENT	M-15

TABLE OF CONTENTS

M-6 LASER SENSOR

M-6.1 LASER LEVEL SENSOR.....	M-16
M-6.2 PAYMENT	M-16

M-7 GAS SENSOR

M-7.1 GENERAL	M-17
M-7.2 PAYMENT	M-17

M-8 EQUIPMENT VAULTS AND APPURTENANCES

M-8.1 GENERAL	M-18
M-8.2 PAYMENT	M-18

M-9 WATER QUALITY MONITORING INSTRUMENTATION

M-9.1 GENERAL	M-19
M-9.2 PORTABLE SAMPLER AND THE ACCESSORIES.....	M-19
M-9.3 WATER QUALITY MONITORING EQUIPMENT LIST	M-20
M-9.4 PAYMENT	M-20

M-10 POTABLE WATER LINE

M-10.1 POTABLE WATER LINE	M-21
M-10.2 SUBMITTALS.....	M-21
M-10.3 QUALITY ASSURANCE	M-21
M-10.4 PRODUCT HANDLING	M-21
M-10.5 BACKFLOW PREVENTER.....	M-21
M-10.5.1 BACKFLOW PRECENTER ENCLOSURE	M-22
M-10.6 POINT OF CONNECTION.....	M-22
M-10.7 DISINFECTION AND TESTING	M-22
M-10.8 PAYMENTS.....	M-22

M-1 OPERATIONAL TESTS

M-1.1 Submittals. All submittals shall be clearly marked "Monteith Park Stormwater Capture Project". For submittals and review see Subsection 3-8 of Section G.

M-1.1.1 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 slide gate assembly and the appurtenances
- Electric motor operator
- Equipment vaults and the appurtenances
- Drive shaft covers
- Bevel gear pedestals
- Flow meters

M-1.1.2 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:

- Cast-iron slide gate assembly and the appurtenances
- Electric motor operator and controller
- Bevel gear unit
- Flow meter
- Pressure transducer

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 6-1.2 of Section G.

M-1.3 Instruction Manuals and Parts Catalogs. Before final inspection and performance testing of the slide gate assemblies, electric motor operators, and flow measuring systems, 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
- Electric motor operator and the appurtenances
- Bevel gear unit
- Flow meter and data logger

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 of the slide gate and their electric motor operator shall be tested. The operation of the slide gate and operator shall be tested and accurate records taken to verify that slide gate and operator will operate under the specified flow and pressure. 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 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. The slide gate, and all mechanical equipment shall operate without excessive noise or vibration and without overheating of bearings.
2. All automatic and manual electrical controls and instrumentation, including flow meter, sampler, etc., shall operate in accordance with the Specifications and manufacturer's requirements.
3. All motors shall operate without being overloaded.

M-1.5 Payment. The lump sum Bid price for "MECHANICAL WORKS" shall include, but is not limited to, furnishing all labor, materials, equipment fabrication; installing and field testing; performing all the required operational tests to provide a completely operable system.

M-2 MISCELLANEOUS MECHANICAL WORK

M-2.1 General. The Contractor shall furnish and install new cast-iron slide gate and the appurtenances, monitoring system, and other appurtenances specified or required to provide a complete and operable installation per Plans.

M-2.2 Scope of Work. The general scope of the work includes, but is not limited to the following:

- Install new cast-iron slide gate with bevel gear and electronic motor operator.
- Install new flow meters with data loggers.
- Install new pressure transducer in monitoring wells and dry wells.
- Install new refrigerated samplers.
- Install new velocity sensors.
- Refer to Electrical Specification sections for all associated electrical work.

M-2.3 Installation of the Equipment and the Appurtenances

M-2.3.1 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 3-8 of Section G.

M-2.4 Metal Work. This section includes all the miscellaneous metal work required for the installation of the pipes, fittings, supports, and valves.

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-2.4.1 Materials

M-2.4.1.1 Structural Steel. All structural steel shapes, plates, and bars shall conform to ASTM A 36, "Structural Steel."

M-2.4.1.2 Sheet Metal. All sheet metal shall conform to ASTM A 569, "Steel, Carbon (0.15 Maximum percent), Hot-Rolled Sheet and Strip Commercial Quality," galvanized per ASTM A 123.

M-2.4.1.3 Bolts, Nuts, and Steel Washers. Materials for bolts, nuts, and plain steel washers shall conform to ASTM A307, Grade B or ASTM A325, Type 3, unless otherwise specified.

M-2.4.1.4 Washers. Plate washers shall be fabricated from structural steel plate ASTM A36.

M-2.4.1.5 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-2.4.1.6 Stainless Steel Plate. Stainless steel plate shall be ASTM A167 or ASTM A240, Type 304.

M-2.4.1.7 Stainless Steel Bolts and Nuts. Stainless steel bolts and nuts shall be ASTM F593 and ASTM F594, Alloy 304.

M-2.4.2 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 is specified or called for on the Plans. All bolts, nuts, and screws shall be tight.

M-2.4.2.1 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-2.4.2.2 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-2.4.2.3 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-2.4.2.4 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 Agency-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-2.4.2.5 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-2.4.3 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-2.5 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-2.5.1 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-2.5.2 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-2.5.3 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-2.5.4 Epoxy Coating – Liquid Applied

A. Epoxy Primer. Epoxy primer shall be "Engard 482", as manufactured by Engard Coatings Corporation (2 mil dry thickness), or an Agency-approved equal.

B. Epoxy Coating. Epoxy coating shall be "Engard 482 (Gray)" as manufactured by Engard Coatings Corporation (15 mil dry thickness), 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-2.6 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but is not limited to, furnishing all labor, materials, equipment fabrication; installing and field testing; performing all the required Work included in this section, Miscellaneous Mechanical Work to provide a completely operable system.

M-3 CAST IRON SLIDE GATE ASSEMBLY

M-3.1 General. The Contractor shall furnish and install three (3) self-contained non-rising cast iron slide gate assemblies and the 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	Maximum Design Head (ft.)		Operating Seating Head (ft.)	Stem Dia.	Operator Type
	(in.)		Seating	Unseating		(in.)	
Intake Structures	24x24	3	65	37.5	14.33	1.5	EMO w/ bevel gear

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 assembly shall be Model S-500 as manufactured by Waterman.

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 yoke.

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 concrete backwall. 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 Guide. 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 non-rising 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 Yoke. The yoke shall be mounted on the machined pads provided on the upper ends of the guides. The yoke shall have a machined bearing surface for the pedestal mounting plate.

M-3.11 Pedestal Assembly. The gate manufacturer shall provide the fabricated yoke mounting steel pedestals for the 24"x24" slide gate to support the installation of the bevel gear units as shown on the Plans. The gate manufacturer shall provide shop drawing for the pedestal design for the Agency review and approval prior to begin construction.

M-3.12 Bevel Gear Support Structure. The bevel gear support structure shall be fabricated by the gate manufacturer and must comply with the design details indicated in the Plans. The bevel gear support structure shall be mounted on the manhole structure housing the cast-iron gate assembly. The gate manufacturer shall provide shop drawings for the bevel gear support structure for Agency review and approval prior to beginning construction.

M-3.13 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
Yokes	Cast Iron	A126 Class B

M-3.14 Payment. The lump sum Bid price for "MECHANICAL WORK" shall include, but not limited to furnish all labor, materials, equipment fabrication, installation, and field testing to perform all the required Work to provide a completely operable cast iron slide gate system.

M-4 ELECTRIC MOTOR OPERATORS AND APPURTENANCES

M-4.1 General. The Contractor shall furnish and installed three (3) electric motor operator (EMO) for each of the 24" x 24" slide gate complete with bevel gear unit and the appurtenances in the equipment vault.

The electric motor operator (EMO) shall be side mounted type and include, but not be limited to, the electric motor, operator reduction gearing, position limit switches, torque limit switches, limit switch gearing, stem lift nut, declutch lever, auxiliary handwheel, automatic resetting overloads, AC reversing magnetic starter, transformer, 24 point terminal strip, and compartment heaters as a self-contained unit with a ductile iron or cast-iron main housing. The operator shall be Limatorque MX-10 Series.

M-4.2 Operational Requirements. The electric motor operator shall be capable of raising and lowering the gate with a non-rising stem at a rate of travel of 9 to 12 inches per minute.

M-4.3 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 have an internal electric heater. 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 (Underwriters Laboratory, Factory Mutual (FM), Canadian Standards Association, or City of L.A.). The Contractor is to provide a gearbox to work in conjunction with the electronic motor actuator and provide the proper torque requirements via mechanical advantage at each site (M-4.16).

The motor for the slide gate shall comply with the following parameters:

Torque Rating	125 Ft-lb
Voltage	230 volts
Phase	1
Frequency	60 hertz
Speed	52 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
Heater Rating	25 watts @ 120 volts

M-4.4 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-4.5 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-4.6 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-4.7 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-4.8 Position Limit Switch. Position limit switches shall be geared directly to the operator drive mechanism and remain synchronous with the gate position whether manually or electrically operated. Limit switch gears shall be bronze or stainless steel, and be grease lubricated and totally enclosed to prevent entrance of foreign matter. The limit switches shall be of the open contact type with a rotary wiping action and be infinitely adjustable, allowing for trip points from fully open to fully closed positions of gate travel. Limit switch contacts shall be heavy duty, silver plated.

M-4.9 Analog Position Transmitter. The EMO shall have an analog position transmitter that is internally powered. It shall be a non-contact gate position transmitter that provides a 4-20mA signal proportional to the gate position.

M-4.10 Torque Switch. The operator shall include an adjustable torque limiting switch that will interrupt the control circuit in both the opening and closing directions when an obstruction is encountered, resulting in torque overload. Switch contacts shall be silver plated. The torque switch shall have graduated dials for both opening and closing direction of gate travel, and each shall be independently adjustable with a limiter plate to prevent setting beyond operator output torque capability.

M-4.11 Reversing Magnetic Starter. The reversing magnetic starter coil shall be rated for 120 volts and be capable of starting the motor.

M-4.12 Heater. The operator shall be supplied with at least one control compartment space heater rated at 20 to 25 watts at 120 volts and a motor heater rated at 25 watts at 120 volts.

M-4.13 Electrical Control Enclosure. The position limit switches, torque switches, starter, space heater, and terminal strips shall be housed in a single electrical enclosure compartment to

provide single entry access for field servicing of the components. The compartment enclosure shall be hinged and sealed by O-ring and shall meet NEMA 4 weatherproof construction.

M-4.14 Electric Motor Operator Control Station. A pushbutton control station shall be furnished for the motor operator.

The control station shall contain, as a minimum:

- One "OPENED" indicating light
- One "CLOSED" indicating light
- One "OPEN" pushbutton
- One "CLOSE" pushbutton
- One "STOP" pushbutton

"CLOSED" Indicating Light

The "CLOSED" (red) indicating light shall be off only when the gate is fully opened.

"OPENED" Indicating Light

The "OPENED" (green) indicating light shall be off only when the gate is fully closed. All indicating lamps shall be removable from the front of the panel. Lamps shall be rated at 120-volt, 60 hertz, 1 phase. Control stations shall be weatherproof (NEMA 4).

The control station shall be directly mounted and integral with the electric actuator.

Control stations shall be Limatorque SW320 or Agency-approved equal.

M-4.15 Protective Coating and Painting. All exposed ferrous metal surfaces of the cast-iron slide gate assembly shall be coated with the manufacturer's recommended fusion-bond epoxy. Surfaces shall be prepared by abrasive blast cleaning to SSPC-SP-10 before shop-applying of primer and finished coats.

Touch-up coating for each gate, the supplier shall furnish sufficient resin and hardener to make one gallon of the coating to repair any damage to the shop-applied coating sustained during shipping and installation.

All exposed exterior surfaces of the gate operator and pedestal shall have a minimum of one prime coat and two finish coats of machinery enamel suitable for outdoor service.

M-4.16 Bevel Gear Operators. The EMO shall be furnished with a bevel gear operator that is compatible with the Limatorque MX-10 actuator. 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 Limatorque V Series or Agency-approved equal.

M-4.16.1 Drive Shaft Assembly. The drive shaft assembly shall be fabricated per plan. The drive shaft assembly shall include a cover, couplings, and end plate with rotary shift seal.

M-4.17 EMO Remote Controller. The EMO shall be furnished with a remote controller that is compatible with the Limitorque MX-10 actuator. The remote controller shall include NEMA 4X 316 stainless steel enclosure, digital position indicator, selector switch with "Local-Off-Remote" and "Open/Close" and shall be Limitorque or Agency-approved equal.

M-4.18 Equipment Vault. The Contractor shall furnish and install one equipment vault to house the electric motor operator assembly as shown on the Plans. The vault shall be designed for H-20 traffic loading and watertight.

The vault access covers shall be sized to allow direct overhead access to all removable parts. Access covers shall be 2-pieces bolt down and meet the requirement of H-20 traffic loading.

The vault shall be provided with floor drain with backwater valve.

All piping and conduit penetrations through equipment vault walls shall be watertight. Penetration holes shall be performed or cored out smooth without damaging the structure.

M-4.19 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation, and field testing to perform all the required Work to provide a completely operable electric motor operating system.

M-5 FLOW METER SENSORS

M-5.1 Flow Meter. The Contractor shall furnish and install three new flow measuring systems capable of measuring water level and average velocity of the open channel. The system shall include but will not be limited to continuous wave doppler technology during submerge conditions, data logger capabilities, and additional appurtenances as needed.

The flow meter shall be mounted in the direct path of the storm water on the bottom of the storm drain, as shown on the plans. The flow meter enclosure shall be IP68 waterproof rating. The flow meter shall detect water levels via continuous wave doppler technology. The materials of construction shall be chlorinated polyvinyl chloride (CPVC), stainless steel, and PVC. Velocity accuracy shall be at $\pm 2\%$ of reading. Level measurement accuracy shall be ± 0.01 from 0.033 to 10ft.

The flow sensors shall be HACH Submerged Area Velocity Sensor (AV9000) or Agency approved equal. Minimum lengths of the cable shall be 310ft.

M-5.2 Flow Module. The Contractor shall furnish and install flow monitors for measuring and logging open channel flow. Flow monitoring equipment shall be HACH Submerged Area Velocity Analyzer Module.

Contractor shall install the flow meter and data logger in strict accordance with the manufacturer's instructions and recommendation. Manufacturer's representative shall include a start-up service, basic operational training, and certification of performance of the instrument by a factory-trained technician.

M-5.3 Flow Meter Sensor Data Logger. The Contractor shall furnish and install three new flow monitors for measuring and logging open channel flow at three different locations. Flow monitoring equipment shall be Hach Company, Model FL1500 or Agency-approved equal.

Contractor shall install the flow meter and data logger in strict accordance with the manufacturer's instructions and recommendation. Manufacturer's representative shall include a start-up service, basic operational training and certification of performance of the instrument by a factory-trained technician.

M-5.4 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation, and field testing to perform all the required Work for the flow meter sensors.

M-6 LASER SENSOR

The Contractor shall furnish and install level transmitters and the appurtenances for the monitoring wells and infiltration module as shown on the Plans.

M-6.1 Laser Level Sensor. The laser level sensor shall be engineered to directly measure water level inside the dry wells from 1.5 to 100 feet with accuracy of 0.1 feet. The systems shall include but will not be limited to non-contact depth detection, communication cable, mounting bracket, and additional appurtenances to be installed at the location shown on the plans.

The laser level sensor shall utilize the Infrared spectrum 905 with beam divergence of 1 foot beam diameter at 328 feet. The sensor shall be rated for Class 1 Division 1, temperature range of -28° to 140°F, power input 12-24 VDC, current drawn of 150 mA during measuring and 40 mA on standby.

The laser level sensor shall be manufactured by Laser Technology Inc. TruSense S300 series or Agency-approved equal. The minimum cable length shall be 200 feet.

M-6.2 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation, and field testing to perform all the required Work for the laser level sensor.

M-7 GAS SENSOR

The Contractor shall install three(3) gas sensor for continuous monitoring of flammable gases and vapors inside slide gate manholes as shown on the Plans. Cable length to be verified by contractor.

M-7.1 General. The gas sensor shall measure detect gas leakages at the earliest stage allows the maintenance crew to initiate safety measures on site.

The gas sensor shall be an explosion proof infrared gas detector, Dräger PIR 7000.

M-7.2 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation, and field testing to perform all the required Work for the gas sensor.

M-8 EQUIPMENT VAULTS AND APPURTENANCES

M-8.1 General. The Contractor shall furnish and install three equipment vaults to house the electric motor operators and other special piping assemblies as shown on the Plans. The vault shall be designed for HS-20 traffic loading and watertight. The Contractor shall submit a proposed design to meet all requirements in the specs for Agency review and acceptance.

The vault access covers shall be sized to allow direct overhead access to all removable parts. Access covers shall meet the requirement of HS-20 traffic loading.

The vault shall be provided with floor drain with backwater valve.

The vault shall be placed on a 6-inch minimum crushed rock base.

All piping and conduit penetrations through equipment vault walls shall be watertight. Penetration holes shall be performed or cored out smooth without damaging the structure.

M-8.2 Payment

The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation and field testing to perform all the required Work for equipment vaults and appurtenances.

M-9 WATER QUALITY MONITORING INSTRUMENTATION

M-9.1 General. The Contractor shall furnish and install the water quality monitoring instrumentation to monitor the effectiveness of the water capturing and treatment systems. The monitoring system shall include two portable samplers with a flow meter to take water sample of the influent and effluent for stormwater treatment system.

Prior to placing an order with the monitoring equipment vendor, the Contractor shall measure the distance between the monitoring cabinet and the bottom of the influent monitoring manhole to assure the flow sensor cable (Table 2 item #5) and the vinyl sampling tubing (Table 2 item #3) are ordered in a sufficient length. In addition, the distance between the monitoring cabinet and the bottom of the effluent monitoring manhole shall be measured to order a sufficient length of vinyl sampling tubing (Table 2 item #3).

The installation shall be observed by a representative from the Agency's Stormwater Quality Division.

Please contact Emiko Innes at (626) 458-7174 at least 1 week prior to installation.

M-9.2 Portable Sampler and Accessories. The portable auto-sampling system shall be designed for indoor and outdoor applications include but not limited to pumping system, area velocity flow meter, controller and backup battery supply (Hach system).

The sampler cabinet shall be molded from polyester resin fiberglass and supported by a stainless-steel frame with a UV-resistant gel coat to provide a smooth, non-porous finish for added protection and easy cleaning.

The portable sampler is capable of providing a suction lift of 28 feet of pressure head and deliver water sample of 1.25 gallons per minute utilizing a 3/8-inch Vinyl tubing. A 3/8-inch stainless steel strainer shall be installed at the tip of the suction tube to prevent debris from entering the system.

The area velocity flow meter shall use doppler technology to directly measure average velocity in the flow stream. The sensor shall be capable of measuring 0.05 to 20 feet of water with velocity up to 25 feet per second.

The controller interface shall provide plug and play connection with compatible measuring devices such as flow meter, and rain gauge.

M-9.3 Water Quality Monitoring Equipment List

TABLE 2 – EQUIPMENT TO BE INSTALLED IN THE INFLUENT AND EFFLUENT MANHOLES

Pre-treatment System #1 (South): MON-1-INF						
Item	Description	Model / Part Number	Reference Cost	QTY	Extended Cost	Vendor/Quote Source
1	Hach AS950 Portable Automated Sampler; non-contact liquid detector; 2 sensor ports; no rain gauge; portale standard base; 100-120V, 3 pins to sampler. US plug; composite (1) 2.5 gallon glass bottom kit; none for intake tube; None for sensor 1; None for sensor 2	ASP.CSXXS221XX	\$ 10,097.92	1	\$ 10,097.92	Ponton Industries, Inc.
2	Hach Submerged Area-Velocity Non-oil Filled Sensor	77064-XXX	\$ 1,945.44	1	\$ 1,945.44	Ponton Industries, Inc.
3	AV sensor cable \$4.45/ft (max 250 ft) (Need to measure the actual distance)	77155-PRB	\$ 5.59	100	\$ 559.00	Ponton Industries, Inc.
4	Hach AV9000 Module	9504600	\$ 1,197.28	1	\$ 1,197.28	Ponton Industries, Inc.
5	AV9000S to Port Hardware Kit	9506900	\$ 143.36	1	\$ 143.36	Ponton Industries, Inc.
6	Tubing, Vinyl Intake 3/8-in (100 ft)	923	\$ 175.00	1	\$ 175.00	Ponton Industries, Inc.
7	Strainer, High Velocity and Shallow Depth	4652	\$ 133.28	1	\$ 133.28	Ponton Industries, Inc.
8	I/O 9004 Module (connect to influent autosampler)	9494600	\$ 2,587.20	1	\$ 2,587.20	Ponton Industries, Inc.

Pre-treatment System #1 (South): MON-1-EFF						
Item	Description	Model / Part Number	Reference Cost	QTY	Extended Cost	Vendor/Quote Source
1	Hach AS950 Portable Automated Sampler; non-contact liquid detector; 2 sensor ports; no rain gauge; portale standard base; 100-120V, 3 pins to sampler. US plug; composite (1) 2.5 gallon glass bottom kit; none for intake tube; None for sensor 1; None for sensor 2	ASP.CSXXS221XX	\$ 10,097.92	1	\$ 10,097.92	Ponton Industries, Inc.
2	Tubing, Vinyl Intake 3/8-in (100 ft)	923	\$ 175.84	1	\$ 175.84	Ponton Industries, Inc.
3	Strainer, High Velocity and Shallow Depth	4652	\$ 133.28	1	\$ 133.28	Ponton Industries, Inc.
4	Junction box	9501000	\$ 453.60	1	\$ 453.60	Ponton Industries, Inc.

Miscellaneous / General Items						
1	1.5-lb Refill Bottle of Desiccant	8755500	\$ 34.99	1	\$ 34.99	

Communication/Telemetry						
1	Telog RU32 Logger	20-1084 RU32mA-L1V	\$ 2,245.00	1	\$ 2,245.00	Ponton Industries, Inc.
2	Pole Mount Antenna	A-CBA-LTE	\$ 150.00	1	\$ 150.00	Ponton Industries, Inc.
3	Set up fee		\$ 75.00	1	\$ 75.00	Ponton Industries, Inc.
4	Cloud data hosting fee, \$240 per year		\$ 240.00	3	\$ 720.00	Ponton Industries, Inc.
5	Verizon SIM Card				\$ -	

M-9.4 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation and field testing to perform all the required Work to provide a completely operable water quality monitoring system.

M-10 POTABLE WATER LINE

M-10.1 General. The Contractor shall furnish and install a new potable water line, valves, fittings, and meters with all its' appurtenances. The potable water line, valves, fittings, and meter with all its appurtenances shall meet the criteria of 2016 NSF/ANSI 61, 2018 NSF/ANSI 372, California Health and Safety Code Article 4 Lead Materials code and standards.

This section includes: Labor, materials, tools, and equipment to install plumbing systems as shown on the Plans.

The general scope of the work includes, but is not limited to the following:

- Install potable water lines
- Installing valves and meter(s)
- Install pipe fittings

Related sections:

- Section G – General Requirements

M-10.2 Submittals. The Contractor shall submit product catalog data sheets, cut sheets and specifications for the potable water line equipment and devices, including but not limited to, pipe, meters, backflow preventor, valves and fittings, in accordance with 3-8 in Section G. All submittals shall be sent as high quality PDF digital files in addition to hard copy manuals and drawings as otherwise specified. Scans of hardcopies or photocopies shall not be used unless necessary, but shall be rejectable for poor quality at the discretion of the Engineer.

The Contractor shall provide necessary documentation to Agency for processing rebates for water efficient fixtures.

M-10.3 Quality Assurance. Unless otherwise noted, the California Plumbing Code is hereby made part of this section.

Manufacturer of plumbing products must have ANSI/NSF Standard 61, Section 9 certification to demonstrate compliance with federal requirements for lead contribution to drinking water, Safe Drinking Water Act SDWA and AB 1953.

M-10.4 Product Handling. The Contractor shall provide material in a manner that does not damage the product, and care shall be taken when removing the products for use.

M-10.5 Backflow Preventer. The Contractor shall furnish and install a backflow preventer with all its' appurtenances.

Backflow preventer assemblies shall be Los Angeles County Department of Public Health-approved, and installed in accordance with the requirements of the serving water utility and the County Code.

The strainer shall meet the ANSI/NSF Standard 61. The strainer shall be a wye-type, the same size as the backflow preventer, constructed of cast bronze or copper, be rated for 250 pounds per

square inch of pressure, and be equipped with a removable, Type 304 stainless steel, 60-mesh strainer.

M-10.5.1 Backflow Preventer Enclosure. Controller enclosure shall be manufactured by one of the following, or Agency-approved equals:

- a) Guard Shack, model CGS – series; Tel: (1) 800-266-5411
http://www.guardshackenclosures.com/products/enclosures/S.S._Hinged/
- b) LeMeur, model BF – series; Tel: (1) 714-956-2010
<http://www.lemeurenclosures.com/Backflow-Enclosures/backflow-enclosures.html>
- c) V.I.T. / Strong Box, model SBBC – series; Tel: (1) 800-729-1314
<http://www.vitproducts.com/sites/default/files/product-files/SBBC-xxCR.pdf>

M-10.6 Point of Connection. The Contractor shall construct a supply line to the existing cold water supply line were shown on the Plans.

The Contractor is to submit a service request for a new water tap, service line, and meter installation through California American Water. Permits, paperwork, service request will be included in the lump sum bid price.

- 1) The supply line size shall be the same as the backflow prevention device unless otherwise shown on the Plans, but shall be no larger than the existing supply line.
- 2) The supply line shall be:
 - a) Type K copper pipe.
 - b) Installed a minimum of 30 inches below finish grade as measured from the top of the pipe.
 - c) Cut square on ends and all burs removed.
 - d) Cleaned on the outside of pipe and on the inside of the fittings to a bright finish using a sand cloth.
 - e) Coated with a paste-type non-corrosive solder flux.
 - f) Connect to galvanized steel with a dielectric union or coupling.

M-10.7 Disinfection and Testing. The Contractor must follow disinfection and testing practices as dictated by 2019 California Plumbing Code. New or repaired potable water systems are required to be disinfected by chlorination per 2019 California Plumbing Code Section 609.9 (2). Bacteriological testing of the potable water system will be required to be performed by an independent third party testing laboratory per 2019 California Plumbing Code Section 609.9 (4).

M-10.8 Payment. The lump sum Bid price for " MECHANICAL WORK " shall include, but not limited to furnish all labor, materials, equipment fabrication, installation and field testing to perform all the required Work to provide a completely operable potable water system.

PUBLIC WORKS

LOS ANGELES COUNTY

PROJECT ID NO. SWQ000005 CP-69813

SPECIAL PROVISIONS

SECTION LS - LANDSCAPING AND IRRIGATION

The following Special Provisions supplement and amend Part 8 of the Standard Specifications for Public Works Construction, 2018 Edition. As a reference convenience, these Special Provisions have been arranged into a format that parallels the Standard Specifications.



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5/26/2022
Date

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5/26/2022
Date

TABLE OF CONTENTS

PART 3 - CONSTRUCTION METHODS

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-4 MASONRY CONSTRUCTION	LS-5
303-4.3 Permeable Pavers.....	LS-5

PART 8 - LANDSCAPING AND IRRIGATION

SECTION 800 - MATERIALS

800-1 LANDSCAPING MATERIALS	LS-6
800-1.1 Topsoil	LS-6
800-1.2 Soil Fertilizing and Conditioning Materials	LS-13
800-1.4 Plants.....	LS-15
800-1.5 Headers, Stakes, and Ties	LS-16
800-1.6 Weed Control	LS-16
800-1.7 Root Barriers	LS-16
800-1.8 Miscellaneous Improvements	LS-17
800-1.9 Landscape Submittals List.....	LS-20
800-2 IRRIGATION SYSTEM MATERIALS	LS-21
800-2.1 Pipe and Fittings.....	LS-21
800-2.2 Valves and Valve Boxes	LS-21
800-2.3 Backflow Preventer Assemblies	LS-26
800-2.4 Sprinkler Equipment	LS-27
800-3 ELECTRICAL MATERIALS.....	LS-29
800-3.2 Conduit and Conductors	LS-29
800-3.3 Controller Unit	LS-29
800-4 Irrigation Submittals List.....	LS-32

SECTION 801 - INSTALLATION

801-1 GENERAL.....	LS-34
801-2 EARTHWORK AND TOPSOIL PLACEMENT	LS-37
801-2.1 General.....	LS-37
801-2.2 Topsoil Preparation and Conditioning.....	LS-37
801-2.3 Finish Grading.....	LS-38
801-4 PLANTING	LS-38

TABLE OF CONTENTS

801-4.1 General.....	LS-38
801-4.5 Tree and Shrub Planting.....	LS-40
801-4.6 Plant Staking and Guying	LS-40
801-4.9 Erosion Control Planting.....	LS-41
801-4.10 Geotextile weed barrier in LID.....	LS-41
801-5 IRRIGATION SYSTEM INSTALLATION.....	LS-42
801-5.1 General.....	LS-42
801-5.2 Trench Excavation and Backfill.....	LS-45
801-5.3 Irrigation Pipeline Installation	LS-46
801-5.4 Installation of Valves, Valve Boxes, and Special Equipment	LS-48
801-5.5 Sprinkler Head Installation	LS-51
801-5.6 Automatic Control System Installation.....	LS-52
801-5.7 Flushing and Testing.....	LS-53
801-6 MAINTENANCE AND PLANT ESTABLISHMENT	LS-54

SECTION 802 – DECORATIVE BOULDERS

802-1 GENERAL.....	LS-56
802-2 SUBMITTALS	LS-56
802-3 MATERIALS	LS-56
802-4 PLACEMENT	LS-56
802-4.1 General.....	LS-56
802-4.2 Subgrade.....	LS-56
802-4.3 Installation.....	LS-57
802-5 MEASUREMENT.....	LS-57

SECTION 803 – RIVER ROCK IN CONCRETE

803-1 GENERAL.....	LS-57
803-2 SUBMITTALS	LS-57
803-3 MATERIALS	LS-57
803-4 PLACEMENT	LS-58
803-4.1 General.....	LS-58
803-4.2 Subgrade.....	LS-58
803-4.3 Installation.....	LS-58
803-5 MEASUREMENT.....	LS-58

TABLE OF CONTENTS

SECTION 804 – RIVER ROCK COBBLE

804-1 GENERAL.....	LS-59
804-2 SUBMITTALS.....	LS-59
804-3 MATERIALS.....	LS-59
804-4 PLACEMENT.....	LS-60
804-4.1 General.....	LS-60
804-4.2 Subgrade.....	LS-60
804-4.3 Base.....	LS-60
804-4.4 Installation.....	LS-60
804-5 MEASUREMENT.....	LS-60

SECTION 805 – LANDSCAPE FURNISHINGS

805-1 GENERAL.....	LS-61
805-2 SUBMITTALS.....	LS-61
805-3 MATERIALS.....	LS-61
805-4 PLACEMENT.....	LS-66
805-4.1 General.....	LS-66
805-4.2 Subgrade.....	LS-66
805-4.3 Installation.....	LS-66
805-5 MEASUREMENT.....	LS-66

SECTION 806 – LANDSCAPE AND IRRIGATION PAYMENT

806-1 MEASUREMENT.....	LS-66
806-2 PAYMENT.....	LS-66

PART 3

CONSTRUCTION METHODS

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-4 MASONRY CONSTRUCTION. (Page 355 of the SSPWC)

Add the following:

303-4.3 Permeable Pavers. Contractor shall submit shop drawings of permeable pavers for review and approval in accordance with 3-8. Refer to manufacturer’s specifications and Plans for installation. Note Plans show details and installation for one of the (3) alternative manufacturers and example of equipment needed. Contractor shall submit and install manufacturer’s equipment and materials to provide installation for a complete system satisfying the selected manufacturer’s equipment, details, and requirements. Permeable pavers shall be manufactured by one of the following, or Agency-approved equals:

- a) Angelus Block, color blend: “Blended Colors: Gray, Moss, Charcoal” (blend of gray colors), 80mm thickness; Tel: (1) 951-328-9115
<https://www.angeluspavingstones.com/permeable-collections/permeable-holland/>
- b) Orco Block and Hardscape, color blend: “Manor Color” (blend of gray colors), 80mm thickness; Tel: (1) 714-527-2239
<https://www.orco.com/products/concrete-pavingstone-units/product/environmental-collection/cascada>
- c) Ackerstone, color blend: “Antique Pewter TM” (blend of gray colors), 80mm thickness; Tel: (1) 951-674-0047
<https://www.ackerstone.com/stock-portfolio/aqua-via-i-ca>

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 and bioswale soil to the Work site, the Contractor shall submit to the Engineer agronomic soil report(s) and growth (herbicide) test results in report form (test report) at a minimum of (1) report and additional report(s) for every 150 cubic yards of soil. 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 subsection 6-1.

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 locations reviewed and approved by the Engineer prior to sample collected by the testing laboratory.

ii) The Contractor shall submit the test reports in accordance with the following:

1. The Contractor shall submit test reports for the existing soil after the completion of the grading operations and prior to soil

preparation. Each location shall have two tests at the following depths: 0"-12" and 12"-24". Refer to Plans for soil testing locations.

2. Soil report shall include soil analysis and recommendations per the Water Efficient Landscape Ordinance California, section 492.5. The test reports shall be prepared by one of the following agronomic soils testing laboratories:

The test reports shall be prepared by one of the following agronomic soils testing laboratories, or Agency-approved equals:

Summit Turf and Hort Consultants
149 N. Citrus Street
Orange, CA 92868
(951) 258-7937
Email: <https://www.summithort.com/lab-services>

Wallace Laboratory
365 Coral Circle
El Segundo, CA 90245
(310) 615-0116
Email: gaw@wlabs.com

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 Public Works
Design Division, 6th Floor
Attention: Landscape Architecture Section Supervisor
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 accepted by the Agency for use. Contractor is required to amend the soil per the accepted agronomic soil report(s) recommendations. After completion of amending the soil, Contractor shall submit confirmation agronomic test report(s) for review and acceptance by the Agency. The Contractor shall not begin any planting work until the confirmation agronomic soil report(s) have been accepted by the Agency. Confirmation of recommended soil report(s) recommendations may also require additional soil testing with laboratory reports at no cost the Agency; material submittals/receipts; and/or, field observation and written documentation stating acceptance by the Engineer.

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). 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. Hydraulic conductivity rate shall be 2-5 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 3 to 5 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:

o) **Mechanical Analysis and Permeability Rate(s).** Bioswale soil shall consist of course sand and sandy loam topsoil. 10%-20% by volume of clay content can be present in the topsoil to provide cation exchange capacity (CEC). The percentage of the mix shall meet the hydraulic conductivity requirement below. Humus and compost can be added to increase the organic matter content as recommended per agronomic soils reports. All materials shall be free of wood, waste, coating such as clay, stone dust, carbonate, etc., or any other deleterious material. Hydraulic conductivity rate shall be 2-5 inches per hour when tested in accordance with the USDA Handbook Number 60, method 34b.

- p) Cations and Desirable Ranges. The range of the essential cation concentration in soil shall be as follows:

Calcium 65 – 80%
 Magnesium 10 – 15%
 Potassium 1 – 5%
 Sodium 0 – 1%
 Aluminum 0%.

- q) Course Sand. Course sand shall consist of natural or manufactured granular materials, or a combination of thereof. It shall be free of deleterious materials. Course sand gradation shall conform to the Standard Specifications for Public Works Construction, 2018 Edition.

- r) 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

- s) **Organic Matter Content.** Organic matter content shall be 3 to 5 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 suitable for agricultural use.
- 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.

800-1.2.5 Mulch.

Replace the entire subsection with the following:

Mulch shall be medium to fine textured (3/4 inch to 2 inch) ground wood by-product or shredded bark mulch and shall be dark brown in color. Mulch shall be free of freshly-cut vegetation, seeds, inorganic material, heavy metals, and fungus. Contractor shall submit the name, supplier, and physical sample in a double-lined plastic bag for review and approval prior to use.

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 Notice to Proceed in accordance with subsection 6-1 of Section G.

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 4-3.3 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. (Page 593 of the SSPWC)*Replace both 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,

https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/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.

800-1.5 Headers, Stakes, and Ties. (Page 593 of the SSPWC)

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.

Add the following subsection:

800-1.5.4 Tree ties. Tree ties shall be non-girdling and cause no damage to the tree in any way. Tree ties shall be manufactured by one of the following, or Agency-approved equals:

- a) Century Products, model Century Universal tree Ties; Tel (1) 714-632-7083
<https://centuryrootbarrier.com/product/universal-tree-ties/>
- b) GPH Irrigation Products, model GTT32; Tel (1) 866-582-9684
<https://www.gphirrigation.com/copy-of-flex-nipple>
- c) Villa Root Barrier, model Wonder Tree Tie W1446; Tel: (1) 800-654-4067
http://www.villarootbarrier.com/pro_wonder_tree_tie.html

Add the following subsections:

800-1.6 Weed Control. Weed control shall be performed through a physical, cultural, biological, or organic method. The use of chemical methods is prohibited within the limits of Work. Chemical methods prohibited include pre-emergent herbicides, post-emergent herbicides, and organic herbicides (all post-emergent, non-selective).

The Contractor shall submit for review and approval the method for weed control in accordance with 3-8.

800-1.7 Root Barriers. Root barriers (barriers) shall conform to Note 11 of SPPWC Standard Plan 520. Barriers shall be approved by the Engineer prior to use. Barriers shall

be installed per Plans. Root Control Barriers shall be manufactured by one of the following, or Agency-approved equals:

- a) Deep Root, model UB 24; Tel: (1) 415-781-9700
<https://www.deeproot.com/products/root-barrier/ub24-2/#head>
- b) Villa Root Barrier, model 24" Dual Purpose Panels; Tel: (1) 800-654-4067
<http://www.villarootbarrier.com/images/pdf-optimized/Dual%20Purpose.pdf>
- c) Century Products, model CP-24-2; Tel: (1) 714-632-7083
<https://centuryrootbarrier.com/product/root-barrier-panels/>

Barriers may be one continuous piece or be securely connected at splice points. Barriers shall be installed in accordance with the manufacturer's instructions and shall not be used as a form.

Backfill shall not be placed until barriers are in place upon completion of the adjacent work provided that adequate safety and warning devices are placed and maintained at each location. The area between the back of curb and the barriers shall be backfilled with topsoil per Plans.

800-1.8 Miscellaneous Improvements. The following items are Landscape Materials and are part of the Project. Contractor shall submit Landscape Materials for review and approval in accordance with 3-8.

800-1.8.1 Geotextile for Decorative Boulders, River Rock Cobble, and as shown on the Plans. Geotextile shall be type 90N per SSPWC, table 213-5.2(A) nonwoven geotextile. Manufacturers shall be one of the following, or Agency-approved equals:

- a) Mirafi, model 140n; Tel: (1) 310-903-2120
<https://www.tencategeo.us/en-us/products/nonwoven-geotextiles/mirafi-n-series>
- b) US Fabrics, model US12NW; Tel: (1) 800-518-2290
<https://www.usfabricsinc.com/assets/pdf/products/us-120nw/us-120nw.pdf>
- c) Engineered Synthetic Products, model SKAPS GT-142; Tel: (1) 770-564-1857
<http://www.espgeosynthetics.com/wp-content/uploads/2016/05/GT142.pdf>

800-1.8.2 Water barrier. Water barrier shall be 0.06” thickness, polyethylene with ultraviolet inhibitors and width size of 48”. Manufacturers shall be one of the following, or Agency-approved equals:

- a) Century Products, model CBW48-60; Tel: (1) 714-632-7083
<https://centuryrootbarrier.com/product/water-barrier-bamboo-barrier-0-60-roll/>
- b) Deep Root, model Water Barrier; Tel: (1) 800-458-7668
<https://www.deeproot.com/products/geomembrane/water-barrier.html#head>
- c) Villa Root Barrier Inc, model Moisture Barrier; Tel: (1) 800-654-4067
<http://www.espgeosynthetics.com/wp-content/uploads/2016/05/GT142.pdf>

800-1.8.3 Skateboard deterrents. Skateboard deterrents shall be pre-fabricated cast aluminum or stainless steel, product with radius to fit seat wall cap. Manufacturers shall be one of the following, or Agency-approved equals:

- a) Grind to a Halt, model Hemi Grinder Minder; Tel: (1) 630-365-2375
<https://www.grindtoahalt.com/portfolio-filterable-one-2/>
- b) The Park and Facilities Catalog, model 161-1002; Tel: (1) 800-280-9894
<https://www.theparkcatalog.com/skate-deterrent-for-walls-with-1-radius-edge>
- c) Skate Stoppers, model FR 0.5; Tel: (1) 619-447-6374
<http://www.skatestoppers.com/Templates/FR1cutsheet.PDF>

800-1.8.4 Integral Colored Concrete. Integral Colored concrete shall be manufactured with waterborne, low voc, environmentally sound, clear curing compound and sealer. Color selection on Plans used Davis Colors as a reference color and measuring instrument and verification guide and swatch example. Manufacturers shall be one of the following, or Agency approved equals:

Sealer shall be manufactured by one of the following:

- a) Scofield, model Colorcure Concrete Curing Compound and Sealer, color to match colored concrete; Tel: (1) 800-800-9900
<http://www.scofield.com/tdbpdf/2015/Colorcure-1680-12.pdf>
- b) Davis Colors, model Color Seal II, color to match colored concrete;

Tel: (1) 800-356-4848

<https://www.daviscolors.com/our-products/color-seal-ii/>

Colored concrete shall be manufactured by one of the following:

- a) Scofield, model Chromix Admixture for Color-Conditioned Concrete, color per Plans; Tel: (1) 800-800-9900
http://www.scofield.com/coloredconcrete_main.html
- b) Davis Colors, color per Plans; Tel: (1) 800-356-4848
<https://www.daviscolors.com/concrete-colors/>

800-1.8.5 ADA drinking fountain. ADA drinking fountain shall be per Plans.

800-1.8.6 Geotextile weed barrier in planting areas, excluding sod areas. Material shall be manufactured by one of the following, or Agency-approved equals:

- a) Mirafi, model Mscape E; Tel: (1) 888-795-0808
https://www.tencategeo.us/media/304f8718-b732-44c8-813e-e127bf795cfa/Bt0uQA/TenCate%20Geosynthetics/Documents%20AMER/Technical%20Data%20Sheets/Nonwoven/Mirafi%20MSCAPE/TDS_MSCAPE%20E%20170915.pdf
- b) US Fabrics, model US80NW; Tel: (1) 800-518-2290
<https://www.usfabricsinc.com/assets/pdf/products/us-80nw/us-80nw.pdf>
- c) Engineered Synthetic Products, model GE-140; Tel: (1) 800-444-5523
<http://www.jmdcompany.com/products/GE140.pdf>

800-1.8.7 Removable locking bollard. Removable locking bollard shall be manufactured by one of the following, or Agency-approved equals:

- a) Columbia, model 2190-RH; Tel: (1) 800-547-1940
[http://site-furnishings.columbia-cascade.com/columbia/Files/Images/Products/BaseProducts/2190-RH-E1%20Model%20\(1\).pdf](http://site-furnishings.columbia-cascade.com/columbia/Files/Images/Products/BaseProducts/2190-RH-E1%20Model%20(1).pdf)
- b) TrafficGuard Direct, model RP3504; Tel: (1) 877-727-7347
<http://www.trafficguard.net/removable/locking/roundpostkeylock/trafficguardlockigkeylockseriesrp3504/>

800-1.9 Landscape Submittals List.

Submit for approval in accordance with 3-8.

Landscape Material and Descriptive Literature.

Submit for acceptance six (6) copies of completed forms:

Include the manufacturer's name and model numbers for all materials required under this contract, together with two (2) copies of descriptive literature for each of the items listed below. Contractor shall commence no work prior to receiving statement of acceptance of landscape material submittal list and descriptive literature from the Agency. This list may not be comprehensive. The Contractor is responsible for all submittals to be used for completion of the Project. Submit items as follows:

Section No.	Submittal Item
303-4.3	Permeable Pavers
800-1.1.1 a)	Agronomic Soil Reports
800-1.1.2	Class "A" Topsoil
800-1.1.5	Class "D" Bioswale Soil
800-1.2	Soil Fertilizing and Conditioning Materials
800-1.2.5	Mulch
800-1.4	Plants
800-1.5.3	Tree Stakes
800-1.5.4	Tree Ties
800-1.6	Weed Control
800-1.7	Root Barriers
800-1.8.1	Geotextile
800-1.8.2	Water barrier
800-1.8.3	Skateboard deterrents
800-1.8.4	Integral colored concrete
800-1.8.5	ADA drinking fountain
800-1.8.6	Geotextile weed barrier in LID
800-1.8.7	Removable locking bollard
802	Decorative Boulders
803	River rock in concrete
804	River rock cobble
805	Landscape furnishings
805-3.1 a)	Concrete park bench (with Conc. Footing in Planting Areas)

805-3.1 b)	Concrete picnic table (and Concrete Picnic Table ADA Accessible)
805-3.1 c)	Concrete trash receptacle
805-3.1 d)	Interpretive sign
805-3.1 e)	Grant Sign (Type A) Grant Sign (Type B)
806-3.1 f)	Raised 8 ft long planter w/trellis
806-3.1 g)	6' Concrete Pocket Park Monument Sign and Exhibit Base

800-2 IRRIGATION SYSTEM MATERIALS.

800-2.1 Pipe and Fittings. (Page 594 of the SSPWC)

800-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings.

Add the following:

a) Pipe materials shall be as follows:

- 1) For mainline pipe, Schedule 80 PVC shall be used. Pipe for reclaimed water shall be Class 315 PVC or Schedule 200 PVC.
- 2) For lateral pipe, Schedule 40 PVC shall be used.
- 3) Pipe for reclaimed water shall be purple.

b) Threaded nipples shall be PVC Type II.

c) For above ground applications, all pipes and fittings shall be ultraviolet (UV) resistant and produced for use in above ground applications.

800-2.2 Valves and Valve Boxes. (Page 595 of the SSPWC)

800-2.2.2 Gate Valves.

Replace the entire subsection with the following:

Gate valves shall be AWWA-approved, the same size as the pipe in which they are to be installed, and shall open to the left. Gate valves shall be packed with graphite braided stem packing.

- a) Refer to the Plans for the manufacturer's name and model number.
- b) Gate valves for sizes 2-inch and smaller shall conform to the following:
 - 1) 125 psi/8.6 bar saturated steam rated.
 - 2) Bronze body.
 - 3) Non-rising stem.
 - 4) Screw-in bronze bonnet.
 - 5) Solid bronze wedge.
 - 6) Equipped with a hand wheel.
- c) Gate valves for sizes 2-1/2 inches and larger shall conform to the following:
 - 1) 125 psi/8.6 bar saturated steam rated.
 - 2) Iron body.
 - 3) Flanged joints.
 - 4) Outside screw and yoke.
 - 5) Bolted bonnet.
 - 6) Solid wedge.
 - 7) Equipped with an operating nut and handwheel.

800-2.2.4 Remote Control Valves.

Add the following:

- e) Refer to the Plans for the manufacturer and size(s) of proposed remote control valves. All valves furnished shall be from the same manufacturer.
- f) Valves shall be normally closed.

- g) Valves shall only have one piece diaphragms. "O" rings will not be allowed.
- h) Valves shall be completely serviceable from the top without removing the valve body from the mainline system.
- i) Identification tags for electrical remote control valves shall be manufactured from an ultraviolet light stabilized polyurethane material. The tags shall be hot-stamped with black letters on yellow background. The tags shall be numbered to match the programming shown on the Plans. One tag for each electric remote control valve shall be provided.

800-2.2.6 Quick-Coupling Valves and Assemblies.

Add the following:

Quick-coupling valves shall have a lockable lid with a rubber cover. Refer to the Plans for the manufacturer's name and model number.

800-2.2.7 Valve Boxes.

Add the following:

An extension at the bottom shall be furnished and installed as necessary to adjust the height to conform to the details shown on the Plans and to meet actual field conditions. Valve boxes shall be manufactured by one of the following, or Agency-approved equals:

- a) Brooks Products, model 3-H MB series; Tel: (1) 909-947-7470
<http://www.brooksproductsnw.com/catalog/meterboxno03cat.pdf>
- b) Eisel Enterprises, model 3HL series; Tel: (1) 714-993-1706
http://eiselenterprises.com/water_series/ws3HL.pdf

Valve boxes shall conform to the following:

- a) Valve boxes for remote control valves shall be a minimum of 9-1/2 inches x 15-1/2 inches and shall have a hinged, cast iron locking lid. Lids shall be marked "RCV" with 3-inch high epoxy paint or cast letters.
- b) Valve boxes for flow meters and master control valves shall be a minimum of 9-1/2 inches x 15-1/2 inches and shall have a hinged, locking lid. Lids shall be marked "FM" and "MV" with 3-inch high epoxy paint or cast letters.

- c) Valve boxes for gate valves shall be a 9-inch diameter, adjustable concrete sleeve with a cast iron locking lid. Lid shall be marked “GV” with 3-inch high epoxy paint or cast letters.
- d) Valve boxes for quick coupler valves shall be a minimum of 9-1/2 inches x 15-1/2 inches and shall have a hinged, cast iron locking lid. Lids shall be marked “QCV” with 3-inch high epoxy paint or cast letters.
- e) Valve boxes for pressure regulator valves shall be a minimum of 9-1/2 inches x 15-1/2 inches and shall have a hinged, cast iron locking lid. Lids shall be marked “PRV” with 3-inch high epoxy paint or cast letters.
- f) Valve boxes for air relief and flush valves shall be round plastic with a bolt down or locking lid. The inside diameter shall be a minimum of 9 inches. Lids shall be marked “ARV” and “FV” with 3-inch high letters using epoxy paint or by stamping into the surface. Valve boxes for air relief and flush valves shall be one of the following, or Agency-approved equals:
 - 1) Carson Plastics (Oldcastle Enclosure Solutions), model 910;
Tel: (1) 877-250-5139
<https://oldcastleinfrastructure.com/product/carson-specification-grade-910/>
 - 2) NDS Applied Engineering Products, model 112BCW
Tel: (1) 888-825-4716
<https://www.ndspro.com/10-round-standard-series-green-box-green-cover-water.html>

Add the following subsections:

800-2.2.8 Check Valves and/or Anti-Drain Valves. Check valves and/or anti-drain valves shall conform to the following:

- a) Check valves shall be the vertical-type; the same size as the riser; and have a stainless steel spring-loaded (5 to 6 pounds) bronze-type poppet valve lined with a flat neoprene disc. Valve seats shall be tapered to sit against the disc.
- b) Horizontal check valves shall be constructed of bronze with a closing disc plate set on an angle. The disc holder shall contain a renewable composition disc and close tightly.

- c) Check valves shall be constructed of corrosion-free materials enclosed in a PVC housing with a stainless-steel spring and neoprene internal components and be adjustable from 5 feet to 40 feet in elevation.

800-2.2.9 Pressure Regulator Valves. Pressure regulator valves shall be of all bronze construction and include a 3-1/2-inch diameter pressure gauge. The pressure gauge shall have a bottom connection, cast iron case, and a range of 0 to 200 pounds. Pressure regulator valves shall be manufactured by one of the following, or Agency-approved equals:

- a) Watts, model LF223S; Tel: (1) 978-689-6066
http://www.watts.com/pages/_products_details.asp?pid=6816
- b) Zurn, model 500XL; Tel: (1) 855-663-9876
http://www.zurn.com/media-library/web_documents/pdfs/specsheets/reg-500xl-pdf

800-2.2.10 Pressure Relief Valves. Pressure relief valves shall be of all bronze construction, have a 1/8 inch Monel strainer with a removable basket, and include a 3-1/2-inch diameter pressure gauge. The pressure gauge shall have a bottom connection, cast iron case, and a range of 0 to 200 pounds.

800-2.2.11 Flow Sensor with Master Valve. Flow sensor with master valve shall be per Plans.

800-2.2.12 Rain Sensor and Rain Sensor Enclosure. Rain sensor shall be mounted per Plans and shall have all necessary connections, software compatibility, and be fully functional with the controller to detect and interrupt irrigation in response to rain events. Rain sensor and rain sensor enclosure shall be manufactured by one of the following, or Agency approved equals:

- 1) WeatherTrak controller shall use one of the following rain sensors, or Agency-approved equal:
- i) Rain sensor unit:
- a. Hunter, model Mini-Clik; Tel: (1) 800-733-2823
https://www.hunterindustries.com/sites/default/files/BR_MINICLIK_dom.pdf
- b. Rainbird, model RSD series; Tel: (1) 800-724-6247
<https://www.rainbird.com/products/rsd-series-rain-shut>
- i. Rain sensor enclosure:

- a. Hunter, model SG-MC ; Tel: (1) 800-733-2823
https://www.hunterindustries.com/sites/default/files/BR_MINICLI_K_dom.pdf
- b. Allspec, model ASRG-SS; Tel: (1) 877-255-7732
<http://allspecenclosures.com/wp-content/uploads/2014/02/Catalog-All-Spec-Enclosures-2013.pdf>

800-2.2.13 Wire connectors. Wire connectors sensor shall be installed per Plans.

- a) Wire connectors shall be manufactured by one of the following, or Agency approved equals:
 - 1) 3M, model Direct Bury; Tel: (1) 800-245-3573
<https://multimedia.3m.com/mws/media/653865O/3m-direct-bury-splice-kit-dbr-y-6-data-sheet-78-8129-9255-6-c.pdf>
 - 2) King Innovation, model DS-500; Tel: (1) 800-624-4320
<https://www.kinginnovation.com/products/32/dryconn-dbr-y-600>
 - 3) RainBird, model WC100; Tel: (1) 800-724-6247
<https://www.rainbird.com/products/wc100-wire-connectors>

800-2.3 Backflow Preventer Assemblies. (Page 595 of the SSPWC)

Add the following:

Backflow preventer assemblies shall be Los Angeles County Department of Public Health-approved, and installed in accordance with the requirements of the serving water utility and the County Code.

The strainer shall be a wye-type, the same size as the backflow preventer, constructed of cast bronze or copper, be rated for 175 pounds per square inch of pressure, and be equipped with a removable, Type 304 stainless steel, 20-mesh strainer.

Backflow preventer shall be manufactured by:

- a) Wilkins, model 375 (size per Plan); Strainer: YBXL ; Tel: (1) 855-663-9876
[https://www.zurn.com/media-library/web_documents/pdfs/specsheets/bf-375\(sm\)-pdf](https://www.zurn.com/media-library/web_documents/pdfs/specsheets/bf-375(sm)-pdf)

Add the following subsection:

800-2.3.1 Backflow Preventer Enclosure. Controller enclosure shall be manufactured by one of the following, or Agency-approved equals:

- a) Guard Shack, model CGS – series; Tel: (1) 800-266-5411
http://www.guardshackenclosures.com/products/enclosures/S.S._Hinged/
- b) LeMeur, model BF – series; Tel: (1) 714-956-2010
<http://www.lemeurenclosures.com/Backflow-Enclosures/backflow-enclosures.html>
- a) V.I.T. / Strong Box, model SBBC – series; Tel: (1) 800-729-1314
<http://www.vitproducts.com/sites/default/files/product-files/SBBC-xxCR.pdf>

800-2.4 Sprinkler Equipment. (Page 595 of the SSPWC)

Delete the second sentence and add the following:

Irrigation sprinkler equipment shall be manufactured by Rainbird. Irrigation design calculations were produced using irrigation equipment spray bodies, rotors, nozzles, and bubblers from one singular product manufacturer, Rainbird.

- a) Sprinkler equipment such as spray bodies, rotors, nozzles, bubblers, tree bubblers, dripline, and all other irrigation emitting devices shall be of the same manufacturer throughout the project limits.
- b) Tree shall have irrigation equipment per Plans.
- c) All sprinkler equipment must be a current model in production for at least one year.
- d) Spray heads shall have an adjustable nozzle.
- e) Irrigation riser assemblies shall consist of an irrigation inlet that utilizes a triple-swing joint riser assembled in the field using Schedule 80 PVC threaded ells and Schedule 80, Type II PVC nipples (threaded at both ends), or galvanized steel of the same size as shown on the Plans for the irrigation head inlet. Street ells will not be allowed.
- f) Detectable type tracer/warning tape shall be blue, a minimum of 2 inches wide, and printed with the words "Buried Water Line Below".

Add the following subsections:

800-2.4.1 Tree root watering system. Tree root watering system shall be installed per Plans. Refer to the Plans for the manufacturer's name and model number. Tree root watering system shall have flow rates, pressure compensating bubbler per Plans, include locking cap to semi-rigid mesh tube surrounding bubbler, and be of the same manufacturer throughout the project limits.

800-2.4.2 Shrub Bubbler Emitter.

- a) Shrub bubbler emitter shall have flow rates per Plans. Shrub bubbler emitter material and installation shall conform to the following. The Contractor shall:
- 1) Provide irrigation 1/2" flexible PVC per Plans. All 1/2" flexible PVC shall be IPS algae resistant hose tubing (0.840" OD X 0.560" ID) to all plant materials shown on the Plans.
 - 2) Install the shrub bubbler emitter system in conformance with the details shown on the Plans. Ensure that the shrub bubbler emitter system 1/2" PVC hose tubing aligns with the planting layout.
- b) All shrub bubbler emitters furnished shall be from the same manufacturer and model. Shrub bubbler emitter shall be manufactured by one of the following, or Agency-approved equal:
- 1) Rainbird, model 1401 (0.25 gpm), 1402 (0.5 gpm) flow per Plans; Tel: (1) 800-458-3005
<https://www.rainbird.com/products/1400-series-pressure-compensating-bubbler>
 - 2) Hunter, model MSBN-25 (0.25 gpm) flow per Plans; Tel: (1) 760-744-5240
<https://www.hunterindustries.com/sites/default/files/CA-Cutsheet-Bubbler-Nozzles-US.pdf>

800-3 ELECTRICAL MATERIALS.**800-3.2 Conduit and Conductors.** (Page 596 of the SSPWC)**800-3.2.1 Conduit.**

Replace the entire subsection with the following:

Conduit shall be galvanized steel, or Schedule 40 PVC, or Schedule 80 PVC conforming to 700-3.5. Conduit shall be 1 inch in size unless otherwise shown on the Plans.

800-3.3 Controller Unit. (Page 596 of the SSPWC)

Add the following:

- a) Automatic controller units shall have the following features:
- 1) The minimum number of stations required as shown on the Plans.
 - 2) Provide and install a separate electrical disconnect switch at the controller.
 - 3) Programmable for various schedules and equipped with the following features:
 - i) Each station shall be capable of operating at least 2 minutes to 60 minutes with incrementally variable timing periods for each station; automatic, semi-automatic and manual operation. Each station shall have an "OFF" or "OMIT" switch.
 - ii) Repeat switch allowing any and all stations to be repeated after completion of the initial watering schedule, or allowing repeat operations for any or all stations to be scheduled throughout a 24 hour day.
 - iii) "ON-OFF" switch for turning controller "OFF" during rainy weather, while allowing day and hour clocks to continue in operation.
 - iv) Capable of operating 24-volt electric valves.
 - v) 48-hour rain delay.

- vi) Controller shall detect high flow conditions created by system damage or malfunction and able to operate a master control valve, which shall be located just downstream of the point of connection. Solar controller is currently incapable of functioning with flow sensor and master valve and is therefore excluded from this requirement.
 - vii) Controllers shall operate with reference evapotranspiration and on-site rain sensor. Controller shall operate to suspend or alter irrigation operations during unfavorable weather conditions.
 - viii) Controllers shall be as produced by one of the alternative manufacturers listed in below section with the number of stations per Plans.
- b) Solar Controller with Enclosure and Rain Sensor. Controllers shall have the number of stations per Plans and be produced by one of the following manufacturers, or Agency-approved equals:
- a. Hunter, model XC, XCHSPOLE (mounting column); Tel: (1) 800-733-2823
<https://www.hunterindustries.com/irrigation-product/controllers/xc-hybrid>
 - b. LEIT, model 4006, MCOL-4000L (mounting column); Tel: (1) 800-322-9146
<https://www.digcorp.com/professional-irrigation-products/leit-4000-4-6-8-station-controllers>
- c) AC powered Controller unit shall have rain sensor, rain bucket, or weather sensor with rain shut off, ET data plan, and flow meter/sensor compatible and/or be the same as the manufacturer of the AC powered controller unit per Plans.
- d) Rain Sensor or weather sensor with rain shut off shall be mounted per Plan and be compatible with the Controller unit and shall have all necessary connections, software compatibility, and be fully functional and compatible with the irrigation controller to detect and interrupt irrigation in response to rain events.
- e) The controller enclosure shall be vandal-resistant, weatherproof, able to house the controller(s), and conform to the following:
- 1) Un-finished metal surfaces, except stainless steel, shall be shop-finished with an epoxy enamel coating system. Refer to the Plans for the required color. The finish

shall be protected from damage during shipment and installation. The Contractor shall be responsible for repairs to areas of metal exposed by damage.

- 2) Installation shall be with a lockable and tamper-proof pedestal housing.
- f) Automatic irrigation control wire shall consist of the following:
- 1) Twenty-four volt wire to solenoid valves shall be direct-burial conductor-type UF #14 AWG copper, 3/64 inch thickness, with a PVC coating, and be UL-. approved.
 - 2) Common wires shall be white-coded. Pilot wires shall be color-coded with different colors and different colors with different colored stripe to provide each valve with unique color-coded wire quantity to equal the quantity of stations per Plans.
 - a. Color coded wires shall be manufactured by one of the following, or Agency-approved equals:
 - i. Paige Electric, model P7001D, Tel: (1) 908-687-7810
<https://www.paigewire.com/products.aspx?cat=5&specid=21>
 - ii. Regency Wire, model UF/TWU, Tel: (1) 800-876-3020
<https://www.regencywire.com/product/uf-twu-irrigation-wire/>
- g) Twenty-four volt valve solenoids shall be constructed of corrosion-proof stainless steel protected by solid epoxy resin. The coil shall operate one valve at 4,000 feet on a No. 14 wire. Solenoid valves shall not bleed to the atmosphere.
- h) Install irrigation wires in pull boxes per Plans. Pull boxes shall have an extension at the bottom and shall be furnished and installed as necessary to adjust the height to conform to the details shown on the Plans and to meet actual field conditions. Pull boxes for irrigation wires shall be manufactured by one of the following, or Agency-approved equals:
- 1) Brooks Products, model 3-HL, 3MB series; Tel: (1) 909-947-7470
<https://www.jensenprecast.com/Underground-Enclosures/Brooks/Meter-Boxes-p16070/Brooks-3MB-9-1-2-x-16-Meter-Box-d2544.pdf>
 - 2) Eisel Enterprises, model 3HL series; Tel: (1) 714-993-1706
http://eiselenterprises.com/water_series/ws3HL.pdf

Pull boxes for irrigation wires shall conform to the following:

- 1) Pull box shall be a minimum of 9-1/2 inches x 15-1/2 inches and shall have a hinged, cast iron locking lid. Lids shall be marked “IPP” with 3-inch high epoxy paint or cast letters.

Add the following subsection:

800-4 Irrigation Submittals List.

- a) Submit for approval in accordance with 3-8.
- b) Irrigation Material Submittal List and Descriptive Literature.

Submit for acceptance six (6) copies of completed forms:

Include the manufacturer’s name and model numbers for all materials required under this contract, together with two (2) copies of descriptive literature for each of the items listed below. Contractor shall commence no work prior to receiving statement of acceptance of irrigation material submittal list and descriptive literature from the Agency. This list may not be comprehensive the Contractor is responsible for all submittals to be used for completion of the Project. Submit items as follows:

Section No.	Submittal Item
800-2.1	Pipe and Fittings
800-2.1.3	Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings
800-2.2.2	Gate Valves
800-2.2.4	Remote Control Valves
800-2.2.6	Quick-Coupling Valves and Assemblies
800-2.2.7	Valve Boxes
800-2.2.9	Pressure Regulator Valves
800-2.2.10	Pressure Relief Valves
800-2.2.11	Flow sensor with Master Valve
800-2.2.12	Rain Sensor
800-2.2.13	Wire connectors
800-2.3	Backflow Preventer Assemblies
800-2.3.1	Backflow Preventer Enclosure
800-2.4	Sprinkler Equipment
800-2.4 i)	Detectable type tracer/warning tape

800-3.2	Conduit and Conductors
800-3.2.1	Conduit
800-3.3	Controller Unit and Flow Meter/Sensor
800-3.3 c)	Controller Enclosure
800-3.3 f)	Automatic irrigation control wire

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 design intent and proposed work shown on the Landscape Plans conflict with existing field conditions including tree root issues, the Landscape Architect shall be notified. Contractor shall proceed only after final review and approval by the Landscape Architect.

The Contractor shall protect the tree and root zone during construction by conforming to the following:

- 1) No work shall be done within the drip line (or root protection zone (RPZ) per Tree Protection Plan) of the tree without a Certified Arborist's assessment and Engineer's approval. In the case where scope of work is shown within the drip lines, contractor shall lay out the design and gain approval from the Engineer and Certified Arborist prior to proceeding with work. Field adjustments and modifications to the design may be necessary if the main structural roots and buttress roots are present during clearing and grubbing or any earthwork.
- 2) The main structural integrity of the roots shall not be compromised. The cutting of the buttress roots shall be avoided. A Certified Arborist assessment is required in the event that buttress roots are accidentally cut or severed. The Engineer's approval is required before proceeding.
- 3) Where lowering or raising of the grade is unavoidable, a Certified Arborist's assessment and the Engineer's approval will be required prior to the start of any grade adjustments.
- 4) With the presence of a Certified Arborist and/or the Landscape Architect, a maximum of 25 percent of the overall root zone may be clean cut with a sharp tool at right angles to the roots.

- 5) Roots greater than 1-1/2 inches in diameter shall not be cut without a Certified Arborist's assessment or report of tree conditions including the probability of survival, and the Engineer's approval.
- 6) No trenching of roots will be allowed in the root zone without the Engineer's review and approval. Proposed pipes or cables located within the dripline may be bored or tunneled per field conditions and as directed by the Certified Arborist and approval by the Engineer. Trenches shall be radial to the trunk and the same trench shall be used for multiple utilities unless otherwise approved by the Engineer.
- 7) Work shall be accomplished with hand tools within the root zone. Heavy equipment shall not pass over the root zone.
- 8) Root pruning shall conform with the SPPWC Standard Plan 523 and the provisions herein:
 - i) Root pruning and tree trimming shall be performed by ISA Certified Arborists.
 - ii) Root pruning equipment shall be specifically designed for this purpose, sharpened adequately to sever roots in a clean manner, and equipped with padded tracks or rubber tires to prevent scraping or marking of the roadway or curbs.
 - iii) Root sealer shall be applied as soon as practical after the cuts have been made. Root sealer shall be applied to cut root areas which are larger than 2 inches in diameter and as directed by the Certified Arborist and approved by the Engineer.
- 9) The Contractor shall repair or replace utility service connections and sprinkler systems within the right-of-way which are damaged or removed as a result of root pruning operations. Repairs shall be initiated immediately upon the occurrence of damage or removal and completed by the end of each working day. Repairs and replacements shall be the equivalent of, or better than, the existing improvements in material, dimension, and function. Repair and replacement shall be at the Contractor's expense and to the satisfaction of the Engineer.
- 10) Chain link fencing with an access gate shall be furnished and installed to protect the root zone, subject to Engineer's review of site conditions. 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.

- 11) The root zone shall be irrigated with clean potable water.
- 12) 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.
- 13) No construction staging, storage and disposing of materials will be allowed within the root zone.
- 14) 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.
- 15) Damage caused to the tree from construction or failure to adhere to the Special Provisions Section 801-1 Root Zone Protection, will require a Certified Arborist to evaluate the impact of the damage. If the arborist's assessment determines that the damage is leading the tree towards a state of decline or future failure, a tree replacement will be required. Tree assessment shall be conducted by the Agency's Certified Arborist to determine the value of tree replacement at the Contractor's expense.

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 of SSPWC.
- c) **Mulching.** Trees, shrubs and ground covers shall be mulched in accordance with the following:
- 1) Stabilized slopes and slopes steeper than 3:1 shall not be mulched.
 - 2) Each container plant shall have a 3-inch minimum layer of mulch placed in its watering basin.
 - 3) Except for sod or lawn areas, all planted areas shall have a 3-inch minimum layer of mulch.

d) Inspection. In addition to the provisions of 3-5, 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 3-13, 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 Plant Establishment Period.
 - vii) During required fertilizer application within the Plant Establishment Period.
 - viii) Upon completion of the 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 minimum 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 minimum width 2 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 that 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.

801-4.10 Geotextile weed barrier in LID. Contractor shall install per SSPWC, 300-10 Geotextiles for Separation and the following:

- a) Contractor shall install mock-up of one enclosed LID planting area, bounded by curb headers, curb and gutter and other hardscape for review and approval by the Engineer prior to installation. Area for mock-up shall be proposed and reviewed and accepted by the Engineer before proceeding to installing mock-up. Contractor shall install remaining areas after mock-up is reviewed and accepted by the Engineer.
- b) Contractor shall install Geotextile over finish grade and after installation of irrigation equipment that is below surface. Mulch shall be placed on top of the Geotextile.

801-5 IRRIGATION SYSTEM INSTALLATION.**801-5.1 General.** (Page 601 of the SSPWC)*Add the following:*

The Contractor shall adjust the location or alignment of the irrigation system to avoid existing utilities, signs, trees, and other interfering improvements as directed and approved by the Engineer.

a) Inspection. In addition to the provisions of 3-5, the following inspections will be performed in the presence of the Engineer with the assistance of the Agency Landscape Architect, prior to the final inspection specified in 801-6 of SSPWC:

- 1) Pressure test before backfilling.
- 2) Marker locations for placement of irrigation heads prior to installation.
- 3) Irrigation system coverage test. The coverage test inspection shall be scheduled for and will be performed immediately after completion of the irrigation system and prior to the start of any planting. The entire irrigation system shall have been flushed clean and all heads and other irrigation equipment have been adjusted for proper operation, and the controller fully-operational and ready for automatic cycling prior to the coverage test. Necessary adjustments and additional work shall be completed prior to the start of planting.

b) “As-Built” Plans.

- 1) The Contractor shall provide and keep up to date a complete set of black line prints of the Plans (draft “as-built” Plans) which shall be annotated daily to show every change from the Plans and Specifications issued at the time of advertisement of the Contract and the exact locations, sizes and kinds of equipment installed.
- 2) The Contractor shall dimension from 2 permanent points of reference the location of all buried pipes and valves, any and all pilot wires to valves and controllers, and all electric service lines to controllers. Dimensions shall be taken prior to the backfilling of trenches.
- 3) Prior to the start of the Plant Establishment Period specified on 801-6 of SSPWC, the Contractor shall transfer the annotations from the aforementioned “draft as-

built” Plans onto a clean set of black line prints (final “as-built” Plans). Annotations shall be neatly drafted in ink and shall be approved by the Engineer.

c) Controller Charts.

- 1) The Contractor shall provide 2 controller charts for each automatic controller supplied showing the area covered. The chart size shall be the maximum size the controller door will allow unless otherwise approved by the Engineer.
- 2) Controller charts shall be a reduced-size copy of the final “as-built” Plans of the irrigation system. However, in the event the controller sequence is not legible after the size is reduced, it shall be enlarged to a readable size.
- 3) Controller charts shall have a different color for each station showing the area of coverage.
- 4) When completed and approved, each chart shall be hermetically sealed between 2 pieces of plastic, each piece being a minimum of 20 mils thick.
- 5) Controller charts must be completed and approved prior to the final inspection of the irrigation system.

d) Point of Connection (to a dedicated irrigation water meter).

- 1) The Contractor shall construct an irrigation supply line from the water meter to the backflow prevention device.
- 2) The supply line shall be Type K copper pipe unless otherwise required by the water utility owner.
- 3) The supply line pipe size shall be the same as the backflow prevention device but no larger than the size of the water meter.

e) Point of Connection (to an existing supply line).

- 1) The Contractor shall construct an irrigation supply line to the existing cold water supply line where shown on the Plans.
- 2) Connections to existing cast iron, PVC, and/or galvanized pipe shall be by any of the following methods.
 - i) Pressure-rated 150-200 AWS-A21.10 cast iron fittings.

- ii) Tapping sleeves.
 - iii) Cutting in a "tee."
 - iv) Threaded fittings.
 - v) Saddle with double-bale flattened, double-bronze straps.
 - vi) PVC fittings for solvent welding (PVC pipe only).
- 3) Irrigation supply line size shall be the same as the backflow prevention device unless otherwise shown on the Plans, but shall be no larger than the existing supply line.
- 4) The irrigation supply line shall be:
- i) Type K copper pipe.
 - ii) Installed a minimum of 30 inches below finish grade as measured from the top of the pipe.
 - iii) Cut square on ends and all burs removed.
 - iv) Cleaned on the outside of pipe and on the inside of the fittings to a bright finish using a sand cloth.
 - v) Coated with a paste-type non-corrosive solder flux.
 - vi) Connect to galvanized steel with a dielectric union or coupling.
- f) Pre-Completion Submittals.** The following items shall be submitted to the Engineer prior to final inspection and acceptance of the irrigation system:
- 1) Two sets of operation and maintenance manuals.
 - 2) Two controller charts for each controller installed.
 - 3) One 5-foot valve wrench where 2-1/2 inch and larger gate valves are installed.
 - 4) Two key couplers to match quick coupling valves installed.
 - 5) 10 percent additional of each type check and anti-drain valves installed.

- 6) Two keys for opening each type lock lid valve box installed.
- 7) Two extension keys to operate manual control valves.
- 8) Two keys for each controller installed.
- 9) Handheld Remote Control Unit as shown on the Plans.
- 10) Two keys to operate lock lid quick coupling valves.
- 11) Two sets of wrenches for servicing and adjusting each type irrigation head installed.
- 12) 10 percent additional of each "Type" of irrigation spray head, rotor, model, nozzle type(s), emitters, root watering system and bubblers per Plans and as installed.
- 13) 8 percent minimum up to 12 percent maximum additional of each type of irrigation dripline and/or distribution tubing provided in unopened 100 foot roll units of factory sealed packaging.
- 14) As-Built Plans reviewed and approved by the Engineer.

801-5.2 Trench Excavation and Backfill. (Page 601 of the SSPWC)

Delete the second paragraph and add the following:

The work shall be scheduled so excavations are left open and exposed for a minimum period of time. Backfill shall begin immediately after piping and conduit are laid in place, and have been tested and approved.

801-5.3 Irrigation Pipeline Installation. (Page 602 of the SSPWC)**801-5.3.2 Steel Pipelines.**

Add the following:

- a) Main lines (upstream of RCV) shall be constructed 30 inches below grade as measured from top of pipe.
- b) Lateral lines (downstream of RCV) shall be constructed 18 inches below grade as measured from top of pipe.
- c) Lines installed on grade.
- d) Lines installed as detailed or as shown on the Plans.
- e) Change of direction shall be made by the installation fittings. Springing or bending, and street ells or close nipples, will not be allowed.
- f) Burrs shall be removed.
- g) Threaded seal tape shall be applied on all threaded joints.

801-5.3.3 Plastic Pipeline.

Add the following:

- a) Main lines (upstream of RCV) shall be constructed 30 inches below grade (minimum 36 inches under roadways), as measured from the top of the pipe.
- b) Lateral lines (downstream of RCV) shall be constructed 18 inches below grade (minimum 24 inches under roadways), as measured from the top of the pipe.
- c) The bottom of the trench shall be free of rocks, clods and other sharp-edged objects. If rocks over 1 inch in size are encountered at the bottom of the trench or within the backfill 4 inches or less above the top of the pipe, the Contractor may remove the rocks or place 4 inches of sand below and above the pipe.
- d) A No. 12 gauge copper identification wire shall be placed at the bottom of the trench for all mainline PVC pipe to provide a continuous electrical conductor between gate

valves. Each end shall be wrapped around the valve body and up to the ground surface, inside the valve box, and loop back with 2 feet of wire free. Ends shall be scraped clean.

- e) In addition to the identification wire, detectable tracer/warning tape shall be placed in the trench 12 inches above the pipe while backfilling. The tracer/warning tape shall be electronically detectable.
- f) Plastic pipe assemblies.
 - 1) Cut the pipe square. Remove burrs from the inside end. The outside end shall be chamfered 10 to 15 degrees.
 - 2) Clean and dry the pipe and fitting.
 - 3) Check the dry fit. The pipe end must be between 1/3 to 3/4 of the fitting socket depth.
 - 4) Dissolve the inside socket surface by brushing with primer. Use a scrubbing motion to assure penetration.
 - 5) Dissolve the surface of the male end of the pipe to be inserted into the socket to the depth of the fitting socket by brushing liberally with a coat of primer. Ensure the entire surface is well dissolved.
 - 6) Brush the inside of the socket surface with primer. Immediately apply solvent cement liberally to the male end of the pipe without delay.
 - 7) Also apply solvent cement lightly to the inside of the socket, using straight outward strokes to keep out excess filler solvent. Immediately apply a second coat of cement to the pipe end.
 - 8) While both the inside socket surface and the outside surface of the male end of the pipe are soft and wet with solvent cement, forcefully bottom the male end of the pipe in the socket, giving the male end a 1/4 turn if possible. The pipe must go to the bottom of the socket. Hold the joint together until both soft surfaces are firmly gripped for at least 30 seconds.
 - 9) After assembly, wipe excess cement from the pipe at the end of the fitting socket. A properly constructed joint will show a bead around its entire perimeter.
 - 10) Do not disturb the joint for 30 minutes until initial setup of the cement occurs.

- 11) Snake the pipe from side to side of the trench bottom to allow for expansion and contraction. One additional foot per 100 feet of pipe shall be the minimum allowance for snaking.
- 12) Center load the pipe with a small amount of backfill to prevent arching and whipping under pressure. Leave joints exposed, for inspection during the pressure test. No water will be permitted in the pipe until the above has been accomplished and a period of at least 24 hours has elapsed for solvent weld setting and curing.

g) Plastic pipe fittings and connections.

- 1) A Schedule 40 female adaptor shall be used with a Schedule 80 threaded nipple on one end when connecting solvent welded pipe to threaded joints.
- 2) 45-degree fittings shall be used at all changes in depth of the pipe. Couplings shall be of the same material and wall thickness as the pipe used.
- 3) Thread seal tape shall be applied on all threaded joints. Connections shall be screwed hand-tight followed by 1/2 turn by a wrench.
- 4) The minimum length of PVC nipples shall be 4 inches.

801-5.4 Installation of Valves, Valve Boxes, and Special Equipment. (Page 603 of the SSPWC)

Delete the fifth and sixth paragraphs.

Add the following:

a) **Gate Valves.**

- 1) Shutoff valves shall be installed as shown on the Plans.
- 2) A concrete valve box with a cast iron locking lid shall be installed at every gate valve. The valve box shall be centered over the valve operating nut.

b) **Quick-Coupling Valves, Couplers, and Hose Swivels.**

- 1) Within 10 feet of where a quick-coupling valve is installed, the Contractor shall paint a 3-inch diameter yellow-mark on the adjacent pavement, curb, or mow strip.

c) Check Valves and/or Anti-Drain Valves.

- 1) Vertical-type check valves shall be installed on vertical risers where shown on the Plans.
- 2) Horizontal-type check valve units shall be sized as, and installed in a valve box where, shown on the Plans.

Vertical or horizontal anti-drain valves shall be installed where shown on the Plans and adjusted for site conditions to prevent irrigation head drainage.

d) Pressure Regulator Valves.

- 1) Installation shall conform to the details shown on the Plans. The valve pressure shall be set at 10 pounds per square inch over the highest recorded working pressure with the system in operation.
- 2) Pressure gauges equipped with a gauge cock shall be installed upstream of each pressure regulator valve.

e) Pressure Relief Valves.

- 1) Valves shall be installed in a concrete box with a cast iron hinged lockable lid. Valve pressure shall be set at 10 pounds per square inch over the highest recorded working pressure with the system in operation.
- 2) Pressure gauges equipped with a gauge cock shall be installed upstream of each pressure regulator valve.
- 3) A strainer of the same size as the pressure relief valve shall be installed in a valve box upstream of each pressure relief valve.

f) Valve Boxes.

- 1) Installation shall conform to the details shown on the Plans.
- 2) Valve boxes shall be installed near paved walk/surfaces wherever possible. Valve boxes shall be installed square to, and 12 inches from, the edge of pavement, walk or concrete curb.
- 3) Bricks shall be furnished and installed around the base of each box.
- 4) A minimum clearance of 1 foot between each valve box shall be provided wherever their location is clustered.
- 5) Valve boxes shall be installed 3 inches above finish grade in planting areas, 1 inch above finish grade in turf areas, and set to finish grade in paved areas.
- 6) Galvanized wire mesh (1/4-inch sieve size) shall be placed between the valve and crushed rock and extend 3 inches up each side of the valve box.
- 7) 3/4-inch crushed rock conforming to 200-1.2.1, 8 inches thick, shall be placed below valve boxes.

g) Backflow Preventer and Strainer Units.

- 1) Units shall be installed level horizontally and flush vertically.
- 2) Backflow preventers shall conform to and be installed in accordance with the Los Angeles County Department of Public Health requirements, http://www.publichealth.lacounty.gov/eh/EP/cross_con/cross_con_backflow.htm
- 3) A strainer shall be installed on the upstream side of all vacuum breakers except the atmospheric-type.
- 4) The Contractor shall arrange and provide for an initial backflow device inspection test. Inspection shall be performed by an inspector that is certified by Los Angeles County, Department of Public Health, Cross-Connection and Water Pollution Control program (except for the atmospheric-type). The Contractor shall be responsible to register copies of the completed backflow device inspection certification with the serving water utility and the Los Angeles County Department of Public Health. Copies of all completed backflow device

inspection certifications provided to the aforementioned agencies shall be submitted to the Engineer.

801-5.5 Sprinkler Head Installation and Adjustment. (Page 604 of the SSPWC)

801-5.5.1 General.

Add the following:

Sprinkler heads shall be sourced from one manufacturer for each type of head.

801-5.5.2 Location, Elevation, and Spacing.

Delete the last four paragraphs and add the following:

The Contractor shall:

- a) Place irrigation heads in lawn areas on temporary nipples or on risers extending 2 inches above the ground surface. After the lawn is established and the ground has settled around the heads, lower the top of each head to a position level with the finish grade.
- b) Space irrigation heads 2 feet from the edge of adjacent impermeable paving.
- c) Adjust all spray nozzles to provide even balance between each lateral system.
- d) Adjacent to paving and curbs:
 - 1) Install irrigation heads 1 inch below adjacent paving and curbs.
 - 2) Install on heavy duty high pop-up stems with screw-adjustable nozzles.
 - 3) Install on PVC high-pop risers with screw-adjustable shrub nozzles.
- e) Install irrigation heads in shrub/groundcover areas 1-1/2 inches above finished grade.
- f) Install brass screw-adjustable head on Schedule 80 PVC nipples 6" above grade in all other shrub areas.

- g) Utilize triple swing joints for all risers on irrigation heads. Use threaded Schedule 80 PVC nipples with PVC. Assemble in the field only.
- h) Install each tree bubbler inside a plastic valve box as shown on the details on the Plans.
- i) Not exceed the maximum spacing shown on the Plans during installation.

801-5.6 Automatic Control System Installation. (Page 605 of the SSPWC)

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

Installation shall conform to the details shown on the Plans.

Add the following to the second paragraph:

- a) Controller Enclosures. Controller enclosures shall be set on the foundation in a vertical position and installed in accordance with the manufacturer's recommendations. Silicone sealant shall be installed around the bottom of the enclosure and in the top of the conduit between and around electrical wires.
- b) Grounding. Irrigation controllers shall be grounded. Grounding shall be to a metal cold water pipe whenever available. If not available, grounding shall consist of 2, 5/8-inch diameter driven copper-clad steel rods driven not less than 6 feet apart to a minimum depth of 8 feet below grade. The grounding system location shall be approved by the Engineer prior to installation.
- c) Remote pump start relay. Controller shall be connected to activate a remote pump start relay to operate the pump during the irrigation cycle as shown on the Plans and/or if determined as necessary by the Engineer.

Delete the last sentence of the third paragraph.

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

Conductors shall conform to 800-3.2.2.

Delete the last sentence of the fourth paragraph.

Add the following as the fourth sentence of the fifth paragraph:

Wiring installed in concrete, masonry or where exposed to moisture, weather or damage, shall be installed in a galvanized steel conduit.

Add the following to the fifth paragraph:

- a) 24-Volt Wires (Splicing). No field splicing between the controller and a remote control valve will be allowed. Factory splices in a wire roll will be allowed.
- b) 24-Volt Wires (End Splicing). The ends of control and common wires shall be spliced as specified in 701-17.4.2.
- c) When wires from more than one controller are in a common trench, the wires from the individual controllers shall be bundled together separately with one wrap of tape.

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

Common wires shall be white-coded. Pilot wires shall be color-coded with different colors and different colors with different colored stripe to provide each valve with unique color-coded wire quantity to equal the quantity of stations per Plans.

801-5.7 Flushing and Testing. (Page 606 of the SSPWC)

801-5.7.1 General.

Add the following:

Underground mains upstream of control valves and lead-in connections to irrigation system shall be flushed by utilizing a flush-out assembly or quick-coupler valve at the lowest elevation shown on the Plans.

Laterals downstream of control valves shall have the risers in-place and the trench backfilled with the joints exposed prior to flushing. Laterals shall be flushed one at a time starting at the one nearest to the water source and progress toward the end of the supply main.

Add the following subsection:

801-5.7.5 Water Main Disinfection. Water mains shall be disinfected only if used for potable water purposes. Disinfection procedures shall be in accordance with 306-8.9.4.3.

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 **90 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 30 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. Contractor shall adhere to the final accepted agronomic soil report(s) recommendations including the application of all fertilizers and amendments as identified in the final agronomic soil report(s).

801-7 MEASUREMENT.

Delete the entire subsection.

801-8 PAYMENT.

Delete the entire subsection.

Add the following sections:

SECTION 802 – DECORATIVE BOULDERS

802-1 GENERAL. “DECORATIVE BOULDERS” shall be granitic in origin.

802-2 SUBMITTALS.

802-2.1 General. In accordance with 3-8 of Section G, submit the following:

- a) Photos and product information sheet for decorative boulders per Plans.
- b) Provide on-site sample mock-up for approval by the Engineer prior to installation.

802-3 MATERIALS.

802-3.1 General. Decorative boulders shall be manufactured by one of the following, or Agency-approved equals:

- a) Southwest Boulder and Stone, model: Sierra Boulders; Tel: (1) 760-466-3277
<https://www.southwestboulder.com/t/categories/boulders?page=4>
- b) KRC Rock, model: Desert Marble; Tel: (1) 800-KRC-ROCK
<https://www.krcrock.com/product-page/desert-marble>
- c) Sepulveda Building Materials, model: Mountain Grey Boulder Tel: (1) 800-394-4726
http://www.sepulveda2.com/catalog_sepulveda/show_product_info.php?product=32

802-4 PLACEMENT.

802-4.1 General. The Contractor shall construct a mock-up sample of the placement of typical boulder layout at the location shown on Plans for boulders for review and approval by the Engineer. Decorative boulders shall not be placed prior to approval of the sample by the Engineer.

802-4.2 Subgrade. The subgrade shall be prepared in accordance with 301-1 prior to placement of decorative boulders.

The subgrade shall conform to the lines, grades, and cross sections shown on the Plans.

Decorative boulders shall not be placed until the subgrade has been approved by the Engineer.

802-4.3 Installation. Decorative boulder shall be placed such that one-third of the diameter is below the adjacent finish grade.

Placement shall be approved by the Engineer must occur before proceeding with planting and irrigation installation.

802-5 MEASUREMENT. Decorative boulders will be measured as shown in the Bid.

SECTION 803 – RIVER ROCK IN CONCRETE

803-1 GENERAL. “RIVER ROCK IN CONCRETE” shall use river rock at 6”-8” with flattened diameter, and granitic in origin. Color shall be white with black or brown striping.

803-2 SUBMITTALS. In accordance with 3-8 of Section G, submit the following for approval by the Agency, or Agency approved equals:

- a) Photos and product information sheet for “RIVER ROCK IN CONCRETE” per Plans.
- b) Provide 2’ by 2’ sample mock-up for approval by the Engineer prior to installation.

803-3 MATERIALS.

803-3.1 General.

- a) River rock
 - 1. Shape and color to be as follows:
 - i.) Rock shall be oval and smooth with no sharp edges, approximately 6 to 8 inches in length. Flat or needle shapes will not be acceptable.
 - ii.) The color shall be predominantly white and black with small amounts of pink, brown, and gray.

iii.) Concrete shall be per Plan RD.

2. River rock shall be manufactured by one of the following, or Agency approved equals:

i.) Southwest Boulder and Stone, model: Sterling Silver Skippers;
Tel: (1) 760-466-3277
<https://www.southwestboulder.com/products/sterling-silver-skipper-cobblestone>

ii.) Sepulveda Building Materials, model: Mountain Grey Cobble Pills
Tel: (1) 760-744-SAND
<https://sepulveda.com/product/mountain-grey-cobble-pills>

803-4 PLACEMENT.

803-4.1 General. The Contractor shall construct a mock-up sample of the placement of typical river rock in concrete paving layout at the location shown on Plans for review and approval by the Engineer. River rock in concrete shall not be placed prior to approval of the sample by the Engineer.

803-4.2 Subgrade. Grade all areas to receive river rock paving to a level of 6 inches below the adjacent pavement surface. Where no grades are shown, grade between existing or fixed controls (such as walks, curbs) and elevations shown to provide a smooth continual plane. The subgrade shall be prepared in accordance with 301-1 prior to placement of river rock paving and base material per Plans.

The subgrade shall conform to the lines, grades, and cross sections shown on the Plans.

Base material shall not be placed until the subgrade has been approved by the Engineer.

803-4.3 Installation. The surfaces of the river rock paving shall be cleaned of adhering dirt and clay by spraying water and allowed to dry prior to placement. River rock in concrete shall be hand placed refer to Plans.

Placement shall be approved by the Engineer must occur before proceeding with planting and irrigation installation.

803-5 MEASUREMENT. River rock in concrete will be measured as shown in the Bid.

SECTION 804 – RIVER ROCK COBBLE

804-1 GENERAL. River rock cobble shall use river rock at 4”-8” diameter, and granitic in origin. Color shall be white with black or brown striping.

804-2 SUBMITTALS. In accordance with 3-8 of Section G, submit the following for approval by the Agency:

- a) Photos and product information sheet for “RIVER ROCK COBBLE” per Plans.
- b) Provide 2’ by 2’ sample mock-up for approval by the Engineer prior to installation.

804-3 MATERIALS.

804-3.1 General.

- a) River rock
 1. Shape and color to be as follows:
 - i) Rock shall be oval and smooth with no sharp edges, approximately 6 to 8 inches in length. Flat or needle shapes will not be acceptable.
 - ii) The color shall be predominantly white and black with small amounts of pink, brown, and gray.
 2. River rock shall be manufactured by one of the following, or Agency-approved equals:
 - i) Southwest Boulder and Stone, model: Sierra Cobble; Tel: (1) 760-466-3277 <https://www.southwestboulder.com/products/sierra-cobble>
 - ii) KRC Rock, model: Riverside Cobble; Tel: (1) 800-KRC-ROCK <https://www.krcrock.com/product-page/riverside-cobble>
 - iii) Sepulveda Building Materials, model: Mountain Grey Cobbles
Tel: (1) 800- 394-4726
http://www.sepulveda2.com/catalog_sepulveda/show_product_info.php?product=339

804-4 PLACEMENT.

804-4.1 General. The Contractor shall construct a mock-up sample of the river rock cobble per plans for review and approval by the Engineer. River rock cobble shall not be placed on the Project prior to approval of the sample by the Engineer.

804-4.2 Subgrade. The subgrade shall conform to the lines, grades, and cross sections shown on the Plans and in accordance with 301-1 prior to the placement of river rock cobble.

River rock cobble shall not be placed until the subgrade has been approved by the Engineer.

804-4.3 Base. The base shall be prepared in accordance with 301-1 prior to placement of river rock cobble.

The base shall conform to the lines, grades, and cross sections shown on the Plans.

River rock cobble shall not be placed until the base has been approved by the Engineer.

804-4.4 Installation. River rock cobble shall be installed per Plans.

Review and Inspection by the Engineer must occur before proceeding with Planting and Irrigation installation activities per Plans.

804-5 MEASUREMENT. River rock cobble will be measured as shown in the Bid

SECTION 805 – LANDSCAPE FURNISHINGS

805-1 GENERAL. Landscape furnishings items manufactured off-site entirely or require field assembly at the project work site and shown for use in the project per Plans.

805-2 SUBMITTALS. In accordance with 3-8, submit the following for approval by the Agency:

805-2.1 General. In accordance with 3-8 of Section G, submit the following:

- a) Photos and product information sheet for landscape furnishing as shown on the Plans.
- b) Provide physical sample mock-up of color and finish for approval by the Engineer prior to installation.

805-3 MATERIALS.

805-3.1 General. All furnishings and all category of furnishing such as the partial list of: bench, picnic table, trash receptacle, park sign panel, interpretive signs, or raised planter shall be from the same manufacturer. All concrete furnishings of the category of furnishings such as bench, picnic table, and trash receptacle shall include anti-graffiti non-sacrificial heavy duty sealer by manufacturer.

a) **Concrete Park Bench (with Conc. Footing in Planting Areas).** Seven Foot Concrete Park Bench shall include anti-graffiti non-sacrificial heavy duty sealer by manufacturer and be manufactured as follows:

- i. Outdoor Creations, model 408SKB both with center armrest, colors per plan;
Tel: (1) 530-365-6106
<https://www.outdoorcreations.com/pdf/408SKB1658941499.pdf>

b) **Concrete Picnic Table (and Concrete Picnic Table ADA Accessible).** Concrete Picnic Tables shall include non-sacrificial heavy duty sealer by manufacturer and be manufactured as follows:

- i. Outdoor Creations, model 100SKLE (ADA) & 100SSK, colors per plan ; Tel:
(1) 530-365-6106
<https://www.outdoorcreations.com/pdf/100SLE1522959746.pdf>
<https://www.outdoorcreations.com/pdf/100SSK1447092179.pdf>

- c) **Concrete Trash Receptacle.** Concrete Trash Receptacle shall include non-sacrificial heavy duty sealer by manufacturer and be manufactured as follows:
- i. Outdoor Creations, waste receptacle with black door and handle, include vinyl trash sticker; recycling receptacle with blue door and handle, include vinyl trash sticker; 504 (waste, recycling per plan), colors per plan;
Tel: (1) 530-365-6106
<https://www.outdoorcreations.com/productdetails.php?productcode=8b5seR5Xe4NPtV0wedOC&crumb=dUhzJKZAHJlqsIYf0F0Q&filter=&page=products>
- d) **Interpretive Sign.** Interpretive Sign and pedestal shall be manufactured by one of the following, or Agency-approved equals:
- i. Fossil Graphics, model Custom High Pressure Laminate;
Tel: (1) 800-244-9809; <https://fossilgraphics.com/specs>
 - ii. Gopher Sign Co., model Custom High Pressure Laminate;
Tel: (1) 800-383-3156; <http://www.gophersign.com/products/imageloc-signs/>
 - iii. Izone Imaging, model Custom High Pressure Laminate; Tel: (1) 888-464-9663
<http://www.izoneimaging.com/what-you-need/outdoor/parks-and-open-spaces/>

Interpretive Signage artwork will be provided by the Agency as a file in jpg, Illustrator, or Photoshop digital format. Sign and graphic panel shall be fabricated and installed by the Contractor. Contractor to provide shop drawings for review and approval in accordance with 3-8 for review and approval by the agency prior to fabrication and installation. Contractor shall also provide an 8" x 8" sample on the panel material (see below for material description of panel) showing a portion of the colored artwork graphic, that was provided by the Agency to the Contractor, Contractor shall submit sample of panel material for review and approval in accordance with 3-8 prior to final fabrication and installation.

- Frame material. All metal and weld joints to be powder coat finished, color and material per construction material legend.
- Panel material. The panel shall be fused polycarbonate: vinyl inkjet print fused between two sheets of UV resistant polycarbonate (fpcs).

- e) **Grant Sign (Type A) and Grant Sign (Type B).** Grant Sign (Type A) and Grant Sign (Type B) shall be manufactured by one of the following, or Agency-approved equals for graphic panel:
- i. Grant Sign (Type A)
 1. Grant Signage (Type A) model of material shall be UV resistant ink printed on 13 ounce, heavy duty, hem and grommet (2' on-center) vinyl banner material print designated for outdoor use. Mount vinyl banner to wood sign plywood panel, refer to Plans.
 - ii. Grant Sign (Type B)
 1. Fossil Graphics, model Custom High Pressure Laminate; Tel: (1) 800-244-9809; <https://fossilgraphics.com/specs>
 2. Gopher Sign Co., model Custom High Pressure Laminate; Tel: (1) 800-383-3156; <http://www.gophersign.com/products/imageloc-signs/>
 3. Izone Imaging, model Custom High Pressure Laminate; Tel: (1) 888-464-9663 <http://www.izoneimaging.com/what-you-need/outdoor/parks-and-open-spaces/>

Grant Signage (Type A) and Grant Signage (Type B) graphic panel artwork will be provided by the Agency as a file in jpg, Illustrator, or Photoshop digital format. Sign and graphic panel shall be fabricated and installed by the Contractor. Contractor to provide shop drawings for review and approval in accordance with 3-8 for review and approval by the agency prior to fabrication and installation. Contractor shall also provide an 8" x 8" sample on the panel material (see below for material description of panel) showing a portion of the colored artwork graphic, that was provided by the Agency to the Contractor, Contractor shall submit sample of panel material for review and approval in accordance with 3-8 prior to final fabrication and installation.

- Frame material. Refer to Plans for details for Grant Signage (Type A) and Grant Signage Type (B). Note that Grant Signage (Type B) uses the same material used to mount interpretive signage, Grant Signage (Type A) uses wood posts and footing, treated plywood panel to mount vinyl banner material using vandal-proof, stainless steel fasteners.

- Panel material. Grant Signage (Type B) panel shall be fused polycarbonate: vinyl inkjet print fused between two sheets of UV resistant polycarbonate (fpcs). Grant Signage (Type A) model of material shall be UV resistant ink printed on 13 ounce, heavy duty, hem and grommet (2' on-center) vinyl banner material print designated for outdoor use.
- f) **Raised 8 ft long planter with trellis.** Raised 8 ft long planter with trellis shall include attached trellis per manufacturer's recommendations and potting soil as located per Plan and be manufactured by one of the following, or Agency-approved equals:
- i. Tournesol, model WX3-721824-78, color: black/dark grey, note: model includes 4.5' high exposed metal trellis system for vine above top of planter; Tel: (1) 800-542-2282
https://www.tournesol.com/DesktopModules/Bring2mind/DMX/API/Entries/Download?command=core_download&entryid=493&PortalId=0
 - ii. Old Town Fiberglass, model RL962424504, color: black/dark grey, note: Contractor shall contact manufacturer to coordinate metal trellis system to be added to pot which shall include 4.5' high exposed metal trellis system for vine above top of planter, standard model for pot does not include metal trellis system for vine but trellis is required for this project; Tel: (1) 714-633-3732
[Standard Rectangle - Old Town Fiberglass](#)

Trellis system shall be GreenScreen Tel: (1)800-450-3494
https://greenscreen.com/shared/2020/06/greenscreen_classic-planter.pdf?x62848 to be added to pot by Old Town Fiberglass, available through custom order.
 - iii. Potting soil shall be commercially manufactured and distributed in bags with labels listing and confirming organic and inorganic enhancements such as the following:
 - a. Components to improve aeration and drainage
 - b. Slow-release starter fertilizer or other fertilizer
 - c. List on the bag that the contents are formulated specifically for the use with raised bed plantings including all-purpose potting soil.
- g) **6' Concrete Pocket Park Monument Sign and Exhibit Base.** Monument sign and all components listed on Plans. The following is a partial listing of the elements

required, refer to Plans and submit all shop drawings for review and approval by the Agency prior to fabrication and installation:

- i. Double Sided Exhibit Base frame material, finishes and fasteners and all components per Plans.
- ii. Exhibit base concrete footing mix design, expanded polystyrene geofoam precut blocks, rebar, and all components per Plans.
- iii. Digital Artwork for Sign Panel per Plans and shall be manufactured by one of the following, or Agency-approved equals for graphic panel:
 1. Fossil Graphics, model Custom High Pressure Laminate; Tel: (1) 800-244-9809; <https://fossilgraphics.com/specs>
 2. Gopher Sign Co., model Custom High Pressure Laminate; Tel: (1) 800-383-3156; <http://www.gophersign.com/products/imageloc-signs/>
 3. Izone Imaging, model Custom High Pressure Laminate; Tel: (1) 888-464-9663 <http://www.izoneimaging.com/what-you-need/outdoor/parks-and-open-spaces/>

Digital Artwork for Sign Panel graphic artwork will be provided by the Agency as a file in jpg. Illustrator, or Photoshop digital format. 6' Concrete pocket park monument sign and exhibit base per Plans shall be fabricated and installed by the Contractor. Contractor to provide shop drawings for review and approval in accordance with 3-8 for review and approval by the Agency prior to fabrication and installation. Contractor shall also provide an 8" x 8" sample on the panel material (see below for material description of panel) showing a portion of the colored artwork graphic, that was provided by the Agency to the Contractor, Contractor shall submit sample of panel material for review and approval in accordance with 3-8 prior to final fabrication and installation.

- Frame material. Refer to Plans for required sign frame dimensions, materials, finish and fasteners.

- Digital artwork for sign panel graphic artwork panel material. Panel shall be fused polycarbonate: vinyl inkjet print fused between two sheets of UV resistant polycarbonate (fpcs).

805-4 PLACEMENT.

805-4.1 General. No landscape furnishing shall be placed as part of the Work prior to approval by the Engineer.

805-4.2 Subgrade. The subgrade shall be prepared prior to placement of landscape furnishing.

The subgrade shall conform to the lines, grades, and cross sections shown on the Plans. The subgrade shall be compacted to 90 percent relative density. The finished subgrade shall be within 1/4 inch plus or minus of the required elevations when measured with a 10-foot straightedge.

No placement of surfacing material shall occur until the subgrade has been approved by the Engineer.

805-4.3 Installation. As shown on the Plans.

Placement shall be approved by the Engineer and must occur before proceeding with planting and irrigation installation.

805-5 MEASUREMENT. Landscape furnishing will be measured as specified in the Special Provisions and as shown in the Bid.

SECTION 806 – LANDSCAPE AND IRRIGATION PAYMENT

806-1 MEASUREMENT.

Replace with the following (Page 607 of the SSPWC, 801-7 Measurement)

Measurement will be made in accordance with the units shown on the Schedule of Prices for the various landscaping and irrigation Bid items.

806-2 PAYMENT.

Replace with the following (Page 607 of the SSPWC, 801-7 Payment)

Payment will be made at the lump sum Bid price for “LANDSCAPE AND IRRIGATION”. The lump sum Bid price shall include all Work as shown in the Plans and specified here in the Special Provisions, Section LS – Landscape and Irrigation.

LOS ANGELES COUNTY PUBLIC WORKS

AGREEMENT

Project Name: MONTEITH PARK AND VIEW PARK GREEN ALLEY STORMWATER IMPROVEMENTS
Project ID No.: SWQ0000005

This Agreement is made and entered into this ____ day of _____, 2022____, 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 construction of infiltration wells, bioswales, recreational and aesthetic improvements, and other incidental and appurtenant work at Monteith Park and View Park in the unincorporated community of View Park/Windsor Hills under Project ID No. SWQ0000005 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. SWQ0000005.
- b. Bid Proposal for Project ID No. SWQ0000005 submitted by the Contractor.
- c. Special Provisions for Project ID No. SWQ0000005.
- d. Plans for Project ID No. SWQ0000005.
- 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. Standard Plans published by the State of California, Department of Transportation (Caltrans), 2018 Edition.
- i. Standard Specifications published by the State of California, Department of Transportation (Caltrans), 2018 Edition.
- j. Notice Inviting Bids for Project ID No. SWQ0000005.
- k. Instructions to Bidders dated December 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 2022-2, 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 in 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 Los Angeles County, and where and how to safely surrender a baby. The fact sheet is set forth in Attachment 1 of this Contract and is available on the Internet at www.babysafela.org.

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 subcontractors, if any, to post this poster in a prominent position in the subcontractor's place of business. The Contractor, and its subcontractors, can access posters and other campaign material at www.babysafela.org.

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. 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.

35. Advertising and Other External Communications About the Project

The Contractor shall obtain the Agency's prior written approval before disclosing or communicating any information concerning the award of the contract, the progress of the work, or the completion of the work, to any non-party, including but not limited to outside media and news organizations. This requirement includes, but is not limited to: (1) the Contractor's application for an award or any other recognition of the project; and (2) any advertising or promotion of the project and/or the Contractor's role on the project. The Agency retains the sole discretion as to the release of such information, including the right to deny the request for disclosure, the right to direct the timing of the disclosure, and/or the right to direct the Contractor to make revisions to the information prior to disclosure.

36. Covid-19 Vaccinations of County Contractor Personnel

- a. The Contractor, at its sole cost, shall comply with Chapter 2.212 (COVID-19 Vaccinations of County Contractor Personnel) of County Code Title 2 - Administration, Division 4. All employees of the Contractor and persons working on its behalf, including but not limited to, Subcontractors of any tier (collectively, "Contractor Personnel"), shall be fully vaccinated against the novel coronavirus 2019 ("COVID-19") prior to (1) interacting in person with County employees, interns, volunteers, and commissioners ("County workforce members"), (2) working on County owned or controlled property while performing services under this Contract, and/or (3) coming into contact with the public while performing services under this Contract (collectively, "In-Person Services").
- b. Contractor Personnel are considered "fully vaccinated" against COVID-19 two (2) weeks or more after they have received (1) the second dose in a 2-dose COVID-19 vaccine series (e.g. Pfizer-BioNTech or Moderna), (2) a single-dose COVID-19 vaccine (e.g. Johnson and Johnson [J&J]/Janssen), or (3) the final dose of any COVID-19 vaccine authorized by the World Health Organization ("WHO").
- c. Prior to assigning Contractor Personnel to perform In-Person Services, the Contractor shall obtain proof that such Contractor Personnel have been fully vaccinated by confirming Contractor Personnel is vaccinated through any of the following documentation: (1) official COVID-19 Vaccination Record Card (issued by the Department of Health and Human Services, CDC or WHO Yellow Card), which includes the name of the person vaccinated, type of vaccine provided, and date of the last dose administered ("Vaccination Record Card"); (2) copy (including a photographic copy) of a Vaccination Record Card; (3) Documentation of vaccination from a licensed medical provider; (4) a digital record that includes a quick response ("QR") code that when scanned by a SMART HealthCard reader displays to the reader client name, date of birth, vaccine dates, and vaccine type, and the QR code confirms the vaccine record as an official record of the State of California; or (5) documentation of vaccination from Contractors who follow the CDPH vaccination records guidelines and standards. The Contractor shall also provide written notice to the Agency before the start of work under this Contract that its Contractor Personnel are in compliance with the requirements of this section. Contractor shall retain such proof of vaccination for the document retention period set forth in this Contract, and must provide such records to the Agency for audit purposes, when required by the Agency.
- d. The Contractor shall evaluate any medical or sincerely held religious exemption request of its Contractor Personnel, as required by law. If Contractor has determined that Contractor Personnel is exempt pursuant to a medical or sincerely held religious reason, the Contractor must also maintain records of the Contractor Personnel's testing results. The Contractor must provide such records to the Agency for audit purposes, when required by the Agency. The unvaccinated exempt Contractor Personnel must meet the following requirements prior to (1) interacting in person with County workforce members, (2) working on County owned or controlled property while performing services under this Contract, and/or (3) coming into contact with the public while performing services under this Contract:

- i. Test for COVID-19 with either a polymerase chain reaction (PCR) or antigen test that has an Emergency Use Authorization (EUA) by the FDA or is operating per the Laboratory Developed Test requirements by the U.S. Centers for Medicare and Medicaid Services. Testing must occur at least weekly, or more frequently as required by the Agency or other applicable law, regulation or order.
 - ii. Wear a mask that is consistent with CDC recommendations at all times while on County controlled or owned property, and while engaging with members of the public and/or County workforce members.
 - iii. Engage in proper physical distancing, as determined by the Agency.
- e. In addition to complying with the requirements of this section, the Contractor shall also comply with all other applicable Agency, local, State, and federal laws, regulations and requirements for COVID-19.

37. 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.

38. 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.

39. Priority Hiring Considerations.

The Contractor shall give priority consideration in filling vacancies in positions to qualified recipients of aid under Welfare and Institutions Code section 11200 in accordance with Public Contract Code 10353.

40. 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.

41. 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.

42. Payment.

The Agency agrees, in consideration of the performance of this Contract, to pay to the Contractor, and the Contractor agrees to accept in full satisfaction of the work done hereunder, subject to additions and deductions as provide for in the Contract Documents, the following amounts at the time and in the manner set forth in the Contract Documents:

LOS ANGELES COUNTY PUBLIC WORKS
SCHEDULE OF PRICES

PROJECT ID NO.: SWQ0000005
PROJECT NAME: MONTEITH PARK AND VIEW PARK GREEN ALLEY
STORMWATER IMPROVEMENTS

Item	Description	Unit	Quantity	Unit Price	Amount

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 his designee and the Contractor has signed the same on the day, month, and year hereinabove first written.

MARK PESTRELLA, PE
DIRECTOR OF PUBLIC WORKS
LOS ANGELES COUNTY

By _____
Deputy Director

APPROVED AS TO FORM

DAWYN R. HARRISON
Acting 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)

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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

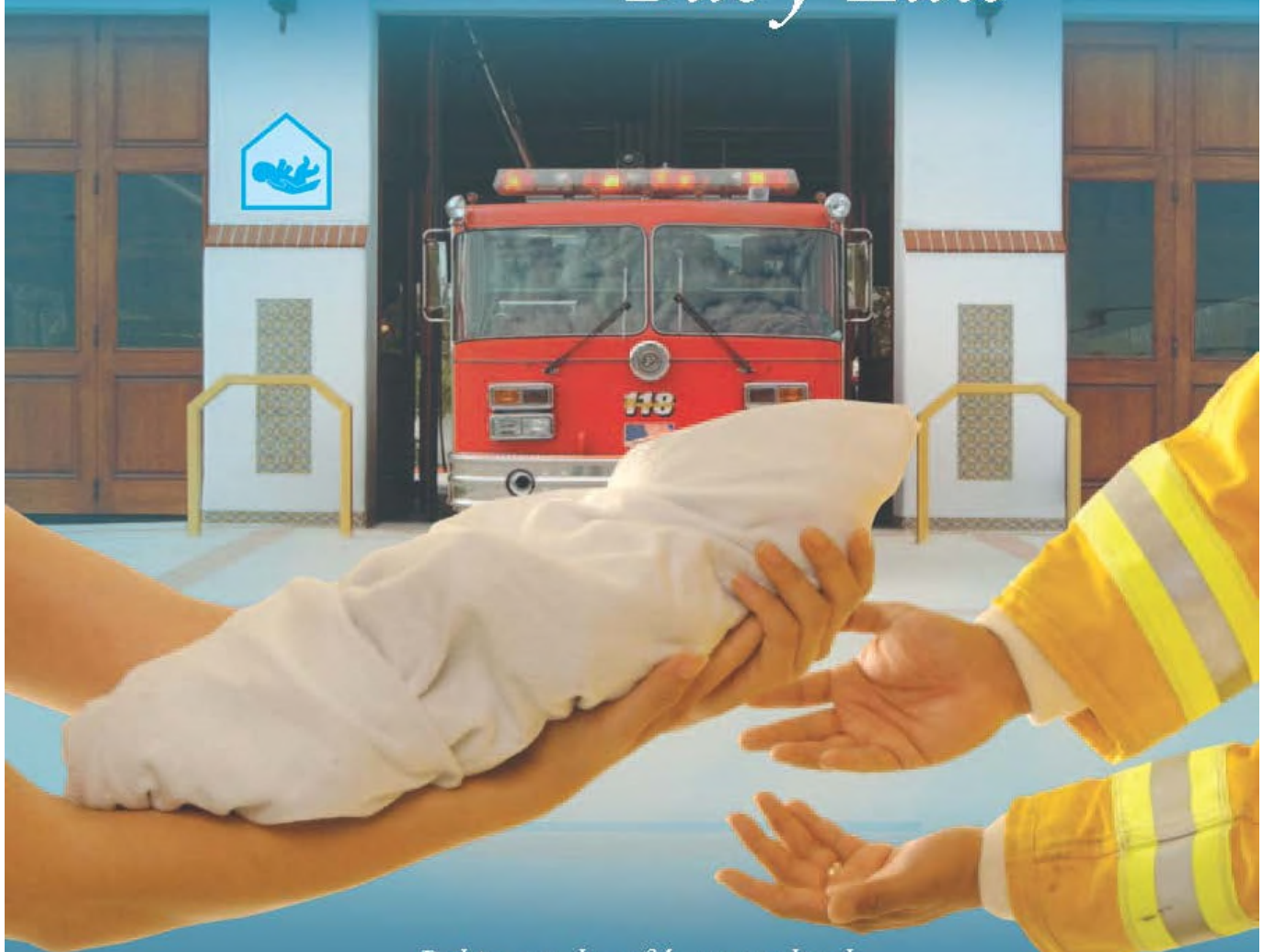
Secretary

Print Name

ALL SIGNATURES MUST BE WITNESSED BY NOTARY
(Attach appropriate acknowledgment)

SAMPLE

Safely Surrendered *Baby Law*



*Babies can be safely surrendered
to staff at any hospital or fire station in Los Angeles County*

No shame. No blame. No names.

In Los Angeles County: 1-877-BABY SAFE • 1-877-222-9723

www.babysafela.org



Safely Surrendered Baby Law

What is the Safely Surrendered Baby Law?

California's Safely Surrendered Baby Law allows parents or other persons, with lawful custody, which means anyone to whom the parent has given permission to confidentially surrender a baby. As long as the baby is three days (72 hours) of age or younger and has not been abused or neglected, the baby may be surrendered without fear of arrest or prosecution.

Every baby deserves a chance for a healthy life. If someone you know is considering abandoning a baby, let her know there are other options. For three days (72 hours) after birth, a baby can be surrendered to staff at any hospital or fire station in Los Angeles County.

How does it work?

A distressed parent who is unable or unwilling to care for a baby can legally, confidentially, and safely surrender a baby within three days (72 hours) of birth. The baby must be handed to an employee at a hospital or fire station in Los Angeles County. As long as the baby shows no sign of abuse or neglect, no name or other information is required. In case the parent changes his or her mind at a later date and wants the baby back, staff will use bracelets to help connect them to each other. One bracelet will be placed on the baby, and a matching bracelet will be given to the parent or other surrendering adult.

What if a parent wants the baby back?

Parents who change their minds can begin the process of reclaiming their baby within 14 days. These parents should call the Los Angeles County Department of Children and Family Services at 1-800-540-4000.

Can only a parent bring in the baby?

No. While in most cases a parent will bring in the baby, the Law allows other people to bring in the baby if they have lawful custody.

Does the parent or surrendering adult have to call before bringing in the baby?

No. A parent or surrendering adult can bring in a baby anytime, 24 hours a day, 7 days a week, as long as the parent or surrendering adult surrenders the baby to someone who works at the hospital or fire station.

Does the parent or surrendering adult have to tell anything to the people taking the baby?

No. However, hospital or fire station personnel will ask the surrendering party to fill out a questionnaire designed to gather important medical history information, which is very useful in caring for the baby. The questionnaire includes a stamped return envelope and can be sent in at a later time.

What happens to the baby?

The baby will be examined and given medical treatment. Upon release from the hospital, social workers immediately place the baby in a safe and loving home and begin the adoption process.

What happens to the parent or surrendering adult?

Once the parent or surrendering adult surrenders the baby to hospital or fire station personnel, they may leave at any time.

Why is California doing this?

The purpose of the Safely Surrendered Baby Law is to protect babies from being abandoned, hurt or killed by their parents. You may have heard tragic stories of babies left in dumpsters or public bathrooms. Their parents may have been under severe emotional distress. The mothers may have hidden their pregnancies, fearful of what would happen if their families found out. Because they were afraid and had no one or nowhere to turn for help, they abandoned their babies. Abandoning a baby is illegal and places the baby in extreme danger. Too often, it results in the baby's death. The Safely Surrendered Baby Law prevents this tragedy from ever happening again in California.

A baby's story

Early in the morning on April 9, 2005, a healthy baby boy was safely surrendered to nurses at Harbor-UCLA Medical Center. The woman who brought the baby to the hospital identified herself as the baby's aunt and stated the baby's mother had asked her to bring the baby to the hospital on her behalf. The aunt was given a bracelet with a number matching the anklet placed on the baby; this would provide some identification in the event the mother changed her mind about surrendering the baby and wished to reclaim the baby in the 14-day period allowed by the Law. The aunt was also provided with a medical questionnaire and said she would have the mother complete and mail back in the stamped return envelope provided. The baby was examined by medical staff and pronounced healthy and full-term. He was placed with a loving family that had been approved to adopt him by the Department of Children and Family Services.



Ley de Entrega de Bebés Sin Peligro



Los recién nacidos pueden ser entregados en forma segura al personal de cualquier hospital o cuartel de bomberos del Condado de Los Ángeles

Sin pena. Sin culpa. Sin nombres.

En el Condado de Los Ángeles: 1-877-BABY SAFE • 1-877-222-9723

www.babysafela.org



Ley de Entrega de Bebés Sin Peligro

¿Qué es la Ley de Entrega de Bebés sin Peligro?

La Ley de Entrega de Bebés sin Peligro de California permite la entrega confidencial de un recién nacido por parte de sus padres u otras personas con custodia legal, es decir cualquier persona a quien los padres le hayan dado permiso. Siempre que el bebé tenga tres días (72 horas) de vida o menos, y no haya sufrido abuso ni negligencia, pueden entregar al recién nacido sin temor de ser arrestados o procesados.

Cada recién nacido se merece la oportunidad de tener una vida saludable. Si alguien que usted conoce está pensando en abandonar a un recién nacido, infórmele que tiene otras opciones. Hasta tres días (72 horas) después del nacimiento, se puede entregar un recién nacido al personal de cualquier hospital o cuartel de bomberos del condado de Los Angeles.

¿Cómo funciona?

El padre/madre con dificultades que no pueda o no quiera cuidar de su recién nacido puede entregarlo en forma legal, confidencial y segura dentro de los tres días (72 horas) del nacimiento. El bebé debe ser entregado a un empleado de cualquier hospital o cuartel de bomberos del Condado de Los Ángeles. Siempre que el bebé no presente signos de abuso o negligencia, no será necesario suministrar nombres ni información alguna. Si el padre/madre cambia de opinión posteriormente y desea recuperar a su bebé, los trabajadores utilizarán brazaletes para poder vincularlos. El bebé llevará un brazaletes y el padre/madre o el adulto que lo entregue recibirá un brazaletes igual.

¿Qué pasa si el padre/madre desea recuperar a su bebé?

Los padres que cambien de opinión pueden comenzar el proceso de reclamar a su recién nacido dentro de los 14 días. Estos padres deberán llamar al Departamento de Servicios para Niños y Familias (Department of Children and Family Services) del Condado de Los Ángeles al 1-800-540-4000.

¿Sólo los padres podrán llevar al recién nacido?

No. Si bien en la mayoría de los casos son los padres los que llevan al bebé, la ley permite que otras personas lo hagan si tienen custodia legal.

¿Los padres o el adulto que entrega al bebé deben llamar antes de llevar al bebé?

No. El padre/madre o adulto puede llevar al bebé en cualquier momento, las 24 horas del día, los 7 días de la semana, siempre y cuando entreguen a su bebé a un empleado del hospital o cuartel de bomberos.

¿Es necesario que el padre/madre o adulto diga algo a las personas que reciben al bebé?

No. Sin embargo, el personal del hospital o cuartel de bomberos le pedirá a la persona que entregue al bebé que llene un cuestionario con la finalidad de recabar antecedentes médicos importantes, que resultan de gran utilidad para cuidar bien del bebé. El cuestionario incluye un sobre con el sello postal pagado para enviarlo en otro momento.

¿Qué pasará con el bebé?

El bebé será examinado y le brindarán atención médica. Cuando le den el alta del hospital, los trabajadores sociales inmediatamente ubicarán al bebé en un hogar seguro donde estará bien atendido, y se comenzará el proceso de adopción.

¿Qué pasará con el padre/madre o adulto que entregue al bebé?

Una vez que los padres o adulto hayan entregado al bebé al personal del hospital o cuartel de bomberos, pueden irse en cualquier momento.

¿Por qué se está haciendo esto en California? ?

La finalidad de la Ley de Entrega de Bebés sin Peligro es proteger a los bebés para que no sean abandonados, lastimados o muertos por sus padres. Usted probablemente haya escuchado historias trágicas sobre bebés abandonados en basureros o en baños públicos. Los padres de esos bebés probablemente hayan estado pasando por dificultades emocionales graves. Las madres pueden haber ocultado su embarazo, por temor a lo que pasaría si sus familias se enteraran. Abandonaron a sus bebés porque tenían miedo y no tenían nadie a quien pedir ayuda. El abandono de un recién nacido es ilegal y pone al bebé en una situación de peligro extremo. Muy a menudo el abandono provoca la muerte del bebé. La Ley de Entrega de Bebés sin Peligro impide que vuelva a suceder esta tragedia en California.

Historia de un bebé

A la mañana temprano del día 9 de abril de 2005, se entregó un recién nacido saludable a las enfermeras del Harbor-UCLA Medical Center. La mujer que llevó el recién nacido al hospital se dio a conocer como la tía del bebé, y dijo que la madre le había pedido que llevara al bebé al hospital en su nombre. Le entregaron a la tía un brazaletes con un número que coincidía con la pulsera del bebé; esto serviría como identificación en caso de que la madre cambiara de opinión con respecto a la entrega del bebé y decidiera recuperarlo dentro del período de 14 días que permite esta ley. También le dieron a la tía un cuestionario médico, y ella dijo que la madre lo llenaría y lo enviaría de vuelta dentro del sobre con franqueo pagado que le habían dado. El personal médico examinó al bebé y se determinó que estaba saludable y a término. El bebé fue ubicado con una buena familia que ya había sido aprobada para adoptarlo por el Departamento de Servicios para Niños y Familias.

