

REQUEST FOR PROPOSAL (RFP)

for Pavement Management Implementation Year 1

RFP #WDPD-0225

ADDENDA

Prospective bidders are responsible for reviewing any published addenda regarding this bid at ebmud.com/business-center.

CONTACT

Dámaris Villalobos-Galindo, Associate Civil Engineer
(510) 287-1240
damaris.villalobos-galindo@ebmud.com

RESPONSE DUE

January 29, 2026
3:30 p.m. PST

SUBMIT BY MAIL TO

RESPONSE DELIVERED BY SERVICE
(UPS, FedEx, DHL, etc., during
business hours: 8:00 AM to 3:30
PM only)

**EBMUD – Purchasing Division
Pavement Management
Implementation Year 1
RFP#WDPD-0225
375 11th Street
Oakland, CA 94607**

RESPONSE DELIVERED BY MAIL
(U.S. Postal Service) to:

**EBMUD – Purchasing Division
Pavement Management
Implementation Year 1
RFP#WDPD-0225
P.O. Box 24055
Oakland, CA 94623**

RESPONSE HAND-DELIVERED
(during business hours: 8:00 AM –
4:00 PM only)

**EBMUD – Purchasing Division
Pavement Management
Implementation Year 1
RFP#WDPD-0225
Purchasing Office
375-11TH Street, 1ST Floor
Oakland, CA 94607**

EAST BAY MUNICIPAL UTILITY DISTRICT

RFP for Pavement Management Implementation Year 1

RFP #WDPD-0225

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I. STATEMENT OF WORK

A. SCOPE

These specifications, terms and conditions are intended to define the required services for pavement reconstruction and rehabilitation at seventeen (17) East Bay Municipal Utility District (EBMUD or District) facilities and associated access roads located within the EBMUD's north service area, which includes the cities and communities of Berkeley, Crockett, El Cerrito, El Sobrante, Hercules, Oakland, Richmond, and San Pablo in Contra Costa and Alameda Counties.

EBMUD intends to award a contract to the Contractor(s) who best meets the District's requirements.

Pavement rehabilitation and reconstruction services will include base repairs, slurry sealing, surface reconstruction, milling and overlay, cape sealing, and full-depth reclamation. The work will take place on roads regularly used by District staff for facility maintenance, as well as by local residents and the general public.

B. CONTRACTOR QUALIFICATIONS

1. Contractor Minimum Qualifications

- a. The Contractor's license required for this contract is a current and valid State of California Class A General Engineering Contractor license. Listed subcontractors shall also possess the contractor's license, both current and valid, required for each specialty work specified and/or possess a Class A license. To the extent required by state law, any other Contractors or subcontractors must hold a valid license in the appropriate classification for the work performed. Contractor shall be subject to California contractor's licensing laws and the provisions of Business and Professions Code Section 7028.15. Joint ventures must secure a joint venture license prior to award of this contract. Licenses must be in good standing at the time the contract is awarded (Public Contract Code section 10164).
- b. The Contractor and all subcontractors shall have a minimum of five (5) years of recent experience successfully completing projects of comparable size and scope to those outlined in this RFP. Accordingly, the Contractor and all subcontractors shall complete and submit the Certification of Bidder Experience and Qualifications form, included in Exhibit I, as part of their Proposal.

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- c. To perform Full-Depth Reclamation (FDR), the Contractor shall provide at least two (2) construction contracts completed satisfactorily as the prime contractor within the past five (5) years, demonstrating experience performing full depth reclamation work of a nature similar to the work outlined in this RFP. In addition, the Contractor shall have a representative on site with a minimum of five (5) years' experience in cement stabilization and all personnel should be properly trained in the FDR treatment process, including quality control and safety procedures. The Contractor shall complete and submit the Certification of Experience and Qualifications to Perform FDR, included in Exhibit J, as part of their Proposal. If the Contractor intends to use a subcontractor for FDR work, both the Contractor and the subcontractor shall complete the form included in Exhibit J of this RFP.
- d. The Contractor shall submit proof of successful completion of at least three (3) asphalt rubber chip seal projects of like magnitude and comparable difficulty and rates of progress. In addition, Contractor shall submit proof that the superintendent or foreman to be utilized and present throughout the entire project has successfully completed at least three (3) asphalt rubber chip seal projects of similar magnitude to the project outlined in this RFP and of comparable difficulty and rates of progress. If a subcontractor will perform the asphalt rubber chip seal work, both the Contractor and the subcontractor shall meet this requirement.
- e. The Contractor shall submit proof of successful completion of at least three (3) polymer modified slurry seal projects of like magnitude and comparable difficulty and rates of progress. In addition, Contractor shall submit proof that that superintendent or foreman to be utilized and present throughout the entire project has successfully completed at least three (3) polymer modified slurry seal projects of like magnitude and comparable difficulty and rates of progress.
- f. The Contractor and all subcontractors shall possess all permits, licenses, and professional credentials necessary to perform services as specified under this RFP.
- g. 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.
- h. Throughout the duration of the contract, the Contractor and all subcontractors shall hold a valid license issued under Chapter 9, Division 3,

of the California Business and Professions Code, authorizing the type of work specified in this RFP. The Contractor and any subcontractors affirm they are experienced and regularly engaged in the general class and type of work outlined in this RFP, and further certify that they possess the necessary expertise, qualifications, and competence to perform the required services.

C. SPECIFIC REQUIREMENTS

The Contractor shall provide all labor, materials, equipment, and supervision necessary to perform the services at or around the District's facilities, as detailed in Exhibit G – Project Drawings, and Exhibit H – Technical Specifications.

Work includes, at a minimum:

1. Mobilization to and from the District facilities shown in Exhibit G and further described in Exhibit H – Technical Specifications, Section 01 71 13.
2. Traffic control to ensure safe and efficient movement of vehicles and pedestrians around the project sites, minimizing disruptions and complying with local regulations and safety standards.
3. Clearing and grubbing of existing material that would interfere with the construction of the work items.
4. Performing best management practices and environmental protection to protect from pollutants entering the stormwater system.
5. Removal of an existing corrugated metal pipe and replacement with a dual-wall high-Density Polyethylene (HDPE) pipe of the same inner diameter and length.
6. Installation of curb inlets at locations where sub-standard inlets exist.
7. Installation of Asphalt Concrete (AC) dike, post curb, curb and gutter, sidewalk, valley gutter, and curb ramps.
8. Cold-planing (milling) existing AC, wedge grind, conform grind, crack sealing remaining cracks, performing localized base repairs, and AC overlay.
9. Removal of existing roadway surfacing and base, re-compaction of the subgrade for paving to 95% of its maximum dry density (MDD), as determined through a modified Proctor test, subgrade over-excavation (if needed), and AC overlay.

10. Road pavement subgrade stabilization at locations where there has been landslide movement. This includes removal of the surfacing and base, installing geogrid and aggregate base layers, followed by an AC overlay.
11. Installing aggregate base shoulder backing to reestablish the pavement edge and add confinement.
12. Top-down full-depth reclamation of various depths (10-in to 14-in) to stabilize the roadway base in place with Portland cement followed by an AC overlay.
13. Apply rubberized chip seal and slurry seal to facilities with less visible deterioration.
14. Adjustment of utility valve boxes and covers, manhole lids and frames, and other miscellaneous utility boxes to finish grade.
15. Removal and replacement of thermoplastic pavement striping, pavement markings and markers, and parking bumpers.
16. Installation of signs and sign posts.
17. Refer to Exhibit G - Project Drawings and Exhibit H – Technical Specifications for additional scope details.

Contractor shall note the location of the District's facilities and the specific work locations to determine the appropriate construction equipment to complete the work within the existing site constraints.

See Exhibit H – Specification 01 14 00, Section 1.3, for work schedule and construction activity details. Work in excess of eight hours per day, work on Saturdays, work on Sundays, or work on District holidays requires prior consent of the Engineer and is subject to Cost of Overtime Construction Inspection.

Contractor shall be aware that during any Red Flag Warnings or Fire Watch events in the work area, all Hot Work activities must be suspended. This includes, but is not limited to, electric or gas welding, cutting, brazing, use of wire wheels or grinding equipment, and any other operations or equipment that generate extreme heat, open flame, or sparks.

Contractor must provide all necessary safety barricades around internal and external work areas.

Contractor shall coordinate with the District Project Manager on scheduling all work within occupied areas to minimize District operations and/or tenant disruptions. See Exhibit H – Technical Specifications for additional details on scope of work.

Project Schedule

The Notice to Proceed is expected to be issued in mid-April 2026. All pavement rehabilitation and reconstruction services outlined in this RFP shall be completed within 214 Calendar Days from the date the Notice to Proceed is issued and prior to the start of the rain season.

For the purposes of this RFP and subsequent Contract, the ‘rain season’ is defined as the period from November 15 through April 15, unless otherwise directed. Refer to Exhibit H – Technical Specifications, Specification 01 11 00, Section 1.3. D for additional information regarding required milestones and Contract completion.

D. DELIVERABLES / REPORTS

The Contractor shall submit all materials, product data, drawings, diagrams, schedules, and other relevant documents prepared in accordance with the Contract requirements. These submittals shall not alter or deviate from any contractual obligations.

Prior to the start of work, the Contractor shall also provide certificates of compliance from material suppliers confirming that all materials meet the specifications outlined in Exhibit G – Technical Specifications. The District Engineer reserves the right to reject the use of any material based solely on a Certificate of Compliance.

Unless otherwise specified, all required Contractor submittals shall be reviewed by the District Engineer and returned within twenty (20) working days of receipt. The Contractor shall allow an equal review period for any revised submittals following rejection.

The District Engineer’s review and approval of shop drawings and other submittals does not relieve the Contractor of responsibility for the accuracy of details and dimensions. The Contractor assumes full liability for any errors, misfits, or deficiencies arising from incorrect submittals. This includes responsibility for ensuring proper dimensions and designing adequate connections and details. Approval of a proposed substitute item by the Construction Manager does not absolve the Contractor from meeting all contract requirements or from ensuring the suitability and performance of the substitute.

Refer to Exhibit H – Technical Specifications for all required submittals and related details; submittals include, but are not limited to, the following:

1. Certified Payroll Electronic Submission Account Sign-Up Form
2. Critical Path Method (CPM) Construction Schedule
3. Schedule of Submittals
4. Health and Safety Plan
5. Fall Protection Plan Procedure
6. Injury and Illness Prevention Plan
7. Workplace Violence Prevention Plan
8. Emergency Action Plan
9. Job Hazard Analysis
10. Demolition Plan
11. Excavation Safety Plan
12. Pre-Work Project Jobsite Survey
13. Temporary Traffic Control and Haul Route
14. Stormwater Management Plan
15. Water Pollution Control Plan and Best Management Practices
16. Waste Management Plan
17. Waste Disposal Records
18. Sampling and Analysis Plan
19. Spill Prevention and Response Plan
20. Dust Control Plan
21. Noise Monitoring Results
22. Traffic Control Plans
23. Asphalt Concrete Paving Quality Control Plan
24. Certificate of Compliance for Products Used

25. Full-depth Reclamation Quality Control Plan and Mix Designs
26. 3/4-in Class 2 Aggregate Base Source and Gradation
27. Geogrid Cut Sheet
28. Portland Cement Concrete (PCC) Mix Design
29. Crack Seal (hot-applied)
30. Hot-Mix Asphalt (HMA) Mix Design – Type A 1/2-in Maximum
31. SS-1H Emulsified Asphalt and Technical Data Sheet
32. Paving Asphalt Binder (PG 64-10)
33. Polymer Modified Type II Slurry Seal Mix Design
34. Rubberized Chip Seal Mix Design
35. Detectable Warning Surface Product Information
36. Pavement Markers
37. Bituminous Marker Adhesive
38. Thermoplastic Paint (White and Yellow)
39. Glass Beads
40. Roadway Signs and Post
41. Red-line Drawings of Deviations from the Design (As-built Drawings)

II. CALENDAR OF EVENTS

EVENT	DATE/LOCATION	
RFP Issued	December 22, 2025	
MANDATORY Site Walks	Wednesday, January 14, 2026 at 8:00 am PST Thursday, January 15, 2026 at 8:00 am PST	at: 1/14/2026 8:00 am PST San Pablo Reservoir Recreation Area 7301 San Pablo Dam Road, El Sobrante, CA 94803 1/15/2026 8:00 am PST EBMUD North Area Service Center 3999 Lakeside Drive, Richmond, CA 94806
Deadline for Proposer Questions	Thursday, January 22, 2026 by 3 p.m. PST*	
Proposal Due	January 29, 2026 by 3:30 p.m. PST	
Anticipated Contract Start Date	April 20, 2026	

* Proposer questions to be submitted via email to damaris.villalobos-galindo@ebmud.com.

Note: All dates are subject to change **by the District**.

Proposers are responsible for reviewing <https://www.ebmud.com/business-center/requests-proposal-rfps/> for any published addenda. Hard copies of addenda will not be mailed out.

A. MANDATORY SITE WALK/ PROPOSAL CONFERENCE

Two mandatory site walks will be conducted to provide familiarity with the project scope. Site walk attendance at both site walks is required, as different facilities will be visited each day. Details for the mandatory site walks are as follows:

Details	Day 1	Day 2
Date	Wednesday, January 14, 2026	Thursday, January 15, 2026
Time	8:00 am PST	8:00 am PST
Meeting Location	San Pablo Reservoir Recreation Area 7301 San Pablo Dam Road, El Sobrante, CA 94803	EBMUD North Area Service Center 3999 Lakeside Drive, Richmond, CA 94806
Number of facilities	8	9
Total site visit length	Approximately 8 hours	Approximately 8 hours

The mandatory site walk will assist Contractors to fully acquaint themselves with the existing conditions at the project sites, the facilities involved, and the difficulties and restrictions attending the performance of the requested services. District staff will be available at the mandatory site walks to answer questions related to the RFP and the project. Contractors should thoroughly examine and familiarize themselves with the project plans, specifications, terms and conditions prior to the site walks.

The mandatory site walks will:

1. Allow the District to discuss the scope of the project.
2. Provide Contractors an opportunity to view the project sites.
3. Provide an opportunity for Contractors to ask specific questions about the project and request RFP clarifications.
4. Provide the District with an opportunity to receive feedback regarding the project and RFP.

All questions deemed to be pertinent by District staff will be addressed in Addenda following the site walk.

*****In order to be eligible to submit a Proposal on this RFP, a representative from the Contractor's company MUST attend the site walks and sign-in at the end of each site walk to capture her/his attendance. If an RFP response is submitted by a company that was not in attendance at the site walks, its RFP response WILL be rejected*****

III. DISTRICT PROCEDURES, TERMS, AND CONDITIONS

A. RFP ACCEPTANCE AND AWARD

1. RFP responses will be evaluated by the Selection Committee and will be scored and ranked in accordance with the RFP section entitled "Evaluation Criteria/Selection Committee."
2. The Selection Committee will recommend award to the Contractor(s) who, in its opinion, has submitted the RFP response that best serves the overall interests of the District and provides the lowest overall cost.
3. The District reserves the right to award to a single or to multiple General Service Providers, dependent upon what is in the best interest of the District.
4. The District has the right to decline to award this contract or any part of it for any reason.

5. The District, may at its discretion, modify, clarify, or update the Scope of Work during the RFP process. Any such changes will be formally issued as written addenda and provided to all prospective contractors.
6. Any specifications, terms, or conditions issued by the District, or those included in the Contractor's submission, in relation to this RFP, may be incorporated into any purchase order or contract that may be awarded as a result of this RFP.
7. Award of contract. The District reserves the right to reject any or all proposals, to accept one part of a proposal and reject the other, unless the proposer stipulates to the contrary, and to waive minor technical defects and administrative errors, as the interest of the District may require. Award will be made, or proposals rejected by the District as soon as possible after proposals have been opened.

B. EVALUATION CRITERIA/SELECTION COMMITTEE

All proposals will be evaluated by a Selection Committee. The Selection Committee may be composed of District staff and other parties that have expertise or experience in this type of procurement. The Selection Committee will select a Contractor in accordance with the evaluation criteria set forth in this RFP. The evaluation of the RFP responses shall be within the sole judgment and discretion of the Selection Committee.

The evaluation and selection will be as follows:

The Selection Committee will evaluate each RFP response meeting the minimum qualification requirements set forth in the RFP. Proposer should bear in mind that any RFP response that is incomplete and/or unrealistic in terms of the technical or schedule commitments will be deemed reflective of an inherent lack of technical competence or indicative of a failure to comprehend the complexity and risk of the District's requirements as set forth in this RFP. In addition, the proposers shall be eligible for SBE or DVBE preference if they are a certified small business entity, as described in the guidelines contained in Exhibit's A and B, Contract Equity Program, and they check the appropriate box, requesting preference on the Contractor Information and Acceptance form in Exhibit A.

After confirming that respondents meet the minimum qualifications and have submitted a complete RFP packet, the Selection Committee will review the cost proposals of the qualifying respondents. The proposal with the lowest overall cost will be selected.

C. PRICING

1. Price quoted shall not change for the duration of the contract to be awarded pursuant to this RFP.

2. All prices quoted shall be in United States dollars.
3. Price quotes shall include any and all payment incentives available to the District.
4. Contractors are advised that in the evaluation of cost, if applicable, it will be assumed that the unit price quoted is correct in the case of a discrepancy between the unit price and extended price.
5. Prevailing Wages:

All Contractors proposing on a public works project and all Subcontractors of any tier shall be registered with the State Department of Industrial Relations pursuant to Section 1725.5 of the Labor Code.

The Contractor shall post a copy of the general prevailing rate of per diem wages at the jobsite pursuant to Section 1773.2 of the Labor Code of the State of California.

Pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2, and any amendments thereof of the Labor Code of the State of California, the Contractor and any Subcontractor shall pay not less than the specified prevailing rate of wages to all workers employed in the execution of the contract.

The Contractor shall, as a penalty to the State or the District, forfeit Twenty-Five (\$25.00) Dollars for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing rates for any work or craft in which such worker is employed under the contract by the Contractor or by any Subcontractor. The difference between such stipulated prevailing wage rates and the amount paid to such worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor. The Contractor shall comply with the provisions of Section 1776 of the Labor Code of the State of California. For all classes of work not specified herein, the minimum wage shall be that specified for general laborer.

The specified wage rates are minimum rates only and the District will not consider and shall not be liable for any claims for additional compensation made by the Contractor because of payment by Contractor of any wage rate in excess of the general prevailing rates. All disputes in regard to the payment of wages in excess of those specified herein shall be adjusted by the Contractor at his own expense.

The holidays upon which such rates shall be paid shall be all holidays recognized in the collective bargaining agreement applicable to the particular craft, classification, or type of worker employed on the project.

D. NOTICE OF INTENT TO AWARD AND PROTESTS

At the conclusion of the RFP response evaluation process, all entities who submitted a proposal package will be notified in writing by e-mail or USPS mail with the name of the Contractor(s) being recommended for contract award. The document providing this notification is the Notice of Intent to Award.

Negotiations for a General Services Agreement will be scheduled shortly after the Notice of Intent to Award. If an Agreement cannot be achieved, the District will proceed to negotiate with the next highest ranked proposer.

Protests must be in writing and must be received no later than seven (7) workdays after the District issues the Notice of Intent to Award. The District will reject the protest as untimely if it is received after this specified time frame. Protests will be accepted from proposers or potential proposers only.

If the protest is mailed and not received by the District, the protesting party bears the burden of proof to submit evidence (e.g., certified mail receipt) that the protest was sent in a timely manner so that it would be received by the District within the RFP protest period.

Proposal protests must contain a detailed and complete written statement describing the reason(s) for protest. The protest must include the name and/or number of the proposal, the name of the firm protesting, and include a name, telephone number, email address and physical address of the protester. If a firm is representing the protester, they shall include their contact information in addition to that of the protesting firm.

Protests must be mailed, hand delivered, or emailed to the Manager of Purchasing, Mailstop 102, East Bay Municipal Utility District, 1010 Franklin St., Oakland, CA 94607 or P.O. Box 24055, Oakland, California 94623. Facsimile and electronic mail protests must be followed by a mailed or hand delivered identical copy of the protest and must arrive within the seven workday time limit. Any proposal protest filed with any other District office shall be forwarded immediately to the Manager of Purchasing.

In the event that the protest is denied, the protester can appeal the determination to the requesting organization's Department Director. The appeal must be submitted to the Department Director no later than five workdays from the date which the protest

determination was transmitted by the District, to the protesting party. The appeal shall focus on the points raised in the original protest, and no new points shall be raised in the appeal.

Such an appeal must be made in writing and must include all grounds for the appeal and copies of the original protest and the District's response. The proposal protester must also send the Purchasing Division a copy of all materials sent to the Department Director.

The Department Director will make a determination of the appeal and respond to the protester by certified mail in a timely manner. If the appeal is denied, the letter will include the date, time, and location of the Board of Directors meeting at which staff will make a recommendation for award and inform the protester it may request to address the Board of Directors at that meeting.

The District may transmit copies of the protest and any attached documentation to all other parties who may be affected by the outcome of the protest. The decision of the District as to the validity of any protest is final. This District's final decision will be transmitted to all affected parties in a timely manner.

E. WARRANTY

1. Proposer expressly warrants that all goods and services provided under any contract awarded as a result of this RFP will conform to the descriptions and specifications contained herein and in supplier catalogs, product brochures, and other representations, depictions, or models, and will be free from defects, of merchantable quality, good material, and workmanship.
2. Proposer expressly warrants that all goods and services to be furnished pursuant to such award will be fit and sufficient for the purpose(s) intended. This warranty shall survive any inspections, delivery, acceptance, payment, or contract termination for any reason, by the District. Proposer warrants that all work and services furnished hereunder shall be guaranteed for a period of one (1) year from the date of acceptance by the District.

F. INVOICING

1. Following the Districts acceptance of product(s) meeting all specified requirements, and/or the complete and satisfactory performance of services, the District will render payment within thirty (30) days of receipt of a correct invoice.
2. The District will notify the General Service Provider of any invoice adjustments required.

3. Invoices shall contain, at a minimum, District purchase order number, invoice number, remit to address, and itemized services description.
4. The District will pay General Service Provider in an amount not to exceed the negotiated amount(s) which will be referenced in the agreement signed by both parties.

G. LIQUIDATED DAMAGES

1. A deduction for liquidated damages of \$714.28 per Calendar Day will be assessed for not meeting District-specified performance requirements as prescribed in this RFP.
 - a. Liquidated damages will start accruing from Calendar Day 215.
 - b. Liquidated damages will stop accruing on the day that the Contractor achieves Operational Completion, as defined in Exhibit H – Technical Specifications, Section 01 77 00 – Closeout Procedures.
2. It being impracticable or extremely difficult to fix the actual damage, the amount set forth above is hereby agreed upon as liquidated damages and will be deducted from any money due under the agreement arising from this RFP.
3. In the event performance and/or deliverables have been deemed unsatisfactory, the District reserves the right to withhold future payments until the performance and/or deliverables are deemed satisfactory.

H. BONDS

1. The successful Proposer will be required to post and maintain a Payment Bond and a Performance Bond for one hundred percent (100%) of the total contract amount with the District. Bonds must be on District forms attached to this RFP as **Exhibit F - Bond Forms**.

IV. RFP RESPONSE SUBMITTAL INSTRUCTIONS AND INFORMATION

A. DISTRICT CONTACTS

All contact during the competitive process is to be through the contact listed on the first page of this RFP. The following persons are to be contacted only for the purposes specified below:

FOR INFORMATION REGARDING TECHNICAL SPECIFICATIONS, PROJECT CLARIFICATIONS AND QUESTIONS ON THE RFP:

Attn: Dámaris Villalobos-Galindo, Associate Civil Engineer

EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
PHONE: (510) 287-1240

FOR INFORMATION ON THE CONTRACT EQUITY PROGRAM:
Attn: Contract Equity Office
PHONE: (510) 287-0114

AFTER AWARD:
Attn: Dámaris Villalobos-Galindo, Associate Civil Engineer
EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
PHONE: (510) 287-1240

B. SUBMITTAL OF RFP RESPONSE

1. Submit hardcopy proposals to:

RESPONSE DELIVERED BY SERVICE
(UPS, FedEx, DHL, etc., during
business hours (8 AM to 3:30 PM
only) to:

EBMUD – Purchasing Division
Pavement Management
Implementation Year 1
RFP#WDPD-0225
375 11th Street
Oakland, CA 94607

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(during business hours (8 AM
to 4 PM only) to:

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Purchasing Office
375 11th Street, 1st Floor
Oakland, CA 94607

2. Bidder’s name, return address, and the RFP number and title must also appear on the mailing package.
3. All RFP responses must be SEALED and received by 3:30 pm on the due date specified in the Calendar of Events. Any RFP response received after that time/date, or at a place other than the stated addresses, cannot be considered and will be returned to the bidder unopened. The EBMUD mailroom and Purchasing Division timestamp shall be considered the official timepiece for the purpose of establishing the actual receipt of RFP responses.

4. Responses must be submitted in accordance with Exhibit A – RFP Response Packet, including all additional documentation stated in the “Required Documentation and Submittals” section of Exhibit A.
5. All costs required for the preparation and submission of an RFP response shall be borne by the Contractor.
6. Late and/or unsealed responses will not be accepted.
7. RFP responses submitted via electronic transmissions will not be accepted. Electronic transmissions include faxed RFP responses or those sent by electronic mail (e-mail).
8. California Government Code Section 4552: In submitting an RFP response to a public purchasing body, the Contractor offers and agrees that if the RFP response is accepted, it will assign to the purchasing 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, materials, or services by the Contractor for sale to the purchasing body pursuant to the RFP response. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the Contractor.
9. Contractor expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms “claim” and “knowingly” are defined in the California False Claims Act, Cal. Gov. Code, §12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act.
10. Proposers are responsible for reviewing <https://www.ebmud.com/business-center/requests-proposals-rfp/for> any published addenda. Hard copies of addenda will not be mailed out.
11. The RFP response shall remain open to acceptance and is irrevocable for a period of eight (8) months, unless otherwise specified in the RFP documents.
12. It is understood that the District reserves the right to reject any or all RFP responses.

c. RESPONSE FORMAT

1. **Proposers shall not modify the existing text for any part of Exhibits A, B, C, D, E, F, G, H, I, J, K or L, or qualify their RFP responses. Proposers shall not submit to**

the District a re-typed or otherwise re-created version of these documents or any other District-provided document.

2. RFP responses, in whole or in part, are NOT to be marked confidential or proprietary. The District may refuse to consider any RFP response or part thereof so marked. RFP responses submitted in response to this RFP may be subject to public disclosure. The District shall not be liable in any way for disclosure of any such records.



EXHIBIT A
RFP RESPONSE PACKET
RFP For Pavement Management Implementation Year 1
RFP #WDPD-0225

To: The EAST BAY MUNICIPAL UTILITY District (“District”)

From: _____
(Official Name of Proposer)

RFP RESPONSE PACKET GUIDELINES

- **SUBMITTAL SHALL CONTAIN THE FOLLOWING:**
 - **EXHIBIT A – RFP RESPONSE PACKET**
 - **INCLUDING ALL REQUIRED DOCUMENTATION AS DESCRIBED IN THE “REQUIRED DOCUMENTATION AND SUBMITTALS” WITHIN EXHIBIT A**
 - **EXHIBIT B – CONTRACT EQUITY PROGRAM FORMS P-025 & P-046**
 - **EXHIBIT E – IRAN CONTRACTING ACT CERTIFICATION**
 - **EXHIBIT I – CERTIFICATION OF BIDDER EXPERIENCE AND QUALIFICATIONS**
 - **EXHIBIT J – CERTIFICATION OF EXPERIENCE AND QUALIFICATIONS TO PERFORM FULL DEPTH RECLAMATION**
 - **EXHIBIT K – DECLARATION OF ELIGIBILITY TO WORK IN PUBLIC WORKS PROJECTS**
 - **EXHIBIT L – DECLARATION OF NONCOLLUSION**

- **PROPOSERS THAT DO NOT COMPLY WITH THE REQUIREMENTS, AND/OR SUBMIT AN INCOMPLETE RFP RESPONSE MAY BE SUBJECT TO DISQUALIFICATION AND THEIR RFP RESPONSE REJECTED IN WHOLE.**

- **IF PROPOSERS ARE MAKING ANY CLARIFICATIONS AND/OR AMENDMENTS, OR TAKING EXCEPTION TO ANY PART OF THIS RFP, THESE MUST BE SUBMITTED IN THE EXCEPTIONS, CLARIFICATIONS, AND AMENDMENTS SECTION OF THIS EXHIBIT A – RFP RESPONSE PACKET. THE DISTRICT, AT ITS SOLE DISCRETION, MAY ACCEPT AMENDMENTS/EXCEPTIONS, OR MAY DEEM THEM TO BE UNACCEPTABLE, THEREBY RENDERING THE RFP RESPONSE DISQUALIFIED.**

- **PROPOSERS SHALL NOT MODIFY DISTRICT LANGUAGE IN ANY PART OF THIS RFP OR ITS EXHIBITS, NOR SHALL THEY QUALIFY THEIR RFP RESPONSE BY INSERTING THEIR OWN LANGUAGE OR FALSE CLAIMS IN THEIR RESPONSE. ANY EXCEPTIONS AND CLARIFICATIONS MUST BE PLACED IN THE “EXCEPTIONS/ CLARIFICATIONS” PAGE, NOT BURIED IN THE PROPOSAL ITSELF.**



PROPOSER INFORMATION AND ACCEPTANCE

1. The undersigned declares that all RFP documents, including, without limitation, the RFP, Addenda, and Exhibits, have been read and that the terms, conditions, certifications, and requirements are agreed to.
2. The undersigned is authorized to offer, and agrees to furnish, the articles and services specified in accordance with the RFP documents.
3. The undersigned acknowledges acceptance of all addenda related to this RFP. List Addenda for this RFP on the line below:

Addendum #	Date

4. The undersigned hereby certifies to the District that all representations, certifications, and statements made by the Proposer, as set forth in this RFP Response Packet and attachments, are true and correct and are made under penalty of perjury pursuant to the laws of California.
5. The undersigned acknowledges that the Proposer is, and will be, in good standing in the State of California, with all the necessary licenses, permits, certifications, approvals, and authorizations necessary to perform all obligations in connection with this RFP and associated RFP documents.
6. It is the responsibility of each Proposer to be familiar with all of the specifications, terms, and conditions and, if applicable, the site condition. By the submission of an RFP response, the Proposer certifies that if awarded a contract it will make no claim against the District based upon ignorance of conditions or misunderstanding of the specifications.
7. Patent indemnity: General or Professional Service Providers who do business with the District shall hold the District, its Directors, officers, agents, and employees harmless from liability of any nature or kind, including cost and expenses, for infringement or use of any patent, copyright or other proprietary right, secret process, patented or unpatented invention, article, or appliance furnished or used in connection with the contract or purchase order.
8. Insurance certificates are not required at the time of submission. However, by signing Exhibit A – RFP Response Packet, the Proposer agrees to meet the minimum insurance requirements stated in the RFP. This documentation must be provided to the District prior to execution of an agreement by the District

and shall include an insurance certificate which meets the minimum insurance requirements, as stated in the RFP.

9. The undersigned acknowledges that RFP responses, in whole or in part, are NOT to be marked confidential or proprietary. The District may refuse to consider any RFP response or part thereof so marked. RFP responses submitted in response to this RFP may be subject to public disclosure. The District shall not be liable in any way for disclosure of any such records.
10. The undersigned Proposer hereby submits this RFP response and binds itself to the District. The RFP, subsequent Addenda, Proposers Response Packet, and any attachments, shall be used to form the basis of a Contract, which once executed shall take precedence.
11. The undersigned acknowledges **ONE** of the following (please check only one box)*:
- Proposer is not an SBE nor a DVBE and is ineligible for any Proposal preference; **OR**
- Proposer is an SBE or DVBE as described in the Contract Equity Program (CEP) and Equal Employment Opportunity (EEO) Guidelines, and has completed the CEP and EEO forms at the hyperlink contained in the CEP and EEO section of this Exhibit A.

*If no box is checked it will be assumed that the Proposer is ineligible for Proposal preference, and none will be given. For additional information on SBE/DVBE Proposal preference please refer to the Contract Equity Program and Equal Employment Opportunity Guidelines at the above referenced hyperlink.

Official Name of Proposer (exactly as it appears on Proposer's corporate seal and invoice): _____

Street Address Line 1: _____

Street Address Line 2: _____

City: _____ State: _____ Zip Code: _____

Webpage: _____

Type of Entity / Organizational Structure (check one):

- | | |
|--|--|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Limited Liability Partnership | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> Limited Liability Corporation | <input type="checkbox"/> Non-Profit / Church |
| <input type="checkbox"/> Other: _____ | |

Jurisdiction of Organization Structure: _____

Date of Organization Structure: _____

Federal Tax Identification Number: _____

Department of Industrial Relations (DIR) Registration Number: _____

Primary Contact Information:

Name / Title: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

Street Address Line 1: _____

City: _____ State: _____ Zip Code: _____

Does proposer or any employee/representative/service provider have any relatives currently employed with EBMUD? (This does not impact award of a qualified proposal; required reporting purposes only.)

YES NO

If so, please list :

CONTRACTOR OR CONTRACTOR EMPLOYEE FIRST AND LAST NAME	DISTRICT EMPLOYEE FIRST AND LAST NAME	RELATIONSHIP
--	---------------------------------------	--------------

SIGNATURE: _____

Name and Title of Signer (printed): _____

Dated this _____ day of _____ 20_____



PROPOSAL FORM

Cost shall be submitted on this Proposal Form as is. The prices quoted shall not include Sales Tax or Use Tax; said tax, wherever applicable, will be paid by the District to the General Service Provider, if licensed to collect, or otherwise directly to the State.

No alterations or changes of any kind to the Proposal Form(s) are permitted. RFP responses that do not comply may be subject to rejection in total. The cost quoted below shall be the cost the District will pay for the term of any contract that is a result of this RFP process.

The District reserves the right to adjust the quantity of any item or proportions of the work as may be deemed necessary or advisable by the Engineer. The Contractor unit Price will not be adjusted after acceptance.

Contractor shall include all items listed in the Allowances table section in the total bid amount. Additional requirements related to payment procedures and allowances are provided in Exhibit H – Technical Specifications, Sections 01 29 00 and 01 21 00.

All work under Allowances shall be approved in writing by the Engineer prior to commencement of work by the Contractor.

Item No.	Work Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$	\$
2	Clearing, Grubbing and Environmental Protection	LS	1	\$	\$
3	Traffic Regulation	LS	1	\$	\$
4	24" HDPE Storm Drain Pipe by Open Trench	LF	38	\$	\$
5	Contra Costa County Type "G" Inlet	EA	2	\$	\$
6	CALTRANS Type "A" AC Dike	LF	777	\$	\$
7	Minor Concrete (Type M1-6 Curb)	LF	195	\$	\$
8	Minor Concrete (Sidewalk)	SF	195	\$	\$
9	Minor Concrete (Valley Gutter)	SF	684	\$	\$
10	Concrete Curb Ramp	EA	1	\$	\$
11	1" Full Width Cold-Plane (Mill)	SY	3,135	\$	\$
12	1.5" Full Width Cold-Plane (Mill)	SY	1,376	\$	\$
13	2" Full Width Cold-Plane (Mill)	SY	6,383	\$	\$
14	3" Full Width Cold-Plane (Mill)	SY	7,818	\$	\$
15	Remove 3" Surfacing and Base	SY	3,818	\$	\$
16	Remove 12" Surfacing and Base	SY	68	\$	\$
17	Roadway Pavement Subgrade Preparation	SY	3,818	\$	\$

18	Subgrade Over-Excavation (Revocable Bid Item)	CY	239	\$	\$
19	Roadway Pavement Subgrade Stabilization	SF	3,033	\$	\$
20	Class 2 AB Shoulder Backing (4-Wide)	SF	1,100	\$	\$
21	Class 2 AB (8" Depth)	CY	23	\$	\$
22	Wedge Grind (6' Wide)	LF	452	\$	\$
23	Conform Grind (15' Wide)	LF	106	\$	\$
24	10" Top-Down Full-Depth Reclamation	SY	2,852	\$	\$
25	12" Top-Down Full-Depth Reclamation	SY	3,939	\$	\$
26	Portland Cement for Full-Depth Reclamation	TON	136	\$	\$
27	Micro-Cracking Treated Base	SY	6,791	\$	\$
28	Hot Mix Asphalt (Type A) - Overlay (1.5")	TON	122	\$	\$
29	Hot Mix Asphalt (Type A) - Overlay (2")	TON	93	\$	\$
30	Hot Mix Asphalt (Type A) - Overlay (3")	TON	4,207	\$	\$
31	Hot Mix Asphalt (Type A) - Overlay (4")	TON	868	\$	\$
32	Full Depth Base Repair (4-inch Depth)	SF	34,137	\$	\$
33	Full Depth Base Repair (6-inch Depth)	SF	2,745	\$	\$
34	Full Depth Base Repair Over-Excavation (Revocable Bid Item)	CY	307	\$	\$
35	Crack Sealing	LS	1	\$	\$
36	Rubberized Chip Seal	SY	5,325	\$	\$
37	Polymer Modified Type II Slurry Seal	SY	15,490	\$	\$
38	Adjust Water Valve Box and Cover to Grade	EA	12	\$	\$
39	Adjust Water Meter Box and Cover to Grade	EA	3	\$	\$
40	Adjust Sanitary Sewer Manhole Frame and Cover to Grade	EA	2	\$	\$
41	Adjust Survey Monument Box and Cover to Grade	EA	1	\$	\$
42	Adjust Unknown Box to Grade	EA	4	\$	\$
43	Adjust Electrical Box and Cover to Grade	EA	2	\$	\$
44	Adjust Instrumentation Pullbox to Grade	EA	5	\$	\$
45	Remove Thermoplastic Markings and Striping, Lane Markers, and Delineators	LS	1	\$	\$
46	Thermoplastic Traffic Stripe - Detail 21	LF	4,425	\$	\$
47	Thermoplastic Traffic Stripe - 4-inch Stripe (White, Yellow, or Blue)	LF	6,800	\$	\$
48	Thermoplastic Limit Line	LF	60	\$	\$
49	Thermoplastic Pavement Markings (Arrows, Symbols, and Words; White or Yellow)	SF	295	\$	\$
50	Parking Bumper	EA	112	\$	\$
51	R7-8b Sign	EA	6	\$	\$
52	R99C Sign	EA	8	\$	\$

53	Sign Post	EA	8	\$	\$
Allowances (Also refer to Exhibit H, Section 01 21 00 – Allowances)					
1	Environmental Monitoring and Work suspension allowance (includes unanticipated Work disruptions due to bird nesting, protected species, and cultural resources)	EA	1	\$	\$75,000
2	Hazardous waste disposal allowance (includes costs for unexpected hazardous wastes encountered)	EA	1	\$	\$50,000
3	Dike/curb damage repair allowance (includes costs for reconstruction of existing AC dikes due to unintended damage)	EA	1	\$	\$140,000
TOTAL					\$



REQUIRED DOCUMENTATION AND SUBMITTALS

All of the specific documentation listed below is required to be submitted with the Exhibit A – RFP Response Packet. Contractors shall submit all documentation, in the order listed below, and clearly label each section of the RFP response with the appropriate title (i.e., Table of Contents, Letter of Transmittal, Key Personnel, etc.).

1. **Letter of Transmittal:** RFP response shall include a description of the Contractor’s capabilities and approach in providing its services to the District, and provide a brief synopsis of the highlights of the RFP response and overall benefits to the District. This synopsis should not exceed three (3) pages in length and should be easily understood.
2. **Key Personnel:** RFP response shall include a complete list of all key personnel associated with the RFP. For each person on the list, the following information shall be included:
 - (a) The person’s relationship with the Contractor, including job title and years of employment with the Contractor;
 - (b) The role that the person will play in connection with the RFP;
 - (c) The person’s telephone number, fax number, and e-mail address;
 - (d) The person’s educational background; and
 - (e) The person’s relevant experience, certifications, and/or merits
3. **Description of the Proposed Services:** RFP response shall include a description of the terms and conditions of services to be provided during the contract term including response times. The description shall contain a basis of estimate for services including its scheduled start and completion dates, the number of Contractor’s personnel involved, and the number of hours scheduled for each person. Finally, the description must: (1) specify how the services in the RFP response will meet or exceed the requirements of the District; (2) explain any special resources or approaches that make the services of the Contractor particularly advantageous to the District; and (3) identify any limitations or restrictions of the Contractor in providing the services that the District should be aware of in evaluating its RFP response.
4. **Implementation Plan and Schedule:** The RFP response shall include an implementation plan and schedule. The implementation plan shall identify risks that might adversely affect the project and include a plan to mitigate the risks identified.
5. **References:**
 - (a) Proposers must use the templates in the “References” section of this Exhibit A – RFP Response Packet to provide references.

- (b) References should have similar scope, volume, and requirements to those outlined in these specifications, terms, and conditions.
 - Contractors must verify the contact information for all references provided is current and valid.
 - Contractors are strongly encouraged to notify all references that the District may be contacting them to obtain a reference.
- (c) The District may contact some or all of the references provided in order to determine Contractor's performance record on work similar to that described in this RFP. The District reserves the right to contact references other than those provided in the RFP response and to use the information gained from them in the evaluation process.
- (d) References MUST demonstrate the successful completion of services comparable in quality and scope to those outlined in this RFP.

6. **Exceptions, Clarifications, Amendments:**

- (a) The RFP response shall include a separate section calling out all clarifications, exceptions, and amendments, if any, to the RFP and associated RFP documents, which shall be submitted with the proposer's RFP response using the template in the "Exceptions, Clarifications, Amendments" section of this Exhibit A – RFP Response Packet.
- (b) **THE DISTRICT IS UNDER NO OBLIGATION TO ACCEPT ANY EXCEPTIONS, AND SUCH EXCEPTIONS MAY BE A BASIS FOR RFP RESPONSE DISQUALIFICATION.**

7. **Contract Equity Program:**

- (a) Every Contractor must fill out, sign, and submit the appropriate sections of the Contract Equity Program and Equal Employment Opportunity documents located at the hyperlink contained in the last page of this Exhibit A. Special attention should be given to completing Form P-025 - Employment Data and Certification, located in Exhibit B of this RFP. Any proposer needing assistance in completing these forms should contact the District's Contract Equity Office at (510) 287-0114 prior to submitting an RFP response.



REFERENCES
RFP For Pavement Management Implementation Year 1
RFP #WDPD-0225

Contractor Name: _____

Contractor must provide a minimum of five (5) references

Company Name:	Contact Person:
Address:	Telephone Number:
City, State, Zip:	E-mail Address:
Services Provided / Date(s) of Service:	

Company Name:	Contact Person:
Address:	Telephone Number:
City, State, Zip:	E-mail Address:
Services Provided / Date(s) of Service:	

Company Name:	Contact Person:
Address:	Telephone Number:
City, State, Zip:	E-mail Address:
Services Provided / Date(s) of Service:	

Company Name:	Contact Person:
Address:	Telephone Number:
City, State, Zip:	E-mail Address:
Services Provided / Date(s) of Service:	

Company Name:	Contact Person:
Address:	Telephone Number:
City, State, Zip:	E-mail Address:
Services Provided / Date(s) of Service:	



EXCEPTIONS, CLARIFICATIONS, AMENDMENTS
RFP For Pavement Management Implementation Year 1
RFP #WDPD-0225

Contractor Name: _____

List below requests for clarifications, exceptions, and amendments, if any, to the RFP and associated RFP documents, and submit with your RFP response.

The District is under no obligation to accept any exceptions and such exceptions may be a basis for RFP response disqualification.

Reference to:			Description
Page No.	Section	Item No.	
p. 23	D	1.c.	<i>Proposer takes exception to...</i>

*Print additional pages as necessary



CONTRACT EQUITY PROGRAM & EQUAL EMPLOYMENT OPPORTUNITY

The District's Board of Directors adopted the Contract Equity Program (CEP) to enhance equal opportunities for business owners of all races, ethnicities, and genders who are interested in doing business with the District. The program has contracting objectives, serving as the minimum level of expected contract participation for the three availability groups: white-men owned businesses, white-women owned businesses, and ethnic minority owned businesses. The contracting objectives apply to all contracts that are determined to have subcontracting opportunities, and to all General or Professional Service Providers regardless of their race, gender, or ethnicity.

All Contractors and their subcontractors performing work for the District must be Equal Employment Opportunity (EEO) employers and shall be bound by all laws prohibiting discrimination in employment. There shall be no discrimination against any person, or group of persons, on account of race, color, religion, creed, national origin, ancestry, gender including gender identity or expression, age, marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), genetic information, or sexual orientation.

Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

All Contractors shall include the nondiscrimination provisions above in all subcontracts. Please include the required completed forms with your proposal. Non-compliance with the Guidelines may deem a proposal non-responsive, and therefore, ineligible for contract award. Your firm is responsible for:

- 1) Reading and understanding the CEP guidelines.
- 2) Filling out and submitting with your proposal the appropriate forms.

The CEP guidelines and forms can be downloaded from the District website at the following link: <https://www.ebmud.com/business-center/contract-equity-program>. For reference, Form P-025 – Employment and Data Certification & Form P-046 – Designation of Subcontractors, can also be found in Exhibit B of this RFP. As indicated in the CEP guidelines, all bidders shall submit forms P-025 & P-046 with their Proposal.

If you have questions regarding the Contract Equity Program, please call (510) 287-0114.



EXHIBIT B
CONTRACT EQUITY PROGRAM FORMS:
FORM P-025 EMPLOYMENT DATA AND CERTIFICATION & FORM P-046
DESIGNATION OF SUBCONTRACTORS



EMPLOYMENT DATA AND CERTIFICATION INSTRUCTIONS (P-025)

**COMPLETION OF THIS FORM IS REQUIRED FOR ALL BIDS AND PROPOSALS.
AN IMPROPER OR INCOMPLETE FORM MAY RESULT IN REJECTION OF YOUR BID OR PROPOSAL OR
TERMINATION OF YOUR CONTRACT**

The East Bay Municipal Utility District **REQUIRES** the completion of this form when submitting any formal bid in response to a Notice to Contractors (NTC), Request for Statement of Qualifications (RSOQ), Request for Quotation (RFQ), or Request for Proposal (RFP) for materials, equipment, construction or professional or general services. Bidder/Proposer who fails to complete all applicable sections of this form may be denied contracts with the District.

Note: If you have difficulty completing this form or need clarification of the instructions, contact the Contract Equity Office at 510-287-0114.

SECTION A			
FIRM NAME	<input type="checkbox"/> PRIME		
PARENT COMPANY	<input type="checkbox"/> SUBCONTRACTORS/TRUCKERS/SUPPLIERS		
STREET ADDRESS (City, State, ZIP)	Submit a separate P-25 form for each subcontractor/trucker/supplier doing work for \$70,000 or more.		
MAILING ADDRESS (City, State, ZIP)			
PHONE NO.	FAX NO.	WEBSITE	E-MAIL

A1. TYPE OF ORGANIZATION

<input type="checkbox"/> INDIVIDUAL	NAME OF OWNER:		
<input type="checkbox"/> NONPROFIT CORP.	<input type="checkbox"/> PUBLICLY HELD CORP.	STATE OF INCORPORATION:	
<input type="checkbox"/> PRIVATE CORP.	<input type="checkbox"/> FOREIGN-OWNED		

Name(s), title, family relationship(s) and percentage of stock ownership for all shareholders who own 25% or more of stock in the corporation.

NAME	TITLE	FAMILY RELATIONSHIP	PERCENTAGE
_____	_____	_____	_____ %
_____	_____	_____	_____ %
_____	_____	_____	_____ %

JOINT VENTURE

List of Participants – Indicate percentage of work to be realized by each.

_____	_____ %
_____	_____ %

PARTNERSHIP

Names of Partners – Indicate whether (G) General or (L) Limited.

_____	_____
_____	_____

A2. COMPOSITION OF OWNERSHIP

Indicate the percent of ethnic and gender ownership below

	Non-Hispanic Origin			Asian			Native American	Other Indicate	Refuse to State*
	White/ Caucasian	Black/ African American	Hispanic/ Latin American	Asian American	Asian-Pacific Islander American	Asian- Indian American			
MALE									
FEMALE									
TOTAL									

* Firms that refuse to state will be classified as "Other".

SECTION B

B1. EMPLOYMENT DATA

Indicate below the number of employees in each occupational category for each of the ethnic groups listed for your firm's permanent workforce. (Report employees in only one category. Permanent workforce is defined as full- and part-time employees with 6 months or more of continuous service.) You may attach your EEO1 report in lieu of completing the form below. Please provide both your firm's consolidated and individual establishment EEO1 reports.

JOB CATEGORIES	RACE/ETHNICITY (number of employees)														Total A-N
	Hispanic or Latino		Not Hispanic or Latino							Female					
	Male	Female	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native	Two or More Races	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Executive/Senior Level Officials & Managers															
First/Mid-Level Officials & Managers															
Professionals															
Technicians															
Sales Workers															
Administrative Support Workers															
Craft Workers															
Laborers & Helpers															
Service Workers															
Firm's Total															
Bay Area* Total															

* Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Solano, Sonoma, and Santa Clara Counties

B1a. Identify the metropolitan statistical area (MSA) from which your firm's total permanent workforce is drawn. (See page 5)

B1c. Name of person responsible for affirmative action and compliance with equal employment opportunity laws in your firm:

B1b. If your firm's total permanent workforce is located in one county or parish, please identify:

PRINT NAME

TITLE

TELEPHONE NUMBER

SECTION C

CERTIFICATION OF FIRM'S OWNERSHIP AND COMPLIANCE WITH EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS REGARDING EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION REPORTING AND COMPLIANCE PROGRAMS INCLUDING HAVING A DISTRICT APPROVED PROCESS FOR RESPONDING TO COMPLAINTS OF DISCRIMINATION, HARASSMENT, AND RETALIATION

The undersigned has been (is) authorized to execute this certificate on behalf of _____
NAME OF FIRM and

swears under penalty of perjury that the foregoing statements are true and correct and that they include all material information necessary to identify and explain the operations of this firm as well as the ownership thereof. Any material misrepresentation will be grounds for terminating any purchase orders or contracts which may be or were awarded and for initiating actions under Federal or State laws concerning false statements. The District reserves the right to request support documentation, such as tax records, articles of incorporation and board minutes to verify composition of ownership.

The undersigned does further certify that the firm named above complies with the following non-discrimination clauses:

There shall be no discrimination against any person, or groups of persons, per Government Code Section 12940, Labor Code Section 1735, or any other applicable law or regulation in the performance of this contract.

There shall be no discrimination in the performance of this contract, against any person, or group of persons, on account of race, color, religion, religious creed, national origin, ancestry, gender including gender identity or expression, age, marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), genetic information, sexual orientation, or military and veteran status. The Contractor shall not establish or permit any such practice(s) of discrimination with reference to the contract. Contractors determined to be in violation of this section will be deemed to be in material breach of the contract.

Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

The Contractor shall include the nondiscrimination and compliance provisions of these clauses in all subcontracts

EXECUTED IN _____
CITY, COUNTY, STATE

ON _____
DATE

BY _____
PRINT NAME TITLE

SIGNATURE PHONE NUMBER

P-025 SUPPLEMENT

Instructions to Determine Your Statistical Areas (SA): If you operate a business solely or predominantly within one of the SA's listed below, use that location. If you have multiple facilities within a single state, use a State SA. If you have multiple facilities throughout the United States, use Total United States percentage. If you have any questions, call 510-287-0114.

CA STATISTICAL AREAS	WM%	WW%	EM%	CA STATISTICAL AREAS	WM%	WW%	EM%
BAKERSFIELD	29.7%	24.6%	45.7%	SAN JOSE	26.9%	21.0%	52.1%
FRESNO	25.1%	21.6%	53.3%	SAN LUIS OBISPO-ATASCADERO-PASA ROBLES	42.3%	36.6%	21.1%
LOS ANGELES-LONG BEACH	20.2%	16.4%	63.5%	SANTA BARBARA-SANTA MARIA-LOMPOC	31.8%	28.6%	39.6%
MERCED	24.9%	21.1%	54.0%	SANTA CRUZ-WATSONVILLE	37.5%	32.1%	30.4%
MODESTO	33.0%	28.4%	38.6%	SANTA ROSA	39.8%	36.9%	23.4%
OAKLAND	28.0%	24.2%	47.8%	STOCKTON-LODI	28.1%	24.5%	47.4%
REDDING	46.6%	41.5%	11.9%	VALLEJO-FAIRFIELD-NAPA	30.2%	26.8%	42.9%
RIVERSIDE-SAN BERNADINO	28.2%	23.4%	48.3%	VENTURA	33.3%	27.6%	39.1%
SACRAMENTO	36.1%	32.3%	31.6%	YUBA CITY	34.9%	31.0%	34.1%
SAN DIEGO	32.4%	27.5%	40.2%				
SAN FRANCISCO	30.8%	25.1%	44.0%				

CA COUNTIES	WM%	WW%	EM%	CA COUNTIES	WM%	WW%	EM%
9 BAY AREA COUNTIES*	32.3%	27.8%	39.9%	SAN BERNARDINO	26.5%	22.3%	51.1%
ALAMEDA/CONTRA COSTA	28.9%	24.9%	46.2%	SAN DIEGO	32.4%	27.5%	40.2%
ALAMEDA	24.5%	21.6%	53.9%	SAN FRANCISCO	29.2%	22.5%	48.3%
CONTRA COSTA	33.3%	28.2%	38.5%	SAN JOAQUIN	28.1%	24.5%	47.4%
EL DORADO	46.7%	39.4%	13.9%	SAN LUIS OBISBO	42.3%	36.6%	21.1%
FRESNO	24.7%	21.4%	54.0%	SAN MATEO	28.6%	23.6%	47.9%
LOS ANGELES	20.2%	16.4%	63.5%	SANTA CLARA	26.9%	21.0%	52.1%
MARIN	42.8%	38.4%	18.8%	SANTA CRUZ	37.5%	32.1%	30.4%
MENDOCINO	40.4%	37.0%	22.6%	SHASTA	46.6%	41.5%	11.9%
MERCED	24.9%	21.1%	54.0%	SOLANO	27.8%	24.6%	47.6%
MONTEREY	23.8%	21.3%	54.9%	SONOMA	39.8%	36.9%	23.4%
NAPA	37.6%	33.6%	28.8%	STANISLAUS	33.0%	28.4%	28.6%
ORANGE	30.9%	25.5%	43.6%	YOLO	31.7%	29.8%	38.5%
RIVERSIDE	30.1%	24.7%	45.3%	YUBA	36.7%	34.0%	29.4%
SACRAMENTO	32.7%	30.0%	37.3%				

*ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN MATEO, SOLANO, SONOMA, AND SANTA CLARA

STATES	WM%	WW%	EM%	STATES	WM%	WW%	EM%
ALABAMA	40.8%	33.2%	26.0%	MONTANA	49.1%	42.5%	8.4%
ALASKA	40.2%	33.1%	26.7%	NEBRASKA	47.1%	42.7%	10.2%
ARIZONA	37.0%	31.7%	31.3%	NEVADA	37.8%	31.3%	30.9%
ARKANSAS	44.0%	37.5%	18.5%	NEW HAMPSHIRE	50.6%	45.0%	4.4%
CALIFORNIA	28.0%	23.6%	48.4%	NEW JERSEY	36.7%	31.5%	31.7%
COLORADO	42.2%	36.2%	21.6%	NEW MEXICO	26.6%	23.1%	50.3%
CONNECTICUT	42.4%	37.8%	19.8%	NEW YORK	35.0%	30.9%	34.1%
DELEWARE	39.3%	35.5%	25.3%	NORTH CAROLINA	39.1%	34.0%	26.9%
DISTRICT OF COLUMBIA	19.2%	18.0%	62.8%	NORTH DAKOTA	49.6%	44.4%	6.0%
FLORIDA	35.7%	30.9%	33.4%	OHIO	46.1%	40.2%	13.7%
GEORGIA	35.9%	30.0%	34.2%	OKLAHOMA	41.7%	35.4%	22.9%
HAWAII	13.1%	11.1%	75.8%	OREGON	45.5%	39.5%	15.0%
IDAHO	48.6%	40.8%	10.5%	PENNSYLVANIA	46.4%	40.2%	13.4%
ILLINOIS	38.6%	33.6%	27.8%	RHODE ISLAND	44.1%	41.4%	14.5%
INDIANA	47.1%	40.6%	12.3%	SOUTH CAROLINA	37.6%	32.4%	30.0%
IOWA	49.2%	44.8%	6.0%	SOUTH DAKOTA	48.0%	43.6%	8.4%
KANSAS	45.6%	40.1%	14.3%	TENNESSEE	44.1%	37.1%	18.8%
KENTUCKY	48.4%	41.9%	9.7%	TEXAS	31.5%	26.1%	42.4%
LOUISIANA	37.3%	30.0%	32.7%	UTAH	47.7%	39.1%	13.2%
MAINE	50.6%	46.5%	2.9%	VERMONT	50.4%	46.3%	3.3%
MARYLAND	34.0%	30.2%	35.8%	VIRGINIA	38.6%	34.0%	27.3%
MASSACHUSETTS	44.0%	40.6%	15.3%	WASHINGTON	43.6%	37.6%	18.8%
MICHIGAN	44.1%	37.5%	18.4%	WEST VIRGINIA	51.9%	43.3%	4.9%
MINNESOTA	47.6%	43.1%	9.3%	WISCONSIN	47.5%	42.8%	9.6%
MISSISSIPPI	36.1%	29.6%	34.3%	WYOMING	49.0%	41.4%	9.6%
MISSOURI	45.6%	40.3%	14.1%				

TOTAL USA 39.0% 33.7% 27.2%

WM = White Men, **WW** = White Women, **EM** = Ethnic Minority.

Figures compiled from the 2010 Census of Population, U.S. Department of Commerce, Bureau of the Census.



DESIGNATION OF SUBCONTRACTORS (P-046)

Name of Bidder/Proposer _____

In compliance with the provisions of the Subletting and Subcontracting Fair Practices Act (Division 2, Part 1, Chapter 4 of the Public Contract Code of the State of California, and any amendments thereof), each bidder shall set forth below:

1. The name, the location of the place of business, and the California Contractor license number of each Subcontractor who will perform work or labor or render service to the 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 one percent of the Contractor's total bid. List all Subcontractors meeting these criteria, including sole-source Subcontractors.
2. The portion and estimated dollar amount of the work that will be done by each Subcontractor listed below. The Contractor shall list only one Subcontractor for each portion as is defined by the Contractor in its bid.

All Contractors bidding on a public works project and all Subcontractors of any tier shall be registered with the State Department of Industrial Relations pursuant to Section 1725.5 of the Labor Code.

Please type or legibly print (attach additional sheets as necessary)

SUBCONTRACTOR'S COMPANY NAME CONTACT NAME / ADDRESS / PHONE NO.	CALIFORNIA LICENSE NUMBER	DESCRIPTION OF WORK TO BE PERFORMED	ESTIMATED \$ AMOUNT



DESIGNATION OF SUBCONTRACTORS (P-046)

SUBCONTRACTOR'S COMPANY NAME CONTACT NAME / ADDRESS / PHONE NO.	CALIFORNIA LICENSE NUMBER	DESCRIPTION OF WORK TO BE PERFORMED	ESTIMATED \$ AMOUNT

Designation of Subcontractors – From Public Contract Code Section 4105 - 4110

4105. Circumvention by a general contractor who bids as a prime contractor of the requirement under Section 4104 for him or her to list his or her subcontractors, by the device of listing another contractor who will in turn sublet portions constituting the majority of the work covered by the prime contract, shall be considered a violation of this chapter and shall subject that prime contractor to the penalties set forth in Sections 4110 and 4111.

4106. If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of 1 percent of the prime contractor's total bid, the prime contractor agrees that he or she is fully qualified to perform that portion himself or herself, and that the prime contractor shall perform that portion himself or herself. If after award of contract, the prime contractor subcontracts, except as provided for in Sections 4107 or 4109, any such portion of the work, the prime contractor shall be subject to the penalties named in Section 4111.

4107. A prime contractor whose bid is accepted may not:

(a) Substitute a person as subcontractor in place of the subcontractor listed in the original bid, except that the awarding authority, or its duly authorized officer, may, except as otherwise provided in Section 4107.5, consent to the substitution of another person as a subcontractor in any of the following situations:

(1) When the subcontractor listed in the bid, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract for the scope of work specified in the subcontractor's bid and at the price specified in the subcontractor's bid, when that written contract, based upon the general terms, conditions, plans, and specifications for the project involved or the terms of that subcontractor's written bid, is presented to the subcontractor by the prime contractor.

(2) When the listed subcontractor becomes insolvent or the subject of an order for relief in bankruptcy.

(3) When the listed subcontractor fails or refuses to perform his or her subcontract.

(4) When the listed subcontractor fails or refuses to meet the bond requirements of the prime contractor as set forth in Section 4108.

(5) When the prime contractor demonstrates to the awarding authority, or its duly authorized officer, subject to the further provisions set forth in Section 4107.5, that the name of the subcontractor was listed as the result of an inadvertent clerical error.

(6) When the listed subcontractor is not licensed pursuant to the Contractors License Law.

(7) When the awarding authority, or its duly authorized officer, determines that the work performed by the listed subcontractor is substantially unsatisfactory and not in substantial accordance with the plans and specifications, or that the subcontractor is substantially delaying or disrupting the progress of the work.

(8) When the listed subcontractor is ineligible to work on a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code.

(9) When the awarding authority determines that a listed subcontractor is not a responsible contractor.

Prior to approval of the prime contractor's request for the substitution, the awarding authority, or its duly authorized officer, shall give notice in writing to the listed subcontractor of the prime contractor's request to substitute and of the reasons for the request. The notice shall be served by certified or registered mail to the last known address of the subcontractor. The listed subcontractor who has been so notified has five working days within which to submit written objections to the substitution to the awarding authority. Failure to file these written objections constitutes the listed subcontractor's consent to the substitution.

If written objections are filed, the awarding authority shall give notice in writing of at least five working days to the listed subcontractor of a hearing by the awarding authority on the prime contractor's request for substitution.

(b) Permit a subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the original bid, without the consent of the awarding authority, or its duly authorized officer.

(c) Other than in the performance of "change orders" causing changes or deviations from the original contract, sublet or subcontract any portion of the work in excess of one-half of 1 percent of the prime contractor's total bid as to which his or her original bid did not designate a subcontractor.

4107.2. No subcontractor listed by a prime contractor under Section 4104 as furnishing and installing carpeting, shall voluntarily sublet his or her subcontract with respect to any portion of the labor to be performed unless he or she specified the subcontractor in his or her bid for that subcontract to the prime contractor.

4107.5. The prime contractor as a condition to assert a claim of inadvertent clerical error in the listing of a subcontractor shall within two working days after the time of the prime bid opening by the awarding authority give written notice to the awarding authority and copies of that notice to both the subcontractor he or she claims to have listed in error and the intended subcontractor who had bid to the prime contractor prior to bid opening.

Any listed subcontractor who has been notified by the prime contractor in accordance with this section as to an inadvertent clerical error shall be allowed six working days from the time of the prime bid opening within which to submit to the awarding authority and to the prime contractor written objection to the prime contractor's claim of inadvertent clerical error. Failure of the listed subcontractor to file the written notice within the six working days shall be primary evidence of his or her agreement that an inadvertent clerical error was made.

The awarding authority shall, after a public hearing as provided in Section 4107 and in the absence of compelling reasons to the contrary, consent to the substitution of the intended subcontractor:

(a) If (1) the prime contractor, (2) the subcontractor listed in error, and (3) the intended subcontractor each submit an affidavit to the awarding authority along with such additional evidence as the parties may wish to submit that an inadvertent clerical error was in fact made, provided that the affidavits from each of the three parties are filed within eight working days from the time of the prime bid opening, or

(b) If the affidavits are filed by both the prime contractor and the intended subcontractor within the specified time but the subcontractor whom the prime contractor claims to have listed in error does not submit within six working days, to the awarding authority and to the prime contractor, written objection to the prime contractor's claim of inadvertent clerical error as provided in this section.

If the affidavits are filed by both the prime contractor and the intended subcontractor but the listed subcontractor has, within six working days from the time of the prime bid opening, submitted to the awarding authority and to the prime contractor written objection to the prime contractor's claim of inadvertent clerical error, the awarding authority shall investigate the claims of the parties and shall hold a public hearing as provided in Section 4107 to determine the validity of those claims. Any determination made shall be based on the facts contained in the declarations submitted under penalty of perjury by all three parties and supported by testimony under oath and subject to cross-examination. The awarding authority may, on its own motion or that of any other party, admit testimony of other contractors, any bid registries or depositories, or any other party in possession of facts which may have a bearing on the decision of the awarding authority.

4107.7. If a contractor who enters into a contract with a public entity for investigation, removal or remedial action, or disposal relative to the release or presence of a hazardous material or hazardous waste fails to pay a subcontractor registered as a hazardous waste hauler pursuant to Section 25163 of the Health and Safety Code within 10 days after the investigation, removal or remedial action, or disposal is completed, the subcontractor may serve a stop notice upon the public entity in accordance with Chapter 4 (commencing with Section 9350) of Title 3 of Part 6 of Division 4 of the Civil Code.

4108. (a) It shall be the responsibility of each subcontractor submitting bids to a prime contractor to be prepared to submit a faithful performance and payment bond or bonds if so requested by the prime contractor.

(b) In the event any subcontractor submitting a bid to a prime contractor does not, upon the request of the prime contractor and at the expense of the prime contractor at the established charge or premium therefor, furnish to the prime contractor a bond or bonds issued by an admitted surety wherein the prime contractor shall be named the obligee, guaranteeing prompt and faithful performance of the subcontract and the payment of all claims for labor and materials furnished or used in and about the work to be done and performed under the subcontract, the prime contractor may reject the bid and make a substitution of another subcontractor subject to Section 4107.

(c) (1) The bond or bonds may be required under this section only if the prime contractor in his or her written or published request for subbids clearly specifies the amount and requirements of the bond or bonds.

(2) If the expense of the bond or bonds required under this section is to be borne by the subcontractor, that requirement shall also be specified in the prime contractor's written or published request for subbids.

(3) The prime contractor's failure to specify bond requirements, in accordance with this subdivision, in the written or published request for subbids shall preclude the prime contractor from imposing bond requirements under this section.

4109. Subletting or subcontracting of any portion of the work in excess of one-half of 1 percent of the prime contractor's total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the awarding authority setting forth the facts constituting the emergency or necessity.

4110. A prime contractor violating any of the provisions of this chapter violates his or her contract and the awarding authority may exercise the option, in its own discretion, of (1) canceling his or her contract or (2) assessing the prime contractor a penalty in an amount of not more than 10 percent of the amount of the subcontract involved, and this penalty shall be deposited in the fund out of which the prime contract is awarded. In any proceedings under this section the prime contractor shall be entitled to a public hearing and to five days' notice of the time and place thereof.



EXHIBIT C INSURANCE REQUIREMENTS

CONTRACTOR/COMPANY NAME: _____

CONTRACTOR shall take out and maintain during the life of the Agreement all insurance required and CONTRACTOR shall not commence work until such insurance has been approved by DISTRICT. The proof of insurance shall be on forms provided by DISTRICT directly following these Insurance Requirements.

CONTRACTORS are not required to submit completed insurance verification documents with their bid but will be required to submit them upon notification of award. By signing Exhibit A – RFP Response Packet, the BIDDER agrees to meet the minimum insurance requirements stated in the RFP.

The following provisions are applicable to all required insurance:

- A. Prior to the beginning of and throughout the duration of Services, and for any additional period of time as specified below, CONTRACTOR shall, at its sole cost and expense, maintain insurance in conformance with the requirements set forth below.
- B. CONTRACTOR shall provide Verification of Insurance as required by this Agreement by providing the completed Verification of Insurance as requested below by signing and submitting Exhibit C (“Insurance Requirements”) to the DISTRICT. The Insurance Requirements may be signed by the insurance broker or the insurance broker’s agent (Insurance Broker/Agent) for the CONTRACTOR, or by an officer of the CONTRACTOR (Officer), or by the CONTRACTOR’s risk manager (Risk Manager). The Notice to Proceed shall not be issued, and CONTRACTOR shall not commence Services until a signed Verification of Insurance evidencing the specific coverages and limits required by this Agreement has been received by the DISTRICT.
- C. CONTRACTOR shall carry and maintain the minimum insurance requirements as defined in this Agreement. CONTRACTOR shall require any contractor/subcontractor to carry and maintain the minimum insurance required in this Agreement to the extent the insurance applies to the scope of the services to be performed by contractor/subcontractor.
- D. Receipt of a signed Verification of Insurance by the DISTRICT shall not relieve CONTRACTOR of any of the insurance requirements, nor decrease liability of CONTRACTOR.
- E. Insurance must be maintained, and an updated Verification of Insurance must be provided to the DISTRICT before the expiration of insurance by having the Insurance Broker/Agent, Officer, or Risk Manager update, sign and return the Insurance Requirements to the DISTRICT’s contract manager. The updated Insurance Requirements shall become a part of the Agreement but shall not require a change order to the Agreement. It is the CONTRACTOR’s sole responsibility to provide or to ensure that an updated Verification of Insurance is provided to the DISTRICT. The DISTRICT has no obligation to solicit, remind, prompt, request, seek, or otherwise obtain any updated Verification of Insurance, and any actual or alleged failure on the part of the DISTRICT to obtain any updated Verification of Insurance under this Agreement shall not in any way be construed to be a waiver of any right or remedy of the DISTRICT, in this or any regard.

- F. The insurance required hereunder may be obtained by a combination of primary, excess and/or umbrella insurance, and all coverages shall be at least as broad as the requirements listed in this Agreement.
- G. Any deductibles, self-insurance, or self-insured retentions (SIRs) applicable to the required insurance coverage must be declared to and accepted by the DISTRICT.
- H. At the option and request of the DISTRICT, CONTRACTOR shall provide documentation of its financial ability to pay the deductible, self-insurance, or SIR.
- I. CONTRACTOR is responsible for the payment of any deductibles or SIRs pertaining to the policies required under this Agreement. In the event CONTRACTOR is unable to pay the required SIR, CONTRACTOR agrees that such SIR may be satisfied, in whole or in part, by the DISTRICT as the additional insured at the DISTRICT's sole and absolute discretion, unless to do so would terminate or void the policy(ies).
- J. Unless otherwise accepted by the DISTRICT, all required insurance must be placed with insurers with a current A.M. Best's rating of no less than A- V.
- K. CONTRACTOR shall defend the DISTRICT and pay any damages as a result of failure to provide the waiver of subrogation from the insurance carrier required by this Agreement.
- L. For any coverage that is provided on a claims-made coverage form (which type of form is permitted only where specified), the retroactive date must be shown, must be before the date of this Agreement, and must be before the beginning of any Services related to this Agreement.
- M. For all claims-made policies the updated Verification of Insurance must be provided to the DISTRICT for at least three (3) years after expiration or termination of this Agreement.
- N. If claims-made coverage is canceled or is non-renewed and if the claims-made coverage is not replaced with another claims-made policy form with a retroactive date prior to the effective date of this Agreement and prior to the start of any Services related to this Agreement, CONTRACTOR must purchase an extended reporting period for a minimum of three (3) years after expiration or termination of the Agreement.
- O. In the event of a claim or suit, and upon request by the DISTRICT, CONTRACTOR agrees to provide a copy of the pertinent policy(ies) within 10 days of such request to the DISTRICT for review. Any actual or alleged failure on the part of the DISTRICT to request a copy of the pertinent policy(ies) shall not in any way be construed to be a waiver of any right or remedy of the DISTRICT, in this or any regard. Additionally, the DISTRICT may, at any time during CONTRACTOR's performance under this Agreement, request a copy of the Declarations pages and Schedule of Forms and Endorsements of any policy required to be maintained by CONTRACTOR hereunder, whether or not a suit or claim has been filed. Premium details may be redacted from any such documents requested.
- P. The defense and indemnification obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained herein.
- Q. Where additional insured coverage is required, the additional insured coverage shall be primary and non-contributory and will not seek contribution from the DISTRICT's insurance or self-insurance.

- R. CONTRACTOR agrees to provide immediate Notice to the DISTRICT of any loss or claim against CONTRACTOR arising out of, pertaining to, or in any way relating to this Agreement or to Services performed under this Agreement. The DISTRICT assumes no obligation or liability by such Notice but has the right (but not the duty) to monitor the handling of any such claim(s) if the claim(s) is likely to involve the DISTRICT.
- S. It is the obligation of the CONTRACTOR to ensure all contractors/subcontractors performing services under this Agreement maintain the necessary coverages and limits. CONTRACTOR shall ensure that all contractors/subcontractors agree to the same indemnity obligation that CONTRACTOR agrees to in this Agreement based on the nature and scope of services being performed by each contractor/subcontractor. CONTRACTOR shall require that each contractor/subcontractor include the DISTRICT, its directors, officers, and employees as additional insureds on its liability policy(ies) (excepting Professional Liability and Workers' Compensation) for all ongoing and completed operations with coverage as broad as required of CONTRACTOR under this Agreement. Failure or inability to secure fully adequate insurance shall in no way relieve the CONTRACTOR or all contractors/subcontractors of the responsibility for its own acts or the acts of any contractors/subcontractors or any employees or agents of either. All contractors/subcontractors are to waive subrogation against the DISTRICT on all policies. CONTRACTOR shall be responsible for maintaining records evidencing contractors'/subcontractors' compliance with the necessary insurance coverages and limits, and such records shall be made available to the DISTRICT within 10 days upon request.
- T. It is CONTRACTOR's responsibility to ensure its compliance with the insurance requirements. Any actual or alleged failure on the part of the DISTRICT to obtain proof of insurance required under this Agreement shall not in any way be construed to be a waiver of any right or remedy of the DISTRICT, in this or any regard.
- U. Notice of Cancellation/Non-Renewal/Material Reduction. The insurance requirements hereunder are mandatory, and the DISTRICT may, at its sole and absolute discretion, terminate the services provided by CONTRACTOR, should CONTRACTOR breach its obligations to maintain the required coverage and limits set forth in this Agreement. No coverage required hereunder shall be cancelled, non-renewed or materially reduced in coverage or limits without the DISTRICT being provided at least thirty (30) days prior written notice, other than cancellation for the non-payment of premiums, in which event the DISTRICT shall be provided ten (10) days prior written notice. Replacement of coverage with another policy or insurer, without any lapse in coverage or any reduction of the stated requirements does not require notice beyond submission to the DISTRICT of an updated Verification of Insurance which shall be met by having the Insurance Broker/ Agent, or Officer, or Risk Manager update, sign and return the Insurance Requirements.

I. Workers' Compensation and Employer's Liability Insurance Coverage

- A. Workers' Compensation insurance including Employer's Liability insurance with minimum limits as follows:
 - Coverage A. Statutory Benefits Limits
 - Coverage B. Employer's Liability of not less than:
 - Bodily Injury by accident: \$1,000,000 each accident
 - Bodily Injury by disease: \$1,000,000 each employee
 - Bodily Injury by disease: \$1,000,000 policy limit

- B. If there is an onsite exposure of injury to CONTRACTOR, and/or contractor/subcontractor's employees under the U.S. Longshore and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations or statutes applicable to maritime employees, coverage is required for such injuries or claims.
- C. If CONTRACTOR is exempt from carrying Workers' Compensation Insurance, CONTRACTOR must return the completed Verification of Insurance confirming that CONTRACTOR has no employees and is exempt from the State of California Workers' Compensation requirements.
- D. If CONTRACTOR is self-insured with respect to Workers' Compensation coverage, CONTRACTOR shall provide to the DISTRICT a Certificate of Consent to Self-Insure from the California Department of Industrial Relations. Such self-insurance shall meet the minimum limit requirements and shall waive subrogation rights in favor of the DISTRICT as stated below in section "E."
- E. Waiver of Subrogation. Workers' Compensation policies, including any applicable excess and umbrella insurance, must contain a waiver of subrogation endorsement providing that CONTRACTOR and each insurer waive any and all rights of recovery by subrogation, or otherwise, against the DISTRICT, its directors, board, and committee members, officers, officials, employees, agents, and volunteers. CONTRACTOR shall defend and pay any and all damages, fees, and costs, of any kind arising out of, pertaining to, or in any way relating to CONTRACTOR's failure to provide waiver of subrogation from the insurance carrier.

Verification of Workers' Compensation and Employer's Liability Insurance Coverage

By checking the box and signing below, I hereby verify that the CONTRACTOR is exempt from the State of California's requirement to carry Workers' Compensation insurance.

As the CONTRACTOR's Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Workers' Compensation insurance as required by this Agreement, including the relevant provisions applicable to all required insurance.

Self-Insured Retention: Amount: \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period: from _____ to _____

Insurance Carrier Name: _____

Insurance Broker/Agent or Officer or Risk Manager - Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager's Signature: _____

II. Commercial General Liability Insurance (“CGL”) Coverage

- A. CONTRACTOR’s insurance shall be primary, and any insurance or self-insurance procured or maintained by the DISTRICT shall not be required to contribute to it.
- B. The insurance requirements under this Agreement shall be the greater of (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policies or proceeds available to the Named Insured. It is agreed that these insurance requirements shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums required herein. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of the CONTRACTOR.
- C. Minimum Requirements. CGL insurance with minimum per occurrence and aggregate limits as follows:
- | | |
|------------------------------------|---|
| Bodily Injury and Property Damage | \$2,000,000 per occurrence & \$3M aggregate |
| Personal Injury/Advertising Injury | \$2,000,000 per occurrence & aggregate |
| Products/Completed Operations | \$2,000,000 per occurrence & \$3M aggregate |
- D. Coverage must be on an occurrence basis and be as broad as Insurance Services Office (ISO) form CG 00 01.
- E. Coverage for Products, and Completed Operations, and Ongoing Operations must be included in the insurance policies and shall not contain any “prior work” coverage limitation or exclusion applicable to any Services performed by CONTRACTOR and/or contractor/subcontractor under this Agreement.
- F. There will be no exclusion for explosions, collapse, or underground liability (XCU).
- G. Insurance policies and Additional Insured Endorsement(s) shall not exclude liability and damages to work arising out of, pertaining to, or in any way relating to services performed by contractor/subcontractor on CONTRACTOR’s behalf.
- H. Contractual liability coverage shall be included and shall not limit, by any modification or endorsement, coverage for liabilities assumed by CONTRACTOR under this Agreement as an “insured contract.”
- I. Waiver of Subrogation. The policy shall be endorsed to include a Waiver of Subrogation ensuring that the CONTRACTOR and its insurer(s) waive any rights of recovery by subrogation, or otherwise, against the DISTRICT, its directors, board, and committee members, officers, officials, agents, volunteers, and employees. CONTRACTOR shall defend and pay any and all damages, fees, and costs, of any kind, arising out of, pertaining to, or in any way resulting from CONTRACTOR’s failure to provide the waiver of subrogation from its insurance carrier(s).
- J. Independent Contractor’s Liability shall not limit coverage for liability and/or damages arising out of, pertaining to, or in any way resulting from Services provided under this Agreement.
- K. To the fullest extent permitted by law, the DISTRICT, its directors, board, and committee members, officers, officials, employees, agents, and volunteers must be covered as Additional Insureds on a primary and noncontributory basis on all underlying, excess and umbrella policies that shall be evidenced in each case by an endorsement. Coverage for the Additional Insureds must be as broad as ISO forms CG 20 10 (ongoing operations) and CG 20 37 (completed

operations) for liability arising in whole, or in part, from work performed by or on behalf of CONTRACTOR, or in any way related to Services performed under this Agreement.

- L. A severability of interest provision must apply for all the Additional Insureds, ensuring that CONTRACTOR's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the policies' limit(s).

Verification of Commercial General Liability (CGL) Insurance Coverage

As the CONTRACTOR'S Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Commercial General Liability insurance, as required by this Agreement, including the relevant provisions applicable to all required insurance:

Self-Insured Retention: Amount: \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period: from _____ **to** _____

Insurance Carrier Name: _____

Insurance Broker/Agent or Officer or Risk Manager - Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager's Signature: _____

III. Business Auto Liability Insurance Coverage

- A. CONTRACTOR's insurance shall be primary, and any insurance or self-insurance procured or maintained by the DISTRICT shall not be required to contribute to it.
- B. The insurance requirements under this Agreement shall be the greater of (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policies or proceeds available to the Named Insured. It is agreed that these insurance requirements shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums required herein. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of the CONTRACTOR.
- C. Minimum Requirements. Auto insurance with minimum coverage and limits as follows:
 - Each Occurrence Limit (per accident) and in the Aggregate: \$2,000,000
 - Bodily Injury and Property Damage: \$2,000,000
- D. Coverage must include either "owned, non-owned, and hired" autos or "any" automobile. This provision ensures the policy covers losses arising out of use of company-owned vehicles ("owned autos"), employee's personal autos ("non-owned autos" meaning not owned by company/insured) or autos that are rented or leased ("hired autos").

- E. If CONTRACTOR is transporting hazardous materials or contaminants, evidence of the Motor Carrier Act Endorsement-hazardous materials clean-up (MCS-90, or its equivalent) must be provided.
- F. If CONTRACTOR’s Scope of Services under this Agreement exposes a potential pollution liability risk related to transport of potential pollutants, seepage, release, escape or discharge of any nature (threatened or actual) of pollutants into the environment arising out of, pertaining to, or in any way related to CONTRACTOR’s and/or contractor’s/subcontractor’s performance under this Agreement, then Auto Liability Insurance policies must be endorsed to include Transportation Pollution Liability insurance. Alternatively, coverage may be provided under the CONTRACTOR’s Pollution Liability Policies if such policy has no exclusions that would restrict coverage under this Agreement. Coverage shall also include leakage of fuel or other “pollutants” needed for the normal functioning of covered autos.
- G. To the fullest extent permitted by law, the DISTRICT, its directors, board, and committee members, officers, officials, employees, agents, and volunteers must be covered as Additional Insureds on a primary and noncontributory basis on all underlying and excess and umbrella policies.
- H. A severability of interest provision must apply for all the Additional Insureds, ensuring that CONTRACTOR’s insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the insurer’s limits of liability.

Verification of Business Auto Liability Insurance Coverage

As the CONTRACTOR’S Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Business Automobile Liability insurance, as required by this Agreement, including the relevant provisions applicable to all required insurance:

Self-Insured Retention: Amount: \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period: from _____ **to** _____

Insurance Carrier Name: _____

Insurance Broker/Agent or Officer or Risk Manager – Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager’s Signature: _____

IV. Pollution Liability Insurance Coverage

- A. CONTRACTOR’s insurance shall be primary, and any insurance or self-insurance procured or maintained by the DISTRICT shall not be required to contribute to it.
- B. The insurance requirements under this Agreement shall be the greater of (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policies or proceeds available to the Named Insured. It is agreed that these

insurance requirements shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums required herein. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of the CONTRACTOR.

C. Minimum Requirements: Pollution Liability Insurance with minimum limits, as follows:

Each Claim or Occurrence Limit: \$2,000,000
Aggregate Limit: \$2,000,000

D. Coverage must be included for bodily injury and property damage, including coverage for loss of use and/or diminution in property value, and for clean-up costs arising out of, pertaining to, or in any way related to the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of contaminants or pollutants, arising out of, pertaining to, or in any way resulting from any Services performed by CONTRACTOR under this Agreement; including any transportation of hazardous wastes, hazardous materials, or contaminants.

E. If Coverage is written on a claims-made form, the following shall apply:

1. The retroactive date must be shown and must be before the date of the Agreement or the beginning of the Services.
2. Insurance must be maintained, and evidence of insurance must be provided for a minimum of three (3) years after completion of the Services.
3. If coverage is canceled or non-renewed and not replaced with another claims-made policy form with a retroactive date prior to the effective date of the Agreement, CONTRACTOR must purchase an extended reporting period for a minimum of three (3) years after completion of the Services.

F. Insurance written on a claims-made basis shall include prior acts coverage sufficient to cover the services provided by CONTRACTOR under this Agreement.

Verification of Pollution Liability Insurance Coverage

As the CONTRACTOR’S Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Pollution Liability insurance, as required by this Agreement, including the relevant provisions applicable to all required insurance.

Self-Insured Retention: Amount: \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period: from _____ to _____

Insurance Carrier Name: _____

Insurance Broker/Agent or Officer or Risk Manager - Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager’s Signature: _____

V. Builder’s Risk (Course of Construction) Insurance

During all phases of construction and/or renovation work, CONTRACTOR shall maintain builder’s risk insurance covering “Special Form” risks of direct physical loss, including, but not limited to, fire, theft, water, explosion, vandalism, mechanical breakdown, electrical arcing, ordinance or law, in an amount sufficient to cover the total value of the structure(s), or the Contract Price, whichever is higher, without co-insurance penalties. Such coverage shall include all items of labor and material, soft costs such as loss of income, architect and engineer fees, building permits and any other non-recurring costs as may be appropriate for CONTRACTOR.

1. The policy shall include as insureds the CONTRACTOR, all subcontractors, and the DISTRICT.
2. A severability of interest provision must apply for all the Additional Insureds, ensuring that the CONTRACTOR’s insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the policy’s limits.
3. CONTRACTOR’s Tools and Equipment. CONTRACTOR is solely responsible for maintaining insurance for any tools owned or used by CONTRACTOR, and any tools, equipment, scaffoldings, staging, towers, and forms, rented or owned by the CONTRACTOR and or its subcontractors of any tier, the value of which is not included in the cost of the Work, or any shanties or other structures erected for the sole convenience of the workers.
4. In the event of a loss by the perils insured against, of any or all of the Work and/or materials herein provided for, at any time prior to Contract Completion and acceptance by the DISTRICT, the CONTRACTOR shall promptly reconstruct, repair, replace or restore all work or materials so destroyed.
5. Nothing herein provided for shall in any way excuse the CONTRACTOR or its surety from the obligation of furnishing all the required materials and completing the work in full compliance with the terms of the Agreement.

Verification of Builder’s Risk Coverage

As the CONTRACTOR’S Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Builders’ Risk insurance, as required by this Agreement, including the relevant provisions applicable to all required insurance.

Self-Insured Retention: Amount: \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period: from _____ to _____

Insurance Carrier Name: _____

Insurance Broker/Agent or Officer or Risk Manager - Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager’s Signature: _____

VI. Excess and/or Umbrella Liability Insurance Coverage (Optional – See Paragraph A below)

- A. The insurance requirements set forth above may be satisfied by a combination of primary and excess or umbrella policies. Where excess or umbrella policies are used the following shall apply:
- B. CONTRACTOR's insurance shall be primary, and any insurance or self-insurance procured or maintained by the DISTRICT shall not be required to contribute to it.
- C. The insurance requirements under this Agreement shall be the greater of (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policies or proceeds available to the Named Insured. It is agreed that these insurance requirements shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums required herein. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of the CONTRACTOR.
- D. Minimum Requirements: It is expressly understood by the parties that CONTRACTOR's Excess and/or Umbrella Liability policies shall, at minimum, comply with all insurance requirements set forth within this Agreement, and shall be at least as broad as coverage required of the underlying policies required herein.
1. Coverage for Products, Completed Operations, and Ongoing Operations must be included in the insurance policies and shall not contain any "prior work" coverage limitation or exclusion applicable to any Services performed under this Agreement and, if it is a claims-made policy, it must be maintained for a minimum of three (3) years following final completion of the Services.
 2. There will be no exclusion for explosions, collapse, or underground damage (XCU).
 3. Insurance policies and Additional Insured Endorsements shall not exclude coverage for liability and damages from services performed by contractor/subcontractor on CONTRACTOR's behalf.
 4. Contractual liability coverage shall be included and shall not limit, by any modification or endorsement, coverage for liabilities assumed by CONTRACTOR under this Agreement as an "insured contract."
 5. Independent Contractor's Liability shall not limit coverage for liability and/or damage arising out of, pertaining to, or in any way related to Services provided under this Agreement.
 6. To the fullest extent permitted by law, the DISTRICT, its directors, officers, officials, agents, volunteers, and employees must be covered as Additional Insureds on a primary and noncontributory basis on all excess and umbrella policies. The Additional Insureds must be covered for liability arising in whole or in part from any premises, Products, Ongoing Operations, and Completed Operations by or on behalf of CONTRACTOR, in any way related to Services performed under this Agreement.
 7. A severability of interest provision must apply for all the Additional Insureds, ensuring that the CONTRACTOR's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the policy's limits.
 8. CONTRACTOR and its excess and/or umbrella Liability insurance coverage must waive any rights of subrogation against the DISTRICT, its directors, officers, officials, employees, agents,

and volunteers, and CONTRACTOR shall defend and pay any damages as a result of failure to provide the waiver of subrogation from the insurance carrier(s).

Verification of Excess and/or Umbrella Liability Insurance Coverage

As the CONTRACTOR’S Insurance Broker/Agent, Officer, or Risk Manager, I hereby verify that I have reviewed and confirmed that the CONTRACTOR carries Excess and/or Umbrella Liability insurance, as required by this Agreement, including the relevant provisions applicable to all required insurance.

Excess/Umbrella Limits: Amount \$ _____

Policy Limit: \$ _____

Policy Number: _____

Policy Period from _____ **to** _____

Insurance Carrier Name: _____

Underlying Policy(ies) listed above to which Excess/Umbrella applies:

Insurance Broker/Agent or Officer or Risk Manager - Print Name: _____

Insurance Broker/Agent or Officer or Risk Manager’s Signature: _____



EXHIBIT D
GENERAL SERVICES AGREEMENT CONDITIONS

GENERAL SERVICES AGREEMENT (GSA) CONDITIONS

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GENERAL CONDITIONS

ARTICLE 1 - GENERAL PROVISIONS

1.1 Interpretation

1.1.1 The following interpretative rules apply throughout the Contract Documents.

- .1 The provisions of the Contract Documents are complementary and should be interpreted viewing the Contract Documents as a whole.
- .2 A concept phrased in the singular should be interpreted in the plural as required.
- .3 Masculine includes feminine, and feminine includes masculine.
- .4 The words “shall,” “will” and “must,” in any of their tenses, indicate mandatory requirements.
- .5 The use of examples like “such as” or “including” does not limit or exclude examples not specifically mentioned.
- .6 The words “provide,” “perform,” “construct,” and “install” mean, unless preceded by the word “only,” that the Contractor shall provide, perform, construct, and install and include all services necessary to provide, perform, construct and install.

1.2 Definitions

1.2.1 Throughout the Contract Documents, the terms below will have the following defined meanings:

- .1 **Act of God:** An occurrence or condition and effect as defined in Public Contract Code §7105.
- .2 **Addendum:** A written change, clarification, or correction to the Contract Documents issued by the East Bay Municipal Utility District prior to bid opening.
- .3 **Bidder:** Any vendor, individual, partnership, joint venture, or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.
- .4 **Board or Board of Directors:** The Board of Directors of the East Bay Municipal Utility District.

- .5 Business Entity:** Any individual, business, partnership, joint venture, corporation, sole proprietorship, or other private legal entity recognized by statute.
- ..6 Change Order:** A Change Order is a written instrument used for modifying the contract with regards to the scope of Work, Contract Sum, and/or Contract Time. An approved Change Order is a Change Order signed by the District. An executed Change Order is a Change Order signed by both the District and the Contractor.
- .7 Compensable Delay:** A period of delay to the Contractor's performance of the Work that meets all of the following criteria:
- a) the delay directly prevents the Contractor from performing critical path Work;
 - b) the delay is caused directly and solely by the District or by causes within the exclusive control of the District;
 - c) the delay is not concurrent with any other type of delay;
 - d) the delay could not have been avoided by the Contractor through work-arounds, rescheduling or other mitigation measures; and
 - e) the Contractor gave timely notice of the delay to the District in compliance with the terms of this contract.
- .8 Concurrent Delay:** Two or more independent causes of delay to the Contractor's performance of the Work that meet all of the following criteria:
- a) the delays occur at the same time during all or a portion of the delay period being considered;
 - b) the delays directly prevent the Contractor from performing critical path Work;
 - c) each of the delays would have delayed the Contractor's performance of critical path work even in the absence of any of the other delays;
 - d) none of the delays could have been avoided by the Contractor through work-arounds, rescheduling or other mitigation measures required under this contract; and
 - e) the Contractor gave timely notice of the delays to the District in compliance with the terms of this contract.
- .9 Contract Completion:** The Work has been fully completed in accordance with the Contract Documents as determined by the Engineer and all governmental authorities with jurisdiction over the project have issued acceptance or a certificate of occupancy.
- .10 Contract Documents:** See Article 1.3.
- .11 Contract Sum:** The contract price stated in the signed General Services Agreement plus all Approved Change Orders.

- .12 Contract Time:** The number of days set forth in the contract to achieve Contract Completion. The required completion date is computed by adding the number of days to the effective date of the Notice to Proceed. If the required completion date falls on a District holiday or non-Work Day, that day is excluded and the following Work Day is counted. The Contract Time may only be adjusted by approved Change Order.
- .13 Contractor:** The Business Entity with whom the District enters into a contractual agreement. Contractor shall be synonymous with “supplier”, “vendor”, “consultant” or other similar term.
- .14 Critical Path:** The sequence of schedule activities that determines the duration of the Work.
- .15 Day:** Unless otherwise specified, days are calendar days, measured from midnight to the next midnight.
- .16 Deficiency Notice:** A written notice issued by the Engineer informing the Contractor of non-conforming Work.
- .17 District:** The East Bay Municipal Utility District.
- .18 Engineer:** The Director of Engineering and Construction or the Director of Wastewater of the District acting directly or through authorized agents acting within the duties entrusted to them.
- .19 Excusable Delay:** A period of delay to the Contractor’s performance of the Work that meets all of the following criteria:
- a) the delay prevents the Contractor from performing critical path work;
 - b) the delay is directly caused by events beyond the control of both the District and the Contractor (including, but not limited to, adverse weather);
 - c) the delay is not concurrent with an Inexcusable Delay as defined in this contract;
 - d) the delay could not have been avoided by the Contractor through work-arounds, rescheduling or other mitigation measures required under the contract; and
 - e) the Contractor gave timely notice of the delay to the District in compliance with the terms of this contract.
- .20 Fixed Costs (also known as Fixed Price):** Any necessary labor, material, and equipment costs directly expended which remain constant regardless of the quantity of work done.
- .21 Force Account:** Method of compensation for Work performed that is billed at actual cost for labor, materials, equipment, taxes and other costs plus a specified

percentage of markup for overhead and profit. Compensation rate for certain cost elements may be specified in the contract.

- .22 Force Majeure:** An event of force majeure is an event or circumstance which is beyond the control and without the fault or negligence of the Contractor or the District, and which by the exercise of reasonable diligence the Contractor or the District is unable to anticipate or prevent, provided that the event or circumstance is limited to: adverse weather conditions, including, but not limited to, National Weather Service Red Flag Warnings, public safety power shutoffs, drought, fires, or floods; wars; civil or military disturbances; acts of terrorism; epidemics; acts of civil or military authority; or governmental actions, that affect the Contractor's or District's ability to perform its contractual scope of work.
- .23 Free Float (also known as Activity Float):** The amount of time that a scheduled activity can be delayed without delaying the early start of any immediately following schedule activity.
- .24 Goods:** Off-the-shelf software and all types of tangible property, including but not limited to materials, supplies, and equipment.
- .25 Inexcusable Delay:** A period of delay to the Contractor's performance of the Work caused by circumstances within the Contractor's control or within the scope of the Contractor's contract responsibilities. Delays attributable to or within the control of a Subcontractor of any tier, or a Supplier, shall be deemed to be delays within the control of the Contractor. Inexcusable Delays include, but are not limited to, any of the following:

 - a) delays caused by the Contractor's failure to perform its cooperation and coordination responsibilities required by this contract;
 - b) delays caused by the District's enforcement of any government act or regulation, or the provisions of the contract;
 - c) delays caused by the District's right to sequence the Work in a manner that would avoid disruption to the District's tenants, customers, contiguous property owners, and their contractors or other prime contractors and their respective Subcontractors;
 - d) any delay that is neither a Compensable Delay nor Excusable Delay as defined in this contract; and
 - e) delays of any kind that the Contractor fails to give timely notice to the District in compliance with the terms of this contract.
- .26 Lump Sum Price:** Pricing arrangement where the Contractor agrees to perform the scope of work for a fixed price that cannot be adjusted unless there is a Change Order. For the purpose of this contract, the terms Lump Sum Price and Fixed Price adjustment are used interchangeably.

- .27 Notice to Proceed:** A written directive, issued by the District, authorizing the Contractor to start performance of the work and establishing date of commencement of the work. The effective date is the date the Contractor acknowledges receipt of the Notice to Proceed or five days from mailing, whichever is earlier.
- .28 Shop Drawings:** Includes all drawings, specifications, diagrams, calculations, illustrations, product samples, brochures, catalog cuts, schedules, and other data which are prepared by the Contractor, a Subcontractor, tier-subcontractor, manufacturer, Supplier, or distributor, illustrating how specific portions of the Work shall be fabricated or installed.
- .29 Shoring:** A temporary structural system designed to support any and all loads for the purposes of excavation. Sloping of the soil shall not be considered as shoring.
- .30 Subcontractor:** The person or persons, co-partnership, firm or entity in direct contract with the Contractor or with any other Subcontractor for the purpose of furnishing materials, equipment, and/or performing a part of the contract Work.
- .31 Superintendent:** The Contractor's authorized on-site representative in charge of supervising the Work. Instructions and information given by the Engineer to the Superintendent shall be considered to have been given to the Contractor.
- .32 Supplier:** A manufacturer, fabricator, distributor, or any person or organization who supplies materials or equipment for the contract Work, including that fabricated to a special design, but who does not ordinarily perform labor at the jobsite.
- .33 Total Float:** The amount of time that a schedule activity may be delayed from its early start without delaying the Contract Completion date, or violating a schedule constraint.
- .34 Underground Utilities:** All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities that are installed underground to furnish any of the following services or materials: water, sewage and drainage removal, electricity, gases, steam, liquid petroleum products, telephone or other communication systems, cable television, traffic, or other control or information systems.
- .35 Unit Price:** Pricing arrangement in which the total amount of compensation for performance of the work is computed by multiplying the actual quantity of Work performed by the line item unit price except as noted in Article 7.5. Measurement of the quantity of work performed shall be determined by the Engineer.

.36 Work: All labor, material, equipment, submittal, and appurtenances required to be furnished to properly fulfill the Contractor's obligations as required by the Contract Documents.

.37 Work Day: Unless specified elsewhere, work day includes all days of the year except Saturdays, Sundays, and District Holidays.

1.3 Contract Documents

1.3.1 The Contract Documents comprise the entire agreement between the District and the Contractor concerning the Work. The Contractor shall properly perform all requirements of the Contract Documents.

1.3.2 The Contract Documents include the District's General Services Agreement and any exhibits attached thereto, purchase order, Request for Proposal (RFP), Request for Quotation (RFQ) or Contractor response packet, drawings, specifications, addenda, and approved Change Orders or amendments, if any.

1.3.3 The Contract Documents are intended to be complementary and include all items necessary for the Contractor's proper execution and completion of the Work. Anything mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications shall be as if shown or mentioned in both. Any part of the Work not shown or mentioned on the drawings or in the specifications that is reasonably implied by either, or is necessary or usual for proper performance of the Work, shall be provided by the Contractor at its expense.

.1 In the case of conflicts, errors, or discrepancies in any of the Contract Documents, the order of precedence is as follows. Within the same order of precedence, specific requirements shall take precedence over general requirements.

1. Approved change Orders
2. Addenda
3. RFQ or RFP
4. General Services Agreement General Conditions
5. Referenced Standard Specifications and Drawings
6. Contractor's Response packet
7. Referenced Standard Specifications

.2 With reference to the Drawings:

1. Numerical dimensions govern over scaled dimensions
2. Detailed drawings govern over general drawings
3. Addenda/Change Order drawings govern over contract drawings

4. Contract drawings govern over standard drawings
 5. Notes apply only to the drawing where the notes appear, unless classified as “typical” or intended to apply elsewhere in which case they apply to all drawings where the conditions or circumstance noted occurs
 6. Typical details apply to all drawings unless a specific different detail is shown
- 1.3.4 “Related Sections” are referenced solely for the convenience of the Contractor and its Subcontractors and Suppliers, but does not, whether by omission or otherwise, lessen the requirements of the specification section where the related section is referenced.
- 1.3.5 Command type sentences used in the specifications refer to and are directed to the Contractor.
- 1.3.6 No interest in the contract shall be transferred to any other party without permission of the Board of Directors.

ARTICLE 2 - RIGHTS-OF-WAY AND PROPERTY

2.1 Provided by the District

- 2.1.1 The District will provide reasonable access to the site for performance of the Work. Upon approval by the Engineer, the Contractor may use a suitable portion of the District's rights-of-way or property for working space and for storage of equipment and materials. The Contractor is responsible for any damage resulting from its use of the District's rights-of-way or property and shall return and restore it to its pre-existing condition. The District will not be responsible for any loss or damage to equipment or materials stored on the work site or on the District's rights-of-way or property.
- 2.1.2 The Contractor does not have exclusive use of the site or the rights-of-way and must coordinate its use with the District and others.

2.2 Additional Property

- 2.2.1 If the Contractor's operations cause the contractor to require additional property that is not within the District's rights-of-way or property for its operations, the Contractor shall, at its own expense, arrange with the property owners to use the additional property.
- 2.2.2 Agreements with property owners for storing materials and equipment, or other purpose related to the Work shall be made in writing with a copy submitted to the Engineer.

ARTICLE 3 - ADMINISTRATION OF THE CONTRACT

3.1 Authority of the Engineer

3.1.1 The decision of the Engineer will be final and binding on both parties with respect to all questions concerning the intent of the Contract Documents, the acceptability of material or equipment, the classification of material, the execution of the Work, and/or conflicting interests of separate contractors performing related work.

3.2 Inspection and Non-Conforming Work

3.2.1 All materials furnished and Work completed under the contract is subject to inspection by the Engineer. The Engineer's inspections are solely for the District's benefit and do not constitute acceptance of any of the Contractor's work or waiver of the requirement that the Contractor's work conform to the requirements of the Contract Documents. The Contractor shall furnish, without extra charge, all necessary test pieces and samples, including facilities and labor for obtaining those pieces, as requested by the Engineer. The Engineer will have safe access to the work site or shop where the work, material or equipment subject to inspection is being performed or manufactured or where any off-site work is being performed, including shops, sites, and assembly facilities of Subcontractors and Suppliers.

3.2.2 All material, equipment or Work that does not conform to the Contract Documents is non-conforming work and will be rejected regardless of whether it may have been inspected by the Engineer or its representative. Installation of unapproved materials and equipment is non-conforming work until the materials or equipment are approved by the Engineer. Deficiency Notices may be issued by the Engineer to advise the Contractor of non-conforming work. However, lack of a Deficiency Notice shall not waive the Contractor's obligation to correct any and all non-conforming work, patent or latent, through the expiration of the warranty period, or other such longer period as specified in the Contract Documents.

3.2.3 Within 10 Work Days after receipt of a Deficiency Notice, the Contractor shall submit its proposal and schedule for correcting all non-conforming work. The District may withhold 150% of the installed value identified or such reasonable costs as determined by the Engineer until the non-conforming work is completed in accordance with the requirements of the Contract Documents. Additional costs for engineering, observation, administrative, clerical or other work associated with or resulting from the Contractor's failure to perform its work in conformance with the Contract Documents shall be borne solely by the Contractor, and the Engineer may elect to deduct the District's additional costs from any future payments to the Contractor. If the Contractor refuses or neglects to replace the non-conforming work, the District may correct or replace the non-conforming work at the Contractor's expense. The District's expenses in correcting any non-conforming

work will be calculated as fully burdened costs for labor, plus actual costs for materials and equipment, plus a 15% markup on materials and equipment.

- 3.2.4** Work completed without the Engineer's inspection and approval may be required to be reconstructed or replaced upon the Engineer's inspection. Work covered without prior approval of the Engineer may be required to be uncovered to the extent necessary for the Engineer to determine if the covered Work is satisfactory. The entire cost of replacing or uncovering and re-covering the Work, including the cost of materials furnished by the District, shall be borne by the Contractor, whether or not the Work uncovered or replaced is found to be defective.

3.3 Lines, Grades, and Measurements

- 3.3.1** Lines and grades will be established by the Engineer, unless otherwise noted, and the Contractor shall provide such assistance and materials as may be required. The Contractor shall be responsible for transferring grades from the survey stakes provided by the Engineer. The Contractor shall carefully preserve all stakes and reference points. Should any stakes, points or monuments be removed or destroyed without the approval of the Engineer, the stakes, points or monuments shall be reset, as necessary, at the Contractor's expense.
- 3.3.2** The Contractor shall inform the Engineer at least four full Work Days in advance of the times and places that the Contractor requires establishment of lines, grades, or quantity surveys.
- 3.3.3** If the Contractor fails to provide timely notice to the Engineer regarding its survey requirements, no compensation will be made for the impact to the Contractor for resulting delays.

3.4 Disputes and Claims

3.4.1 Disputes

- .1** If the Engineer issues an order or decision that requires the Contractor to perform Work that the Contractor believes is not required by the Contract Documents, the Contractor shall, within 48 hours of the order or decision, notify the Engineer in writing that it disputes the order or decision. The Contractor's notice shall include the date and circumstances of the Engineer's order or decision and the detailed basis for disputing the order or decision. Regardless of the basis of the dispute, the Contractor shall immediately perform the disputed Work or conform to the Engineer's order or decision.
- .2 Notice of Intent To File a Claim:** The Engineer will consider and investigate the dispute and issue a written and final decision regarding the dispute. If the Contractor disagrees with the Engineer's final decision, the Contractor shall, within 10 days of receipt of the decision, send the Engineer a written Notice of Intent To File a Claim.

- .3 **Waiver:** Failure of the Contractor to comply with the notifications of Articles 3.4.1.1 and 3.4.1.2 within the specified time constitutes a waiver of the Contractor's right to assert a Claim concerning such matter.

3.4.2 Claims

- .1 **Time to Submit Claim:** The Contractor shall submit a written Claim within 30 days after submitting a Notice of Intent to File a Claim. The Claim shall relate directly to the circumstances addressed in the Notice of Intent to File a Claim, must identify the date of the Notice of Intent to File a Claim to which the Claim relates, and may not raise new issues or circumstances that were not identified in the Notice of Intent to File a Claim. The Claim shall clearly state that it is a Claim being submitted under this Article. Failure to submit a written Claim within the 30-day period waives any right to recover compensation or obtain an extension of Contract Time due to the issues referenced in the Notice of Intent to File a Claim.
- .2 **Contents of Written Claim:** The written Claim shall provide detailed information sufficient to allow the Engineer to evaluate entitlement and value of the Claim, including:
 - a) Description of the event or events giving rise to the Claim;
 - b) Identification of the date or dates of the event, or events giving rise to the Claim;
 - c) Identification of all statutory or contractual support for the Claim; and
 - d) Detailed analysis of the asserted effect on the Contract Sum and the Contract Time.
- .3 **Extensions in Contract Time:** The Claim shall provide an analysis of schedule impact that describes how the Contractor will incorporate the alleged changed Work in the schedule and how that Work impacts the current accepted schedule. The analysis of schedule impacts shall contain a written narrative and a schedule diagram depicting how the alleged changed Work affects other schedule activities and an analysis of the potential mitigation efforts. The written narrative shall describe the sequence of events surrounding the alleged change, the effect the events had or will have on the progress of the Work, an explanation regarding the cause of delay, the Contractor's mitigation efforts taken to minimize time impacts to the project, and the Contractor's determination whether additional compensation and/or an extension of the Contract Time is sought for delay. If the Contractor is requesting an extension in the Contract Time, the magnitude and cause of the delay shall be demonstrated in the analysis of schedule impacts.
- .4 **Delay Analysis Diagrams:** The analysis diagram shall be provided in an editable, electronic, file format as well as a printed copy. The results of the analysis diagram shall be tied to the affected sequence of schedule activities to

enable the Engineer to evaluate the impact to the critical path as a result of the alleged changed work. The schedule diagram shall also show logic relationships and durations of new activities associated with the alleged change and logic and duration revisions to existing schedule activities due to the alleged change and mitigations taken to minimize impacts to the project. The Contractor is responsible for requesting extensions to its Contract Time based on the analysis of schedule impact.

.5 Adjustments to Contract Sum: The Claim shall also provide adequate financial data supporting any request for a change in Contract Sum. The Claim shall include a detailed cost breakdown of all items claimed, including all costs associated with delays, acceleration, overhead and profit, and the computations used in determining such costs. The Contractor's proposal shall include detailed estimates with cost breakdowns for each Subcontractor whose break down will include the following categories: labor, material, equipment, overhead, and profit. Labor shall be broken down into hours and rate per hour. If applicable, the proposal shall include a breakdown for off-site labor (including factory labor, engineering, etc.). If the exact amount of a Claim is not ascertainable at the time the claim is made, the available supporting data shall be submitted and any supplemental data supporting the exact amount of the Claim shall be submitted as soon as available.

.6 Claim Format:

a) The Contractor shall submit the claim in the following format:

1) Cover letter and certification.

2) Summary of claim including:

(a) Underlying Facts.

(b) Entitlement.

(c) Mitigation Efforts.

(d) Calculations.

(e) Contract Provisions Supporting Relief.

3) List of documents relating to claim:

(a) Specifications.

(b) Drawings.

- (c) Clarifications/Requests For Information.
 - (d) Schedules.
 - (e) Other.
- 4) Chronology of Events and Correspondence.
- 5) Analysis of Claim Merit.
- 6) Analysis of Claim Cost.
- 7) Analysis of Schedule Impact.
- 8) Attachments:
 - (a) Specifications.
 - (b) Drawings.
 - (c) Clarifications/Requests For Information.
 - (d) Correspondence.
 - (e) Schedules.
 - (f) Other.
- b) The Contractor, through a corporate officer or general partner, shall certify under penalty of perjury pursuant to the laws of the State of California for any Claim filed on behalf of itself or its Subcontractors or Suppliers, that:
 - 1) The Claim is made in good faith;
 - 2) Supporting data are accurate and complete to the best of the Contractor's knowledge and belief; and
 - 3) The amount requested accurately reflects the contract adjustment for which the Contractor believes the District is liable.
- .7 If Contractor does not certify the Claim as required above, the Claim will be considered incomplete and subject to denial without any further recourse by, or remedy to, the Contractor.
- .8 A claim complying with the requirements of Article 3.4 by the Contractor sent to the District by registered or certified mail with return receipt requested, either

on its own behalf, or on behalf of one of its subcontractors of any tier that is a separate demand for a time extension, including without limitation, for relief from damages or penalties for delay, for money or damages arising from work done by, or on behalf of the Contractor for which payment is not otherwise provided, or to which the Contractor is not otherwise entitled, or payment of an amount disputed by the District shall be subjected to the following procedures:

- a) Upon receipt of a Claim, the District will conduct a reasonable review of the Claim and will provide to the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed within 45 days from the date of receipt. The time for providing the written statement may be extended by mutual agreement between the District and the Contractor. If the District requires approval from its governing Board, and its Board does not meet within the 45-day period from receipt of a Claim, then the 45-day period shall be extended to three days following the next duly publicly noticed meeting of the District's Board.
- b) Upon request by the District, the Contractor shall furnish reasonable documentation to support the Claim, as outlined in Article 3.4.2.
- c) Any payment due on an undisputed portion of the Claim will be paid within 60 days after the District issues the written statement referenced in Subparagraph 3.4.2.8.a, above.
- d) If the Contractor disputes the District's written statement, or if the District fails to timely respond to a Claim, the Contractor may demand in writing by registered or certified mail with "return receipt requested", an informal conference to meet and confer for settlement of the issues in dispute with the District. Within 30 days from the date of receipt of such demand to meet and confer, the District will schedule and hold a meet and confer conference, unless the timing is extended by mutual agreement of the Contractor and the District.
- e) Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the District will provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. If additional unpaid undisputed portions of the Claim are identified, payment on such undisputed portions will be made within 60 days after the District issues the written statement referenced in this Subparagraph 3.4.2.8.e.
- f) Following receipt of the District's written statement in Subparagraph 3.4.2.8.e, the Contractor may identify in writing any disputed portion of the Claim and request mediation. The disputed portion of the Claim, as identified in writing by the Contractor, shall be submitted to nonbinding

mediation. The costs of mediation shall be shared equally by the District and the Contractor. The District 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 as provided herein. If the District and the Contractor cannot agree upon a mediator, they shall each 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. Alternatively, the parties may agree to any nonbinding process, included but not limited to neutral evaluation or a dispute review board, and such nonbinding process shall be considered to comply with the mediation requirements set forth herein. Unless otherwise agreed by the District and the Contractor in writing, the mediation shall excuse any further obligation under Public Contract Code § 20104.4 to mediate after litigation has been commenced. The District and the Contractor may mutually agree to waive mediation in writing, at which time the procedures set forth in Article 3.4 shall be deemed complete and complied with, other than the mediation provided herein.

- g) If mediation of the disputed portion of the Claim is unsuccessful, the Contractor shall be required to follow all of the other claim procedures set forth in Article 3.4.
- h) Failure by the District to respond to a Claim within the time periods set forth herein will result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of Subparagraph 3.4.2.8, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.
- i) Amounts not paid in a timely manner as required in Subparagraph 3.4.2.8 will bear interest at 7 percent per annum.
- j) It is intended that the provisions stated in this Subparagraph 3.4.2.8 be a summary of the requirements of Public Contract Code § 9204, and it is not intended that the provisions herein shall waive or alter the requirements of Public Contract Code § 9204, except to the extent permitted by law upon mutual written agreement by the Contractor and the District.

.9 Condition Precedent (Government Code, Sections 930, et seq.):

- a) The Disputes and Claims procedures set forth in Article 3.4 are the exclusive procedures for presenting any Claims and are a condition precedent to filing a Government Code Claim, which, in turn, is a condition precedent to the right to initiating any action against the District related to

the Claim. Failure to comply with the Disputes and Claims procedures offset forth in Article 3.4 is a waiver of any Claim arising from or related to the facts and circumstances described in the Claim or the Notice of Intent to File a Claim.

- .10 The parties specifically and expressly agree that Government Code, Section 12650, et seq., applies. If a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Government Code, Section 12650, et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
- .11 Under no circumstances will the Contractor be entitled to indirect, consequential, special and incidental damages.

ARTICLE 4 - CONTRACTOR'S RESPONSIBILITIES

4.1 Responsibility of the Contractor

- 4.1.1 **Means and Methods.** The Contractor shall complete the entire Work to the satisfaction of the Engineer in accordance with the Contract Documents. The Contractor is solely responsible for the means, methods, techniques, sequence, scheduling, workforce, and procedures of construction unless otherwise specified. The Contractor is solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with performance of Work under the contract and shall comply and enforce all Cal/OSHA requirements on this project. The Contractor is the “controlling employer” for this project as defined by Cal/OSHA.
- 4.1.2 **Work.** The Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, utilities, and other facilities and services required for the proper execution and completion of the Work included in this contract.
- 4.1.3 **Permit, Fee and Licenses.** Unless otherwise specified, the Contractor shall secure and pay for all licenses, royalties, government fees, and permits necessary for proper execution and completion of the Work. The Contractor shall give notices as required by permits prior to commencement of the Work, and provide copies of all permits to the Engineer before starting on the Work.
- 4.1.4 **Contractor’s Licensing Requirements.** The Contractor shall have all required California State and local licenses and certificates for performance of the Work, and shall furnish satisfactory proof of licensing and certifications to the Engineer upon request. All required licenses and certificates shall be valid throughout construction of the project.

4.1.5 Taxes. The Contractor shall pay all State, Federal, and local taxes applicable to the project, including all sales, use, gross receipts and similar taxes properly assessed against its equipment, materials, or property used or required in connection with the Work.

4.1.6 Compensation for Employees. In accordance with the provisions of Section 3700 of the Labor Code, the Contractor shall secure the payment of compensation to its employees, Subcontractors and Suppliers.

4.2 Supervision of the Work

4.2.1 Superintendent. The Contractor shall provide a qualified, competent superintendent at the project site to supervise and direct all Work being performed by the Contractor, Subcontractors, and their respective agents and employees to ensure that the Work is being carried out in accordance with the Contract Documents. The Contractor shall designate, in writing, the scope and authority of the superintendent before the Work begins. Instructions and information given by the Engineer to the Contractor's superintendent about the Work are binding on the Contractor.

4.2.2 Coordination of the Work. Before starting each portion of the Work, the Contractor shall: (i) review and compare the various Contract Documents relative to that portion of the Work, as well as any additional information furnished by the Engineer and approved Subcontractor submittals that may affect proper installation of the Work; (ii) field measure existing conditions related to that portion of the Work; and (iii) observe any conditions at the site that may directly impact that portion of the Work, promptly reporting any improper or defective Work to the Engineer. Any errors or inconsistencies in the Contract Documents shall be promptly reported to the Engineer in writing as a request for information or clarification.

4.2.3 Duty of Care. All Work shall be performed in a workmanlike manner meeting construction industry standards for a similar project located in California, regardless of any omission from the Contract Documents.

4.3 Contractor's Employees

4.3.1 The Contractor shall employ competent qualified personnel to construct the Work and shall maintain discipline and order at the project site.

4.3.2 Substitution of Key Personnel. The Contractor cannot substitute key personnel, lessen their level of effort, or reduce the amount of time key personnel are assigned to the project without written consent from the Engineer. If the Contractor proposed specific key personnel during prequalification, or in response to an

invitation to bid, the Contractor shall provide the same personnel at the same level of effort and for the same duration and amounts of time per week.

4.3.3 Removal of Personnel. The Contractor shall not remove or replace any key personnel without the prior written consent of the Engineer, which will not be unreasonably withheld. When required by the Engineer, the Contractor shall remove from the project any person who, in the Engineer's opinion, is unfit, disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable. Removed personnel may not be reemployed on the project without the Engineer's prior written consent. Such removal shall not be the basis of any claim for compensation or damages against the District or any of its officers, directors or employees. Within one week of removal, the Contractor shall propose a replacement to the Engineer. The replacement person shall hold the same position or title and have approximately the same number of years of experience or more as the person that was removed from the project.

4.3.4 All personnel including sole proprietors performing electrical work covered by Division 26 of the contract documents shall be journeymen or registered apprentices or shall be certified as electricians pursuant to certification standards established by the Division of Labor Standards Enforcement. Personnel shall submit satisfactory proof of certification or registration to the Engineer prior to performing electrical work.

4.4 Materials and Workmanship

4.4.1 Samples or Specimens. The Contractor shall submit samples or prepare test specimens of such materials to be furnished or used in the work as the Engineer may require.

4.4.2 Materials and Workmanship. All materials and equipment incorporated into the Work shall be new, unexpired, of good quality, and of current manufacture unless otherwise specified. All materials shall be of the specified quality and equal to approved samples, if samples were required.

4.4.3 Defective Work. All materials furnished and all Work shall be satisfactory to the Engineer. In the event any goods or materials furnished, or services provided by the Contractor in the performance of the Contract fail to conform to the requirements, or to the samples submitted by the Contractor, the District may reject the same, and it shall be the duty of the Contractor to reclaim and remove the item promptly or to correct the performance of services, without expense to the District, and immediately replace all such rejected items with others conforming to the Contract. If Contractor refuses or neglects to replace such defective work, it may be replaced by the District at the expense of the Contractor, and its sureties shall be liable therefor.

4.4.4 Omissions. All Work shall be completed in a thorough, workmanlike manner, notwithstanding any omission from the specifications or the drawings, and it shall be the duty of the Contractor to call attention to apparent errors or omissions and request instruction before proceeding with the Work. The Engineer may, by appropriate instructions, correct errors and supply omissions, which instructions shall be binding upon the Contractor as though contained in the original Contract Documents.

4.4.5 Substitution of Materials or Equipment. Materials, products, services or equipment specified or designated in the Contract Documents are intended to indicate the measure of quality and utility. Unless the Contract Documents specifically state that there are no substitutions, the Contractor may submit other brands of the specified product provided that the submitted product is of equal or better quality, possesses the required characteristics for the purpose intended and shall not involve additional cost to the District. By proposing a substitute, the Contractor warrants that it is equal to that specified and takes complete responsibility for any errors, omissions, conflicts, all modifications to existing piping, ductwork or electrical connections, or inconsistencies caused by using the substitute, including any additional costs of engineering or inspection, or necessary coordination with connections to make the substitute perform as specified. All submittals shall receive written approval from the Engineer prior to installation.

4.4.6 Procurement and Storage. All materials and equipment shall be furnished in ample quantities and procured in a timely manner to ensure uninterrupted progress of the Work. All materials and equipment shall be properly stored and protected and any loss or damage due to improper storage or protection shall be borne by the Contractor.

4.4.7 Site Logistics. The Contractor shall maintain its storage area and shall keep its storage areas clean, safe and secure. Any materials or equipment stored offsite shall be insured. The risk of loss shall remain on the Contractor for all materials and equipment stored off-site.

4.5 District's Right to Perform Separate Work

4.5.1 Separate Work. The District reserves the right to perform separate work at or near the project site at any time by the use of its own forces or other contractors. The Contractor shall coordinate its Work with the District and/or the District's other contractors and shall cooperate with the District to avoid any delay or hindrance to the project schedule and the other's work.

4.5.2 Delays and Defective Construction. The District shall be reimbursed by the Contractor for costs incurred by the District that are payable to its separate contractors as a result of the Contractor caused delays, improperly timed activities, damaged work, or defective construction.

4.6 Patents and Copyrights

4.6.1 The Contractor shall pay all license fees and royalties and all other costs incidental to use in the Work of any patented or copyrighted design, process, or product. The Contractor shall indemnify and hold harmless the District, its officers, agents, and employees against all costs and claims arising from any infringement of patents or copyrights incidental to use in the Work of any design, process, or product not specified in the Contract Documents.

4.7 Contractor's Responsibility for Losses and Liabilities

4.7.1 Risk of Loss. Until acceptance of the Work by the District, the Contractor bears all risk of loss or damage to the Work or to any part of the Work and to any materials or equipment ordered or purchased for the Work whether located at the project, suitably stored off-site or in transit regardless of the cause of loss or damage. The Contractor shall sustain all losses arising from unforeseen obstructions or difficulties, either natural or artificial, encountered in the prosecution of the Work, or from any action of the elements prior to final acceptance of the Work, or from an act or omission on the part of the Contractor not authorized by the Contract Documents.

4.7.2 Protection of Materials and Facilities

- .1** The Contractor is responsible for the preservation, protection and care of equipment, materials and facilities whether located on the project site or elsewhere and if it does not do so, the District may, at its option, do so at the Contractor's expense.
- .2** The Contractor is responsible for any District-furnished material upon receipt and for protection of the Work until it is completed and accepted. The Contractor shall at its own expense replace damaged or lost material and repair damaged parts of the Work.
- .3** The Contractor shall protect District facilities from damage resulting from its Work. District facilities damaged by or as a result of the Contractor's Work shall be repaired or replaced, at the Contractor's expense.
- .4** The Contractor shall maintain the project site in a clean, safe and orderly condition. Upon completion of the Work, the Contractor shall remove all temporary buildings and structures, rubbish, debris, abrasive blast media, unused material, concrete forms, and other materials used during construction that are not part of the completed work.
- .5** The Contractor shall provide fire watch and be responsible for all fire prevention in connection with the Work. Open fires will not be permitted on the project site. The Contractor shall notify the Engineer before undertaking any

torch cutting and welding operations. The Contractor shall take all necessary safety precautions during torch cutting and welding operations including, but not limited to, fire watch, providing fire extinguishers and fire blankets at the location where the operations are occurring. The Contractor shall be responsible for any damages caused by the Contractor or Subcontractor during such operations.

4.7.3 Laws and Regulations

- .1 The Contractor, its agents and employees shall observe and comply with all Federal, State, Municipal and local laws, ordinances, rules, regulations, building codes and standards, orders, notices and requirements applicable to its Work on this project. Nothing in these Contract Documents may be construed to permit Work not conforming to such laws, ordinances, and regulations. If the Contractor should discover any aspect or portion of the Contract Documents that conflicts with any law, ordinance, regulation, order, or decree, the Contractor shall immediately report the conflict in writing to the Engineer. Where the applicable legal requirements of public authorities differ from those of the Contract Documents, the more stringent requirements shall apply.
- .2 If an applicable law requirement was not in effect on the date of submission of bids, the Contract Sum and the Contract Time will be adjusted, if necessary, as provided in Article 7. Under no other circumstance will the Contract Sum or Contract Time be adjusted because of the effect of any applicable law, ordinance, regulation, order, decree or other legal requirement of public authorities in effect on the date of bid submission.

4.7.4 Duty to Defend. Notwithstanding assertions that the District, the Board, any member of the Board, or the District's officers, agents, or employees may have been actively or solely negligent, the Contractor shall assume the defense of the District, the Board, each member of the Board, and the District's officers, agents, and employees from all claims of any kind arising directly or indirectly out of the performance of, or on account of, the Work.

4.7.5 Indemnity

- .1 To the fullest extent allowed by law (including, but not limited to, Civil Code Section 2782), the Contractor shall indemnify and save harmless the District, the Board, each member of the Board, and the District's officers, agents, and employees (collectively "Indemnitees") from all liability, claims, damage and loss, of any kind, including attorneys' fees, subject to the limitations set forth by law, that arise out of, on account of, or in connection with the performance of the Work, including, but not limited to, liability or claims arising out of or resulting from:

- a) Any act or omission of the Contractor, its Subcontractors and Suppliers, or anyone directly employed by any of them for whom the Contractor may be liable, during the performance of the Work; in guarding or maintaining the Work; or from any improper materials, implement, or appliances used in construction of the Work;
 - b) Violation of any law, ordinance, regulation, order, or decree, whether by the Contractor, its Subcontractors, Suppliers or anyone directly employed by any of them for whom the Contractor may be liable;
 - c) The use or manufacture by the Contractor, its agents, or the District of any copyrighted composition, secret process, patented invention, article, or appliance, unless specifically specified in the Contract Documents;
 - d) Any breach of warranties, whether express or implied, made to the District by the Contractor, its Subcontractors, Suppliers or anyone directly employed by any of them for whom the Contractor may be liable;
 - e) The willful misconduct of the Contractor, its Subcontractors, Suppliers or anyone directly employed by any of them for whom the Contractor may be liable;
 - f) Any breach or default of the obligations assumed by the Contractor under this contract;
 - g) Injuries, sickness, disease or death of employees of the Contractor or its Subcontractors, Suppliers or anyone directly employed by any of them for whom the Contractor may be liable in connection with performance of the Work; and
 - h) Destruction of tangible property (other than the Work itself).
- .2 The Contractor's duty to indemnify is not affected or in any way diminished because the District, the Board, any member of the Board, or the District's officers, agents, or employees jointly caused or contributed to the liability or claim by their acts, omissions, conduct, or negligence, except that the Contractor is not obligated to indemnify an Indemnatee against its sole or active negligence, willful misconduct, or for defects in designs furnished by the Indemnatee. The Contractor's indemnification obligation is not limited by the Contractor's insurance, if any, or by the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor or other person or organization under the Workers' Compensation Act, Disability Benefit Act, or other employee benefit act. Said duty to indemnify shall not apply to the District's active negligence, consistent with Civil Code Section 2782.

4.8 Protection of Property

- 4.8.1** The Contractor shall take all necessary precautions to provide for the safety and protection of all persons who may come in contact with the Work and for all property within and adjacent to the project site including, but not limited to, adequate precautions to protect existing sidewalks, curbs, pavements, utilities, shrubs, trees, and other adjoining property and structures. Should any facility, structure, or property be damaged by the operations of the Contractor, the Contractor shall immediately notify the proper owners or authorities and the Engineer. The precautionary measures shall apply continuously and not be limited to normal work hours.
- 4.8.2** If damage to persons or property occur as a result of the Work, the Contractor shall be responsible for proper investigation, documentation, including video or photography, to adequately memorialize and make a record of what transpired. The Contractor, at its own expense, shall rebuild, repair and restore, to the Engineer's satisfaction, all damage resulting from its operations as a condition of contract acceptance.
- 4.8.3** Pursuant to Public Contract Code, Section 9201, the District will provide timely notification to the Contractor of the receipt of any third-party claims relating to damaged property.

4.9 Contractor Use of Premises

- 4.9.1** The Contractor shall confine operations at the project site to areas permitted by the Contract Documents and shall not encumber the site with excessive material or equipment. The Contractor shall not impose load on any structure that will damage or endanger the structure. The Contractor shall take all actions necessary to prevent annoyance to occupants adjacent to or in the vicinity of the Work and shall not hinder access or operations of District personnel or equipment.

4.10 Documents On-site

- 4.10.1 Contract Documents.** The Contractor shall maintain a copy of all Contract Documents at the project site, including but not limited to, subcontracts; Change Orders; requests for information; site, health and safety plan; material safety data sheets; the current construction progress schedule; updated as-built drawings; all approved submittals and samples pertaining to the Work; and any governing authority required documents. The Engineer shall have access to the Contract Documents during the Contractor's normal business hours.

4.11 Review of Contract Documents and Field Conditions

- 4.11.1** The Contractor shall carefully study and compare the Contract Documents for any errors, omissions, or discrepancies; and shall take field measurements and carefully

compare such field measurements with the Contract Documents. The Contractor shall immediately inform the Engineer in writing of any apparent errors, omissions, or discrepancies and shall await instructions before proceeding with the Work. Instructions given by the Engineer, which are manifestly necessary to carry out the intent of the Contract Documents or which are customarily performed, shall be performed by the Contractor as if fully and correctly set forth in the Contract Documents at no additional cost to the District.

- 4.11.2** If the Contractor performs any construction activity that it either knows or should have known involves an error, omission, or discrepancy referred to in Article 4.11.1 without notifying and receiving written instructions from the Engineer, the Contractor shall be responsible for resultant losses, including without limitation, the costs and time of correcting the defective Work.
- 4.11.3** Drawings indicate general and typical details of construction. Where conditions are not specifically indicated but are of similar character to details shown, similar details for construction shall be used, subject to review by the Engineer.

ARTICLE 5 – SUBCONTRACTORS AND SUPPLIERS

- 5.1.1** The Contractor is fully responsible to the District for the acts and omissions of Subcontractors, Suppliers, and of persons and/or persons or entities employed by the Contractor to the same extent the Contractor is responsible for its own acts and omissions.
- 5.1.2** All Subcontractors shall possess the appropriate California State contractor's license and certifications at time of bid and during the performance of the Work. The Contractor shall comply with all requirements of the Subletting and Subcontracting Fair Practices Act commencing with Public Contract Code, Section 4100, et seq. Violation of the Subletting and Subcontracting Fair Practice Act are grounds for cancellation of the Contract under Public Contract Code, Section 4110, and disciplinary actions under Section 4111.
- 5.1.3** The Contractor shall coordinate all Subcontractors and Suppliers engaged in the Work. The Contractor shall ensure that all of its Subcontractors commence their respective work at the proper time and proceed with due diligence to avoid delays and/or damage to the Work. Any property damage caused by Subcontractors or Suppliers during the Work shall be repaired or paid for by the Contractor.
- 5.1.4** Nothing contained in the Contract Documents shall be construed as creating any contractual relationship between any Subcontractor, or Supplier, and the District. The District will not undertake to settle differences between the Contractor and its Subcontractors or Suppliers.

ARTICLE 6 - SAFETY OF PERSONS AND PROPERTY

6.1 Contractor's Responsibility

- 6.1.1** Notwithstanding any other provision of the specifications, the Contractor is solely and completely responsible for conditions of the jobsite, including safety of all persons and property, during performance of the Work. This requirement applies continuously and is not limited to normal work hours. Health and safety provisions shall conform to any specific safety requirements contained in the Contract Documents, applicable Federal, State, County, and local laws, regulations, ordinances, standards, and codes, including the Federal Occupational Safety and Health Act of 1970 (29 U.S.C., Section 651, et seq.) and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4. Where any of these are in conflict, the more stringent requirement shall be followed.
- 6.1.2** Contractor shall take any additional precautions the District may reasonably require for safety and accident prevention purposes. Any violation of such rules and requirements, unless promptly corrected, shall be grounds for termination of the Contract or Contractor's right to proceed in accordance with the default provisions of the Contract Documents.

6.2 Public Safety

- 6.2.1** During the performance of the Work, the Contractor shall erect and maintain necessary temporary fences, bridges, railings, lights, signals, barriers, or other safeguards as appropriate under the circumstance for the prevention of accidents. In addition, the Contractor shall take other precautions as necessary for public safety including, but not limited to, traffic control.

6.3 Engineer's Responsibility

- 6.3.1** The Engineer's review of the Contractor's construction performance and submittal documents is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.
- 6.3.2** The Engineer may suspend operations if it determines that an imminent safety hazard exists.

6.4 Emergency Work

- 6.4.1 During Work Hours.** The Contractor shall act, without previous direction from the Engineer in case of an emergency arising from the performance of the Work that threatens loss or injury to property and/or safety of life. The Contractor shall notify the Engineer of the emergency as soon as possible. Any compensation claimed by the Contractor, together with substantiated documents in regard to

expense, shall be submitted to the Engineer within 15 calendar days after the emergency. Additional compensation, if allowed, will be paid for through Article 7.

6.4.2 Outside of Work Hours. The Engineer will notify the Contractor of all emergencies for which it is aware that arise outside of regular work hours as a result of the Work. The Contractor shall respond to the emergency immediately without delay and shall, with the least practicable inconvenience, make the necessary repairs, replacements, or perform other necessary work. If the Contractor does not act promptly in accordance with this requirement, or should the circumstances of the case require repairs, replacements, or performance of other necessary work before the Contractor can be notified or can respond, the District may, at its option, make the necessary repairs, replacements, or perform the necessary work and deduct its cost of labor, materials and equipment from the Contractor's next progress payment. Performance of emergency work by District forces will not relieve the Contractor of any of its responsibilities, obligations, or liabilities under the contract.

ARTICLE 7 - CHANGES

7.1 General

The District reserves the right to make changes in the design of materials, equipment, or machinery; to make alterations or additions to, or deviations or subtractions from the Contract and any specifications and drawings; to increase or decrease the required quantity of any item or portion of the Work; to omit any item or portion of the Work as may be deemed by the Engineer to be necessary or advisable; and to order such extra work as may be determined by the Engineer to be required for the proper execution and completion of the whole Work contemplated. No change in the scope of work shall be authorized, and the Contractor shall not be eligible for compensation for any extra work performed, unless the change is ordered by the Engineer in writing.

7.2 Change Orders

7.2.1 Changes in the Work can only be made through a written contract Change Order issued by the Engineer. If the change causes an increase or decrease in the Contractor's Contract Sum, or a change in the Contract Time, an adjustment may be made as determined by the Engineer. The approved Change Order will specify increase or decrease to the Contract Sum and adjustment to the Contract Time, if any.

7.2.2 Prior to issuing an approved Change Order, the Engineer may request that the Contractor submit a proposal covering the changes. The Change Order request will include a description of the work or revised drawings or specifications reflecting the proposed changes. Within 10 Work Days after receiving the request, the Contractor

shall submit its proposal to the Engineer of all costs associated with the proposed change and any request for an extension of Contract Time. Contractor's proposal shall include detailed estimates with cost breakdowns for each Subcontractor, including labor, material, equipment, overhead, and profit. Labor shall be broken down into hours and rate per hour. If applicable, the proposal shall include a breakdown for off-site labor (including factory labor, engineering, etc.). The Contractor's proposal shall include an Analysis of Schedule Impact (See Article 3.4.2.3) when the Contractor is requesting an adjustment in Contract Time. Costs associated with preparation of the proposal, including the Analysis of Schedule Impact, are considered to be covered in the markup allowances in Article 7.3.4. The Contractor shall be responsible for any delay associated with its failure to submit its change proposal within the time specified. If the Engineer decides not to issue an approved Change Order after requesting a proposal from the Contractor, the Contractor will be notified in writing. The Contractor is not entitled to reimbursement for Change Order preparation costs for cancelled Change Order requests.

- 7.2.3** If the Contractor agrees with the terms and conditions of the approved Change Order, the Contractor shall indicate its acceptance by signing the original copy and returning it to the Engineer within 10 Work Days after receipt or with reasonable promptness and in such sequence as to not delay the Work or activities of the District or of separate contractors, whichever is sooner. If notice of any change is required to be given to a surety by the provisions of any bond, the Contractor shall provide notice and the amount of each applicable bond shall be adjusted separately. Payment in accordance with the terms and conditions set forth in the executed Change Order shall constitute full compensation for all Work included in the Change Order and the District will be released from any and all claims for direct, indirect, and impact expenses and additional time impact resulting from the Work. If the Contractor disagrees with the terms and conditions of the approved Change Order, the Contractor shall indicate specific areas of disagreement and return the approved Change Order to the Engineer. The Contractor shall submit a written dispute in accordance with Article 3.4. No payment will be made on the disputed work until the approved Change Order is returned to the Engineer. However, whether or not the Contractor agrees with the terms and conditions of an approved Change Order, the Contractor shall immediately revise its sequence of operations as required to facilitate timely completion of the changed work and shall proceed with the revised work sequence.
- 7.2.4** The Engineer may, after having received a written cost quotation from the Contractor, order the Contractor, in writing, to proceed with the work prior to issuance of an approved Change Order through a change directive. The change directive will authorize the Contractor to proceed with the work subject to the cost quotation submitted by the Contractor. Within five days following receipt of the change directive, the Contractor shall submit a detailed change proposal as described in Article 7.2.2 documenting the amount of compensation. The Engineer will review the change proposal and, at its option, will either issue an approved Change Order

for the work or direct the Contractor to perform the work through Force Account. Until the method of compensation is determined and the approved Change Order is received, the Contractor shall keep full and complete time and material records of the cost of the ordered work and shall permit the Engineer to have access to such records. An approved Change Order shall supersede any previously issued written change directive covering the same Work.

- 7.2.5 Accord and Satisfaction and Reservations of Rights:** Every executed Change Order shall constitute a full accord and satisfaction, and release of all Contractor (and, if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay, and any other type of claim.

7.3 Determination of Costs for Force Account Change Order Work

- 7.3.1 Labor.** The cost of labor used in performing the Change Order work, whether the employer is the Contractor and/or its Subcontractor, shall be the sum of the following:

- .1 Actual Wages:** Actual wages paid to workers, including foremen devoting their exclusive attention to the work in question. The actual wages shall include payments to, or on behalf of, workers for health and welfare, pension, vacation, travel, subsistence, and similar purposes, and shall be paid at the wage rate demonstrated by submitted certified payrolls or, if the certified payrolls were not available, at the rate set forth in the pertinent prevailing wage determinations issued by the Director of Industrial Relations for the wage class common to the work performed. Superintendent's wages are included under the allowance for overhead and profit and shall not be included as part of these computations.
- .2 Labor Surcharge:** To the actual wages, as defined in Article 7.3.1.1 above less those for travel and subsistence, will be added 27 percent, which shall constitute full compensation for all payments imposed by State and Federal laws, such as taxes, and for insurance and all other payments made to, or on behalf of, the workers, other than actual wages as defined in Article 7.3.1.1 above.

- 7.3.2 Materials.** Only materials incorporated in the Change Order work will be paid for, the cost of which shall be the cost to the purchaser, including sales tax, if applicable, whether the Contractor and/or its Subcontractor, from the Supplier thereof, except as the following are applicable:

- .1** If a cash or trade discount by the actual Supplier is offered or available to the purchaser, it shall be credited to the District notwithstanding the fact that such discount may not have been taken.

- .2 If materials are procured by the purchaser by any method which is not a direct purchase from a direct billing by the actual Supplier to such purchaser, the cost of such materials shall be deemed to be the price paid to the actual Supplier as determined by the Engineer. No markup except for actual costs incurred in the handling of such materials will be permitted, and only application of one common markup to cover multiple handling.
- .3 If the materials are obtained from a supply or source owned wholly or in part by the purchaser, payment therefor will not exceed the price paid by the purchaser for similar materials furnished from said source on contract items or the current wholesale price for such materials delivered on the job site, whichever price is lower.
- .4 If the cost of such materials is excessive in the opinion of the Engineer, then the cost of such materials shall be deemed to be the lowest current wholesale price at which such materials are available in the quantities concerned and timely delivered to the job site, less any discounts as provided in Article 7.3.2.1 above.

7.3.3 Equipment. The Contractor and/or its Subcontractor will be paid for the use of equipment at the rental rates established as provided in Articles 7.3.3.1 and 7.3.3.2 below, which rates shall include the cost of fuel oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Operators of rented equipment will be paid for as provided in Article 7.3.1 above.

Unless otherwise specified, manufacturers' ratings shall be used to classify equipment for the determination of applicable rental rates.

- .1 Equipment on the Work:** For the use of any equipment normally required for the contract regardless of whether the equipment is already on the work or is to be delivered to the project, the Contractor and/or its Subcontractor will be paid for the use of such equipment as follows:
 - a) If equipment is owned by the Contractor and/or its Subcontractor, payment will be at the rental rates listed for such equipment in the State of California's Department of Transportation publication titled "Labor Surcharge and Equipment Rental Rates" that is in effect on the date that the Work is performed. The rental rates for equipment not listed under the schedules of rental rates set forth by the State of California shall be those agreed upon by the Contractor and/or its Subcontractor, and the Engineer, except that in no case shall the rental rates exceed those of established distributors or equipment rental agencies within the locality of the project. The Contractor and/or its Subcontractor shall provide full documentation to the satisfaction of the Engineer to support any proposed equipment rental rates. Documentation shall include a breakdown of costs per Article 7.3.3, including amortized depreciation versus wear and tear, and

maintenance expenses versus operating expenses.

Compensation for idle time of equipment through delays caused by the District will be made by applying the delay factor listed in the Caltrans User's Guide for Labor Surcharge and Equipment Rental Rates (current version), or if unlisted at 50 percent of the rental rates listed in the State of California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates." Compensation for idle time shall not exceed eight (8) hours per day and forty (40) hours per week.

- b) If equipment is rented, payment will be the actual rental cost as indicated on the rental invoice.

Individual pieces of equipment or tools not listed and having a replacement value of \$1,000 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made for their use on the Work.

In computing the rental of equipment, the minimum rental time to be paid per day shall be one hour. Rental time shall not be allowed while equipment is inoperative due to breakdowns or non-Work Days. Loading and transporting costs shall be allowed when the equipment is moved by means other than its own power.

- .2 Equipment for Change Order Work:** For the use of equipment not required under the Contract Documents, moved on the Work and used exclusively for Change Order work, the Contractor will be paid at the rates agreed upon by the Contractor and/or Subcontractor, and the Engineer through the Change Order process, except that in no case shall the rental rates paid exceed those of established distributors or equipment rental agencies.

The rental period shall begin at the time the equipment is required and unloaded at the site and shall terminate on the day that the Change Order work is completed, except that the minimum total rental time to be paid for shall be not less than four hours.

The Contractor and/or its Subcontractor will be reimbursed for the cost of transporting the equipment to and from the Work. Should the equipment be transported by low bed trailers, hourly rates charged by established haulers will be paid. Also, the District will pay for loading and unloading costs. Should the Contractor and/or its Subcontractor desire the return of the equipment to a location other than its original location, the District will pay the cost of transportation in accordance with the above provisions, provided such cost does not exceed the cost of moving the equipment to the project.

7.3.4 Markup Allowances. The Contractor and/or its Subcontractors or Suppliers that perform on-site work are entitled to compensation for overhead and profit for the performance of Change Order work. This compensation shall be in the form of markup percentages applied to the costs computed as provided for in Articles 7.3.1 through 7.3.3 and is full and complete payment for overhead and profit. Overhead includes, but is not limited to, superintendent costs, bond and insurance premiums, financing costs, project engineer, project manager, scheduler, estimator, drafting, small tools, home office expenses, field office expenses, and utilities (gas, electricity, sewer, water, telephone, fax, copier, etc.). The Contractor shall not receive payment for itemized costs which are considered to be included under the profit and overhead percentage markup.

.1 For work by the Contractor's own organization or by its Subcontractor's own workforce, the Contractor may apply, as a maximum, the following markup percentages as overhead and profit:

1. Labor	20 percent
2. Materials	15 percent
3. Equipment (owned or rented)	15 percent

.2 Under a fixed price adjustment basis, if work is performed by a Subcontractor with its own workforce, the Contractor may apply an additional 5 percent markup to the total which has been computed in accordance with Article 7.3.4.1. The Contractor shall reach agreement with the Subcontractor and any intermediate Subcontractor as to the division of the markup percentages between them.

.3 Under a force account basis, if work is performed by a Subcontractor with its own workforce, the Contractor may not apply an additional 5 percent markup, as provided for under Article 7.3.4.2, to the total which has been computed in accordance with Article 7.3.4.1. The Contractor shall reach agreement with the Subcontractor and any intermediate Subcontractor as to the division of the markup percentages between them.

7.4 Lump Sum or Force Account Adjustments

7.4.1 Change Order work will be paid for by either a Lump Sum adjustment of the Contract Sum or on a Force Account basis, or a combination of both, as determined by the Engineer. Change Order work will not be paid for unless ordered in writing by the Engineer.

7.4.2 In the event the Contractor fails to submit its proposal within 15 days after receipt of a written request for proposal, or the Engineer and the Contractor fail to agree upon a negotiated Lump Sum adjustment, within a reasonable time, or if in the judgement of the Engineer, it is impracticable because of the nature of the Work or

for any other reason to fix the price for completion before the work order is issued, the Engineer has the option of authorizing payment on the basis of a Force Account.

7.4.3 The Contractor shall notify the Engineer in writing of the day and time on which Force Account work will commence prior to beginning work. All Force Account work shall be reported daily on daily extra work reports furnished by the Engineer to the Contractor and signed by both parties, which daily reports shall thereafter be considered the true record of Force Account work completed. Completely detailed invoices covering the Force Account work shall be submitted for payment consideration not later than 15 days after the completion of the work. The charges for Work performed by the Contractor or a Subcontractor shall be reported separately. Substantiating invoices from Suppliers and Subcontractors shall be included with the Contractor's invoices. The Contractor shall permit examination of accounts, bills, and vouchers relating to the Force Account work when requested by the Engineer. Payment for the Work done under Force Account will be made after receipt of an executed Change Order issued to cover the increase in the Contract Sum.

7.4.4 Payment for the Work completed under Lump Sum adjustment will be made after receipt of an executed Change Order issued to cover the change in the Contract Sum and/or Contract Time.

7.5 Variation in Quantity in Unit Price Work

7.5.1 General. The estimated quantities for Unit Price work listed in the Bid Form are established for the sole purpose of bid comparison and do not constitute a guarantee to the Contractor of the quantities of work to be performed under this contract. The Contractor shall be compensated only for the actual quantities of work performed which were directed by the Engineer. The amount of compensation for each item of Work shall be computed by multiplying the actual quantity by the appropriate bid Unit Price except as follows:

.1 Increases of more than 20 percent: If the actual quantity of work performed on an item of Work exceeds the estimated quantity by more than 20 percent, the quantity in excess of 120 percent of the estimated quantity shall be paid for based upon (a) actual unit cost or (b) as mutually agreed to by the Contractor and the Engineer. The Engineer will determine which method is to be utilized. If the actual unit cost method is utilized, the actual unit cost is determined by calculating the total cost incurred for completing 120 percent of the estimated quantity using the markups allowed under Article 7.3.4, which is then divided by the quantity of work performed, i.e., 120 percent of the estimated quantity. If costs applicable to the Work performed include fixed costs, such fixed costs shall be deemed to have been recovered by the Contractor by the payments made to the Contractor for 120 percent of the estimated quantity at the bid Unit Price. In computing the actual unit cost, such fixed costs shall be excluded.

At the discretion of the Engineer, the Engineer can make payment on the quantity in excess of 120 percent of the estimated quantity using exactly the provisions and procedures in the “Force Account” Articles 7.3 and 7.4.3.

- .2 Decreases of more than 20 percent:** If the actual quantity of work performed on an item of Work is less than 80 percent of the estimated quantity, the quantity shall be paid for (a) based upon actual cost using the markups allowed under Article 7.3.4, or (b) as mutually agreed to by the Contractor and the Engineer.

Payment for the actual quantity of work performed shall, in no case, exceed the payment which would have been made for performance of 80 percent of the estimated quantity at the bid Unit Price.

7.6 Deleted Work

- 7.6.1 Deleted Work.** If work is deleted, payment will be made to the Contractor for costs incurred in connection with the deleted work if incurred prior to notification of deletion by the Engineer.

If approved material is ordered by the Contractor for the deleted work prior to the notification by the Engineer, and if orders for such materials cannot be canceled, payment for such material will be the actual cost to the Contractor. In such case, the material shall become the property of the District. If the material can be returned to the vendor, and if the Engineer so directs, the material shall be returned and the Contractor will be paid for the actual costs or charges made by the vendor for returning the material including any stocking charges.

The costs incurred or charges paid to the Contractor for Work completed prior to deletion shall be computed using the markups allowed in Article 7.3.4. Payment for deleted work will be based on the approved schedule of costs or other mutually agreed value. A minimum of a 10 percent credit shall be provided to the District for overhead, profit and markup associated with the deleted work.

7.7 Differing or Unusual Site Conditions

- 7.7.1** Pursuant to Public Contract Code, Section 7104, the Contractor shall promptly, and before such conditions are disturbed, notify the Engineer in writing of: (1) material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code (other than material indicated in the Contract Documents) and that is required by law to be removed to a Class I, Class II, or Class III disposal site; (2) subsurface or latent physical conditions at the site differing materially from those indicated in this contract; or (3) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract.

- 7.7.2 The Engineer will promptly investigate the conditions. If the Engineer finds that the conditions do materially differ, or do involve hazardous waste, and do cause an increase or decrease in the Contractor's Contract Sum and/or the Contract Time a contract adjustment will be made through the Change Order process, as determined by the Engineer.
- 7.7.3 If the Contractor and the Engineer disagree whether the conditions do materially differ or whether a hazardous waste is involved or whether the conditions cause an increase or decrease in the Contractor's Contract Sum and/or Contract Time, the Contractor shall nevertheless proceed with all Work to be performed under the contract and shall comply with the completion dates required by the contract. The Contractor waives any rights to an increase in Contract Time, or an increase in Contract Sum, unless it timely follows the Disputes and Claims procedures in Article 3.4.

ARTICLE 8 - TIME

8.1 Commencement, Prosecution, and Completion of Work

- 8.1.1 **Notice to Proceed.** The Notice to Proceed will not be issued until the contract is properly executed, bonds are furnished, proof of insurance submitted by the Contractor, and both the bonds and the insurance are approved by the District. The Contract Time will not be extended, and the Contractor will not receive any additional compensation, because of delays caused by receipt, review and approval by the District of the Contractor's bonds and insurance. Except as required elsewhere, the Contractor is not authorized to perform any Work under this contract until it has received an official Notice to Proceed.
- 8.1.2 **Prosecution of the Work.** Work shall proceed at all times with such force and equipment as will be sufficient to complete the Work within the Contract Time.
- 8.1.3 **Required Contract Completion.** The Contractor expressly agrees that it will complete the Work within the Contract Time, subject to approved Change Orders that impact time.
- 8.1.5 **Early Completion.** The Contractor shall not be entitled to claim damages for expenses due to the District not authorizing early completion.

8.2 Liquidated Damages

- 8.2.1 Should the Contractor fail to complete all or any portion of the Work within the specified time therefor or within such extra time as may be allowed for delays by formal extensions granted by the District, deductions will be made from the Contractor's earnings for the time that the Work remains incomplete beyond the

specified completion time. Liquidated damages will be apportioned such that the Contractor will be responsible for all delays not otherwise properly subject to time extensions.

- 8.2.2** Liquidated damages cover only certain damages and are limited to the cost of administration, overhead, and general loss of use of the facility by the District as a result of a delay, and does not cover any other type of damages set forth in Section 8.2.3. It being impracticable or extremely difficult to fix the actual amount of damage for the above-referenced categories of damages, the parties agree that the amounts set forth in this Contract as liquidated damages will be deducted from any money due the Contractor under the contract. Should the amount of the damages exceed the amount due the Contractor, the Contractor and its sureties shall be liable for the excess.
- 8.2.3** Liquidated damages shall not be deemed to include within their scope additional damages or administrative costs arising from defective work, lost revenues, interest expenses, cost of completion of the Work, cost of substitute facilities, claims and fines of regulatory agencies, damages suffered by others or other forms of liability claimed against the District as a result of delay (e.g., delay or delay-related claims of other contractors, Subcontractors or tenants), and defense cost thereof. The Contractor shall be fully responsible for the actual amount of any such damages it causes, in addition to the liquidated damages otherwise due the District.
- 8.2.4** At the District's option, the deduction for liquidated damages will begin with the first progress payment following the incurrence of liquidated damages.
- 8.2.5** The above liquidated damages are necessary to ensure timely completion and to defray costs of additional construction inspection and contract administration.

8.3 Use of Facilities Prior to Completion of Contract

- 8.3.1** If the Contractor has received and provided to the District a temporary certificate of occupancy from governmental authorities having jurisdiction over the project and/or in the Engineer's opinion, the Work under the contract, or any portion of the Work, is in a condition suitable for the District's use, the District may, after written notice from the Engineer to the Contractor, use (which includes, but is not limited to, taking over or placing into service) any portion or portions of the project designated by the Engineer.
- 8.3.2** Even if the District elects to use the Work or a portion of the Work prior to Contract Completion, the Contractor will nonetheless make all necessary repairs, renewals, changes, or modifications in the Work or any portion of the Work that does not meet the requirements of the Contract Documents or is deficient due to defective materials or workmanship, unless the deficiency is solely caused by ordinary wear and tear.

8.3.3 The use of any portion of the Work by the District does not relieve the Contractor of any of its responsibilities or liabilities under the Contract Documents or constitute a waiver by the District of any claims. Said use shall not cancel liquidated damages as of the first date of use, or any continuance thereof, nor impair, reduce, or change the amount of liquidated damages.

8.4 Delays and Extensions of Time

8.4.1 The Contractor shall take reasonable precautions to foresee and prevent delays to the Work including, but not limited to, maintaining construction schedules that are properly updated to reflect current conditions and the actual critical path, and continuous monitoring of critical and dependent activities of the Contractor, Subcontractors, Suppliers, the District, agencies and other third parties. When the Contractor foresees a delay event, and in any event upon the occurrence of a delay event, the Contractor shall immediately notify the Engineer in writing of the probability or the actual occurrence of a delay in the Contract Time, and its cause. With respect to all delays (compensable, excusable and/or inexcusable), the Contractor shall reschedule its Work and/or revise its operations, to the extent possible under the terms of the contract, to mitigate the effects of the delay through work-arounds, overtime and acceleration of the project schedule, re-sequencing the Work, or other methods commonly utilized in the construction industry.

8.4.2 For Inexcusable Delay (as defined in Article 1.2.1.25), the Contractor shall not be entitled to an extension of time or compensation for any loss, cost, damage, expense or liability resulting directly or indirectly from the Inexcusable Delay including, but not limited to, extended field or home office overhead, field supervision, cost of capital, interest, escalation charges, labor costs, materials expense, or acceleration costs.

8.4.3 For Excusable Delay (as defined in Article 1.2.1.19), the Engineer will grant the Contractor an extension of time in an amount equal to the period of Excusable Delay based on the analysis of schedule impact and delay analysis diagram, which shall be the Contractor's sole and exclusive remedy for such delay. Excusable Delays shall include labor strikes, adverse weather as defined in Article 8.5, and Acts of God.

8.4.4 For Compensable Delay (as defined in Article 1.2.1.7), the Engineer will grant the Contractor an extension of Contract Time with compensation in an amount that represents the Contractor's actual direct costs incurred as a direct result of the Compensable Delay. The Contractor may recover its direct costs only and may not recover (and waives) all other types of indirect, consequential, special and incidental damages.

- 8.4.5** For Concurrent Delay (as defined in Article 1.2.1.8), the following rules apply: if one or more of the Concurrent Delays are excusable or compensable, then the District will treat the period of Concurrent Delay as an Excusable Delay; and if all of the Concurrent Delays are inexcusable, then the District will treat the Concurrent Delay as inexcusable. These rules for Concurrent Delay shall be the Contractor's sole and exclusive remedy for periods of Concurrent Delay, and the Contractor's entitlement shall be limited to the measures of recovery defined herein for Inexcusable, Excusable and Compensable Delay, as applicable.
- 8.4.6** No time extension will be granted to the Contractor for encountering delays while performing Work after the specified or formally extended Contract Completion date, except for causes of delay specified in Article 8.4.4.
- 8.4.7** The Contractor shall provide notice and documentation of delays in accordance with the following rules:
- .1** Within five days of knowing about an event that may cause a delay in the project schedule, the Contractor shall notify the Engineer in writing about the delay in the Work, the impact it may have on the project schedule, and the causes of the delay. The Contractor's notice shall set forth the anticipated impact of the delay on the critical path, specify any additional time requested, and provide a detailed description of the cause or causes of the delays.
 - .2** If the Contractor intends to request an extension of time or compensation for damages resulting from delay, then the Contractor shall make the request in writing to the Engineer not more than 15 days after the end of such delay. If any delay exceeds 30 days, however, then the request shall be made monthly and then updated every month after that (as applicable). The Contractor shall provide an Analysis of Schedule Impact of the delay (see Article 3.4.2.3 and 3.4.2.4) and update it monthly (as applicable). The Contractor shall also provide documentation showing that the delay was either excusable or compensable and that the Contractor has revised its construction schedule, to the extent possible, to mitigate the delay. No compensation for damages resulting from delay will be granted unless supported by cost records justifying the costs claimed in connection with the delay.
- 8.4.8** The Contractor's failure to give written notice of a delay or to submit or document a request for an extension of time or for damages resulting from delay in the manner and within the times stated above shall constitute a waiver of all rights thereto.
- 8.4.9** An extension in Contract Time must be approved by the Engineer to be effective. An extension of Contract Time with or without consent of the sureties, shall not release the sureties from their obligations, which shall remain in full force until the discharge of the contract.

8.4.10 The Engineer will investigate the facts and ascertain the extent of the delay, and issue a written statement regarding its findings. If the Contractor disagrees with any decision of the Engineer regarding delays and extensions in Contract Time, the Contractor may dispute the Engineer's decision in accordance with Article 3.4.

8.5 Weather Conditions Unfavorable for Prosecution of Work

8.5.1 The Engineer may suspend the Work whenever weather conditions or conditions resulting from inclement weather are unfavorable for the prosecution of the Work. The delay caused by such suspension may entitle the Contractor to an extension in Contract Time, but not to any other compensation.

8.5.2 If the Contractor believes that the Work should be suspended under this Article, the Contractor may request such suspension. The delay caused by the suspension may entitle the Contractor to an extension of Contract Time, but not to any other compensation. The Contractor's request for suspension must be agreed to by the Engineer in order to be granted an extension of Contract Time.

8.5.3 No extension of time will be granted for suspension of Work unless the suspension impacts the Contract Completion date or the timely completion of a milestone completion date for a portion of the Work. Determination that suspension of the Work for inclement weather conditions or conditions resulting from inclement weather impacts timely completion and entitles the Contractor to an extension of Contract Time shall be made and agreed to in writing by the Engineer and the Contractor for each day that work is suspended. In the event of failure to agree, the Contractor may protest under the provisions of Article 3.4.

8.5.4 If the Work is suspended and an extension of Contract Time is granted under this Article, the Contractor will be entitled to a one Work Day extension of time for each Work Day that the Contractor is unable to perform the Work for at least one-half of its current normal Work Day; and if the Work is suspended at the regular starting time on any Work Day and the Contractor's workforce is dismissed as a result of the suspension, then the Contractor will be entitled to a one Work Day extension of Contract Time whether or not conditions change thereafter and the major portion of the day is suitable for work.

8.5.5 The Contractor shall use best available technologies to secure the site to mitigate/minimize the effects of inclement weather in conformance with applicable Federal, State, and regional regulatory requirements.

ARTICLE 9 - INSURANCE AND BONDS

9.1 Faithful Performance and Payment Bonds

- 9.1.1** The Contractor shall furnish to the District a Faithful Performance Bond, and maintain it in an amount not less than 100 percent of the current Contract Sum, conditioned upon the faithful performance by the Contractor of all covenants and stipulations in the contract.
- 9.1.2** The Contractor shall furnish to the District a Payment Bond and maintain it, in an amount not less than 100 percent of the current Contract Sum.
- 9.1.3** The Payment Bond and the Faithful Performance Bond shall be on the forms of the District as provided for in the RFP and shall be properly executed as described therein.
- 9.1.4** The bonds shall be executed by a sufficient, admitted surety insurer admitted to transact such business in California by the California Department of Insurance. After acceptance of the bond(s) by the District, a copy of the bond(s) will be returned to the Contractor.
- 9.1.5** If, at any time, during the performance of the Work any of the sureties, in the opinion of the District, are or become financially irresponsible, the District may require the Contractor to furnish other or additional sureties to the satisfaction of the District within 10 days after receipt of notice. If the Contractor fails to provide satisfactory sureties within the 10-day period, the contract may be terminated for cause under Article 11, and the materials purchased or the Work completed as provided in Article 11.
- 9.1.6** The Contractor and its sureties understand and agree that no modifications or alterations made in the Contract Documents shall operate to release any surety from liability on any bond or bonds required to be provided in this contract.

9.2 Insurance Requirements

- 9.2.1** The Contractor shall procure and maintain during the period of the contract all required insurance and shall submit certificates of insurance and additional insured endorsements to the policies to the Engineer for review and approval. The certificates of insurance shall be on the forms provided by the District. The insurance requirements must be met within the same period allowed for contract execution, as stated in the RFP or RFQ.
- 9.2.2** The Contract will not be executed until the certificates of insurance and endorsements to the policies have been received and accepted by the District. Acceptance of the certificates of insurance and endorsements by the District shall

not relieve the Contractor from compliance with any of the insurance requirements or liability arising from said failure.

- 9.2.3** The District may require the Contractor to provide insurance policies to the Engineer for review. If requested, the Contractor agrees to provide the District with complete copies of the policies within 10 days following the request.
- 9.2.4** If the Contractor does not maintain all of the required insurance, or fails to timely deliver requested insurance policies to the District, the District reserves the right to stop the Work, and/or terminate the Contractor's right to proceed under the contract, in whole or in part. Any delay caused by the Work stoppage is an Inexcusable Delay.

ARTICLE 10 - WARRANTY

10.1 Warranty of Work

- 10.1.1** The Contractor warrants that any Work performed under the contract shall be performed in a competent manner in accordance with the duty of care set forth in Section 4.2.3; that any material furnished will be the best of its class; and that the Work shall fully meet the requirements of the Contract Documents.
- 10.1.2** The Contractor warrants workmanship, including subcontracted work, against defects for a period of one year from the date of Contract Completion unless a longer period of time is required by the Contract Documents.
- 10.1.3** The Contractor shall provide a similar one-year warranty for all materials and equipment provided under this contract unless a longer period of time is required by the Contract Documents.
- 10.1.4** If the District elects to use any portion or portions of the Work before Contract Completion, the warranty for those portions shall begin upon commencement of such use. The warranty for the remainder of the Work shall begin on the Contract Completion date.
- 10.1.5** If the District notifies the Contractor, within one year from the Contract Completion, or within any longer period of time required by the Contract Documents or another warranty period for partial occupancy as established under Article 10.4.1, that any portion of the Work fails to fulfill any of the requirements of the Contract Documents, the Contractor shall repair or replace the defective, non-conforming or otherwise unsatisfactory Work, without delay or further cost to the District in a manner that least inconveniences the District's operations. With regard to any defective work or material repaired or replaced by the Contractor, the one-year warranty will be measured from the date of the latest repair or replacement.

- 10.1.6** Should the Contractor fail to act promptly in accordance with this requirement, or should the exigencies of the case require repairs or replacements to be made before the Contractor can be notified or can respond to the notification, the District may, at its option, make the necessary repairs or replacements, or perform the necessary Work, and the Contractor shall pay to the District the actual cost of such repairs plus the markup percentages shown in Article 3.2.3.
- 10.1.7** If equipment has repeatedly malfunctioned, is unreliable, requires excessive maintenance, or if repair of the equipment will not result in equipment that is equivalent to that required by the Contract Documents (both in functionality and useful life), the Contractor shall replace, rather than repair, the equipment under the warranty.
- 10.1.8** The Contractor is responsible for all costs incidental to making good any and all of its warranties and agreements. These warranties and agreements are covenants that are binding on the Contractor and its sureties.

10.2 Warranty of Goods

- 10.2.1** The Contractor warrants that all goods furnished will conform strictly with the specifications and requirements contained herein and with all approved submittals, samples and/or models and information contained or referenced therein, all affirmation of fact or promises, and will be new, of merchantable quality, free from defects in materials and workmanship, including but not limited to leaks, breaks, penetrations, imperfections, corrosion, deterioration, or other kinds of product deficiencies.
- 10.2.2** The Contractor warrants that all goods to be furnished will be fit and sufficient for the purpose(s) intended.
- 10.2.3** The Contractor warrants that all goods shall be delivered free from any security interest, lien or encumbrance of any kind, and free from any claim of infringement, copyright or other intellectual property violation, or other violation of laws, statutes, regulations, ordinances, rules, treaties, import restrictions, embargoes or other legal requirements.
- 10.2.4** The Contractor guarantees all products and services against faulty or inadequate design, manufacture, negligent or improper transport, handling, assembly, installation or testing, and further guarantees that there shall be strict compliance with all manufacturer guidelines, recommendations, and requirements, and that Contractor guarantees that it will conform to all requirements necessary to keep all manufacturer warranties and guarantees in full force and effect.
- 10.2.5** These warranties and guarantees are inclusive of all parts, labor and equipment necessary to achieve strict conformance, and shall take precedence over any conflicting warranty or guarantee.

10.2.6 These warranties and guarantees shall not be affected, limited, discharged or waived by any examination, inspection, delivery, acceptance, payment, course of dealing, course of performance, usage of trade, or termination for any reason and to any extent.

10.2.7 In the absence of any conflicting language as to duration, which conflicting language will take precedence as being more specific, Contractor's aforesaid warranties and guarantees shall be in full force and effect for a period of one year from the date of acceptance by the District but shall continue in full force and effect following notice from District of any warranty or guarantee issue, until such issue has been fully resolved to the satisfaction of the District.

ARTICLE 11 - TERMINATION OR SUSPENSION OF THE CONTRACT

11.1 Termination by the District for Cause or Default

11.1.1 The District may terminate the Contractor's right to proceed under the contract, in whole or in part, for cause at any time after the occurrence of any of the following events:

- .1** The Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.
- .2** The Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.
- .3** A receiver is appointed to take charge of the Contractor's property.
- .4** The Contractor abandons the Work. Abandonment is conclusively presumed when the District requests a written plan to cure a default and the Contractor does not submit the plan within five Work Days of the District's request.

11.1.2 If any of the following events occur, the District may require that the Contractor submit a written plan to cure its default:

- .1** The Contractor fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.
- .2** The Contractor fails to make progress so as to endanger performance of the Work within the Contract Time.
- .3** The Contractor disregards legal requirements of agencies having jurisdiction over the Work, the Contractor, or the District.

- .4 The Contractor materially fails to execute the Work in accordance with the Contract Documents.
- .5 The Contractor is in default of any other material obligation under the Contract Documents.

11.1.3 The District may terminate the Contractor's right to proceed under the contract in whole or in part for default if the written plan is not received by the District within five days after the District's request; if the District does not accept the Contractor's plan for curing its default; or the Contractor does not fully carry out an accepted plan to cure.

11.1.4 Upon any of the occurrences referred to in Articles 11.1.1, 11.1.2 and 11.1.3, the District may, at its election and by notice to the Contractor, terminate the contract in whole or in part; accept the assignment of any or all of the subcontracts; and then complete the Work by any method the District may deem expedient. If requested by the District, the Contractor shall remove any part or all of the Contractor's materials, supplies, equipment, tools, and construction equipment and machinery from the Work within seven days of such request; and, if the Contractor fails to do so, the District may remove or store, and after 90 days sell, any of the same at the Contractor's expense.

11.1.5 If the contract is terminated by the District as provided in Article 11.1, the Contractor shall not be entitled to receive any further payment until the expiration of 35 days after acceptance of all Work by the District.

11.1.6 No termination or action taken by the District after termination shall prejudice any other rights or remedies of the District provided by law or by the Contract Documents.

11.1.7 If, after termination for default, it is determined that the Contractor was not in default, or that default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for convenience pursuant to Article 11.2.

11.2 Termination by the District for Convenience

11.2.1 The District may, at its option, and for its convenience, terminate this contract at any time by giving written notice to the Contractor specifying the effective date of termination. Upon such termination, the Contractor agrees to comply with the notice and further agrees to waive any claims for damages, including loss of anticipated profits, on account of the termination in accordance with Article 11.2.5; and, as the sole right and remedy of the Contractor, the District shall pay the Contractor in accordance with Article 11.2.4.

11.2.2 Upon receipt of notice of termination under Article 11.2, the Contractor shall, unless the notice directs otherwise, do the following:

- .1** Immediately discontinue the Work to the extent specified in the notice.
- .2** Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of a portion of the Work that is not discontinued or is necessary to secure the project site.
- .3** Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the performance of the discontinued portion of the Work.
- .4** Thereafter, do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment in transit to or on the project site.

11.2.3 Upon termination, the obligations of the contract shall continue as to portions of the Work already performed and, subject to the Contractor's obligations under Article 11.2.2, as to bona fide obligations assumed by the Contractor prior to the date of termination.

11.2.4 Upon such termination, the District will pay to the Contractor the sum of the following:

- .1** The amount of the Contract Sum allocable to the portion of the Work properly performed by the Contractor as of the effective date of termination, less sums previously paid to the Contractor.
- .2** Previously unpaid costs of any items delivered to the project site that were already fabricated for subsequent incorporation into the Work.
- .3** Any proven losses with respect to materials and equipment directly resulting from the termination.
- .4** Reasonable demobilization costs.

11.2.5 The above reimbursement is the sole and exclusive remedy to which the Contractor is entitled in the event the contract is terminated for convenience; and the Contractor expressly waives any other claims, damages, demands, compensation or recovery related to this contract or project. The Contractor agrees to sign a general release incorporating this waiver.

11.3 Suspension by the District

- 11.3.1** The Engineer may, in his or her sole discretion, order the Contractor, in writing, to suspend, delay, or interrupt the Work in whole or in part for as long as 90 days from the date of delivery of a written order of suspension. The order shall be specifically identified as a "suspension order" under this Article. The work may be suspended for a longer period or periods if the parties agree. Upon receipt of a suspension order, the Contractor shall comply with its terms and take all reasonable steps to minimize costs related to the suspension of the Work or the portion of the Work. Within 90 days after the issuance of the suspension order, or such extension to that period as is agreed upon by the Contractor and the District, the District will either cancel the suspension order or delete the suspended Work.
- 11.3.2** If a suspension order is canceled or expires, the Contractor shall resume the suspended Work. A Change Order may be issued to cover any adjustments of the Contract Sum or an extension of Contract Time necessarily caused by the suspension. If the Contractor disputes the adjustment of the Contract Sum or the Contract Time, the Contractor shall submit a claim per Article 3.4.
- 11.3.3** Costs directly associated with the suspension will be at the District's expense if the suspension is not due to any fault of the Contractor.
- 11.3.4** A suspension order shall not be required to stop the Work as permitted or required under any other provision of the Contract Documents.

11.4 Termination or Suspension of the Contract - Act of God or Force Majeure

- 11.4.1** If an Act of God or Force Majeure occurs, the Engineer may, by written notice, either suspend this contract pursuant to Article 11.3, or terminate this contract pursuant to Article 11.2. In the case of suspension pursuant to Article 11.4, the 90-day suspension period limitation in Article 11.3.1 shall not apply. If the contract is not suspended or terminated, or if the contract is resumed after suspension, the Contractor shall fully restore the work except as limited by Public Contract Code, Section 7105(a), in the case of an "Act of God."
- 11.4.2** If the contract is terminated because of an Act of God or Force Majeure, the Contractor will be paid for Work performed prior to the Act of God or Force Majeure at either (i) the Unit Prices named in the contract; or (ii) in the event no unit prices are named, a sum equal to the percentage that the Contract Sum for the Work completed, at the time of occurrence of the Act of God or Force Majeure bears to the Contract Sum for all Work to be performed under the contract as determined by the Engineer. In no event will the District be liable to the Contractor for breach of contract, extra work, or damages because the contract is terminated due to an Act of God or Force Majeure.

ARTICLE 12 - LABOR PROVISIONS

12.1 Prevailing Wages

- 12.1.1** Please see www.dir.ca.gov for further information regarding the below.
- 12.1.2** All Contractors and Subcontractors of any tier bidding on or offering to perform work on a public works project shall first be registered with the State Department of Industrial Relations (DIR) pursuant to Section 1725.5 of the Labor Code. No proposal or bid will be accepted, nor any contract entered into, without proof of the Contractor and Subcontractors' current registration with the DIR (LC §1771.1). All Contractors and Subcontractors shall remain registered for the duration of the Project. and for the duration of the project pursuant to Section 1725.5 of the Labor Code.
- 12.1.3** All public works projects awarded after January 1, 2015, are subject to compliance monitoring and enforcement by the DIR (LC § 1771.4) and all Contractors are required to post job site notices, "as prescribed by regulation" (LC § 1771.4).
- 12.1.4** Pursuant to Section 1773 of the Labor Code, the District has obtained from the Director of Industrial Relations of the State of California, the general prevailing rates of per diem wages and the general prevailing rates for holiday and overtime work in the locality in which the Work is to be performed, for each craft, classification, or type of worker needed to execute the contract. Pursuant to Section 1773.2 of the Labor Code, a copy of the prevailing wage rates is on file with the District and available for inspection by an interested party at www.dir.ca.gov.
- 12.1.5** The holidays upon which such rates shall be paid shall be all holidays recognized in the collective bargaining agreement applicable to the particular craft, classification, or type of worker employed on the Work.
- 12.1.6** The Contractor shall post a copy of the general prevailing rate of per diem wages at the jobsite pursuant to Section 1773.2 of the Labor Code and comply with all wage related workplace postings.
- 12.1.7** Pursuant to Section 1774 of the Labor Code, the Contractor and any of its Subcontractors shall not pay less than the specified prevailing rate of wages to all workers employed in the execution of the contract.
- 12.1.8** As set forth with more specificity in Section 1773.1 of the Labor Code, "per diem" wages include employer payments for health and welfare, pension, vacation, travel, subsistence and, in certain instances, apprenticeship or other training programs, and shall be paid at the rate and in the amount spelled out in the pertinent prevailing wage determinations issued by the Director of Industrial Relations.
- 12.1.9** The Contractor shall, as a penalty to the State or the District, forfeit not more than the maximum set forth in Section 1775 of the Labor Code for each calendar day, or portion thereof, for each worker paid less than the prevailing rates for the work or

craft in which the worker is employed under the contract by the Contractor or by any Subcontractor under him. The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which such worker was paid less than the stipulated prevailing wage rate shall be paid to such worker by the Contractor.

12.1.10 The specified wage rates are minimum rates only and the District will not consider and shall not be liable for any claims for additional compensation made by the Contractor because of its payment of any wage rate in excess of the general prevailing rates. All disputes in regard to the payment of wages in excess of those specified herein shall be adjusted by the Contractor at its own expense.

12.1.11 General prevailing wage determinations have expiration dates with either a single asterisk or a double asterisk. Pursuant to California Code of Regulations, Title 8, Section 16204(b), the single asterisk means that the general prevailing wage determination shall be in effect for the specified contract duration. The double asterisk means that the predetermined wage modification shall be paid after the expiration date. Notwithstanding what is stated in Article 3.4 and Article 4.7 of the General Conditions, no adjustment in the Contract Sum will be made for the Contractor's payment of these predetermined wage modifications.

12.2 Payroll Records for Prevailing Wages

12.2.1 The Contractor and each Subcontractor shall keep an accurate payroll record, 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 employed in connection with the Work. The payroll records shall be certified and shall be available for inspection in accordance with the provisions of Section 1776 of the Labor Code.

12.2.2 The Contractor shall submit for each week in which any contract Work is performed a copy of all payroll records to the Engineer. The Contractor shall be responsible for submission of copies of payroll records of all Subcontractors.

12.2.3 Certified payroll records shall be on the forms provided by the Department of Industrial Relations or contain the same information required on the Department's form. Copies of the form may be obtained from:

Division of Labor Standards Enforcement
Bureau of Field Enforcement
2031 Howe Avenue, Suite 100
Sacramento, CA 95825-5378
(916) 263-1811
(916) 263-5378

The Contractor or Subcontractor shall certify the payroll records as shown on the reverse of the State form. In addition, the records shall be accompanied by a statement signed by the Contractor or Subcontractor certifying that the classifications truly reflect the Work performed and that the wage rates are not less than those required to be paid.

12.2.4 In the event of noncompliance with the requirements of Section 1776 of the Labor Code, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects such Contractor must comply with said Section. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1776(h) of the Labor Code for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due.

12.2.5 The Contractor and all subcontractors are required to submit certified payroll records online, on a monthly basis to the Labor Commissioner.

12.3 Hours of Labor

12.3.1 Pursuant to the provisions of Sections 1810, et seq. of the Labor Code and any amendments thereof:

- .1** Eight hours of labor constitutes a legal day's Work under the contract.
- .2** The time of service of any worker employed upon the work shall be limited and restricted to eight hours during any one calendar day, and forty hours during any one calendar week except as provided in Article 12.3.1.4 below.
- .3** The Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1813 of the Labor Code for each worker employed in the execution of the contract by the Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week in violation of this Article and the provisions of Labor Code, Sections 1810, et seq.
- .4** Work performed by employees of the Contractor in excess of eight hours per day, and forty hours during any one calendar week, shall be permitted upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay.
- .5** The Contractor and every Subcontractor shall keep an accurate record showing the name of and the actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the Work; the record

shall be kept open at all reasonable hours to the inspection of the District and to the Division of Labor Standards Enforcement of the State of California.

12.4 Employment of Apprentices

12.4.1 In the performance of the contract, the Contractor and any Subcontractor shall comply with the provisions concerning the employment of apprentices in Section 1777.5 of the Labor Code and any amendments thereof.

12.4.2 In the event the Contractor or any Subcontractor willfully fails to comply with the aforesaid section, such Contractor or Subcontractor shall be subject to the penalties for noncompliance in Labor Code, Section 1777.7.

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 Governing Law

The contract is governed by the laws of the State of California.

13.2 Antitrust Claims

By entering into the contract, the Contractor offers and agrees to assign to the District 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 contract. The Contractor shall include in each subcontract a provision corresponding to the foregoing binding the Subcontractor to offer and agree to assign to the District such rights, title, and interest held by the Subcontractor. Such assignment shall be made and become effective at the time the District tenders final payment to the Contractor without further acknowledgment by the parties.

13.3 Non-Discrimination Clauses

13.3.1 There shall be no discrimination against any person, or groups of persons, per Government Code Section 12940, Labor Code Section 1735, or any other applicable law or regulation in the performance of this contract.

13.3.2 There shall be no discrimination in the performance of this contract, against any person, or group of persons, on account of race, color, religion, religious creed, national origin, ancestry, gender including gender identity or expression, age (over 40), marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), veteran or military status, family or medical leave status, genetic

information, or sexual orientation. The Contractor shall not establish or permit any such practice(s) of discrimination with reference to the contract. Contractors determined to be in violation of this section will be deemed to be in material breach of the contract.

13.3.3 Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

13.3.4 The Contractor shall include the nondiscrimination and compliance provisions of these clauses in all subcontracts.

13.4 Trenching and Shoring

The Contractor shall comply with Labor Code, Sections 6500, 6705, and 6707, and Public Contract Code, Section 7104, regarding trenching and shoring, and notwithstanding any other provisions of the Contract Documents.

13.5 Third Party Claims

Pursuant to Public Contract Code, Section 9201, the District will provide Contractor with timely notification of the receipt of any third-party claims relating to this contract.

13.6 Prohibition of Assignment

The Contractor shall not assign, transfer, or otherwise dispose of any of its rights, duties or obligations under this Contract. This prohibition does not apply to the District. The District retains the right to assign this Contract in whole or in part at any time upon reasonable terms.

13.7 News Releases

The Contractor, its employees, subcontractors, and agents shall not refer to the District, or use any logos, images, or photographs of the District for any commercial purpose, including, but not limited to, advertising, promotion, or public relations, without the District's prior written consent. Such written consent shall not be required for the inclusion of the District's name on a customer list.

13.8 Severability

Should any part of the Contract be declared by a final decision by a court or tribunal of competent jurisdiction to be unconstitutional, invalid or beyond the authority of either party to enter into or carry out, such decision shall not affect the validity of the remainder of the Contract, which shall continue in full force and effect, provided that the remainder of the Contract can be interpreted to give effect to the intentions of the parties.

13.9 Covenant Against Gratuities

The Contractor warrants that no gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the District with a view toward securing the Contract or securing favorable treatment with respect to any determinations concerning the performance of the Contract. For breach or violation of this warranty, the District shall have the right to terminate the Contract, either in whole or in part, and any loss or damage sustained by the District in procuring on the open market any items which Contractor agreed to supply shall be borne and paid for by the Contractor. The rights and remedies of the District provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or in equity.

13.10 Rights and Remedies of the District

The rights and remedies of the District provided herein shall not be exclusive and are in addition to any other rights and remedies provided by law or under the Contract.

13.11 Waiver of Rights

Any action or inaction by the District, or the failure of the District on any occasion, to enforce any right or provision of the Contract, shall not be construed to be a waiver by the District of its rights and shall not prevent the District from enforcing such provision or right in any future occasion. Rights and remedies are cumulative and are in addition to any other rights or remedies that the District may have at law or in equity.

13.12 Confidentiality

Contractor agrees to maintain in confidence and not disclose to any person or entity, without the District's prior written consent, any trade secret or confidential information, knowledge or data relating to products, process, or operation of the District. Contractor further agrees to maintain in confidence and not disclose to any person or entity, any data, information, technology, or material developed or obtained by Contractor during term of the Contract. The covenants contained in this paragraph shall survive the termination of this Contract for whatever cause.

END OF DOCUMENT



EXHIBIT E
IRAN CONTRACTING ACT CERTIFICATION

Pursuant to Public Contract Code (PCC) § 2204, an Iran Contracting Act Certification is required for solicitations of goods or services of \$1,000,000 or more.

To submit a bid or proposal to East Bay Municipal Utility District (District), you must complete ONLY ONE of the following two paragraphs. To complete paragraph 1, check the corresponding box and complete the certification for paragraph 1. To complete paragraph 2, check the corresponding box and attach a copy of the written permission from the District.

- 1. We are not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to PCC § 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

CERTIFICATION FOR PARAGRAPH 1:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the proposer/bidder to the clause in paragraph 1. This certification is made under the laws of the State of California.

Firm: _____

By: _____ Date: _____
(Signature of Bidder)

Title: _____

Signed at: _____ County, State of: _____

OR

- 2. We have received written permission from the District to submit a bid or proposal pursuant to PCC § 2203(c) or (d). A copy of the written permission from the District is included with our bid or proposal.



**EXHIBIT F
BOND FORMS**

**SEE RFP #WDPD-0225 PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1
SECTION III. H FOR INFORMATION REGARDING COMPLETING THE BOND FORMS IN THIS
EXHIBIT E.**



DATE _____

FAITHFUL PERFORMANCE BOND

CONTRACTOR (Name and California address where service may be effected)
SURETY (Name and California address where service may be effected)
AMOUNT OF BOND (Sum in words and figures)
CONTRACT DOCUMENTS (As named in the Contract)

KNOW ALL PERSONS BY THESE PRESENTS:

THAT, the contractor named above, hereinafter called the Contractor, as Principal, and the Surety named above, as Surety, are held and firmly bound unto the East Bay Municipal Utility District, hereinafter called the District, in the sum entered above, lawful money of the United States of America, for the payment of which sum well and truly to be made to the District, we, and each of us, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Contractor and the District entered into a Contract of even date herewith, by the terms and conditions of which the Contractor agreed to perform and complete the work, or manufacture, complete, and deliver the material or equipment, set forth in the Contract Documents named in the Contract, all now on file in the office of the Secretary of the District, as will more fully appear by reference to said Contract, which is made a part of this bond;

FAITHFUL PERFORMANCE BOND

NOW, THEREFORE, if the Contractor shall well and truly carry out, execute and perform all things by the Contractor to be carried out, executed and performed, according to the terms and conditions of said Contract, including any and all warranty and guaranty obligations contained therein, then this obligation shall become null and void, otherwise to remain in full force and effect throughout the period of performance, including any warranty or guaranty period.

No prepayment or delay in payment, and no change, extension, addition, or alteration of any provision of said Contract or Contract Documents agreed to between the Contractor and the District, and no forbearance on the part of the District shall operate to release the Surety from liability on this Bond, and consent to make such alterations without further notice to or consent by the Surety is hereby given, and the Surety hereby waives the provisions of Section 2819 of the Civil Code and Section 359.5 of the Code of Civil Procedure of the State of California.

Each signator to this bond hereby declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated the day and year entered on the first page hereof.

Contractor

By _____

*Title _____

By _____

**Title _____

(SEAL OF SURETY)

Surety

By _____

Title _____

Note: The signature of the Surety on this bond must be acknowledged before a Notary Public. An executed Power of Attorney indicating that the Surety's representative is authorized to bind the Surety must accompany this bond.

The foregoing Bond was accepted and approved this _____ day of _____, 20 _____

_____, East Bay Municipal Utility District

Specifications / Proposal No. _____

*If corporation, Corporate President or CEO; if Partnership, Partner.

**Corporate Secretary or financial officer.



DATE _____

PAYMENT BOND

CONTRACTOR (Name and California address where service may be effected)

SURETY (Name and California address where service may be effected)

AMOUNT OF BOND (Sum in words and figures)

CONTRACT DOCUMENTS (As named in the Contract)

KNOW ALL PERSONS BY THESE PRESENTS:

THAT, WHEREAS, the contractor named above, hereinafter called the Contractor, has this day entered into a Contract with East Bay Municipal Utility District, hereinafter called the District, to perform and complete the work set forth in the Contract Documents named in the Contract, all now on file in the office of the Secretary of the District, as will more fully appear by reference to said Contract, which is made a part hereof; and

WHEREAS, Sections 9550 to 9566 inclusive of the Civil Code of the State of California, and any amendments thereof, require contractors upon public work to file with the body by whom such contract was awarded a good and sufficient bond to secure the claims to which reference is made in said sections, NOW THESE PRESENTS

WITNESSETH: That the Contractor, as Principal, and the Surety named above, as Surety, are held and firmly bound unto any and all materialmen, persons, firms, or corporations furnishing materials, provisions, or other supplies used in, upon, for, or about the performance of the work contracted to be done, and to all persons, firms or corporations renting or hiring implements or machinery for or contributing to the said work to be done and to all persons who perform work or labor of any kind or nature thereon, or in connection therewith, and to all persons who supply both work and materials, in the sum entered on the first page hereof, lawful money of the United States of America, being not less than the total amount payable by the terms of said Contract, for which payment well, truly and promptly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly, and severally, firmly by these presents.

PAYMENT BOND

The condition of the above obligation is such that if the Contractor, or the Contractor’s subcontractors, fail to pay for any materials, provisions or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, the Surety will pay for the same, in an amount not exceeding the sum specified in this Bond, provided that any and all claims hereunder shall be filed and proceedings had in connection therewith as required by the provisions of said Sections 9550 to 9566 inclusive of the Civil Code of the State of California, and any amendments thereof: PROVIDED ALSO, that in case suit is brought upon this Bond a reasonable attorney’s fee shall be awarded by the court to the prevailing party in said suit, said attorney’s fee to be fixed as costs in said suit, and to be included in the judgment therein rendered.

No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of said Contract or Contract Documents agreed to between the Contractor and the District, and no forbearance on the part of the District, shall operate to release the Surety from liability on this Bond, and consent to make such alterations without further notice to or consent by the Surety is hereby given, and the Surety hereby waives the provisions of Section 2819 of the Civil Code of the State of California.

Dated the day and year entered on the first page hereof.

Each signator to this bond hereby declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Contractor

By _____

*Title _____

By _____

**Title _____

(SEAL OF SURETY)

Surety

By _____

Title _____

Note: The signature of the Surety on this bond must be acknowledged before a Notary Public. An executed Power of Attorney indicating that the Surety’s representative is authorized to bind the Surety must accompany this bond.

The foregoing Bond was accepted and approved this _____ day of _____, 20 _____

_____, East Bay Municipal Utility District

Specifications / Proposal No. _____

*If corporation, Corporate President or CEO; if Partnership, Partner.
**Corporate Secretary or financial officer.



**EXHIBIT G
PROJECT DRAWINGS**

♦

PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1

♦

CONTRACT DOCUMENTS
DRAWINGS

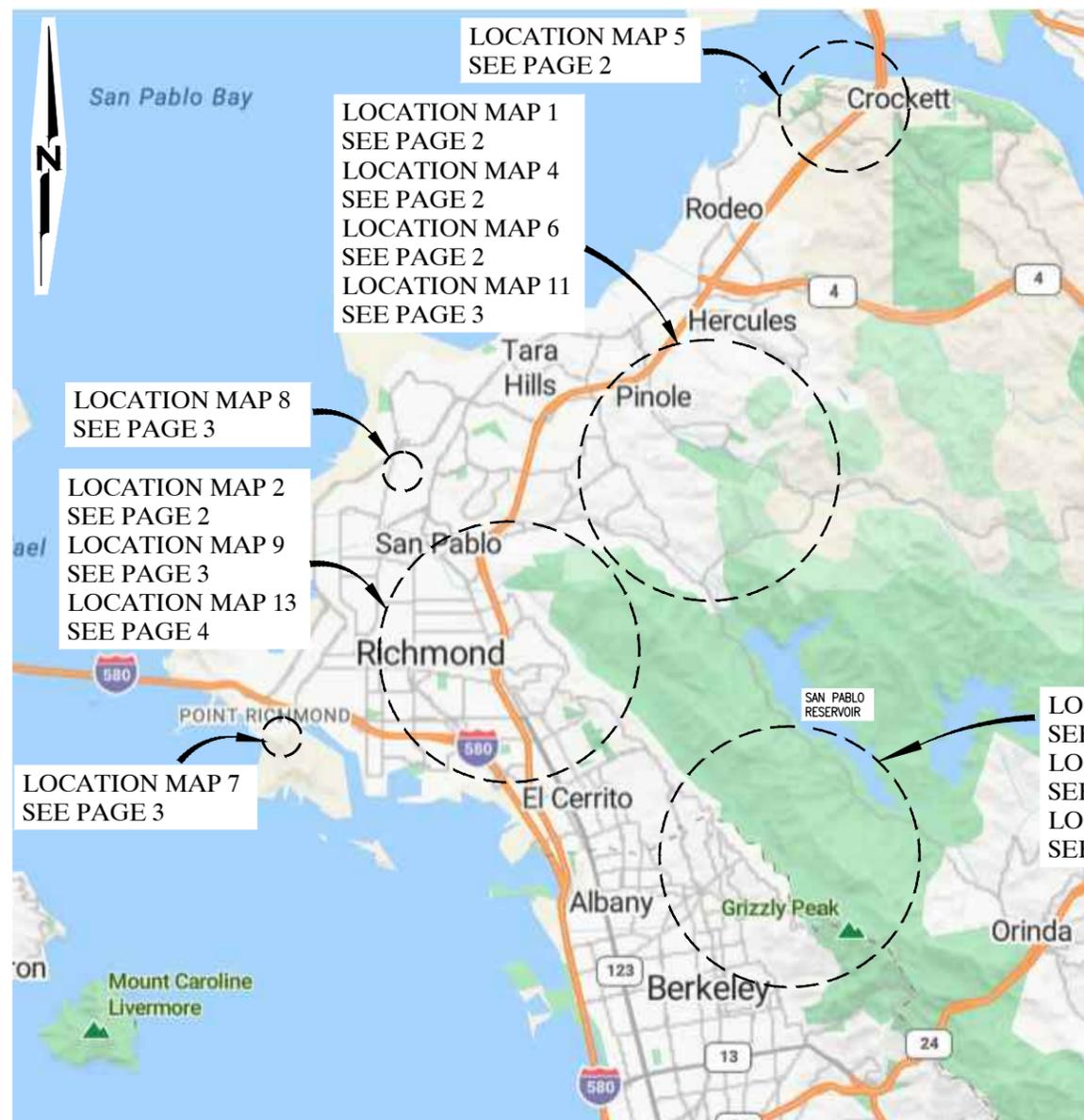
RFP # WDPD-0225



EAST BAY MUNICIPAL UTILITY DISTRICT

PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1

PROJECT NO. 10625-G



VICINITY MAP
NTS

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6	CORE SUMMARY TABLE
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10	IMPROVEMENT PLAN ARLINGTON RES. "A3" 9+50 TO "A3" 14+50
11	IMPROVEMENT PLAN ARLINGTON RES. "A3" 14+50 TO "A3" 17+15
12	IMPROVEMENT PLAN BERKELEY VIEW RES. "B1" 9+50 TO "B1" 15+84
13	IMPROVEMENT PLAN BERRYMAN STATION "B2" 9+50 TO "B2" 11+97
14	IMPROVEMENT PLAN BERRYMAN RES. "B3" 9+50 TO "B3" 16+29
15	IMPROVEMENT PLAN CASTRO RES. "C1" 9+50 TO "C1" 16+50
16	IMPROVEMENT PLAN CASTRO RES. "C1" 16+50 TO "C1" 18+78
17	IMPROVEMENT PLAN CROCKETT RES. "C2" 9+50 TO "C2" 17+50
18	IMPROVEMENT PLAN CROCKETT RES. "C2" 17+50 TO "C2" 18+04
19	IMPROVEMENT PLAN MENDOCINO RES. "M" 9+50 TO "M" 14+50
20	IMPROVEMENT PLAN NICHOLL KNOB RES. "N1" 9+50 TO "N1" 16+50
21	IMPROVEMENT PLAN NICHOLL KNOB RES. "N1" 16+50 TO "N1" 21+74
22	IMPROVEMENT PLAN NORTH CENTER "N2" 9+50 TO "N2" 13+50
23	IMPROVEMENT PLAN NORTH CENTER "N2" 13+50 TO "N2" 17+25
24	IMPROVEMENT PLAN PEARL RES. "P" 9+50 TO "P" 17+50
25	IMPROVEMENT PLAN PEARL RES. "P" 17+50 TO "P" 23+87
26	IMPROVEMENT PLAN SAN PABLO RES. 60 "S1" 9+50 TO "S1" 15+50
27	IMPROVEMENT PLAN SAN PABLO RES. 60 "S1" 15+50 TO "S1" 22+50
28	IMPROVEMENT PLAN SAN PABLO RES. 60 "S1" 22+50 TO "S1" 23+74
29	IMPROVEMENT PLAN SAN PABLO RES. 70 "S2" 9+50 TO "S2" 15+50
30	IMPROVEMENT PLAN SAN PABLO RES. 70 "S2" 15+50 TO "S2" 22+50
31	IMPROVEMENT PLAN SAN PABLO RES. 70 "S2" 22+50 TO "S2" 30+57
32	IMPROVEMENT PLAN SAN PABLO RES. 80 "S3" 9+50 TO "S3" 13+60
33	IMPROVEMENT PLAN SAN PABLO RES. 90 "S4" 9+50 TO "S4" 17+50
34	IMPROVEMENT PLAN SAN PABLO RES. 90 "S4" 17+50 TO "S4" 25+68
35	IMPROVEMENT PLAN SHASTA RES. "S5" 9+50 TO "S5" 15+85
36	IMPROVEMENT PLAN SHAWN PUMP PLANT "S6" 9+50 TO "S6" 12+61
37	IMPROVEMENT PLAN SHAWN RES. "S7" 9+50 TO "S7" 14+50
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40	CIVIL DETAILS 1
41	CIVIL DETAILS 2
42	CIVIL DETAILS 3
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45	CIVIL DETAILS 6
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47	ADA DETAILS 1

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OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
GENERAL

TITLE SHEET

PG. 1

PROJ NO. 10625-G	10625-G-001	0
SCALE NO SCALE		
DATE 11DEC2025	STRUCT.	DISC. NUMBER REV.

PREPARED UNDER THE DIRECTION OF:
VICTOR LEMUS, P.E.
SENIOR ENGINEER, NCE
DATE 12/10/2025

ENGINEER
NCE
1144 65th Street, Suite B
Oakland, CA 94608
(510) 250-9189



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

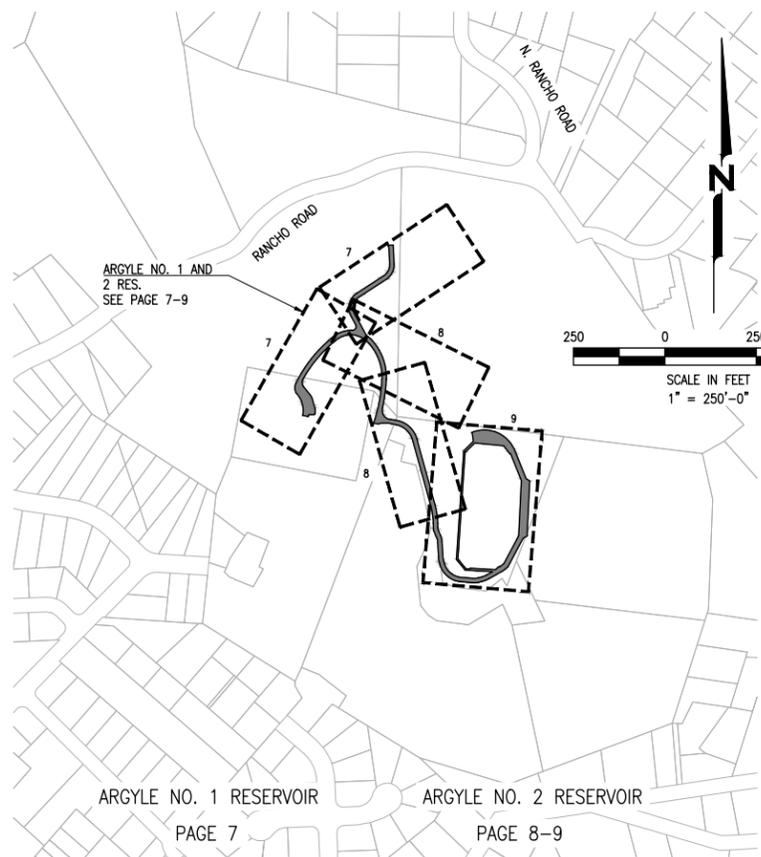
DESIGNED BY VICTOR LEMUS
DESIGN CHECKED BY FRANK HASTINGER
DRAWN BY SAMUEL NICOLAZI, DIANA RASHIDHALL
SB PROJ ENGR. R.P.E. NO. C83558
R.P.E. NO. C83558
APPROVED VICTOR LEMUS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER R.P.E. NO. C83558 Damaris Villalobos-Galindo
PROJECT ENGINEER R.P.E. NO. C83558 Damaris Villalobos-Galindo
RECOMMENDED BY CIVIL ENGR. R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED FOR CONSTRUCTION R.P.E. NO. E18881 SANDRA J. MULHAUSER

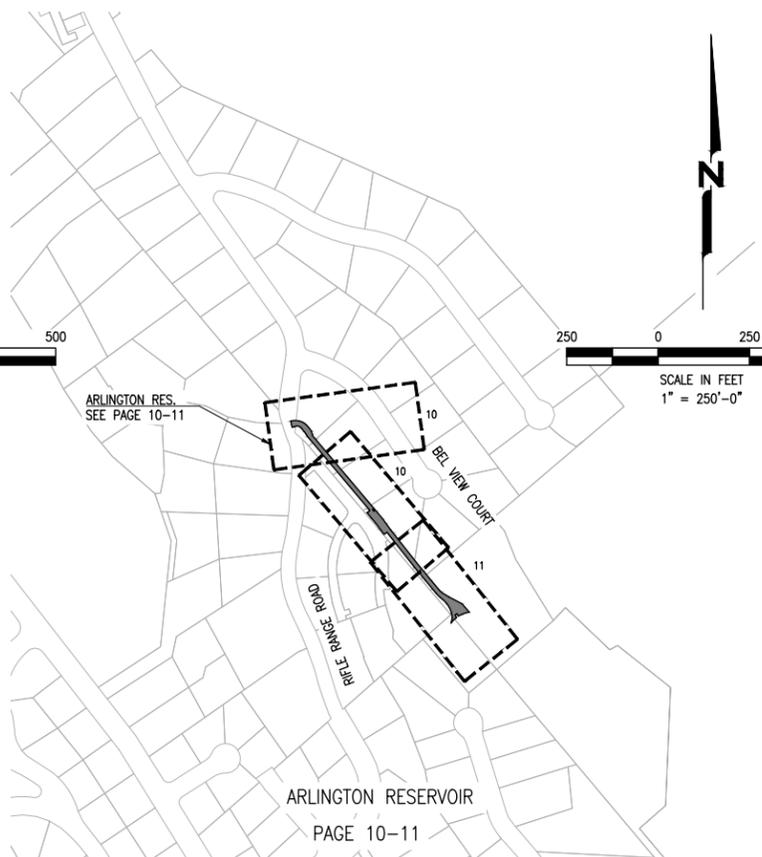
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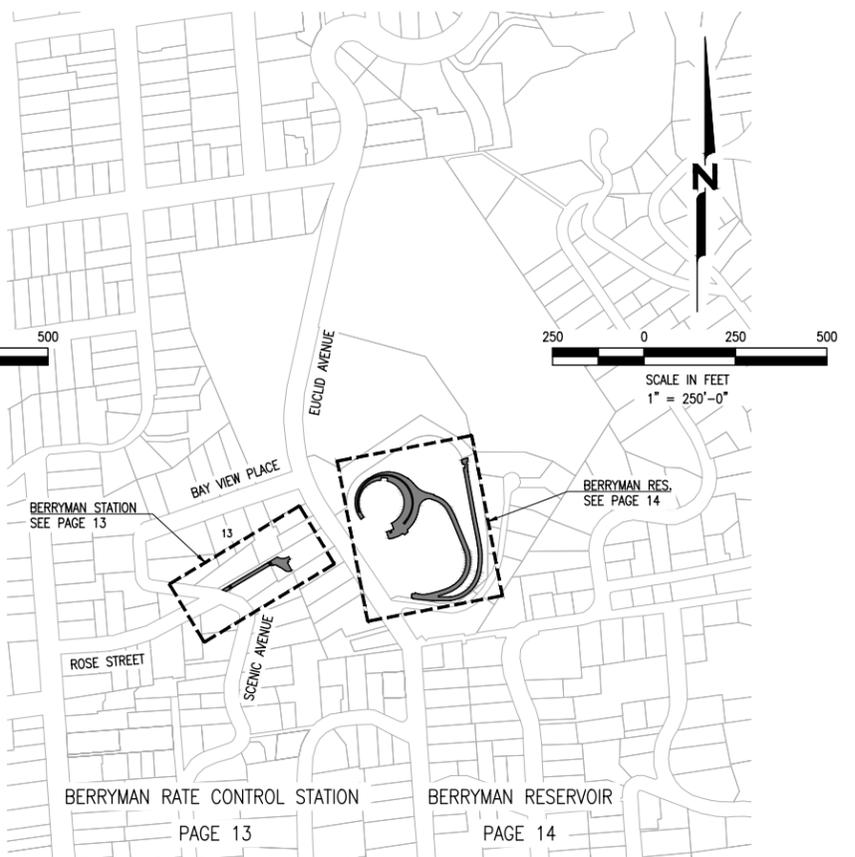




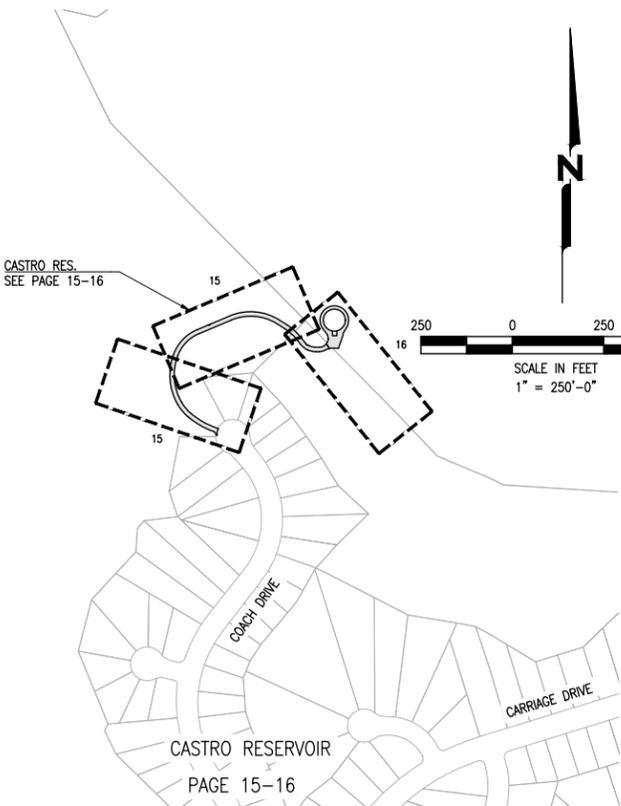
LOCATION MAP 1
EL SOBRANTE



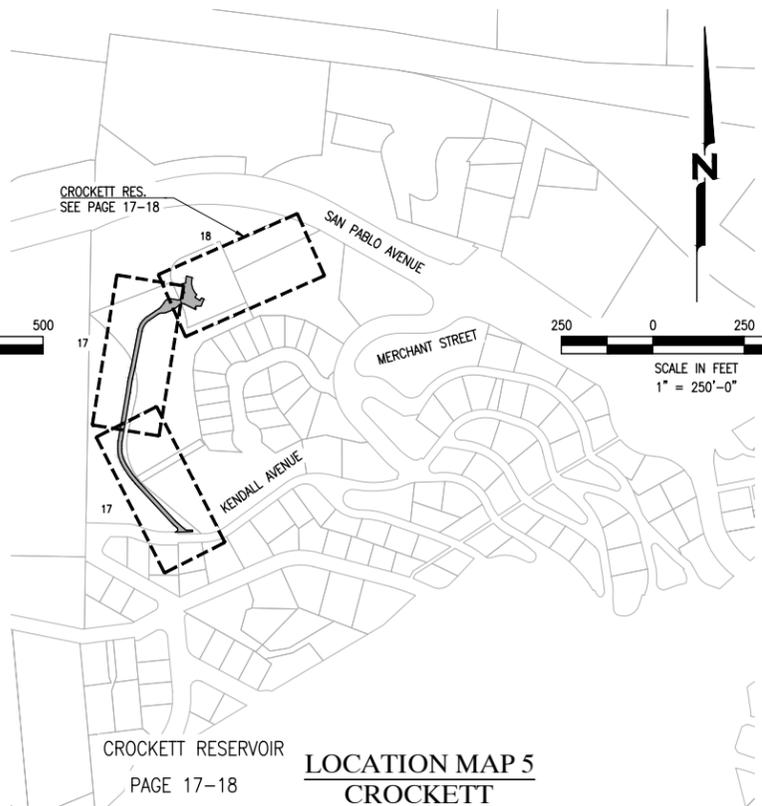
LOCATION MAP 2
EL CERRITO



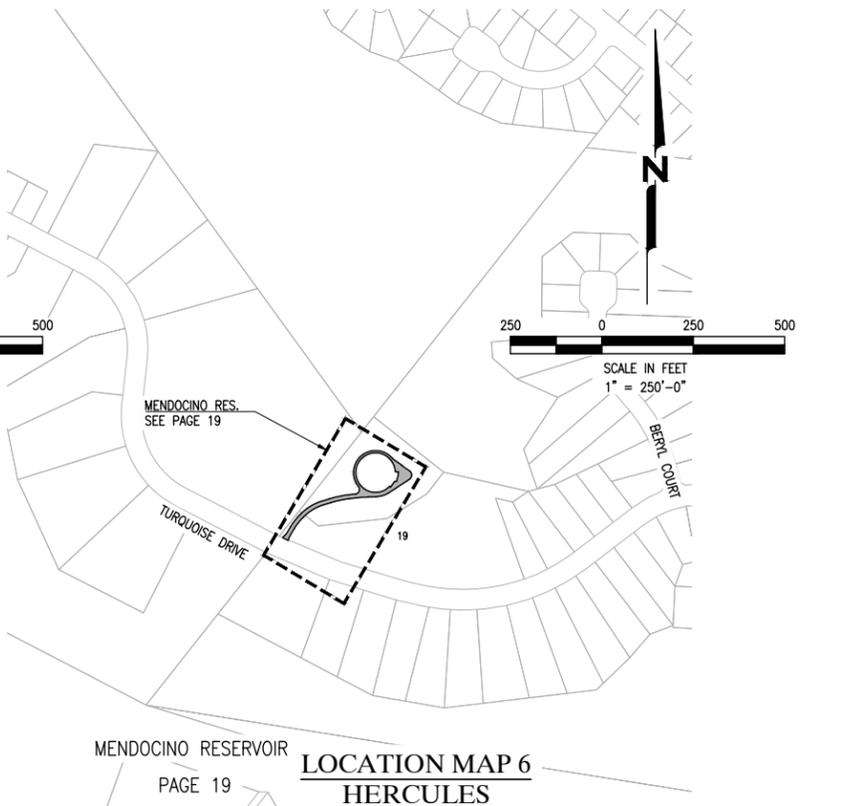
LOCATION MAP 3
BERKELEY



LOCATION MAP 4
RICHMOND



LOCATION MAP 5
CROCKETT



LOCATION MAP 6
HERCULES

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EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
GENERAL

LOCATION MAP 1-6

PG. 2



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DATE: FILE:

NO.	DATE	REVISION	BY	REC.	APP.

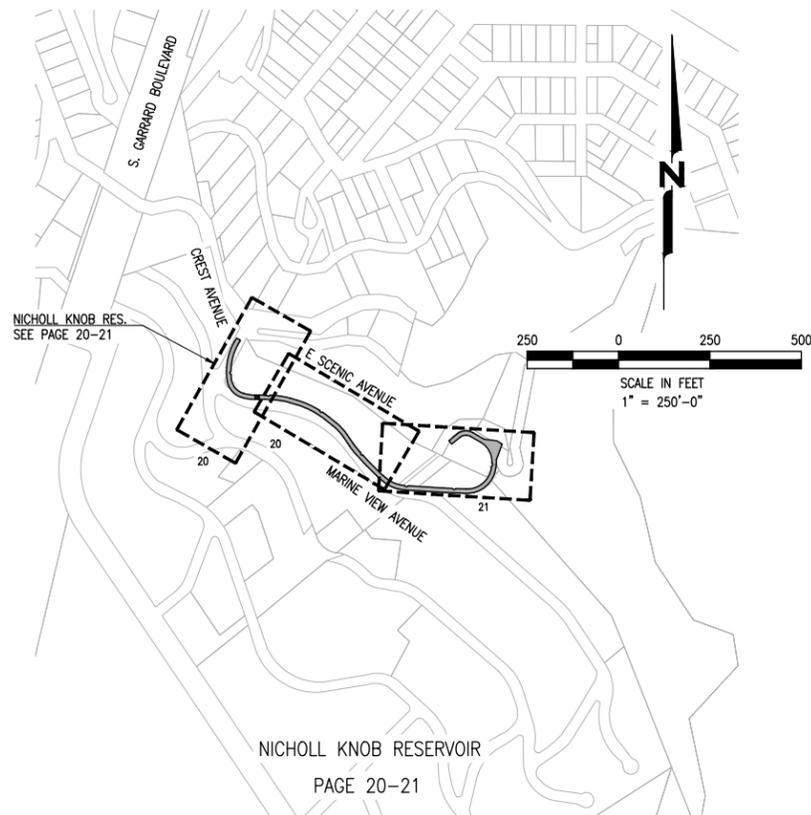


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Ph: (866) 403-2683

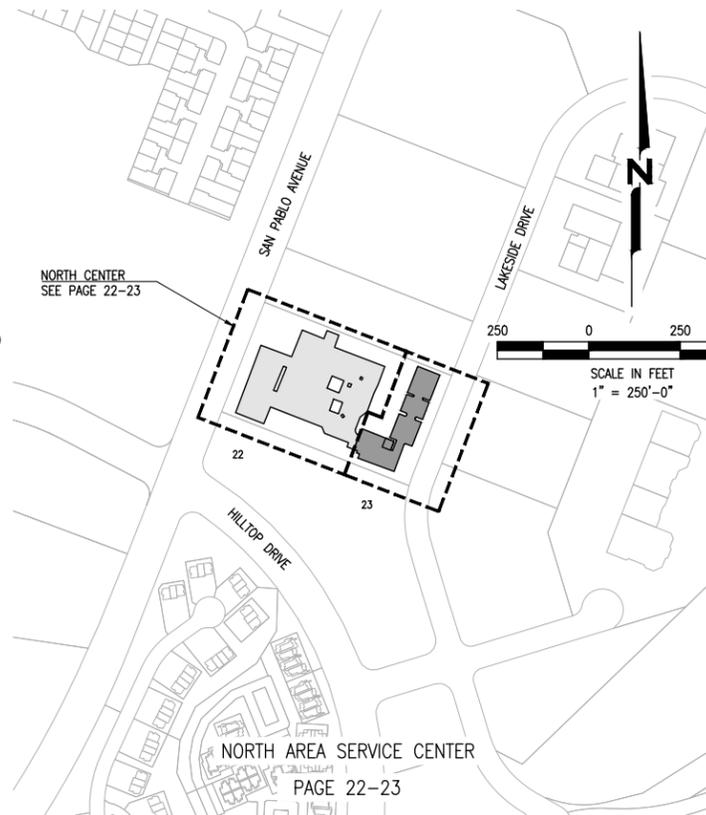
DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DIANA BASHIRI
SE. PROJ. ENGR. R.P.E. NO. C62349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: R.P.E. NO. E18881 SANDRA J. MULHAUSER

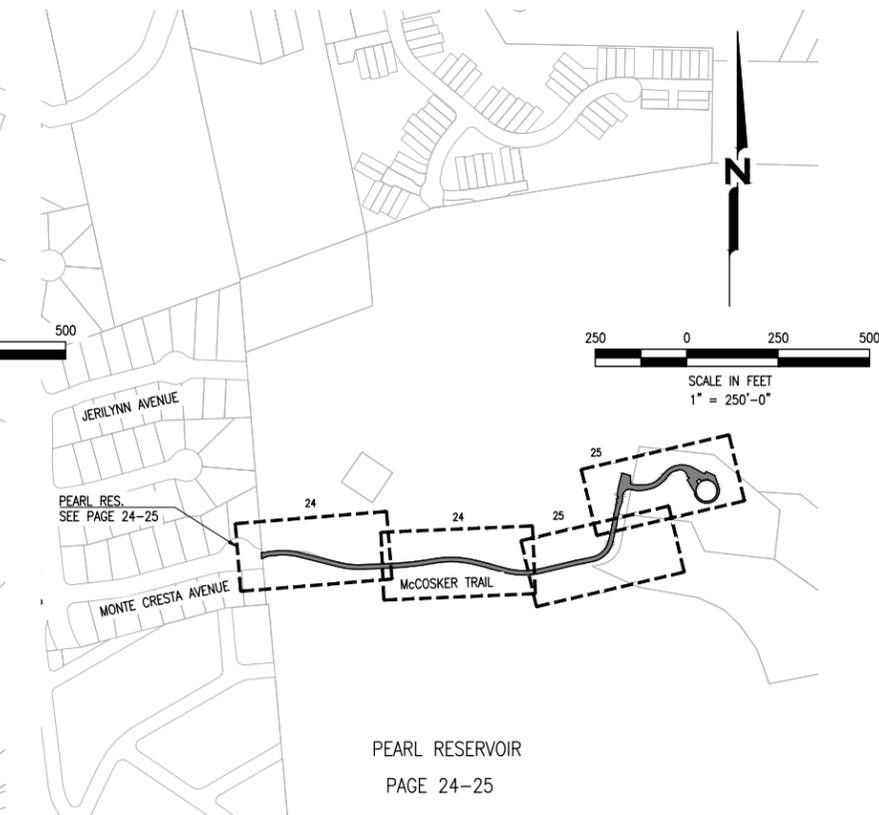
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SCALE 1" = 250'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



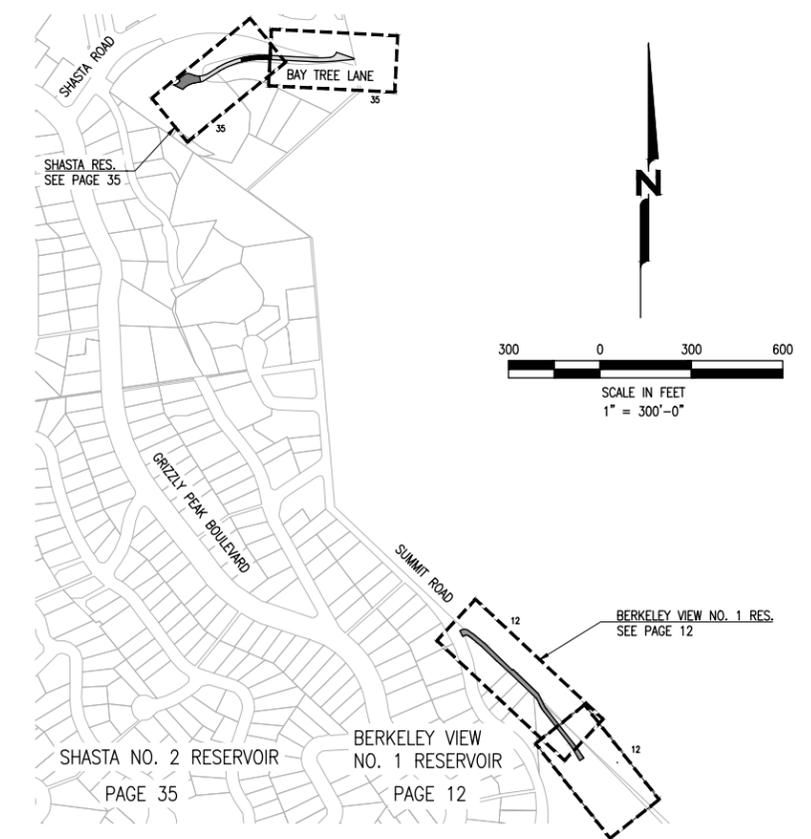
LOCATION MAP 7
RICHMOND



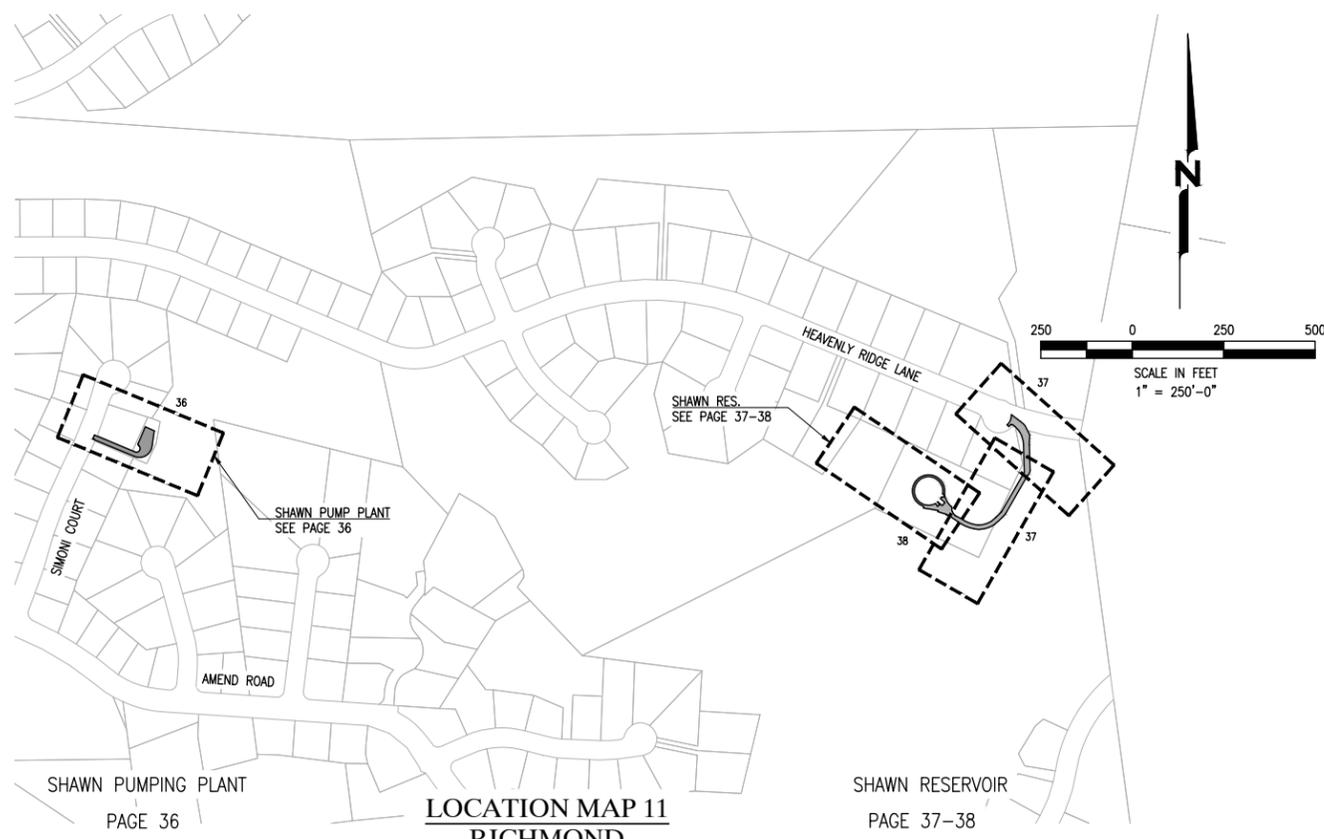
LOCATION MAP 8
SAN PABLO



LOCATION MAP 9
RICHMOND



LOCATION MAP 10
BERKELEY



LOCATION MAP 11
RICHMOND

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LOCATION MAP 7-11

PG. 3

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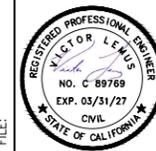
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Oakland, CA, 94607
Ph: (866) 403-2683

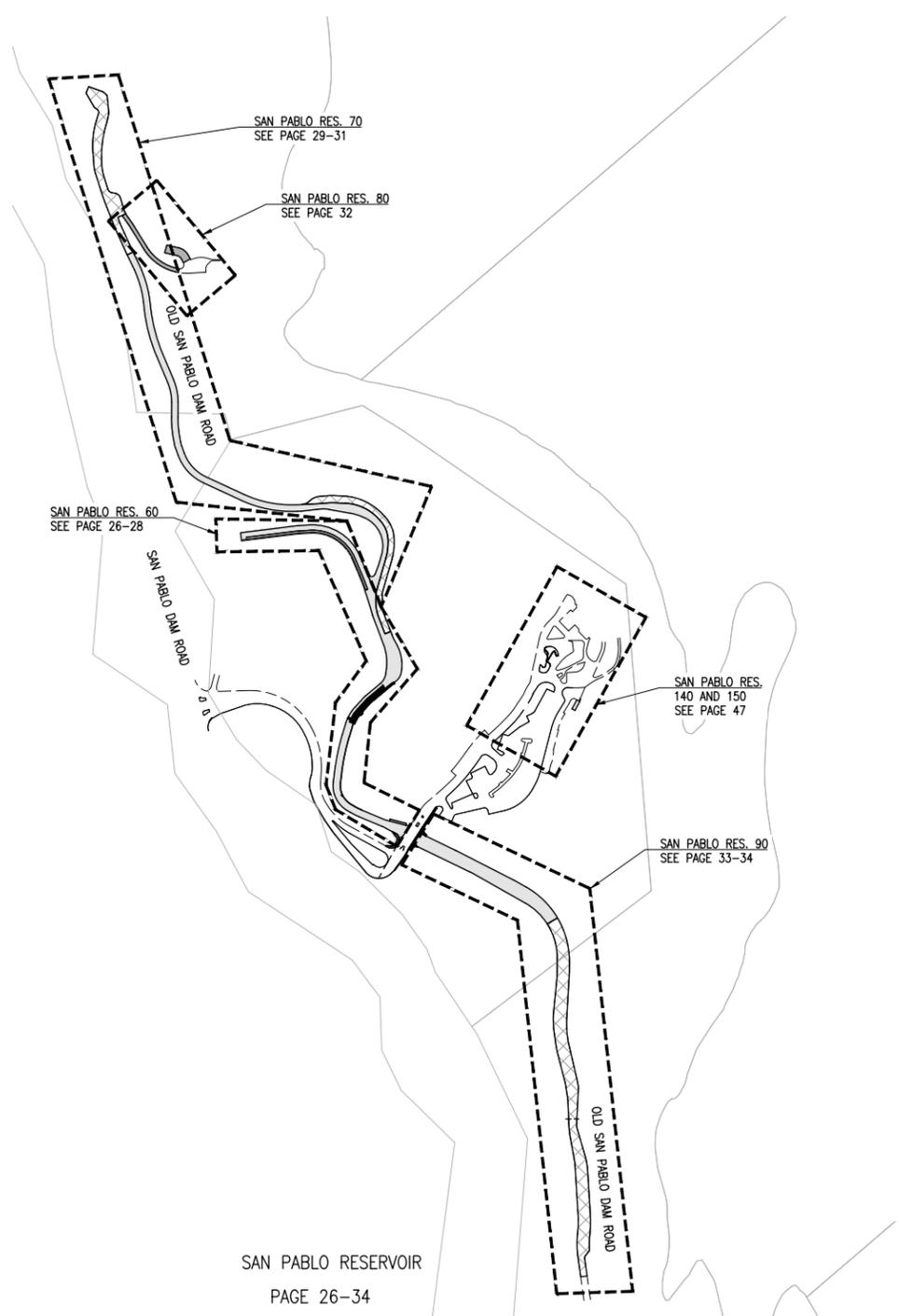
DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DIANA RAJAGOPAL
SR. PROJ. ENGR. R.P.E. NO. C89749 VICTOR LENS
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER R.P.E. NO. C83558 [Signature]
PROJECT ENGINEER R.P.E. NO. C83558 [Signature]
RECOMMENDED R.P.E. NO. C79823 [Signature]
APPROVED: [Signature]
APPROVED FOR CONSTRUCTION R.P.E. NO. E18881 [Signature]

PROJ. NO. 10625-G	10625-G-003	0
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DATE 11DEC2025	STRUCT.	DISC. NUMBER REV.

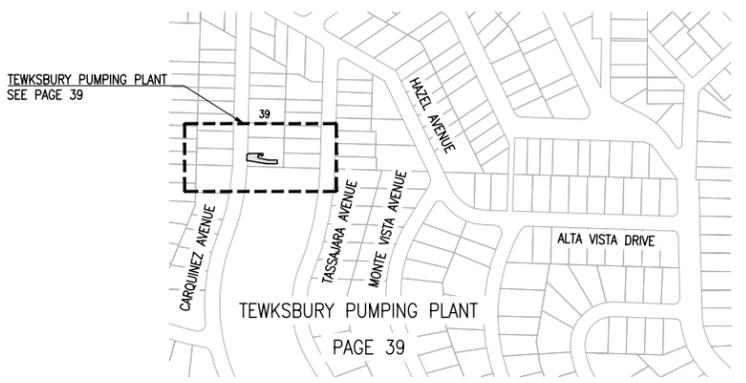
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SAN PABLO RESERVOIR
PAGE 26-34

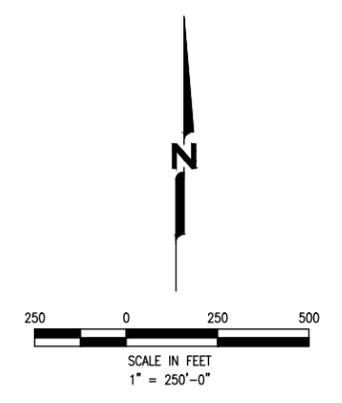
LOCATION MAP 12
EL SOBRANTE



TEWKSBURY PUMPING PLANT
SEE PAGE 39

TEWKSBURY PUMPING PLANT
PAGE 39

LOCATION MAP 13
EL CERRITO



FINAL PLANS
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DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
GENERAL

LOCATION MAP 12-13

PG. 4

NO.	DATE	REVISION	BY	REC.	APP.



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Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENSU
DESIGN CHECKED BY: FRANK HASTINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
SE. PROJ. ENGR. R.P.E. NO. C83558
APPROVED: VICTOR LENSU
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
APPROVED: FACILITIES MAINTENANCE AND CONSTRUCTION R.P.E. NO. E18881

PROJ. NO. 10625-G	10625-G-004	0
SCALE 1" = 250'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

USER: PLOT SCALE:
DATE:
FILE:



GENERAL NOTES

- THESE DRAWINGS AND SPECIFICATIONS ARE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEW AND COORDINATION OF THESE DRAWINGS AND SPECIFICATIONS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION MAY BE ISSUED. WORK NOT CONFORMING TO THE CONTRACT DOCUMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE DISTRICT.
- DRAWING BASE MAP IS BASED ON PARCEL INFORMATION AVAILABLE ON ALAMEDA AND CONTRA COSTA COUNTY'S GIS WEBSITE. PARCEL LINES FOR AREAS OWNED BY EBMUD AND EBMUD RIGHT OF WAY WERE PROVIDED BY EBMUD.
- SPECIFIC NOTES AND DETAILS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATIONS AND DEPTH OF EXISTING FACILITIES AND TO IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY FIELD CONFLICTS.
- ALL MATERIALS AND WORKMANSHIP SHALL FULLY CONFORM TO SECTION 01 61 00.
- CONTRACTOR SHALL MEET WITH DISTRICT PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL GIVE FIVE (5) WORKING DAYS ADVANCE NOTICE FOR INSPECTION OF HOT-MIX ASPHALT AND FOR TESTING OF PROJECT MATERIALS AND SYSTEMS. CONTRACTOR SHALL GIVE 48 HOURS ADVANCE NOTICE FOR INSPECTION OF ALL OTHER MATERIALS PRIOR TO USE.
- CONTRACTOR IS RESPONSIBLE TO COORDINATE SITE INSPECTIONS AND ENSURE THAT ALL CURRENT STANDARDS OF EBMUD AND THE LATEST CALTRANS STANDARDS ARE FOLLOWED PRIOR TO BEGINNING ANY PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
- WORK HOURS AND WORK RESTRICTIONS SHALL BE PER SECTION 01 14 00.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL MATERIAL SAMPLING AND TESTING FOR QUALITY CONTROL. THE DISTRICT WILL BE RESPONSIBLE FOR HIRING AN INDEPENDENT THIRD PARTY TO SAMPLE AND TEST INSTALLED MATERIALS TO DETERMINE COMPLIANCE WITH THE LATEST CALTRANS STANDARD SPECIFICATIONS, ASTM, AND CALIFORNIA TEST METHODS. RETESTING SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
- DUST CONTROL SHALL BE PER SECTION 01 35 44. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN GOOD HOUSEKEEPING WITHIN THE CONSTRUCTION AREA AND STAGING AREA.
- AIR QUALITY CONTROL SHALL BE PER SECTION 01 35 44.
- A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE DISTRICT AT LEAST 15 DAYS PRIOR TO START OF WORK PER SECTION 01 55 26.
- BIDDERS SHOULD NOTE THE PRESENCE OF OVERHEAD UTILITIES IN THE WORK AREA. AS PART OF THEIR PRE-BID INSPECTION, BIDDERS SHALL NOTE THE TYPE AND LOCATION OF OVERHEAD UTILITIES IN THE PROPOSED WORK AREA. BIDDER'S PRICE SHALL INCLUDE PROVISIONS FOR WORKING IN AREAS WHERE UTILITIES EXIST AT THE TIME OF BIDDING, AND NO ADDITIONAL COMPENSATION IS ALLOWED.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENCES AND BUSINESSES AFFECTED BY THE PROJECT THROUGHOUT THE LIFE OF THE CONTRACT PER SECTION 01 55 26.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE EXISTENCE, LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
- NOTIFICATION TO UNDERGROUND SERVICE ALERT (U.S.A.) OR 811 SHALL BE PER SECTION 01 18 05.
- THE CONTRACTOR SHALL ADJUST UTILITY FRAMES, BOXES, AND COVERS TO FINISH GRADE, AS SHOWN IN THE PLANS.
- ANY DAMAGE TO THE EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO TREES, LANDSCAPING, IRRIGATION, FENCES, WALLS, SIDEWALK, MAILBOXES, UTILITIES, AND OTHER PAVEMENT SURFACES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL RESTORE ANY AND ALL PAVEMENT AND OTHER FACILITIES OUTSIDE LIMITS OF WORK AFFECTED BY THE CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VIDEOTAPE OR DOCUMENT EXISTING CONDITIONS PRIOR TO START OF WORK TO SUBSTANTIATE ANY PREVIOUS DAMAGE, ETC.; COPIES OF WHICH SHALL BE PROVIDED TO THE ENGINEER.
- IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THEIR WORK AREA FROM DAMAGE.
- SURVEY MONUMENTS SHALL ONLY BE RESET BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR IN THE STATE OF CALIFORNIA AT THE DIRECTION OF THE ENGINEER.
- STRIPING AND MARKINGS IN ROADWAYS SHALL BE THERMOPLASTIC.
- CONTRACTOR SHALL POSSESS A VALID CLASS 'A' LICENSE AT THE TIME OF AWARD OF THE CONTRACT.
- CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A 4 WEEK LOOK AHEAD SCHEDULE AT WEEKLY MEETINGS; AND DAILY SCHEDULE OF PLANNED WORK A MINIMUM OF 24 HOURS IN ADVANCE FOR PAVEMENT REMOVAL, BASE REPAIR, FDR, SUBGRADE STABILIZATION, OVER-EXCAVATION, ASPHALT CONCRETE PAVING, TRAFFIC STRIPING AND CONCRETE WORK FOR EACH PROJECT LOCATION. FOR HOT MIX ASPHALT ADVANCE NOTICE SEE NOTE 6.

ALIGNMENT NAMING CONVENTION

"A1" 10+00, (0.0) - ARGYLE NO. 1 RESERVOIR

"A1": "A" REPRESENTS THE FACILITY NAME. NUMBER "1" REPRESENTS THE NUMBER OF FACILITIES THAT BEGIN WITH "A". IF MULTIPLE FACILITIES BEGIN WITH THE SAME LETTER A NUMBER WILL BE ASSIGNED IN INCREASING FASHION TO THE FACILITIES PER ALPHABETICAL ORDER. ARGYLE NO. 1 RESERVOIR WILL BE LABELED "A1", ARGYLE NO. 2 RESERVOIR WILL BE LABELED "A2", ARLINGTON RESERVOIR WILL BE LABELED "A3", ETC.

10+00: THIS NUMBER REPRESENTS THE STATION THAT THE CALL OUT IS DIRECTED TO.

(0.0'): THIS NUMBER REPRESENTS THE OFFSET DISTANCE FROM THE CENTERLINE ALIGNMENT THAT THE CALL OUT IS DIRECTED TO.

"A1" 10+00.00, (0.0')
BEGIN XXXX SY±
TREATMENT

LEGEND

PROPOSED FEATURES

- 5040- MAJOR CONTOUR
- CONTOUR MINOR
- EDGE OF PAVEMENT
- STORM DRAIN INLET
- SIGN
- CONSTRUCTION FENCING
- DETAIL IDENTIFICATION NUMBER
- NUMBER OF SHEET ON WHICH DETAIL IS LOCATED
- CALTRANS STRIPING DETAIL NUMBER
- LENGTH OR QUANTITY OF STRIPE/SYMBOL MEASURED BEGIN TO END OF STRIPE
- SLURRY SEAL
- CAPE SEAL
- MILL & OVERLAY
- SURFACE RECONSTRUCTION OR PAVEMENT WIDENING
- FULL DEPTH RECLAMATION
- SUBGRADE STABILIZATION WITH GEOGRID
- BASE REPAIR
- CONFORM GRIND
- WEDGE GRIND
- CLASS 2 AB SHOULDER BACKING
- CONCRETE
- KEYNOTE STRIPING
- KEYNOTE UTILITY
- BASE REPAIR

EXISTING FEATURES

- MAJOR CONTOUR
- MINOR CONTOUR
- EDGE OF PAVEMENT
- GAS LINE
- OVERHEAD UTILITY
- UNDERGROUND COMMUNICATION
- UNDERGROUND UTILITY
- EBMUD RIGHT OF WAY
- EBMUD PROPERTY
- CURB AND GUTTER
- SURVEY MONUMENT
- STORM DRAIN MANHOLE
- STORM DRAIN INLET
- SANITARY SEWER MANHOLE
- POINT ELEVATION W/DESCRIPTOR
- FIRE HYDRANT
- WATER VALVE
- BUILDING
- FENCE
- CONCRETE
- UNKNOWN UTILITY BOX
- WATER MANHOLE
- ELECTRIC VAULT
- BOLLARDS
- STORM DRAIN CLEANOUT
- UNKNOWN VALVE
- WATER METER
- COMMUNICATIONS VAULT
- MONITORING WELL
- UTILITY COMMUNICATIONS
- ELECTRICAL UTILITY
- INSTRUMENTATION PULLBOX
- UNKNOWN VAULT
- SIGN

UTILITY KEYNOTES:

- WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
- FIRE HYDRANT; PROTECT IN PLACE.
- CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- SDMH; PROTECT IN PLACE.
- SDCO; PROTECT IN PLACE.
- SSMH; PROTECT IN PLACE.
- WATER METER; ADJUST WATER METER BOX AND COVER TO FG.
- ELECTRICAL BOX; ADJUST ELECTRICAL BOX AND COVER TO FG.
- STREET LIGHT; PROTECT IN PLACE.
- OVERHEAD UTILITY POLE; PROTECT IN PLACE.
- WATER MH; PROTECT IN PLACE.
- BOLLARDS; PROTECT IN PLACE.
- MONUMENT; ADJUST MONUMENT BOX AND COVER TO FG. SEE DETAIL 4/41. PROTECT SURVEY MONUMENT.
- INSTRUMENTATION PULLBOX; PROTECT IN PLACE.
- MONITORING WELL; PROTECT IN PLACE.
- ELECTRICAL VAULT; PROTECT IN PLACE.
- UNKNOWN VAULT; PROTECT IN PLACE.
- WATER VALVE BOX; PROTECT IN PLACE.
- UNKNOWN VALVE; PROTECT IN PLACE.
- COMMUNICATIONS BOX; PROTECT IN PLACE.
- ELECTRICAL BOX; PROTECT IN PLACE.
- MONUMENT BOX; PROTECT IN PLACE.
- WATER METER; PROTECT IN PLACE.
- UNKNOWN BOX; PROTECT IN PLACE.
- SSMH; ADJUST SSMH FRAME AND COVER TO FG. SEE DETAIL 5/41.
- UNKNOWN BOX; ADJUST UNKNOWN BOX AND COVER TO FG.
- COMMUNICATIONS BOX; ADJUST COMMUNICATIONS BOX AND COVER TO FG.
- INSTRUMENTATION PULLBOX; ADJUST INSTRUMENTATION PULLBOX AND COVER TO FG.
- CURB INLET; INSTALL STANDARD CURB INLET. SEE DETAIL 2/46.
- VERTICAL DRAIN PIPE; PROTECT IN PLACE.

STRIPING KEYNOTES:

- CUSTOM ARROW 5/42
- CALTRANS PAVEMENT MARKING "STOP" 6/42
- CUSTOM PAVEMENT MARKING "NO PARKING" 8/42
- CUSTOM PAVEMENT MARKING "MOTORCYCLE" 1/43
- CUSTOM PAVEMENT MARKING "PARKING" 2/43
- CUSTOM PAVEMENT MARKING "POLICE VEHICLES" 9/42
- INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING 7/42

ABBREVIATIONS

NOT ALL ABBREVIATIONS LISTED ARE USED IN THESE PLANS

- AB AGGREGATE BASE
- AC ASPHALT CONCRETE
- A/G ABOVE GROUND
- AT AT
- APPROX APPROXIMATE
- ASS'Y ASSEMBLY
- AVG AVERAGE
- AWWA AMERICAN WATER WORKS ASSOCIATION
- BC BEGIN CURVE
- BMP BEST MANAGEMENT PRACTICES
- BOW BACK OF WALK
- BSP BLACK STEEL PIPE
- BW BOTTOM OF WALL
- BVC BEGIN VERTICAL CURVE
- C&G CURB AND GUTTER
- CB CATCH BASIN
- CF CUBIC FEET
- CL CENTERLINE
- CLR CLEAR
- CMP CORRUGATED METAL PIPE
- CO CLEAN OUT
- COMM COMMUNICATION
- CONC CONCRETE
- CONST CONSTRUCT
- CP CONTROL POINT
- CY CUBIC YARD
- ° OR DEG DEGREE(S)
- DI DROP INLET
- Ø OR DIA DIAMETER
- DWG DRAWING
- DW OR DWY DRIVEWAY
- E EAST
- EA EACH
- EASE EASEMENT
- EBRPD EAST BAY REGIONAL PARK DISTRICT
- EC END OF CURVE
- EG EXISTING GRADE
- ELEC ELECTRIC
- EP EDGE OF PAVEMENT
- EL ELEVATION
- EVC END OF VERTICAL CURVE
- EX EXISTING
- FGA FLANGE COUPLING ADAPTER
- FH FIRE HYDRANT
- FG FINISH GRADE
- FFC FRONT FACE CURB
- FES FLARED END SECTION
- FL FLOWLINE
- FLG FLANGED
- FT OR ' FOOT, FEET
- FV FLUSH VALVE
- G GAS
- GV GATE VALVE
- GB GRADE BREAK
- GSP GALVANIZED STEEL PIPE
- HP HIGH POINT
- HOR HORIZONTAL
- HDPE HIGH DENSITY POLYETHYLENE
- HMA HOT MIXED ASPHALT
- IE INVERT ELEVATION
- ID INSIDE DIAMETER
- IN OR " INCH
- INT INTERSECTION
- IRR IRRIGATION
- LT OR L LEFT
- LEN LENGTH
- LF LINEAR FEET
- LP LOW POINT
- LS LUMP SUM
- MFGR MANUFACTURER
- MH MANHOLE
- MAX MAXIMUM
- MDD MAXIMUM DRY DENSITY
- MJ MECHANICAL JOINT
- MI MILE
- MIN MINIMUM
- MISC MISCELLANEOUS
- M&F MILL AND FILL
- N NORTH
- NEC NATIONAL ELECTRICAL CODE
- NIC NOT IN CONTRACT
- NTS NOT TO SCALE
- # OR NO NUMBER
- OC ON CENTER
- OG ORIGINAL GRADE
- OWS OIL/WATER SEPARATOR
- ± PLUS OR MINUS
- PCC PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
- PE PERMANENT EASEMENT
- PL PROPERTY LINE
- POS POSITIVE
- PRC POINT OF REVERSE CURVE
- PROP PROPERTY
- PSI POUNDS PER SQUARE INCH
- PT POINT
- PTC PERMISSION TO CONSTRUCT
- PU/E PUBLIC UTILITY EASEMENT
- PVC POLYVINYL CHLORIDE
- PVI POINT OF VERTICAL INTERSECTION
- PVMT PAVEMENT
- R RADIUS
- RES RESERVOIR
- RCP REINFORCED CONCRETE PIPE
- REVEG REVEGETATION
- RT,R RIGHT
- R/W, ROW RIGHT-OF-WAY
- R+R REMOVE AND REPLACE
- S SLOPE, SOUTH
- SCH SCHEDULE
- SD STORM DRAIN
- SDR STANDARD DIMENSION RATIO
- SDMH STORM DRAIN MANHOLE
- SF SQUARE FOOT/FEET
- SG SUBGRADE
- SHT SHEET
- SSMH SANITARY SEWER MANHOLE
- SSCO SANITARY SEWER CLEAN OUT
- SS SANITARY SEWER, STAINLESS STEEL
- STA STATION
- STD STANDARD
- SY SQUARE YARD
- TBC TOP BACK OF CURB
- TC TOP OF CURB
- TCE TEMPORARY CONSTRUCTION EASEMENT
- TW TOP OF WALL
- TYP TYPICAL
- UGE UNDERGROUND ELECTRIC
- UGT UNDERGROUND TELEPHONE
- U/G UNDERGROUND
- VC VERTICAL CURVE
- VG VALLEY GUTTER
- W WATER OR WEST
- WL WATER LINE
- W/ WITH
- WM WATER METER

PLOT SCALE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HASTINGS
DRAWN BY: SAMUEL NGORZIN, DEANA RAHIMHALLI
SE, PROJ. ENGR., R.P.E. NO. C9709
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C6249 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: SANDRA J. MULHAUSER
SE, CIVIL ENGR., R.P.E. NO. C79823
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION R.P.E. NO. E18881

FINAL PLANS
ISSUED FOR BIDDING
DATE: 12/10/2025



Know what's below.
Call before you dig.

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 GENERAL			
NOTES, LEGEND AND ABBREVIATIONS			
PROJ. NO. 10625-G	10625-G-005	PG. 5	
SCALE NO SCALE			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.

SECTION ID	LOT LOCATION	NO. OF CORE	CORE ID (1)	DIRECTION	FABRIC DEPTH (IN.)	ASPHALT CONCRETE (AC) LAYER					AGGREGATE BASE (AB) LAYER		SUBGRADE LAYER				
						DEPTH FROM SURFACE TO THE BOTTOM OF LAYERS (IN.)					TOTAL THICKNESS (IN.) (2)	UNDERLYING MATERIAL (3)	PRESENCE / THICKNESS FROM CORE (IN.)	TYPES OF SOIL (4)	R-VALUE	MOISTURE CONTENT (%)	PLASTICITY INDEX (PI)
						LAYER1	LAYER2	LAYER3	LAYER4	LAYER5							
10	BERKELEY VIEW NO. 1 RESERVOIR - 58	2	BRV -1 BULK	SB	NO FABRIC	1.50	-	-	-	-	1.50	CLAY	NO AB	CL	12.2	19.4	10
			BRV -4	NB	NO FABRIC	2.25	-	-	-	-	-	2.25	AB	5.25	-	-	-
10	CASTRO RESERVOIR - 74	1	CSTR -1	WB	NO FABRIC	2.25	3.25	-	-	-	3.25	AB	8.25	-	-	-	-
20	CASTRO RESERVOIR - 74	1	CSTR -3	WB	NO FABRIC	3.25	-	-	-	-	3.25	AB	7.00	-	-	-	-
10	NORTH AREA SERVICE CENTER - 19	1	NSC -2 OPT	EB	NO FABRIC	2.25	-	-	-	-	2.25	AB	10.75	-	-	-	-
20	NORTH AREA SERVICE CENTER - 19	1	NSC -3 BULK	NB	NO FABRIC	2.00	5.00	-	-	-	5.00	AB	13.00	CL	11	33.2	18
50	SAN PABLO RESERVOIR - 41	2	SPD -1 BULK	WB	NO FABRIC	2.00	4.25	-	-	-	4.25	AB	7.00	CL	12.8	18.3	13
			SPD -2	WB	2.00	2.00	5.75	-	-	-	5.75	AB	9.25	-	-	-	-
60	SAN PABLO RESERVOIR - 41	3	SPD -9	EB	NO FABRIC	1.50	3.50	-	-	-	3.50	AB	3.50	-	-	-	-
			SPD -11 BULK	EB	NO FABRIC	0.75	2.25	3.50	6.25	8.75	8.75	CLAY	NO AB	CL	11	21.5	20
			SPD -13	WB	NO FABRIC	1.75	-	-	-	-	1.75	AB	9.00	-	-	-	-
70	SAN PABLO RESERVOIR - 41	4	SPD -14	NB	NO FABRIC	1.50	4.50	10.75	-	-	10.75	CLAY	NO AB	-	-	-	-
			SPD -16	WB	NO FABRIC	2.75	-	-	-	-	2.75	AB	9.50	-	-	-	-
			SPD -18 BULK	NB	NO FABRIC	2.75	-	-	-	-	2.75	AB	8.00	CL	15.6	14.2	15
			SPD -20	NB	NO FABRIC	3.25	-	-	-	-	3.25	AB	5.75	-	-	-	-
80	SAN PABLO RESERVOIR - 41	1	SPD -21	WB	NO FABRIC	4.50	-	-	-	-	4.50	AB	8.25	-	-	-	-
140	SAN PABLO RESERVOIR - 41	1	SPD -23	EB	2.25	2.25	4.75	-	-	4.75	AB	4.75	-	-	-	-	
10	SHASTA NO. 2 RESERVOIR - 184	1	SRV -1 BULK	WB	NO FABRIC	2.00	3.00	5.00	6.50	-	6.50	CLAY	NO AB	CL	12.7	14.8	14
20	SHASTA NO.2 RESERVOIR - 184	1	SRV -3	EB	NO FABRIC	2.00	-	-	-	-	2.00	AB	7.75	-	-	-	-
10	SHAWN PUMPING PLANT - 346	1	SHWN -1	WB	NO FABRIC	2.00	-	-	-	-	2.00	AB	8.75	-	-	-	-
10	TEWKSBURY PUMPING PLANT - 357	1	TPP -1	NB	NO FABRIC	3.25	-	-	-	-	3.25	AB	6.00	-	-	-	-
90	SAN PABLO RESERVOIR - 41	3	SPD - 4 BULK	SB	NO FABRIC	1.50	-	-	-	-	1.50	AB	9.00	CL	17.7	25.7	19
			SPD -6	SB	NO FABRIC	2.00	-	-	-	-	2.00	AB	5.00	-	-	-	-
			SPD -8	SB	NO FABRIC	3.75	-	-	-	-	3.75	AB	3.50	-	-	-	-

NOTES:

- CORE NUMBERS MAY NOT BE NUMERICALLY SEQUENTIAL. OPTIONAL CORE LOCATIONS WERE INCLUDED IN THE NUMBERING SEQUENCE TO ACCOUNT FOR LOCATIONS THAT COULD NOT BE CORED DUE TO OBSTRUCTIONS/CONFLICTS.
- TOTAL AC THICKNESS NOTED IS FOR LOCATION OF CORE SAMPLE ONLY AND AC THICKNESS MAY VARY ELSEWHERE
- AB: AGGREGATE BASE
- CL: LOW PLASTICITY INORGANIC CLAY

PAVEMENT TREATMENTS					
LOT LOCATION	BEGIN	END	AREA (SY)	TREATMENT	
ARGYLE NO. 1 RESERVOIR - 48	1386' EAST FROM THE INTERSECTION BETWEEN RANCHO RD AND ANDREWS WAY, EL SOBRANTE	620' AC ROAD TO THE END OF THE #1 RESERVOIR	1,076	SLURRY SEAL	
ARGYLE NO. 2 RESERVOIR - 49	430' SOUTH FROM THE 1ST GATE AT RANCHO RD, EL SOBRANTE	890' S/E TO THE 2ND RESERVOIR GATE	1,186	SLURRY SEAL	
ARGYLE NO. 2 RESERVOIR - 49	AT GATE OF #2 RESERVOIR	END	1,373	SLURRY SEAL	
ARLINGTON RESERVOIR - 51	RIFLE RANGE RD	SOUTH END	1,180	SLURRY SEAL	
BERKELEY VIEW NO. 1 RESERVOIR - 58	NEAR HOUSE# 1363 SUMMIT RD, BERKELEY	581' S/E TO 2ND GATE	877	SURFACE RECONSTRUCTION: REMOVE 3" SURFACING AND BASE WITH 3" HMA OVERLAY	
BERRYMAN RATE CONTROL STATION - 1576	1330 EUCLID AVE, BERKELEY	END	292	SLURRY SEAL	
BERRYMAN RESERVOIR - 1577	1375 EUCLID AVE, BERKELEY	INNER LOOP NEAR RESERVOIR PARKING	2,372	SLURRY SEAL	
CASTRO RESERVOIR - 74	END OF COACH DR, RICHMOND	665' N/E TP 2ND GATE	1,011	1.5" MILL AC WITH 1.5" HMA OVERLAY	
CASTRO RESERVOIR - 74	2ND GATE	END	365	1.5" MILL AC WITH 1.5" HMA OVERLAY	
CROCKETT RESERVOIR - 85	NEAR 550 KENDALL AVE, CROCKETT	730' NORTH TO 2ND GATE	1,032	CAPE SEAL	
CROCKETT RESERVOIR - 85	AT 2ND GATE	END	302	CAPE SEAL	
MENDOCINO RESERVOIR - 138	1413' S/E FROM INTERSECTION BETWEEN TURQUOISE DR AND ONYX CT, HERCULES	234' N/E TO 2ND GATE	831	CAPE SEAL	
NICHOLL KNOB RESERVOIR - 376	END OF CREST AVE, RICHMOND AT EBRP GATE #61-3	END	1,657	CAPE SEAL	
NORTH AREA SERVICE CENTER - 19	MAIN GATE AT 3999 LAKESIDE DR, RICHMOND	INCLUDES SMALL CAR PARKING LOT AFTER MAIN GATE	2,484	SURFACE RECONSTRUCT: REMOVE 3" SURFACING AND BASE WITH 3" HMA OVERLAY	
NORTH AREA SERVICE CENTER - 19	AFTER SMALL CAR PARKING LOT	INCLUDES REST OF THE AREA	7,818	3" MILL AC WITH 3" HMA OVERLAY	
PEARL RESERVOIR - 156	END OF MONTE CRESTA AVE, RICHMOND AT CUL-DE-SAC	1328' E/O CUL-DE-SAC AT 3RD GATE	2,000	SLURRY SEAL	
PEARL RESERVOIR - 156	AT 3RD GATE	END	591	SLURRY SEAL	
SAN PABLO RESERVOIR - 41 (60)	AT KIOSK	1383' NORTH TO UPPER PARKING LOT	3,956	2" MILL AND 4" AC OVERLAY, IN AREA OF SLOPE FAILURE, REMOVE 18" AC/AB, PLACE GEOGRID, 6" AB, GEOGRID, 6" AB, 6" AC OVERLAY	
SAN PABLO RESERVOIR - 41 (70)	598' NORTH FROM KIOSK	2160' NORTH TO END OF AC AREA	5,796	1" MILL AND 3" AC OVERLAY, NORTH END - 10" TOP DOWN FDR WITH 3" HMA OVERLAY; REGRADE FDR SECTION AS NEEDED TO ACCOMMODATE 3" HMA OVERLAY	
SAN PABLO RESERVOIR - 41 (80)	OLD DAM RD	END OF OAKS PICNIC AREA	484	CAPE SEAL	
SAN PABLO RESERVOIR - 41 (90)	OLD DAM RD AT KIOSK	1554' S/E ON OLD DAM RD	5,963	2" MILL AND 3" AC OVERLAY, 12" TOP DOWN FDR WITH 3" HMA OVERLAY; REGRADE FDR SECTION AS NEEDED TO ACCOMMODATE 3" HMA OVERLAY	
SHASTA NO. 2 RESERVOIR - 184	AT BAY TREE LANE NEAR SHASTA RD, BERKELEY	430' WEST AT GATE	788	2" MILL AND AC OVERLAY, IN AREA OF SLOPE FAILURE, REMOVE 18" AC/AB, PLACE GEOGRID, 6" AB, GEOGRID, 6" AB, 6" AC OVERLAY	
SHASTA NO. 2 RESERVOIR - 184	AT GATE	END	259	SLURRY SEAL	
SHAWN PUMPING PLANT - 346	5136 SIMONI CT, RICHMOND	END	449	SURFACE RECONSTRUCTION: REMOVE 3" AC/AB WITH 3" HMA OVERLAY	
SHAWN RESERVOIR - 185	END OF HEAVENLY RIDGE LN, RICHMOND	422' TO RESERVOIR PARKING	713	CAPE SEAL	
SHAWN RESERVOIR - 185	AT RESERVOIR PARKING	END	305	CAPE SEAL	
TEWKSBURY PUMPING PLANT - 357	CARQUINEZ AVE	EAST END	146	2" MILL AND OVERLAY	

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



Know what's below.
Call before you dig.

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
GENERAL

CORE SUMMARY TABLE

PG. 6

PROJ NO. 10625-G	10625-G-006	0
SCALE NO SCALE		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



USER: PLOT SCALE:
DATE:
FILE:

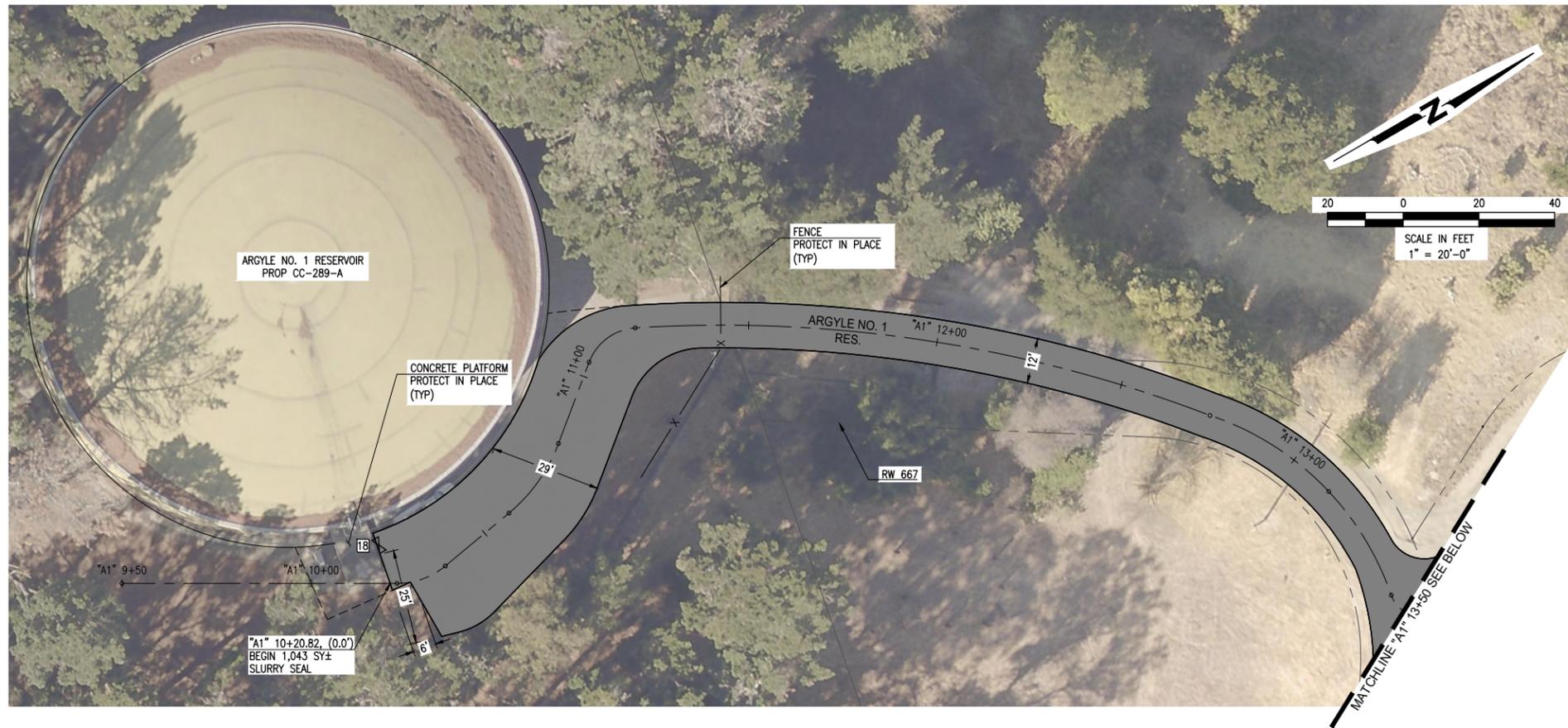
NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HAZENBINDER
DRAWN BY	SAMUEL NGORZIN, DEANA RAHIMHALLI
SE, PROJ. ENGR.	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C93558	Damaris V. Llobos
PROJECT ENGINEER	R.P.E. NO. C93558	Damaris V. Llobos
RECOMMENDED	R.P.E. NO. C79823	Sandra J. Mulhauser
APPROVED		
APPROVED		
PRINCIPAL IN CHARGE, R.P.E. NO. E18881		



- CONSTRUCTION NOTES:**
1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
 2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
 4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
 5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
 6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
 7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
 8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

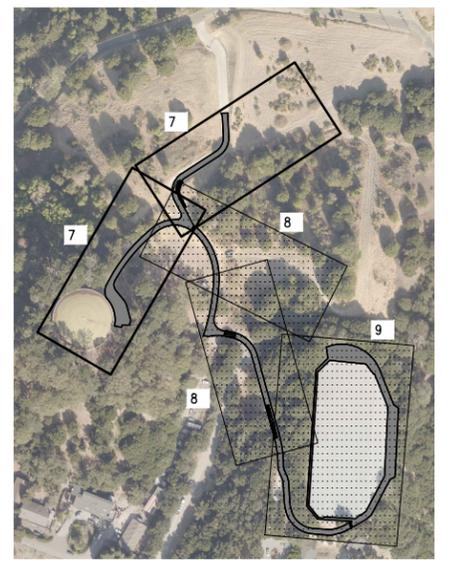
UTILITY KEYNOTES:
 18 WATER VALVE BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:
 [Shaded Box] SLURRY SEAL

BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	NB	24	4	96
ARGYLE NO. 1 RESERVOIR, STREET TOTAL AREA (SF)				96
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				110



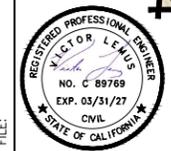
**FINAL PLANS
 ISSUED FOR
 BIDDING
 DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
 OAKLAND, CALIFORNIA**
**PAVEMENT MANAGEMENT IMPLEMENTATION
 YEAR 1**
 CIVIL
IMPROVEMENT PLAN ARGYLE NO. 1 RES.
 'A1' 9+50 TO 'A1' 16+50

PROJ. NO.	10625-G	10625-G-007	0
SCALE	1" = 20'		
DATE	11DEC2025	STRUCT.	DISC.
		NUMBER	REV.

USER: PLOT SCALE:
 DATE:
 FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
 Utility District (EBMUD)
 375 11th Street
 Oakland, CA, 94607
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DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHIRI
SEAL	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
APPROVED		<i>Sandra J. Mulhauser</i>
APPROVED		<i>Ryan Shafer</i>



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 3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
 4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
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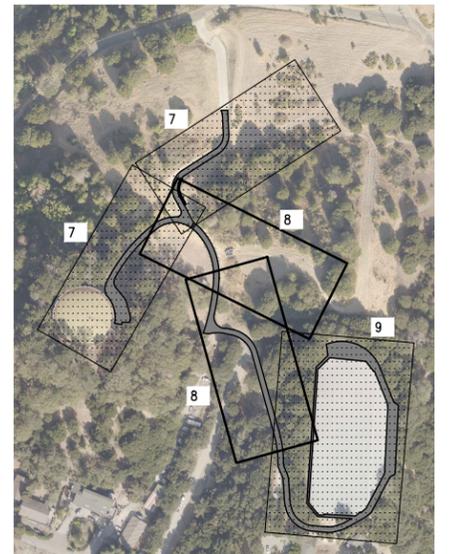
PAVEMENT TREATMENT LEGEND:

■ SLURRY SEAL

BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
2	EB	25	12	300
3	SB	75	7	525
ARGYLE NO. 2 RESERVOIR, STREET TOTAL AREA (SF)				825
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				949



**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN ARGYLE NO. 2 RES.
'A2' 9+50 TO 'A2' 15+50**



NO.	DATE	REVISION	BY	REC.	APP.



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Utility District (EBMUD)
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Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
SB PROJ. ENGR. R.P.E. NO. C67349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: SB CIVIL ENGR. R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER

PROJ NO. 10625-G	10625-G-008	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

USER: PLOT SCALE:
DATE:
FILE:

BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	EB	11	4	44
ARGYLE NO. 2 RESERVOIR, STREET TOTAL AREA (SF)				44
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				51

CONSTRUCTION NOTES:

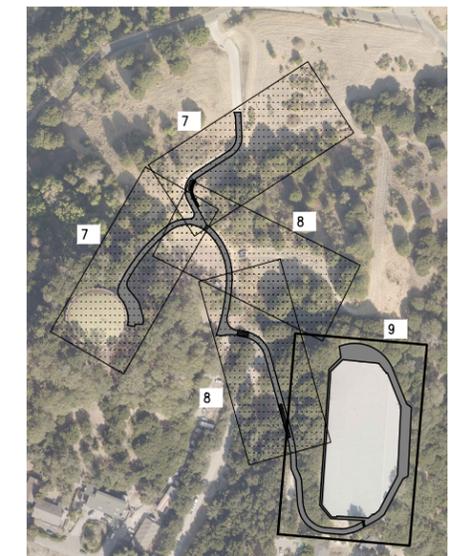
- REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
- CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
- DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
- PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
- FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
- ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
- CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 18 WATER VALVE BOX; PROTECT IN PLACE.
- 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
- 21 ELECTRICAL BOX; PROTECT IN PLACE.
- 22 MONUMENT BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

SLURRY SEAL



**FINAL PLANS
ISSUED FOR
BIDDING**
DATE: 12/10/2025



Know what's below.
Call before you dig.

**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

IMPROVEMENT PLAN ARGYLE NO. 2 RES.
"A2" 15+50 TO "A2" 23+34

PG. 9

PROJ NO. 10625-G	10625-G-009	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



NO.	DATE	REVISION	BY	REC.	APP.

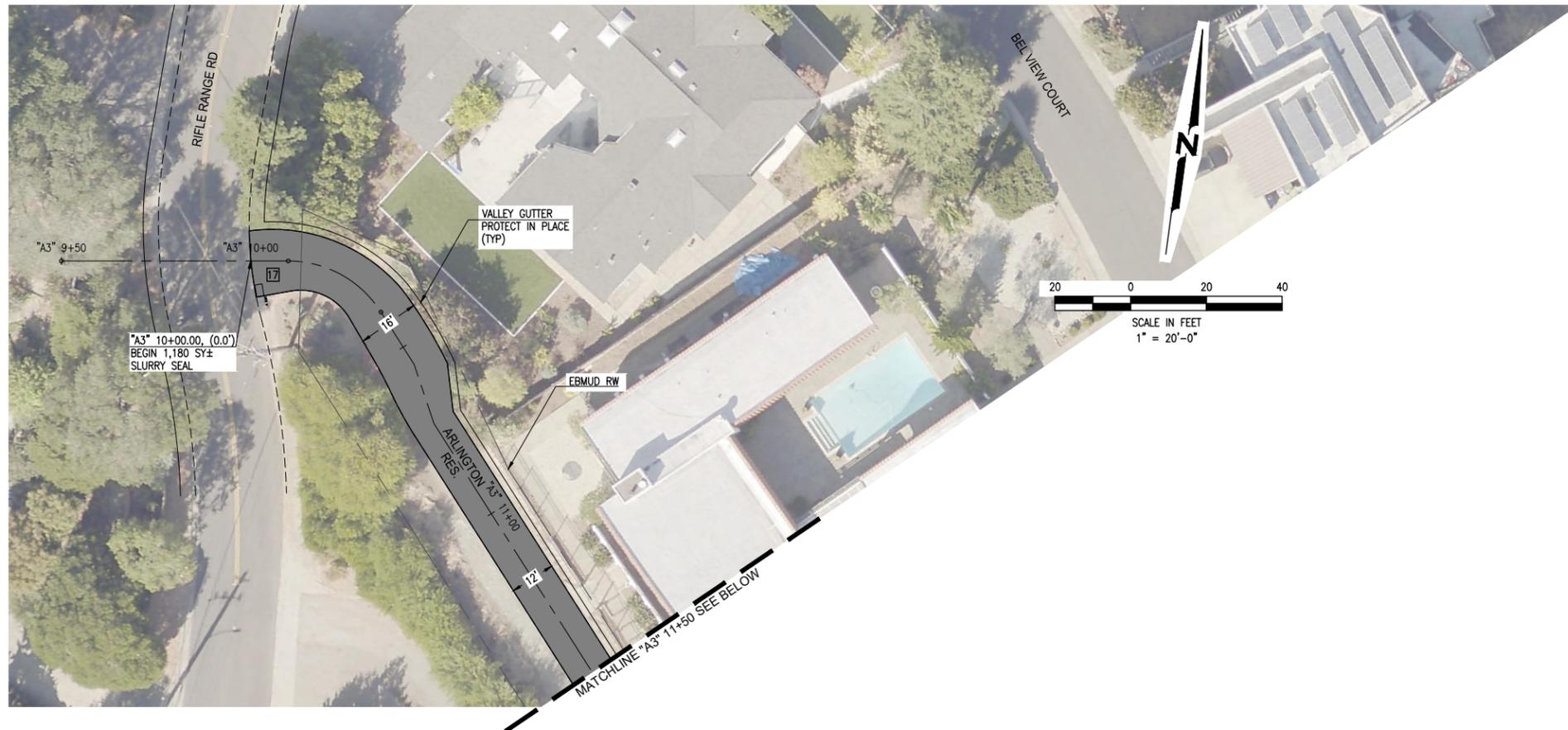


East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHIRI
SE, PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO. C89769	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	Damaris V. L.
PROJECT ENGINEER	R.P.E. NO. C83558	Damaris V. L.
RECOMMENDED	R.P.E. NO. C79823	Sandra J. Mulhauser
SE, CIVIL ENGR.		
APPROVED		
PRINCIPAL IN CHARGE, R.P.E. NO. E18881		

USER: PLOT SCALE:
DATE: FILE:



CONSTRUCTION NOTES:

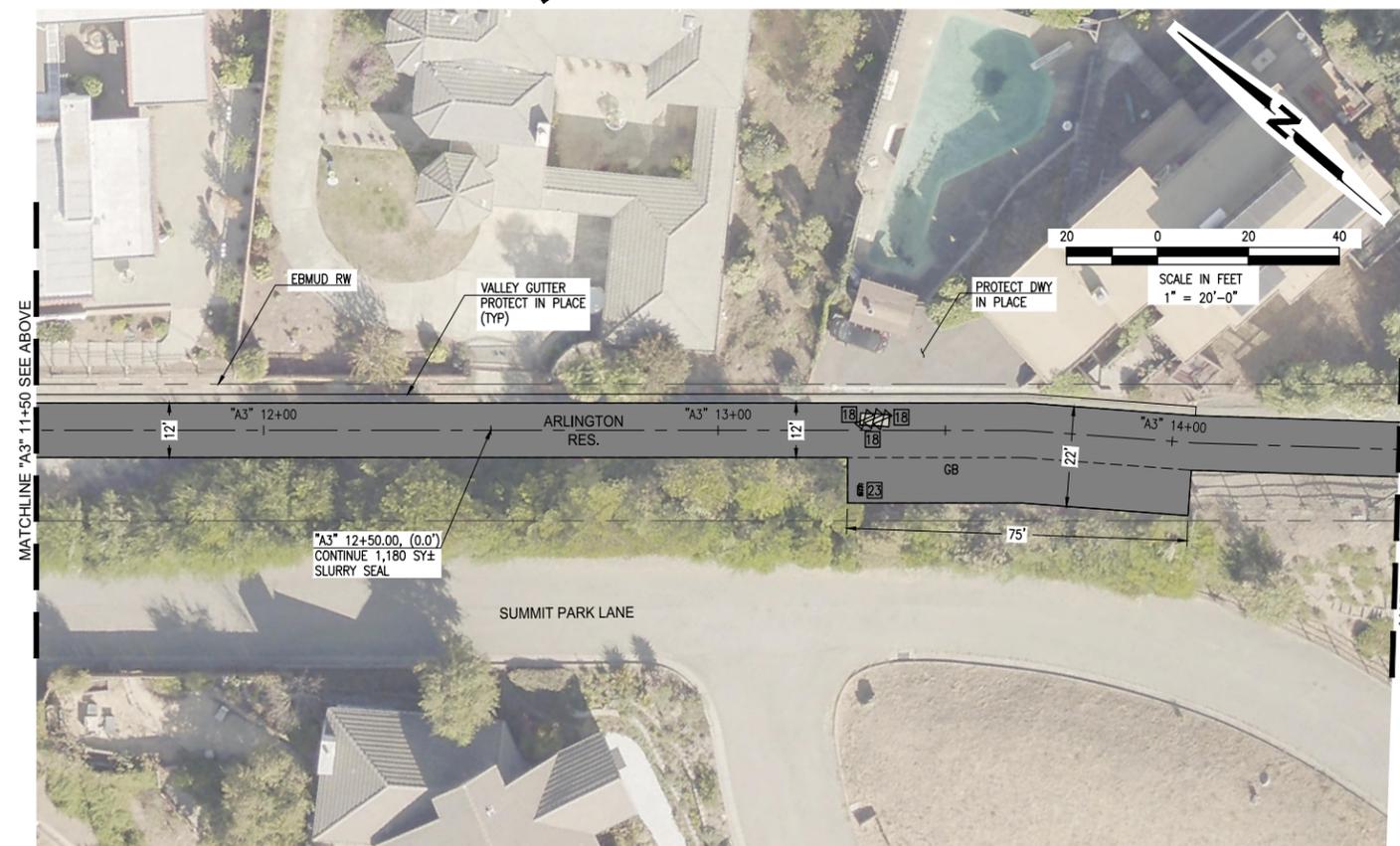
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8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 17 UNKNOWN VAULT; PROTECT IN PLACE.
- 18 WATER VALVE BOX; PROTECT IN PLACE.
- 23 WATER METER; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

SLURRY SEAL



**FINAL PLANS
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**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**
**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1**
CIVIL

**IMPROVEMENT PLAN ARLINGTON RES.
'A3' 9+50 TO 'A3' 14+50** PG. 10

PROJ NO. 10625-G	10625-G-010	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



NO.	DATE	REVISION	BY	REC.	APP.

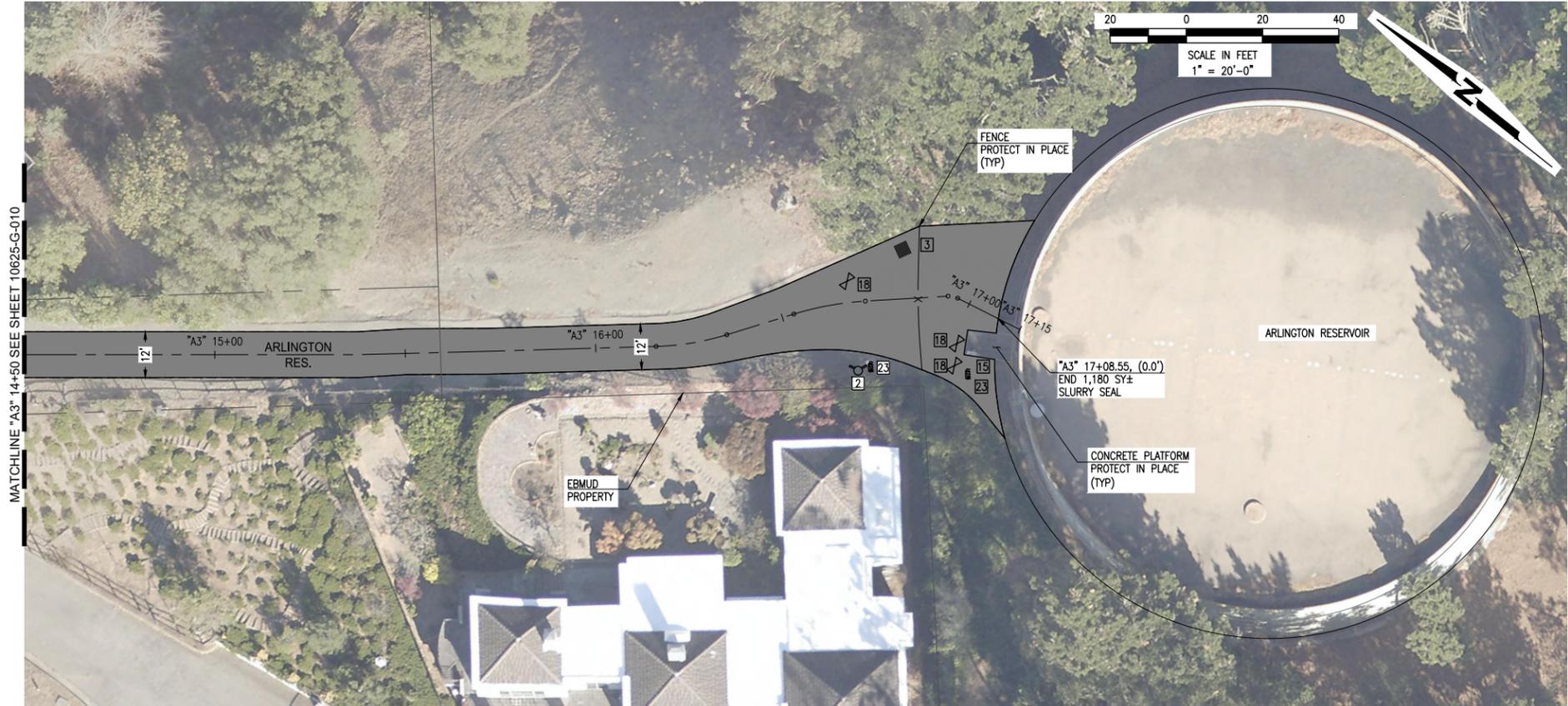


East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHARAWA
SE, PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO. C79823	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SE, CIVIL ENGR.		
APPROVED		
PRINCIPAL IN CHARGE, R.P.E. NO. E18881		

USER: PLOT SCALE:
DATE: FILE:



MATCHLINE "A3" 14+50 SEE SHEET 10625-G-010

- CONSTRUCTION NOTES:**
1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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 6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
 7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
 8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

- UTILITY KEYNOTES:**
- 2 FIRE HYDRANT; PROTECT IN PLACE.
 - 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 15 MONITORING WELL; PROTECT IN PLACE.
 - 18 WATER VALVE BOX; PROTECT IN PLACE.
 - 23 WATER METER; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

■ SLURRY SEAL

USER: PLOT SCALE: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

**FINAL PLANS
ISSUED FOR
BIDDING**
DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HARTUNG
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
SB PROJ ENGR: VICTOR LEWIS
APPROVED: RYAN SHAFER
PRINCIPAL IN CHARGE, R.P.E. NO. C62349

PROJECT MANAGER: DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
MSJ FACILITIES MAINTENANCE AND CONSTRUCTION
R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN ARLINGTON RES. "A3" 14+50 TO "A3" 17+15			
PROJ NO. 10625-G	10625-G-011	PG. 11	
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.



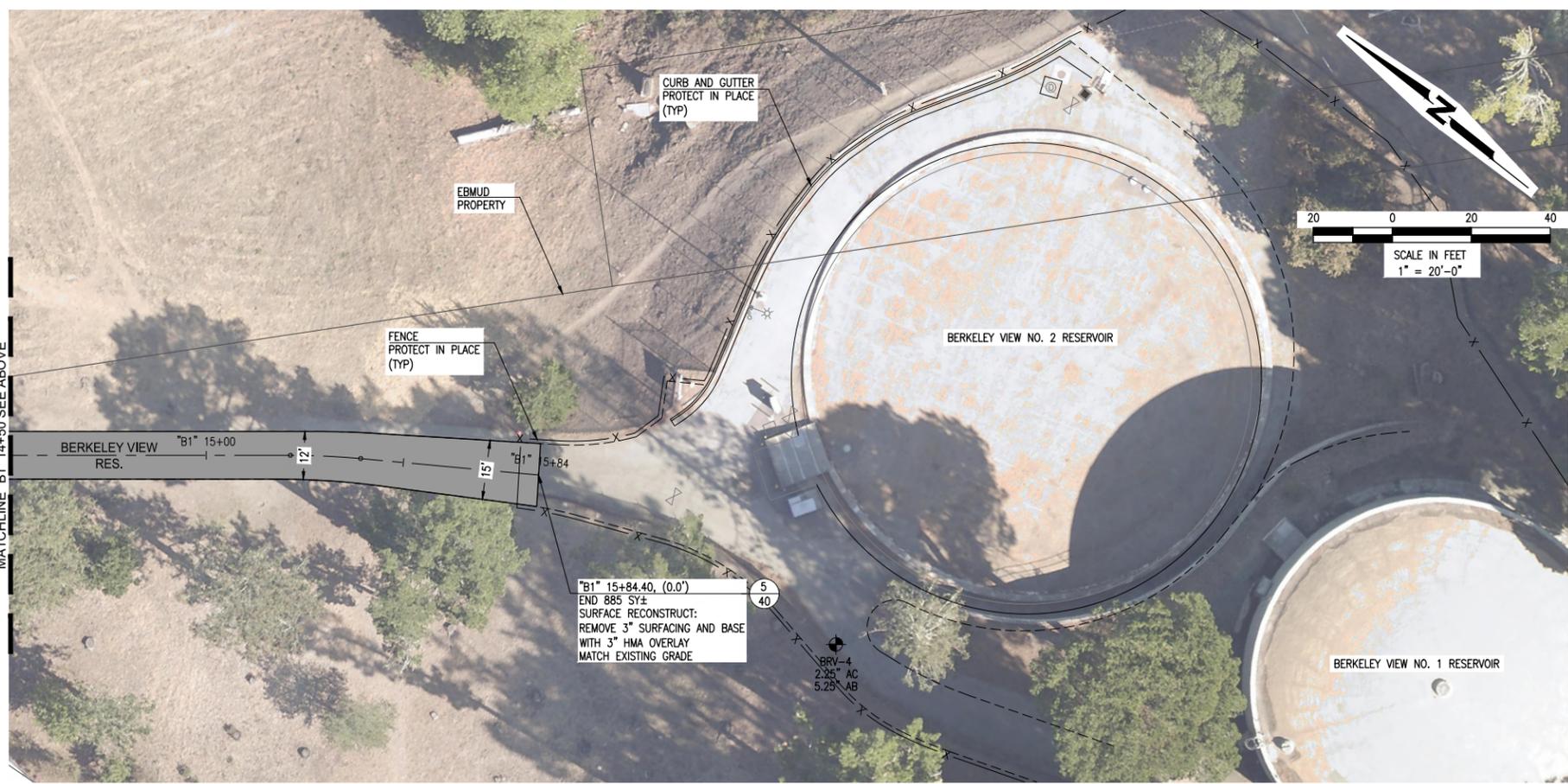
- CONSTRUCTION NOTES:**
- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 - PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
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 - LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

UTILITY KEYNOTES:

13 MONUMENT; ADJUST MONUMENT BOX AND COVER TO FG. SEE DETAIL 4/41. PROTECT SURVEY MONUMENT.

PAVEMENT TREATMENT LEGEND:

■ SURFACE RECONSTRUCTION



**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN BERKELEY VIEW NO. 1 RES.
'B1' 9+50 TO 'B1' 15+84 PG. 12**

PROJ NO. 10625-G	10625-G-012	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

NO.	DATE	REVISION	BY	REC.	APP.

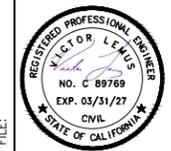


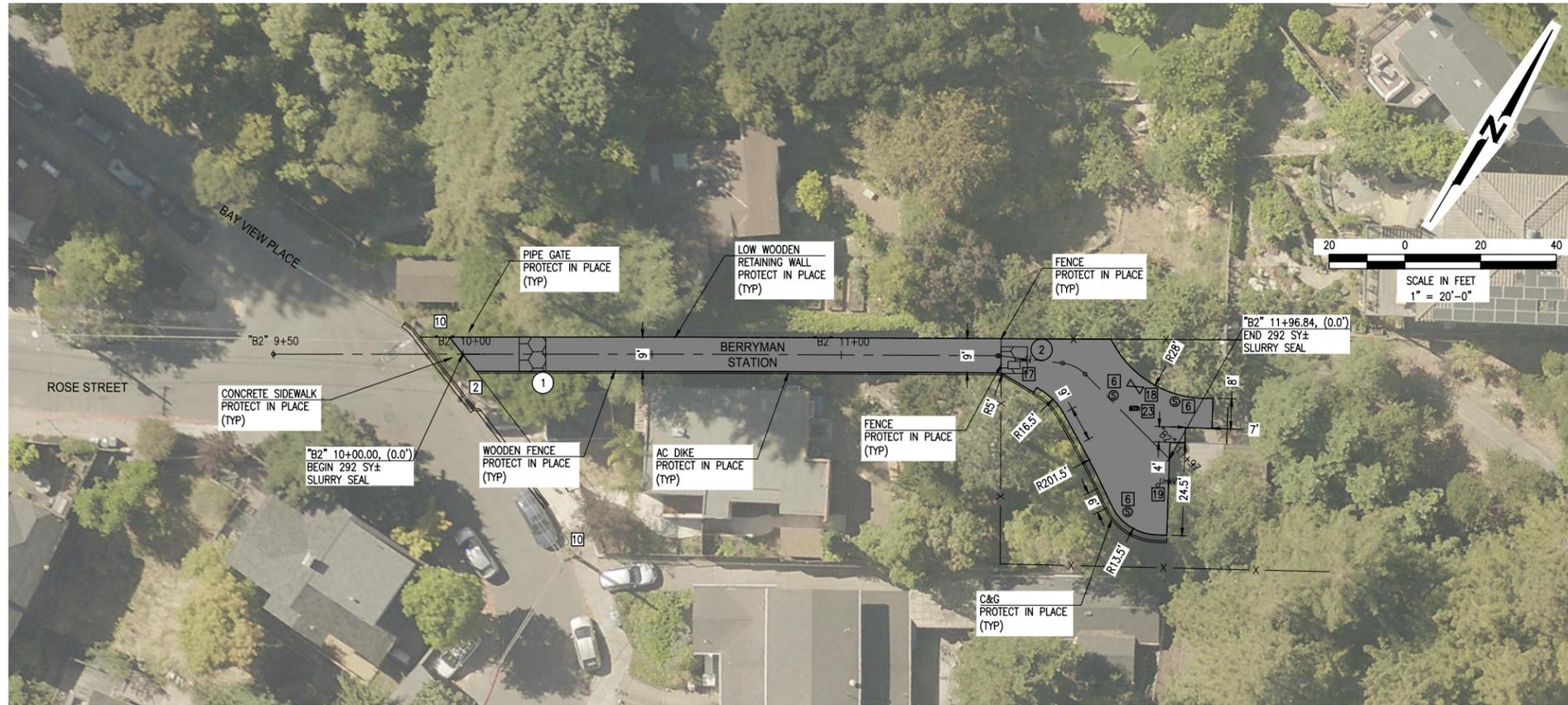
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LENIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL NGORZIN, DEANA RAJAHARAL
SR PROJ ENGR	VICTOR LENIS
R.P.E. NO. C83558	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
APPROVED		<i>Sandra J. Mulhauser</i>
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	<i>Robert C. Hu</i>

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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UTILITY KEYNOTES:

- 2 FIRE HYDRANT; PROTECT IN PLACE.
- 6 SSMH; PROTECT IN PLACE.
- 10 OVERHEAD UTILITY POLE; PROTECT IN PLACE.
- 17 UNKNOWN VAULT; PROTECT IN PLACE.
- 18 WATER VALVE BOX; PROTECT IN PLACE.
- 19 UNKNOWN VALVE; PROTECT IN PLACE.
- 23 WATER METER; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

SLURRY SEAL

BASE REPAIR (4" DEPTH) - $\frac{1}{40}$				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	FULL WIDTH	9	7	63
2	EB	7	7	49
BERRYMAN RATE CONTROL STATION, STREET TOTAL AREA (SF)				112
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				129

PLOT SCALE:
USER: _____
DATE: _____
FILE: _____



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

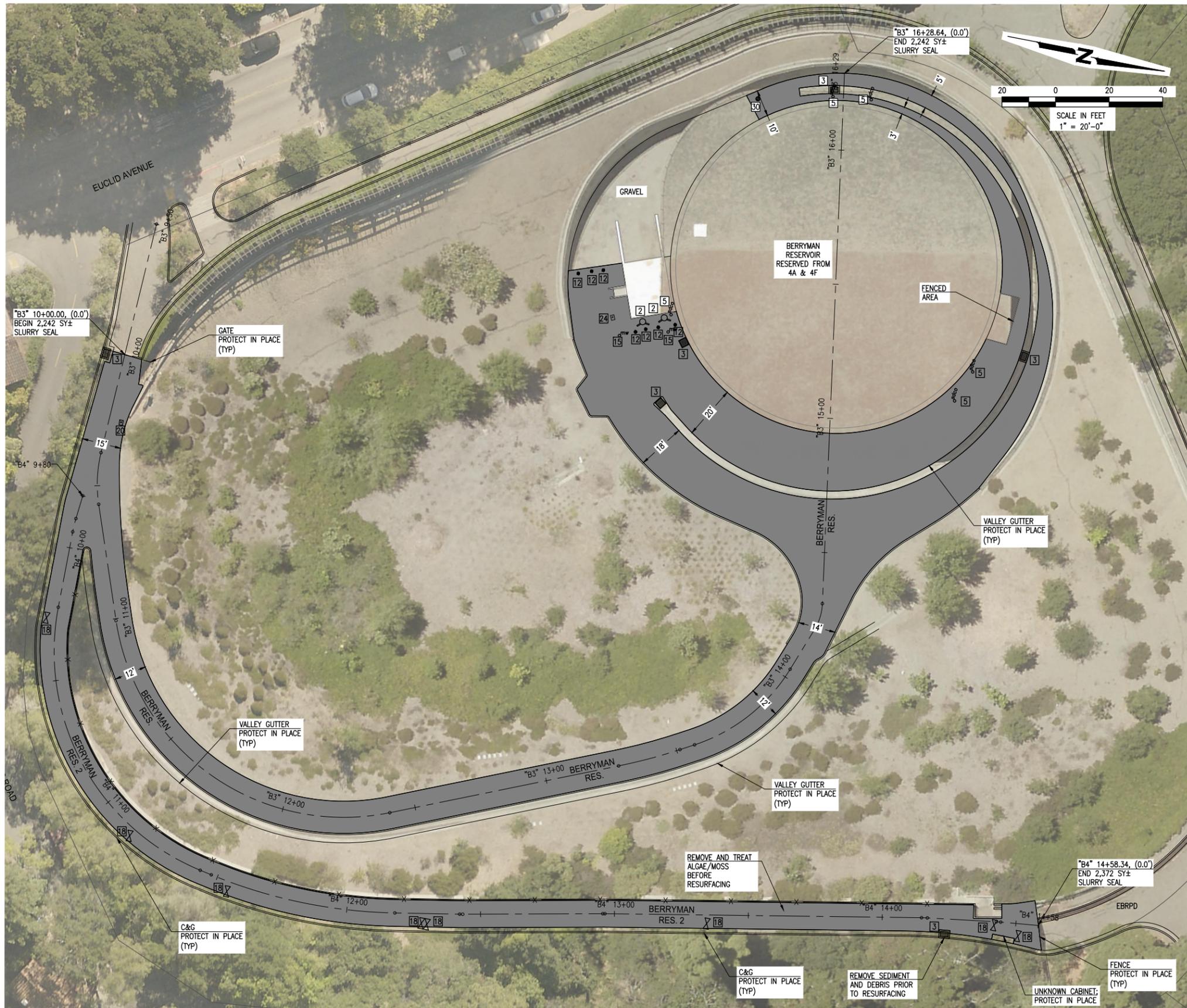
**FINAL PLANS
ISSUED FOR
BIDDING**
DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HARTUNG
DRAWN BY: SAMUEL NGORUWIZI, DEANA BASHIRHAMA
SE, PROJ. ENGR., R.P.E. NO. C67919
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR, UTILITIES MAINTENANCE AND CONSTRUCTION, R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN BERRYMAN STATION 'B2'' 9+50 TO 'B2'' 11+97			
PROJ NO. 10625-G	10625-G-013	PG. 13	
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.



- CONSTRUCTION NOTES:**
1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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- UTILITY KEYNOTES:**
- 2 FIRE HYDRANT; PROTECT IN PLACE.
 - 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 5 SDCO; PROTECT IN PLACE.
 - 12 BOLLARDS; PROTECT IN PLACE.
 - 15 MONITORING WELL; PROTECT IN PLACE.
 - 18 WATER VALVE BOX; PROTECT IN PLACE.
 - 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
 - 24 UNKNOWN BOX; PROTECT IN PLACE.
 - 30 VERTICAL DRAIN PIPE; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

■ SLURRY SEAL

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN BERRYMAN RES.
"B3" 9+50 TO "B3" 16+29

PROJ. NO. 10625-G	10625-G-014	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

NO.	DATE	REVISION	BY	REC.	APP.

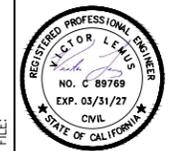
East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

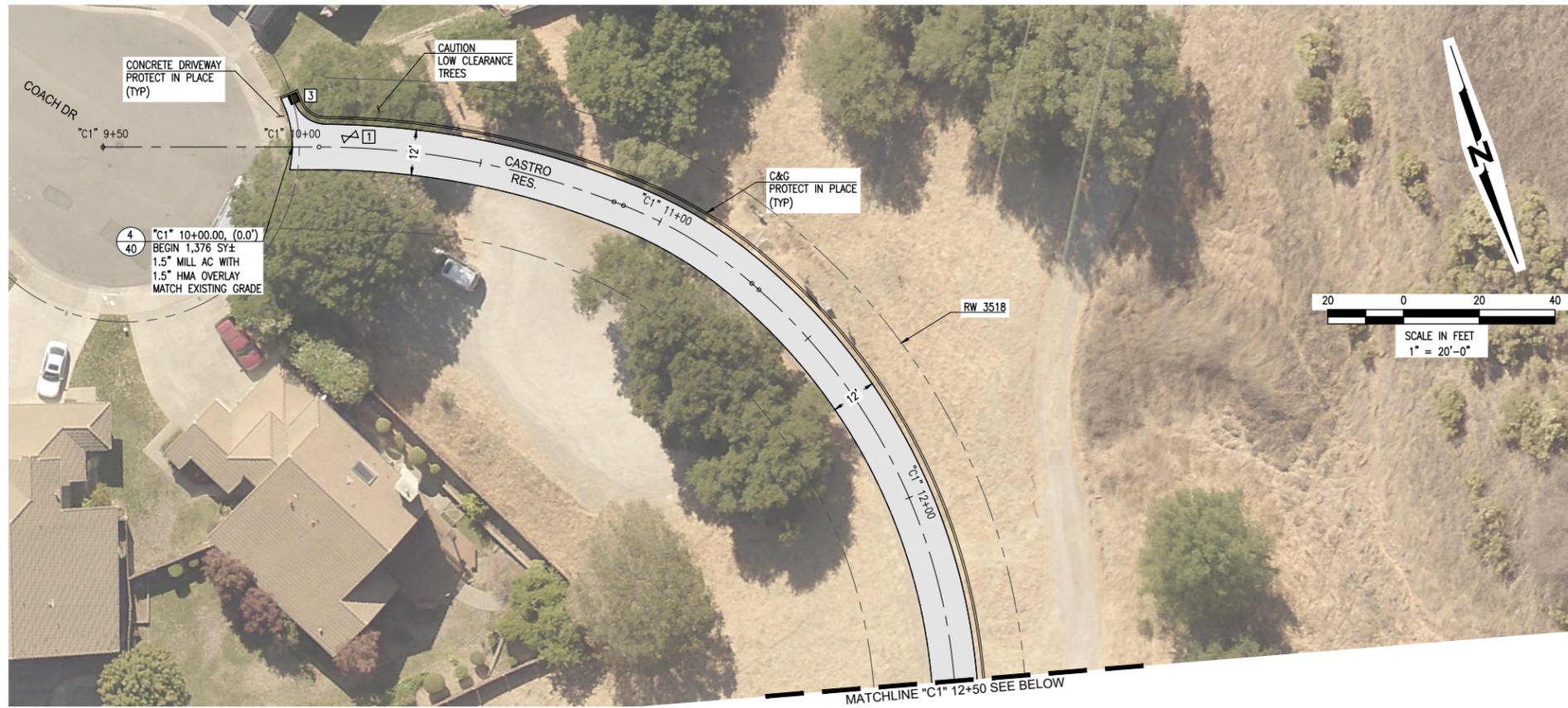
DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HADZINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHIRI
SE, PROJ. ENGR. R.P.E. NO. C6349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C6349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558
PROJECT ENGINEER: R.P.E. NO. C83558
RECOMMENDED: R.P.E. NO. C79823
APPROVED: R.P.E. NO. E18881

DESIGNED BY: VICTOR LEWIS
PROJECT MANAGER: DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

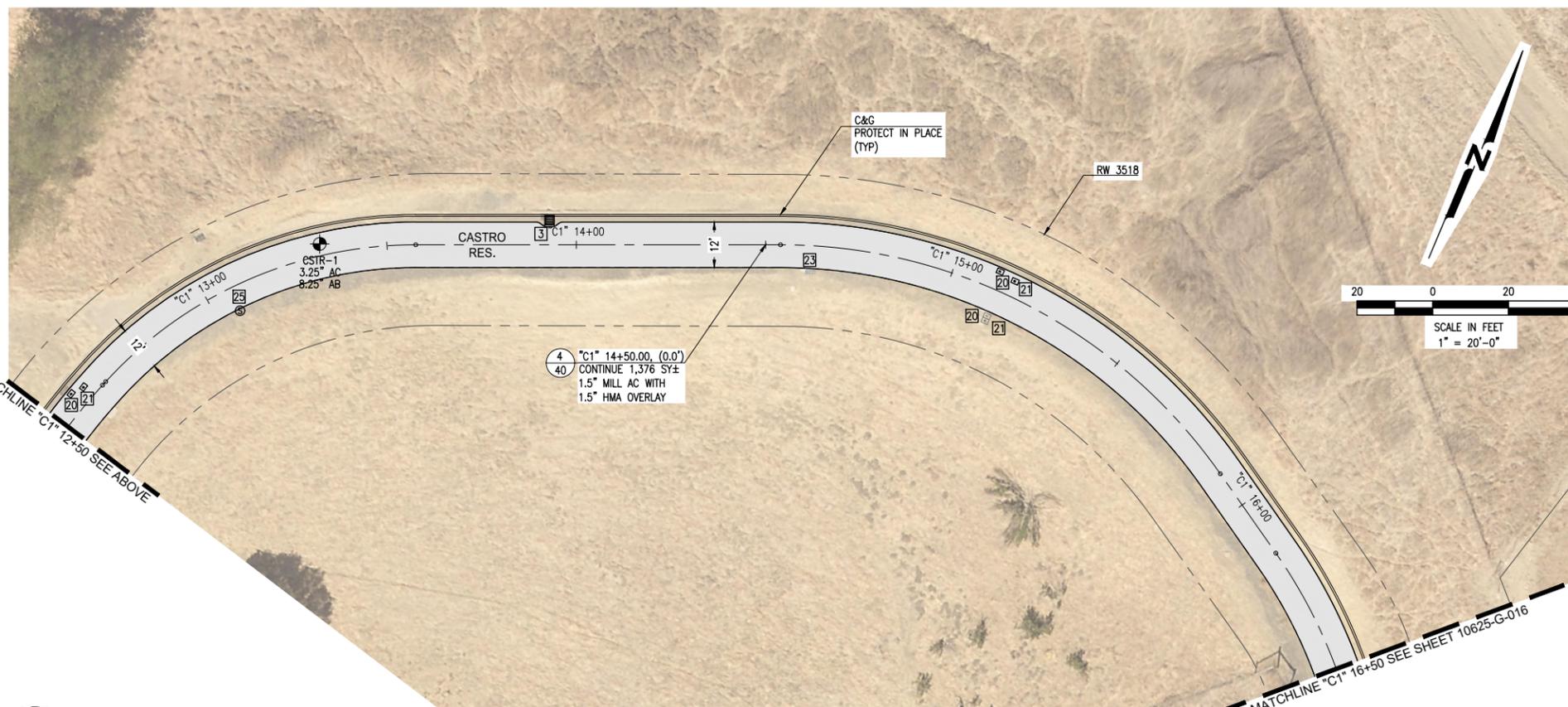
- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
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UTILITY KEYNOTES:

- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
- 21 ELECTRICAL BOX; PROTECT IN PLACE.
- 23 WATER METER; PROTECT IN PLACE.
- 25 SSMH; ADJUST SSMH FRAME AND COVER TO FG. SEE DETAIL 5/41.

PAVEMENT TREATMENT LEGEND:

■ MILL & OVERLAY



**FINAL PLANS
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DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN CASTRO RES. "C1" 9+50 TO "C1" 16+50			
PRJ NO. 10625-G	10625-G-015	PG. 15	
SCALE 1" = 20'			0
DATE 11DEC2025	STRUCT.	DISC.	NUMBER REV.



NO.	DATE	REVISION	BY	REC.	APP.

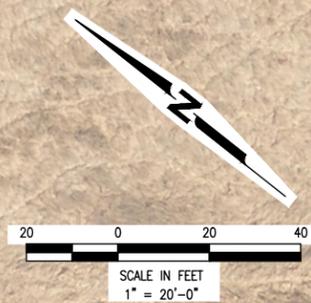
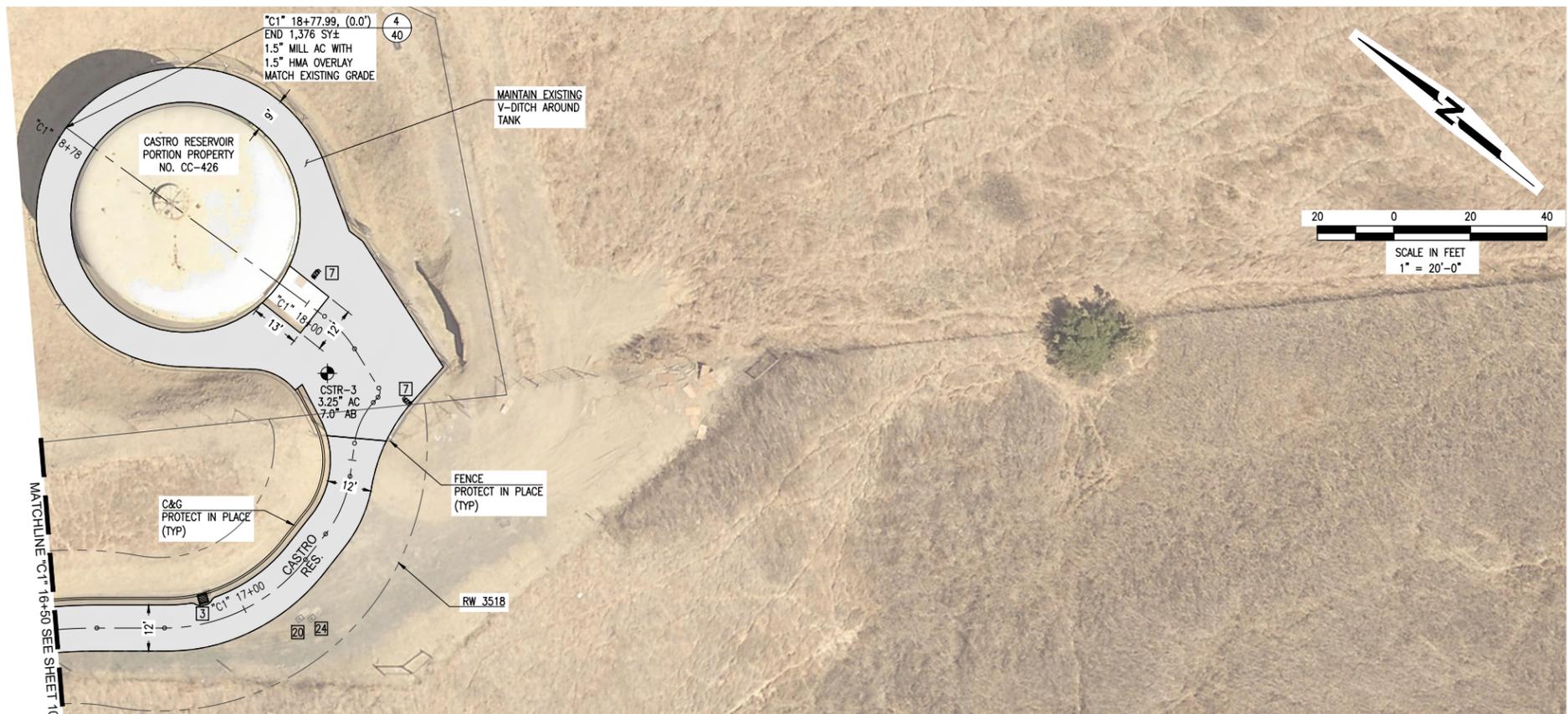


East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHIRI
SR PROJ ENGR	VICTOR LEWIS
R.P.E. NO. C8349	RYAN SHAFER

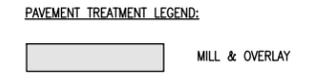
PROJECT MANAGER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
RECOMMENDED	R.P.E. NO. C79823	SANDRA J. MULHAUSER
APPROVED	R.P.E. NO. E18881	ANDREW C. HUI

USER: PLOT SCALE:
DATE: FILE:



- CONSTRUCTION NOTES:**
- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 - PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
 - FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
 - CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
 - LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

- UTILITY KEYNOTES:**
- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 7 WATER METER; ADJUST WATER METER BOX AND COVER TO FG.
 - 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
 - 24 UNKNOWN BOX; PROTECT IN PLACE.



PLOT SCALE: USER: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HASTINGER
DRAWN BY	SAMUEL NGORZIN, DEANA RAHIMMAL
SE, PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO. C89769	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SE, CIVIL ENGR.		SANDRA J. MULHAUSER
APPROVED		<i>Sandra J. Mulhauser</i>
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	CHRISTOPHER C. HU

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN CASTRO RES.
"C1" 16+50 TO "C1" 18+78

PROJ NO.	10625-G	10625-G-016	0
SCALE	1" = 20'		
DATE	11DEC2025	STRUCT.	DISC. NUMBER REV.

PG. 16



CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 10 OVERHEAD UTILITY POLE; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL



BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	NB	104	6	624
2	NB	68	6	408
3	NB	48	12	576
4	NB	60	8	480
5	NB	125	6	750
6	NB	10	6	60
7	NB	13	12	156
8	NB	12	7	84
9	EB	84	5	420
10	WB	50	22	1,075
CROCKETT RESERVOIR, STREET TOTAL AREA (SF)				4,633
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				5,328

**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN CROCKETT RES. 'C2'' 9+50 TO 'C2'' 17+50			
PROJ NO. 10625-G	10625-G-017	PG. 17	
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.

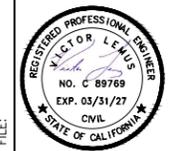
NO.	DATE	REVISION	BY	REC.	APP.

**East Bay Municipal
Utility District (EBMUD)**
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHARAWA
SE, PROJ. ENGR. R.P.E. NO. C79823
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

PLOT SCALE: USER: DATE: FILE:





CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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UTILITY KEYNOTES:

- 2 FIRE HYDRANT; PROTECT IN PLACE.
- 14 INSTRUMENTATION PULLBOX; PROTECT IN PLACE.
- 17 UNKNOWN VAULT; PROTECT IN PLACE.
- 18 WATER VALVE BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL

PLOT SCALE: USER: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal Utility District (EBMUD)
 375 11th Street
 Oakland, CA, 94607
 Ph: (866) 403-2683

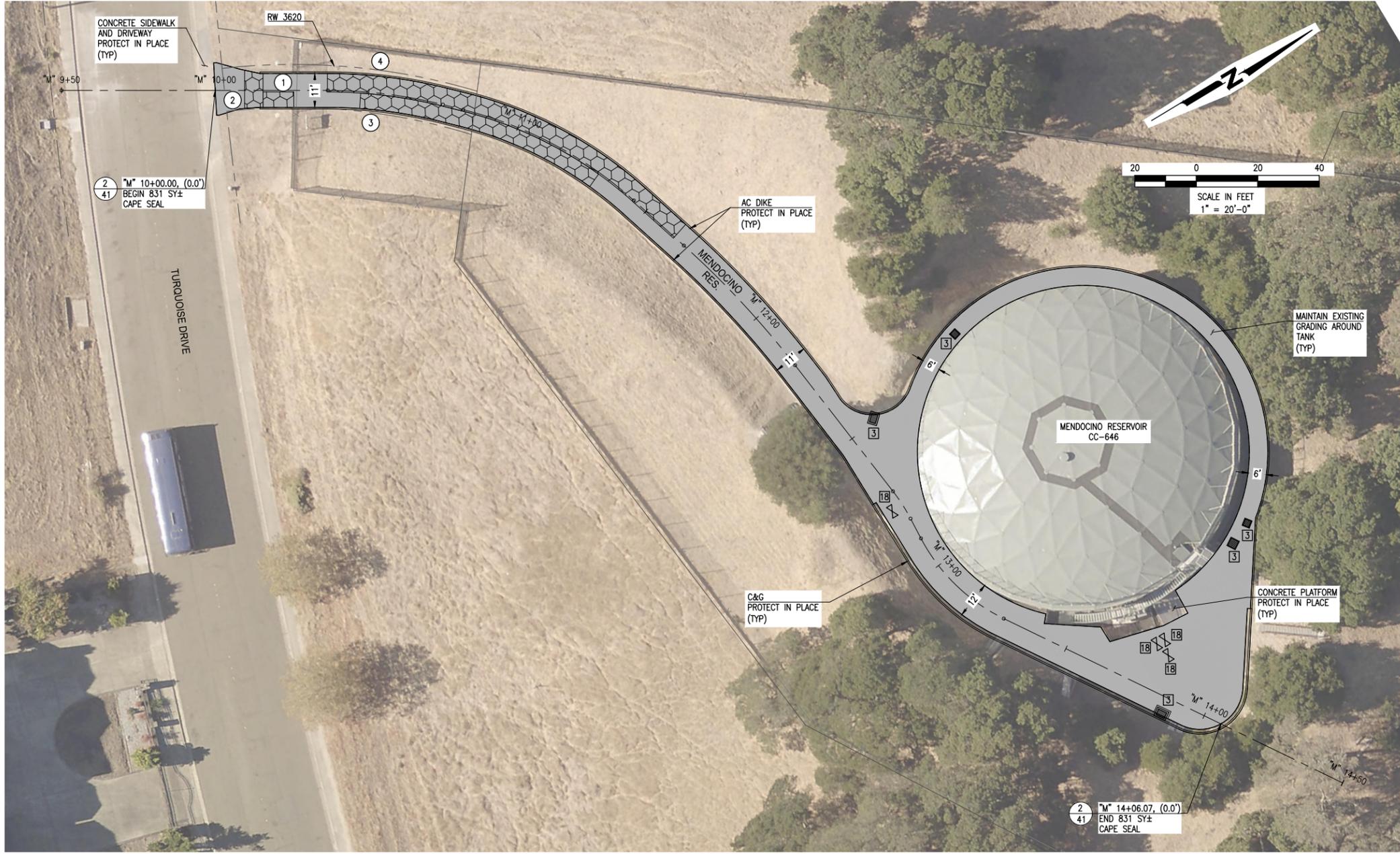
FINAL PLANS
 ISSUED FOR
 BIDDING
 DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
 DESIGN CHECKED BY: FRANK HASTINGER
 DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
 SB PROJ ENGR: VICTOR LEWIS
 APPROVED: VICTOR LEWIS
 PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
 PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
 RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
 APPROVED: SANDRA J. MULHAUSER
 SUPERVISOR, UTILITIES MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN CROCKETT RES. 'C2' 17+50 TO 'C2' 18+04			
PROJ NO. 10625-G	10625-G-018	PG. 18	
SCALE 1" = 20'			0
DATE 11DEC2025	STRUCT.	DISC.	NUMBER REV.



CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 18 WATER VALVE BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL

BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	EB	10	5	50
2	EB	6	12	72
3	EB	80	5	400
4	WB	130	6	780
MENDOCINO RESERVOIR, STREET TOTAL AREA (SF)				1,302
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				1,497

USER: PLOT SCALE: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

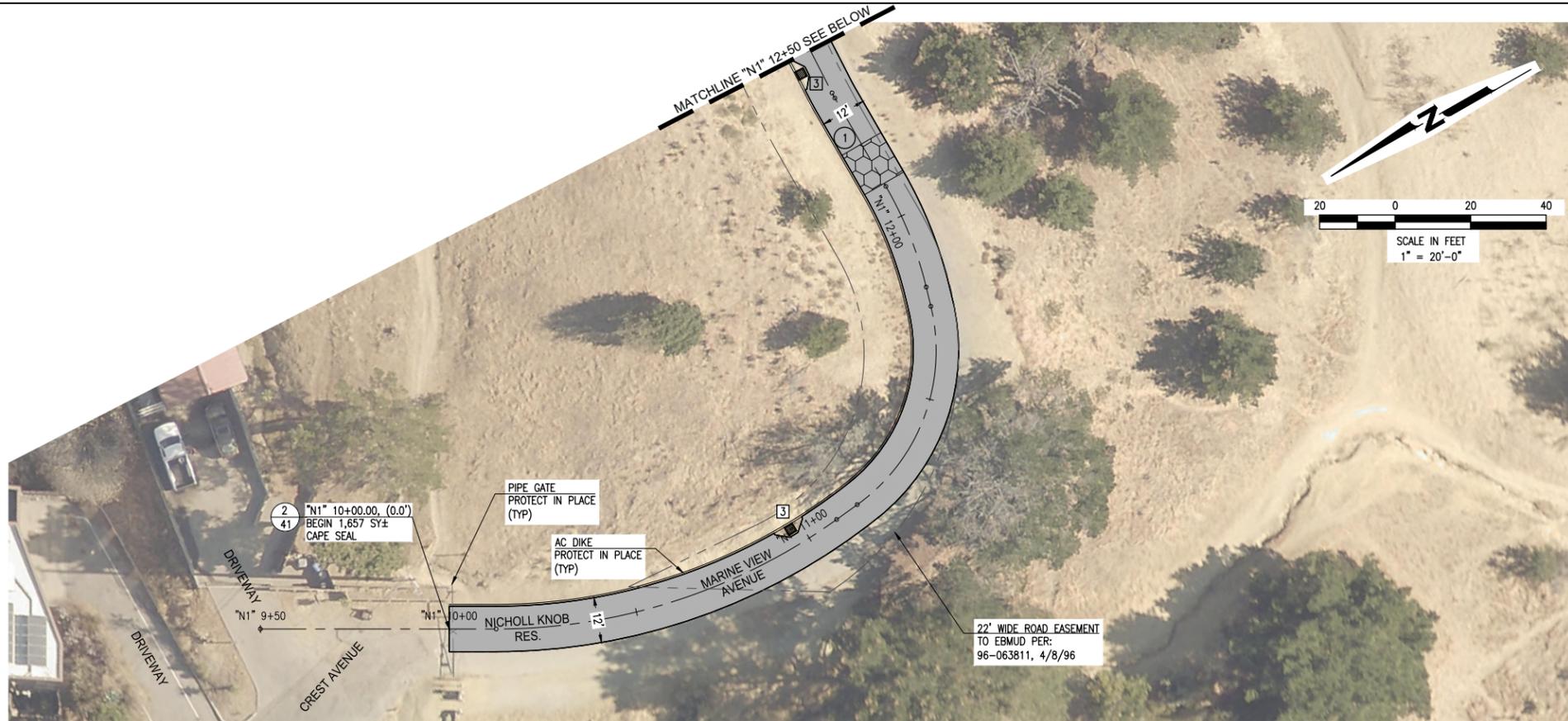
FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORZIN, DIANA BASHARAWA
SE, PROJ. ENGR., R.P.E. NO. C79823
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR, UTILITIES MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN MENDOCINO RES. 'M' 9+50 TO 'M' 14+50			
PROJ NO. 10625-G	10625-G-019	PG. 19	
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.



- CONSTRUCTION NOTES:**
1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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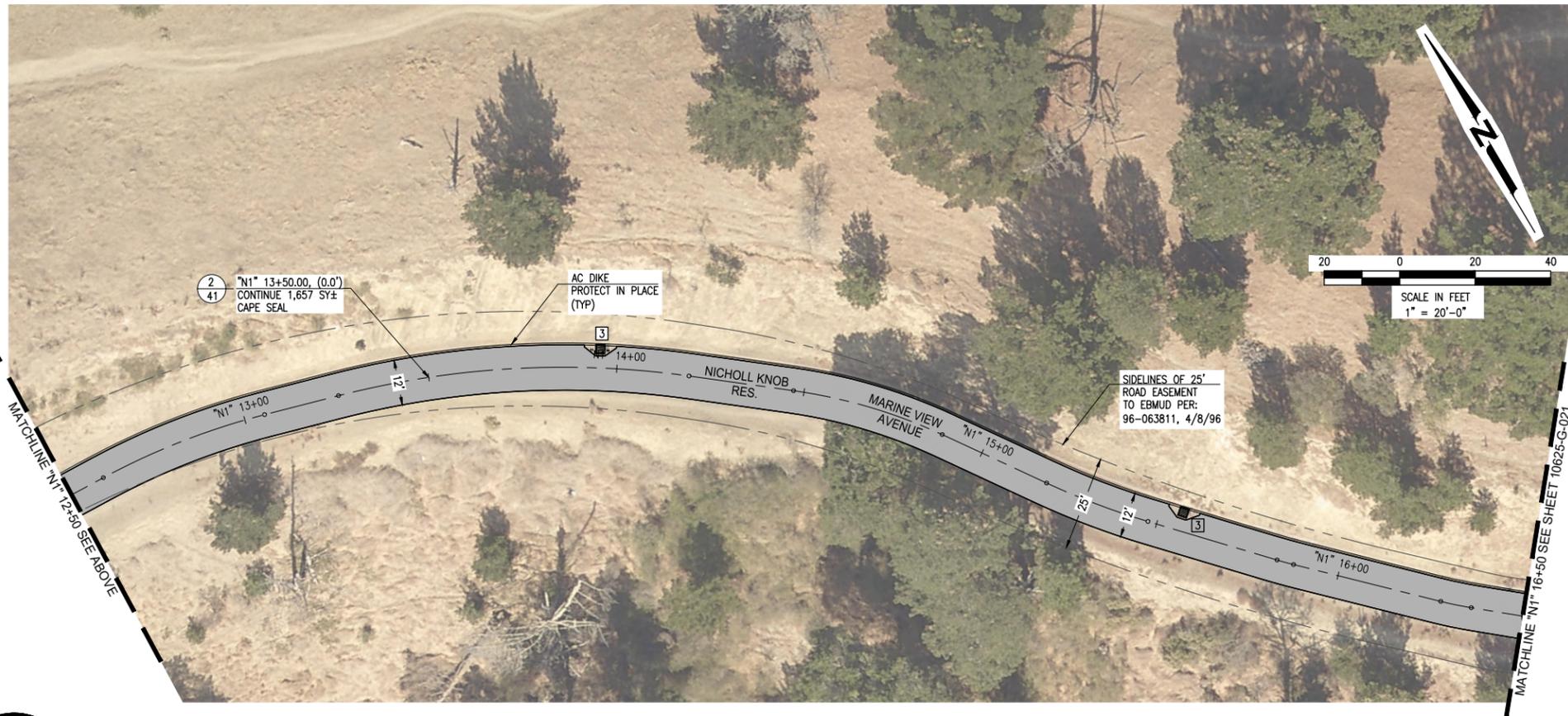
UTILITY KEYNOTES:

3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL

BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	EB	12	12	144
NICHOLL KNOB RESERVOIR, STREET TOTAL AREA (SF)				144
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				166



**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN NICHOLL KNOB RES.
'N1' 9+50 TO 'N1' 16+50**

PROJ NO. 10625-G	10625-G-020	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

NO.	DATE	REVISION	BY	REC.	APP.



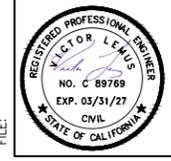
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

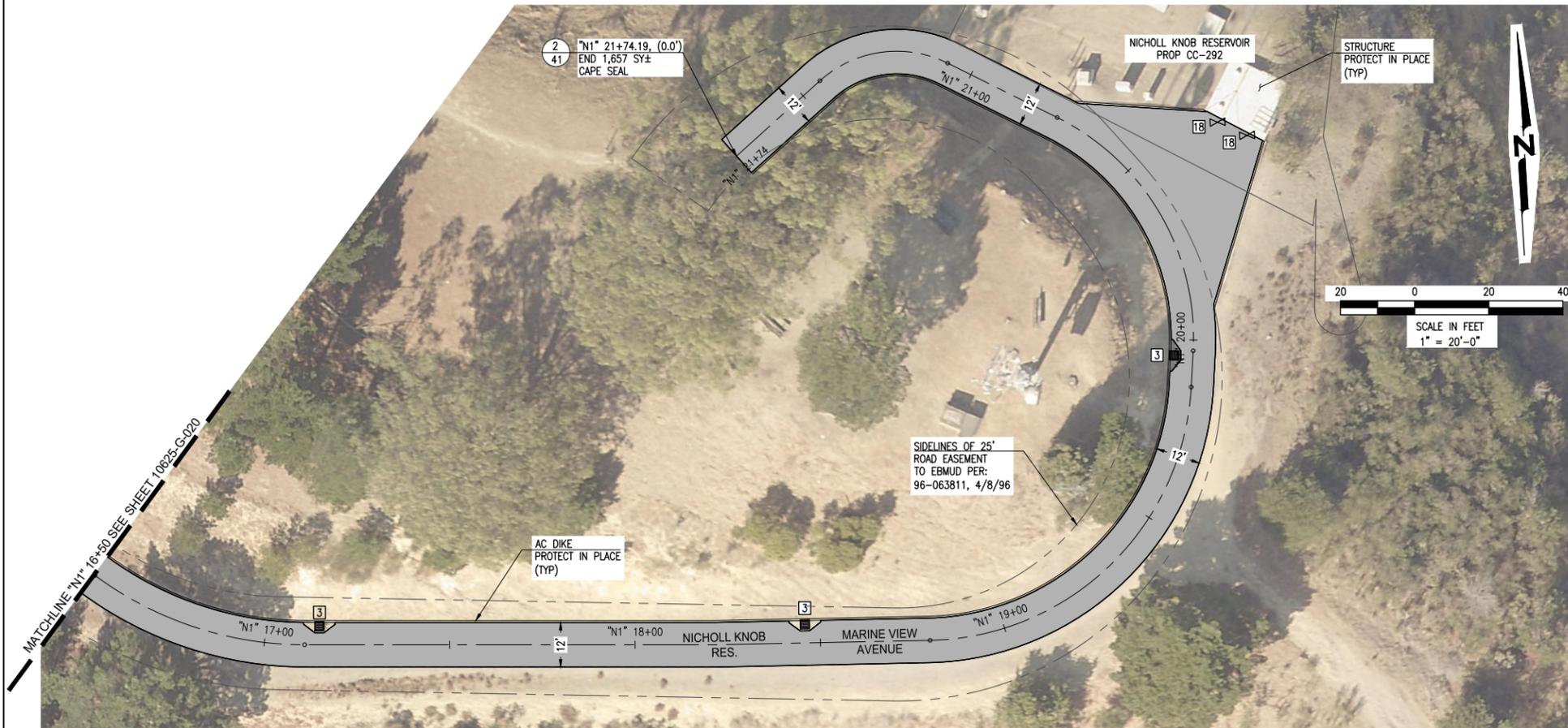
DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHARRAH
SR. PROJ. ENGR. R.P.E. NO. C83558
R.P.E. NO. C83558
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER R.P.E. NO. C83558
PROJECT ENGINEER R.P.E. NO. C83558
RECOMMENDED R.P.E. NO. C79823
APPROVED FOR CONSTRUCTION R.P.E. NO. E18881

Damaris T. Galindo
Sandra J. Mulhauser

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
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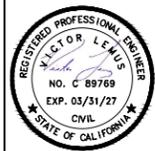
UTILITY KEYNOTES:

- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 18 WATER VALVE BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL

USER: PLOT SCALE: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (666) 403-2683

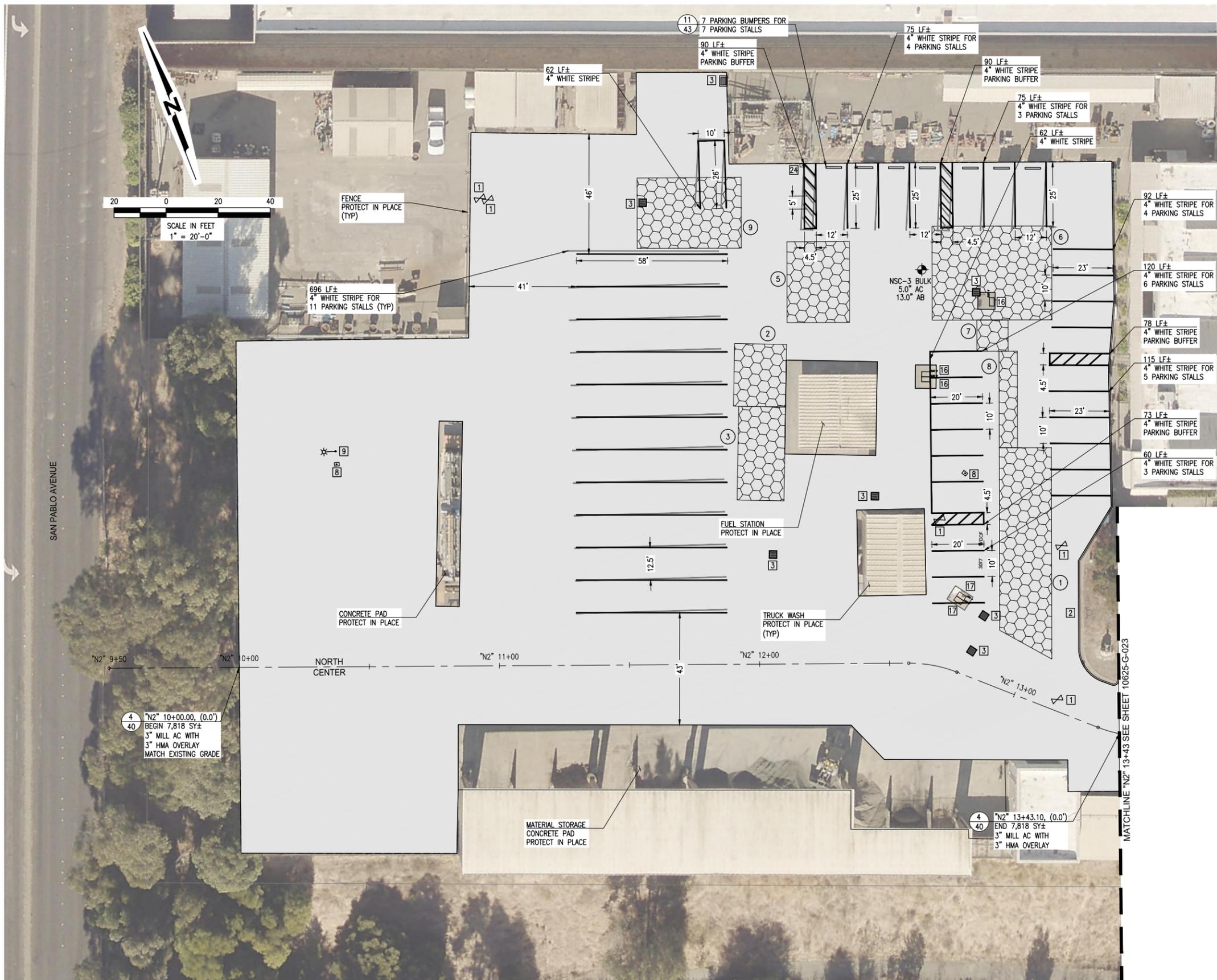
**FINAL PLANS
ISSUED FOR
BIDDING**
DATE: 12/10/2025



DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HARTUNG
DRAWN BY	SAMUEL NGORZIN, DEANA BASHIRAHMED
SE, PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SE, CIVIL ENGR.	R.P.E. NO. C62349	<i>Sandra J. Mulhauser</i>
APPROVED	R.P.E. NO. E18881	<i>Richard C. Hu</i>

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN NICHOLL KNOB RES. 'N1' 16+50 TO 'N1' 21+74			
PROJ NO.	10625-G	10625-G-021	0
SCALE	1" = 20'		
DATE	11DEC2025	STRUCT.	DISC. NUMBER REV.



- CONSTRUCTION NOTES:**
1. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
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 5. LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

- UTILITY KEYNOTES:**
- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
 - 2 FIRE HYDRANT; PROTECT IN PLACE.
 - 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 8 ELECTRICAL BOX; ADJUST ELECTRICAL BOX AND COVER TO FG.
 - 9 STREET LIGHT; PROTECT IN PLACE.
 - 16 ELECTRICAL VAULT; PROTECT IN PLACE.
 - 17 UNKNOWN VAULT; PROTECT IN PLACE.
 - 24 UNKNOWN BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

■ MILL & OVERLAY

BASE REPAIR (4" DEPTH) - (1/40)

NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	NB	70	20	1,400
2	WB	24	20	480
3	NB	36	18	648
5	WB	24	31	744
6	NB	36	46	1,656
7	SB	12	12	144
8	SB	37	7	259
9	WB	40	27	1,080
NORTH AREA SERVICE CENTER, STREET TOTAL AREA (SF)				6,411
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				7,373

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN NORTH CENTER
"N2" 9+50 TO "N2" 13+50 PG. 22

PROJ. NO. 10625-G	10625-G-022	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

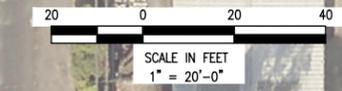
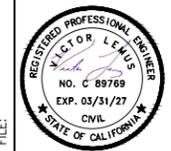
NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HASTINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHIRI
RECOMMENDED BY: VICTOR LENS
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED BY: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: [Signature]
SUPERVISOR, MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881 SANDRA J. MULHAUSER

USER: [blank]
DATE: [blank]
FILE: [blank]



4/40 "N2" 10+00.00, (0.0')
BEGIN 7,818 SY±
3" MILL AC WITH
3" HMA OVERLAY
MATCH EXISTING GRADE

4/40 "N2" 13+43.10, (0.0')
END 7,818 SY±
3" MILL AC WITH
3" HMA OVERLAY

MATCHLINE "N2" 13+43 SEE SHEET 10625-G-023

CONSTRUCTION NOTES:

- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
- PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
- FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
- CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
- LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

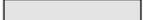
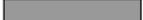
UTILITY KEYNOTES:

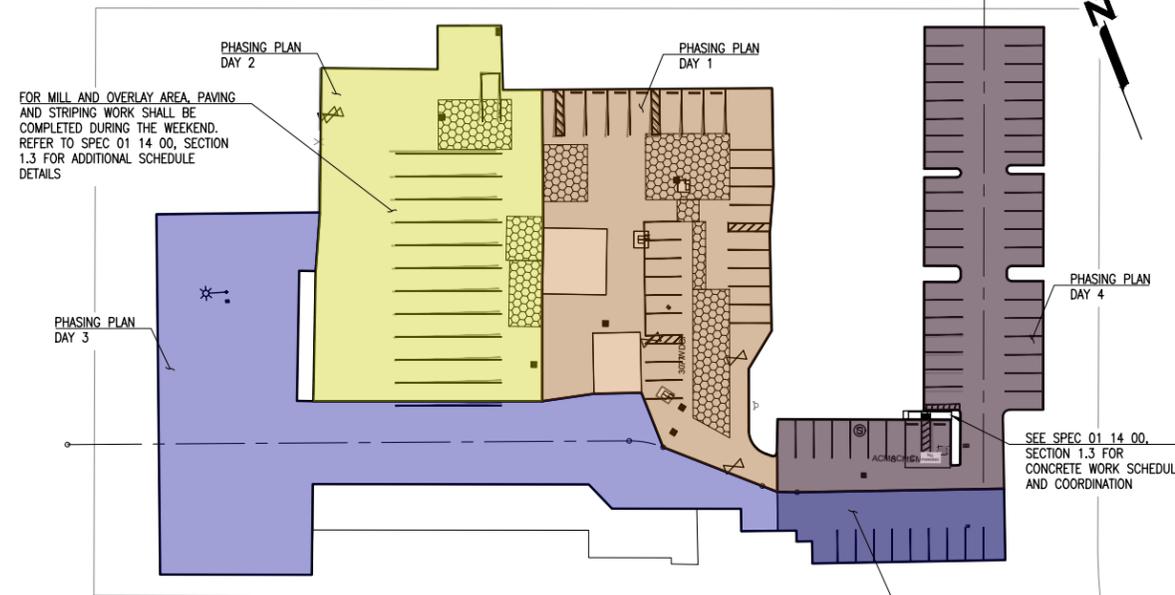
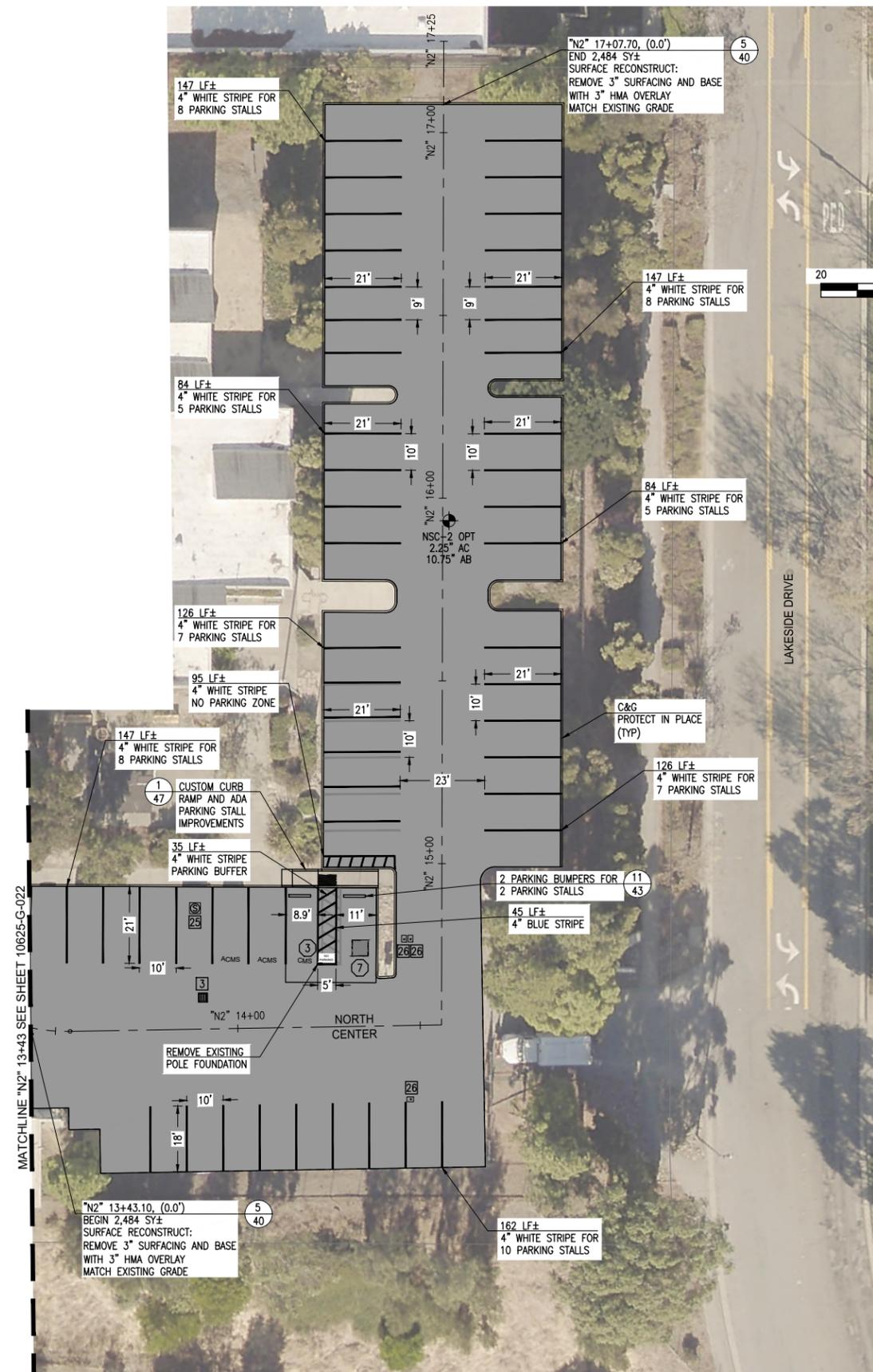
- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 25 SSMH; ADJUST SSMH FRAME AND COVER TO FG. SEE DETAIL 5/41.
- 26 UNKNOWN BOX; ADJUST UNKNOWN BOX AND COVER TO FG.

STRIPING KEYNOTES:

- 3 CUSTOM PAVEMENT MARKING "NO PARKING" 8/42
- 7 INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING 7/42

PAVEMENT TREATMENT LEGEND:

-  MILL & OVERLAY
-  SURFACE RECONSTRUCTION



PHASING PLAN

WORK AND HOUR RESTRICTION NOTES:

- CONTRACTOR SHALL COORDINATE WITH THE SUPERINTENDENT, DENNIS CRONIN, AT (510) 377-1610 AND GIVE HIM FIVE (5) WORKING DAYS ADVANCE NOTIFICATION PRIOR TO STARTING ANY WORK ON SITE.
- THE PHASING PLAN ABOVE IS A SUGGESTION. CONTRACTOR MAY PROPOSE AN ALTERNATIVE PHASING PLAN BUT SHALL RECEIVE WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO IMPLEMENTATION.
- THE CONTRACTOR SHALL PERFORM THE PAVING AND STRIPING WORK AT THIS FACILITY DURING THE WEEKENDS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- EXISTING UTILITY ADJUSTMENT WORK, COORDINATION, AND CONCRETE WORK MAY BE PERFORMED ON WEEKDAYS WITH PRIOR NOTIFICATION TO, AND APPROVAL BY THE ENGINEER.
- DRIVEWAY ACCESS TO NORTH SERVICE CENTER MUST BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE NOTIFICATION TO THE ENGINEER NO LESS THAN TWO (2) WEEKS PRIOR TO STARTING WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED IF THE CONTRACTOR FAILED TO PROPERLY NOTIFY THE ENGINEER, CAUSING THE DISTRICT TO BE UNABLE TO RELOCATE EQUIPMENT AND MATERIALS IN A TIMELY MANNER, RESULTING IN A DELAY TO THE CONTRACTOR'S SCHEDULED WORK.
- ONLY ONE PHASE OF WORK WILL BE ALLOWED AT A TIME.

**FINAL PLANS
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DATE: 12/10/2025**



EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN NORTH CENTER 'N2'' 13+50 TO 'N2'' 17+25			
PRJ. NO. 10625-G	10625-G-023	PG. 23	
SCALE 1" = 20'			0
DATE 11DEC2025	STRUCT.	DISC.	NUMBER REV.



NO.	DATE	REVISION	BY	REC.	APP.

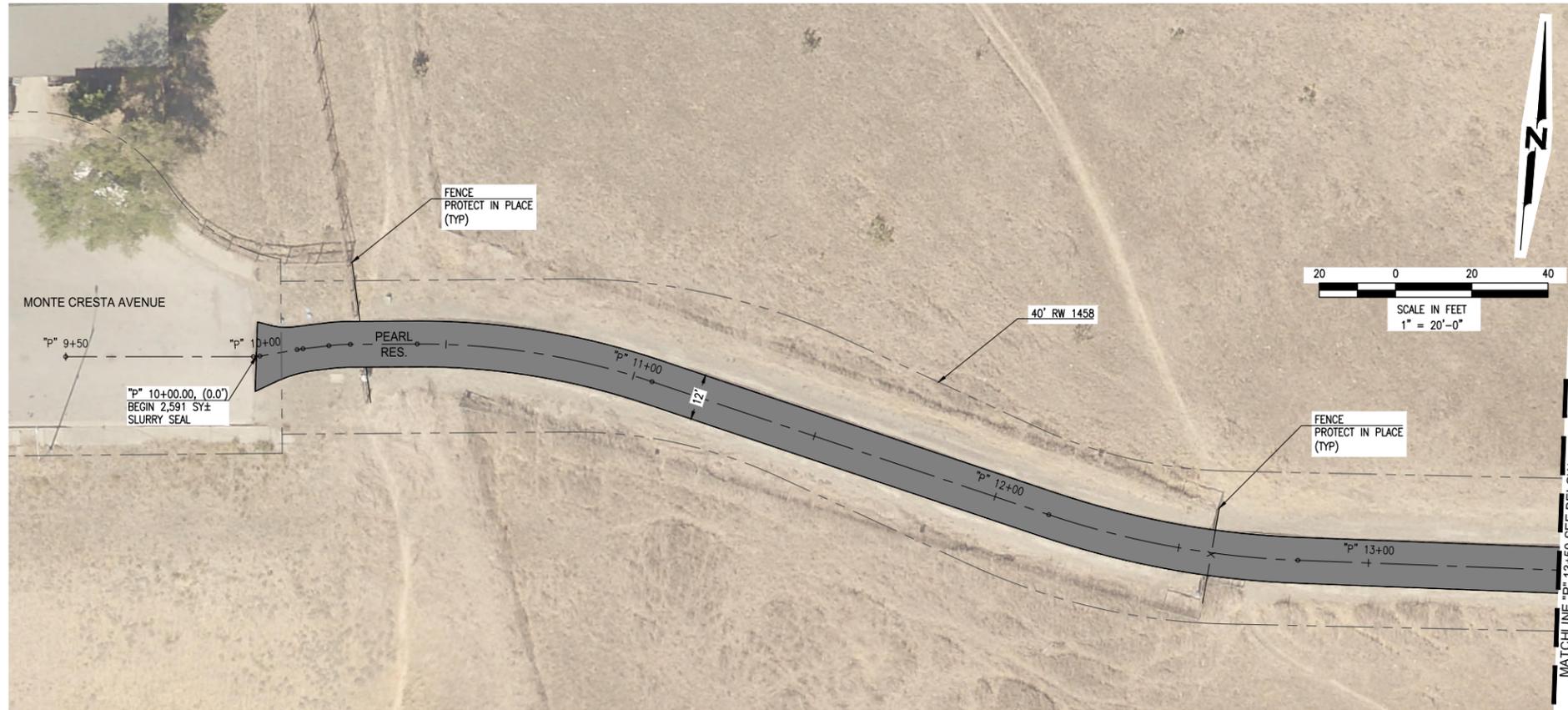


**East Bay Municipal
Utility District (EBMUD)**
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HASTINGER
DRAWN BY	SAMUEL NGUYEN, DIANA BASHARALL
SE. PROJ. ENGR.	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
APPROVED		
APPROVED		
APPROVED		

PLOT SCALE:
USER:
DATE:
FILE:



CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

PAVEMENT TREATMENT LEGEND:

■ SLURRY SEAL

**FINAL PLANS
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DATE: 12/10/2025



**Know what's below.
Call before you dig.**

**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**
**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1**
CIVIL

IMPROVEMENT PLAN PEARL RES.

''P'' 9+50 TO ''P'' 17+50

PG. 24

PROJ NO. 10625-G	10625-G-024	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

NO.	DATE	REVISION	BY	REC.	APP.



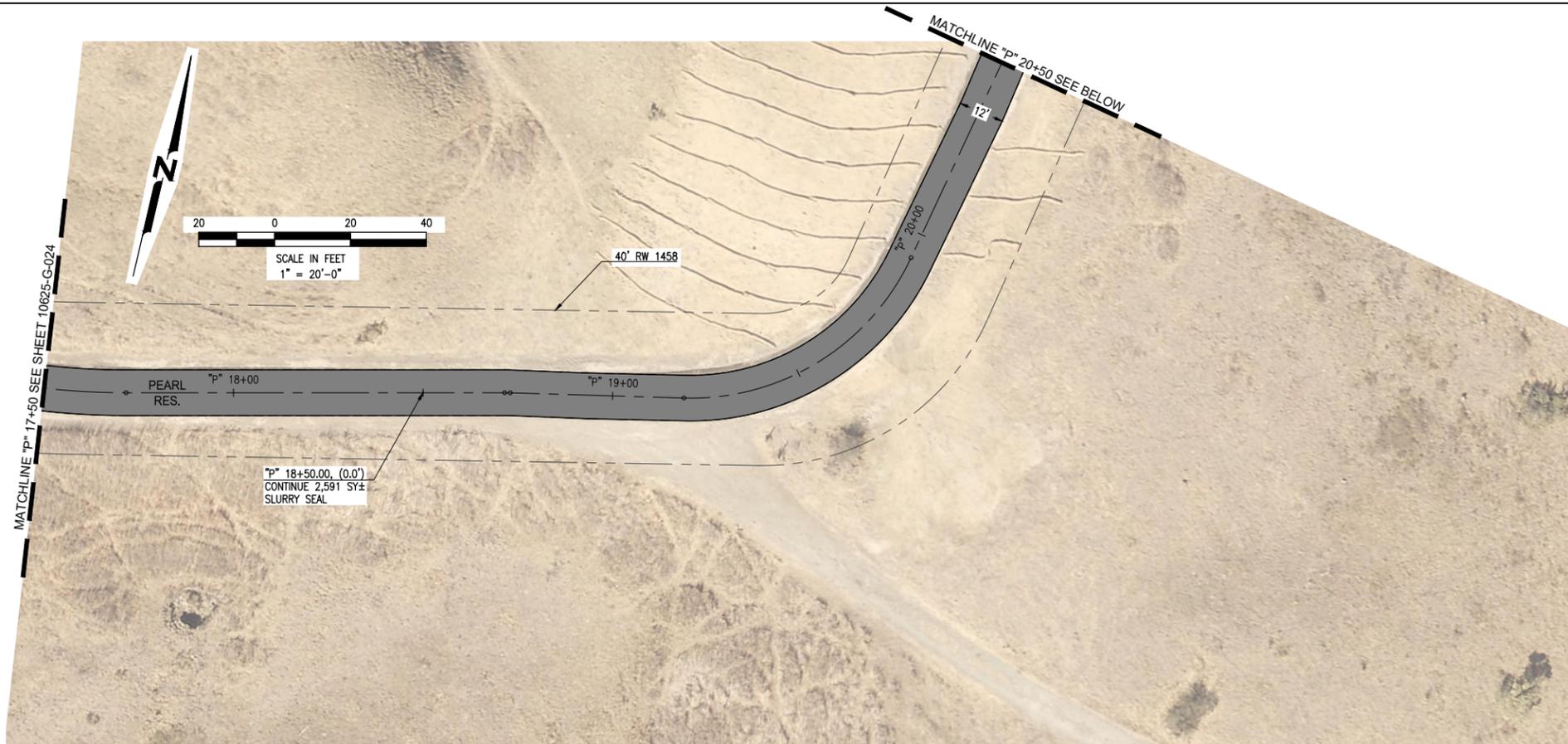
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LENS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL NGORZIN, DEANA BASHIRI
SE, PROJ. ENGR.	VICTOR LENS
R.P.E. NO. C62349	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SE, CIVIL ENGR.		
APPROVED		
PRINCIPAL IN CHARGE, R.P.E. NO. E18881		

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

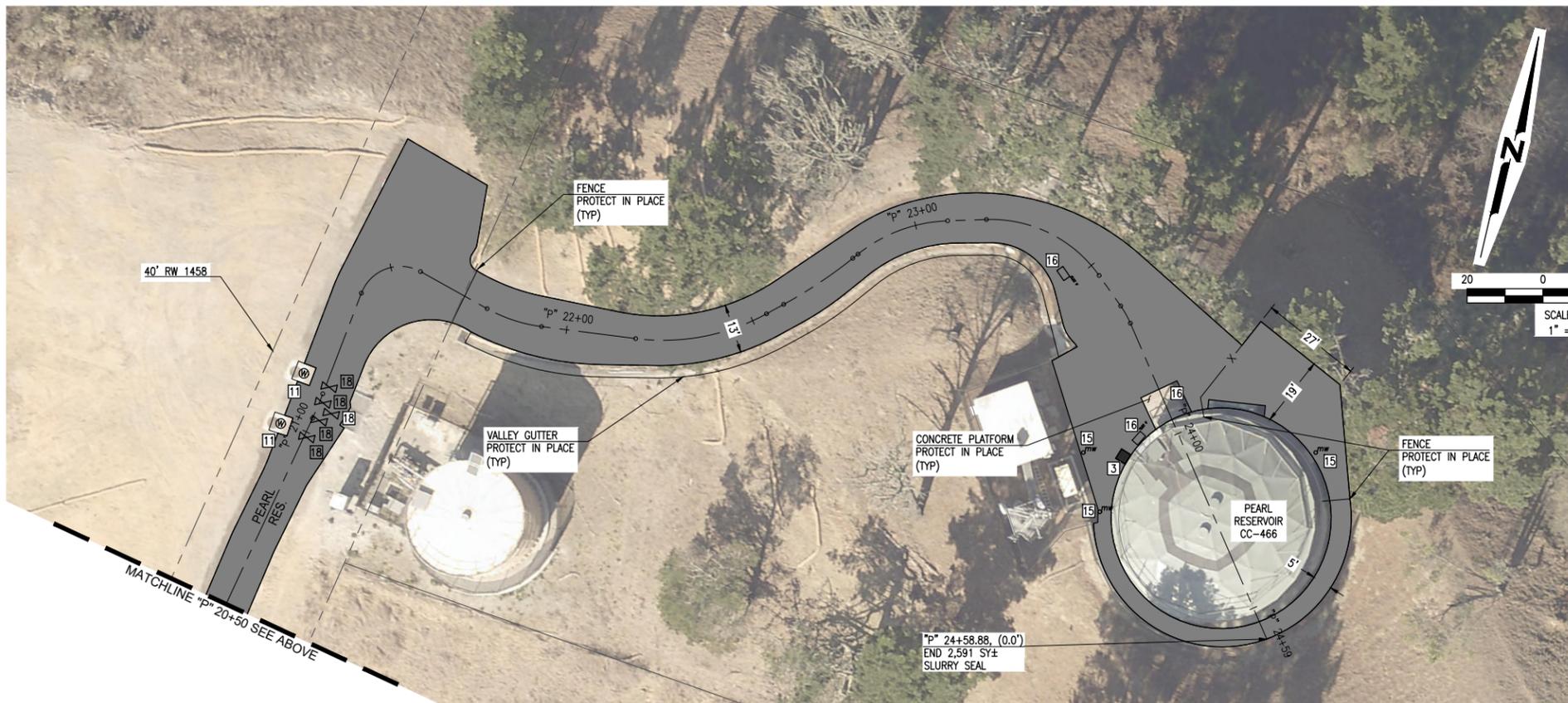
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8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 11 WATER MH; PROTECT IN PLACE.
- 15 MONITORING WELL; PROTECT IN PLACE.
- 16 ELECTRICAL VAULT; PROTECT IN PLACE.
- 18 WATER VALVE BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

SLURRY SEAL



**FINAL PLANS
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DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**
**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1**
CIVIL

**IMPROVEMENT PLAN PEARL RES.
'P' 17+50 TO 'P' 23+87** PG. 25

PROJ NO. 10625-G	10625-G-025	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

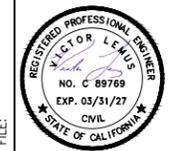
NO.	DATE	REVISION	BY	REC.	APP.

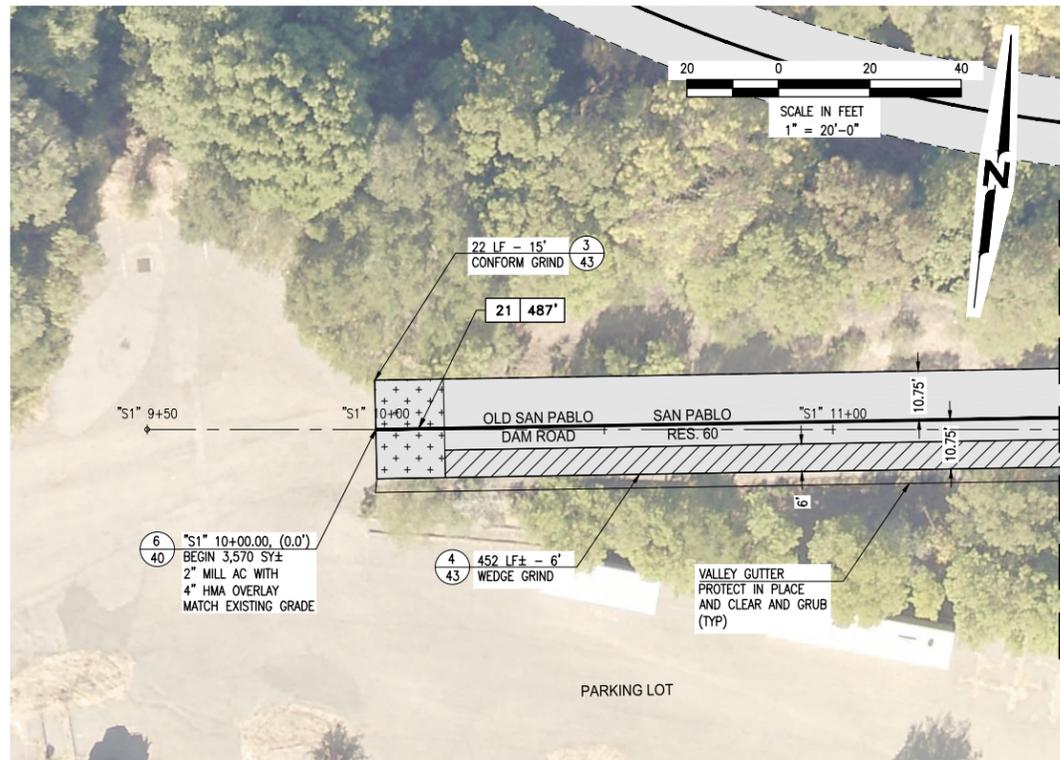
**East Bay Municipal
Utility District (EBMUD)**
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
SR. PROJ. ENGR. R.P.E. NO. C83558
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER R.P.E. NO. C83558 *Damaris Villalobos-Galindo*
PROJECT ENGINEER R.P.E. NO. C83558 *Damaris Villalobos-Galindo*
RECOMMENDED SR. CIVIL ENGR. R.P.E. NO. C79823 *Sandra J. Mulhauser*
APPROVED FOR CONSTRUCTION R.P.E. NO. E18881 *Sandra J. Mulhauser*

PLOT SCALE:
USER:
DATE:
FILE:





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- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
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 - FOR RECONSTRUCTION SECTIONS THE CONTRACTOR SHALL ESTABLISH THE CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS OF THE EXISTING ROADWAY AND CONSTRUCT THE NEW SECTION TO THESE ELEVATIONS PLUS ANY CHANGES AS NOTED IN THE CROSS SECTION DETAILS.
 - LANE WIDTH DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENTS. LANE WIDTHS SHALL BE 9' MINIMUM AND PARKING STALL LENGTHS SHALL BE ADJUSTED ACCORDINGLY.

STRIPING KEYNOTES:

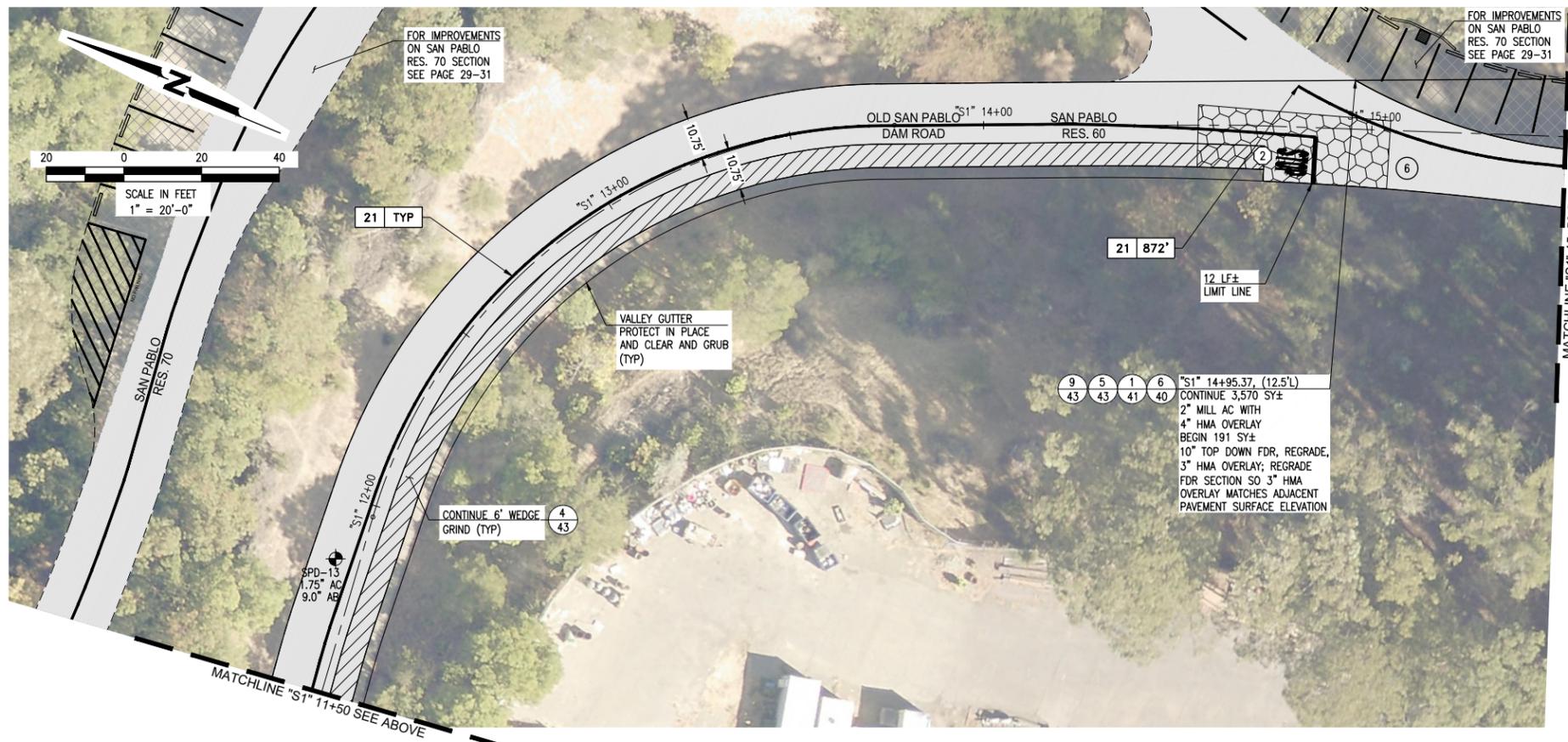
② CALTRANS PAVEMENT MARKING "STOP" 6/42

PAVEMENT TREATMENT LEGEND:

▨ MILL & OVERLAY

▩ FULL DEPTH RECLAMATION

BASE REPAIR (6" DEPTH) - ①/40				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
6	SB	52	16	832
SAN PABLO RESERVOIR 60, STREET TOTAL AREA (SF)				832
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				957



**FINAL PLANS
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**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 60
'S1' 9+50 TO 'S1' 15+50 PG. 26**

PROJ NO. 10625-G	10625-G-026	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

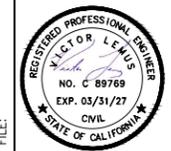
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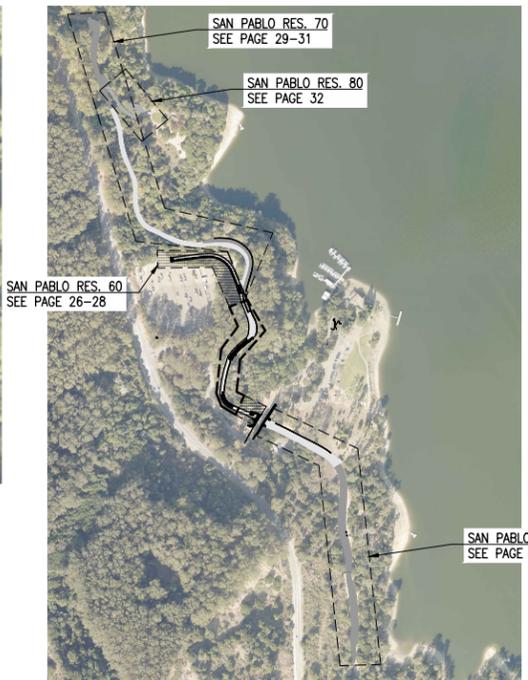
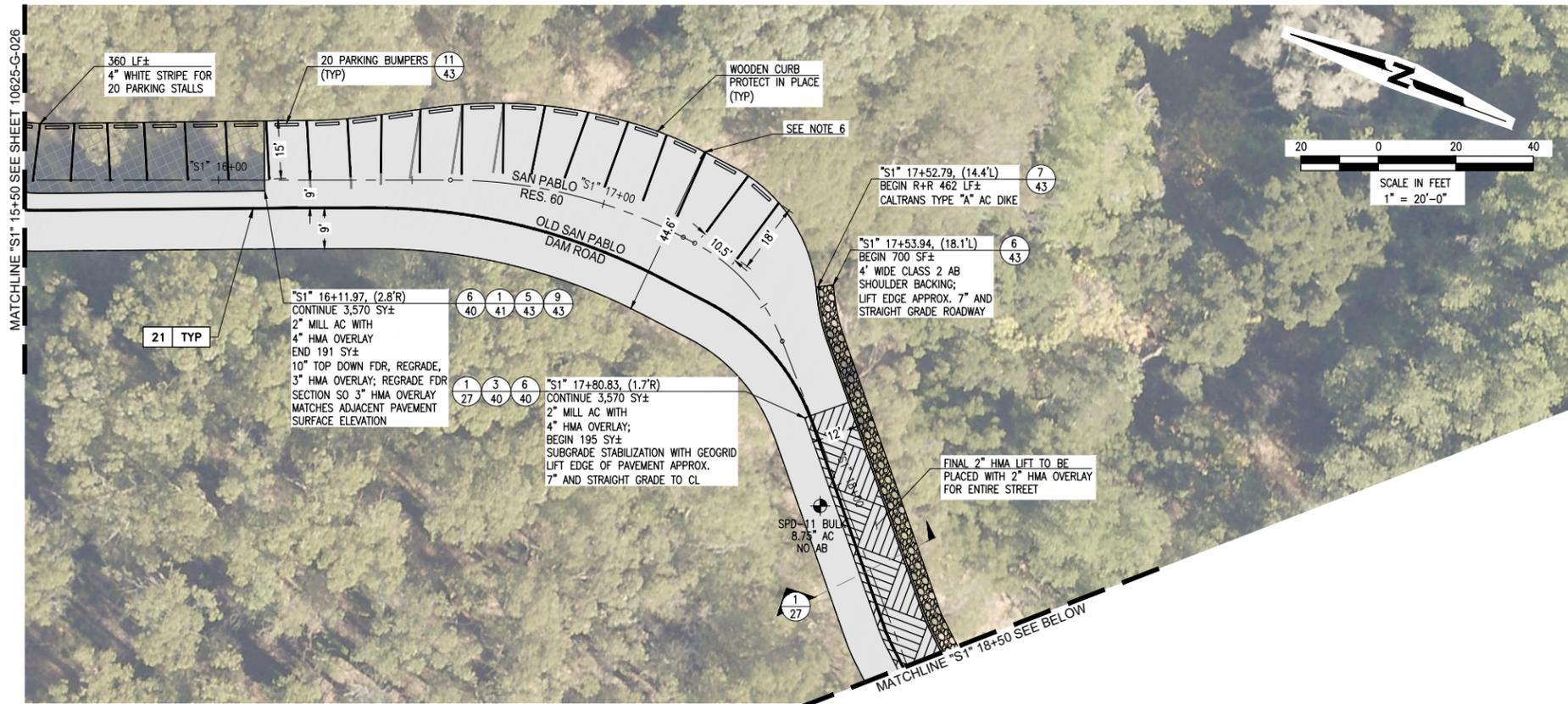
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHIRI
SB PROJ ENGR: VICTOR LENS
R.P.E. NO. C83558
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558
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RECOMMENDED: R.P.E. NO. C79823
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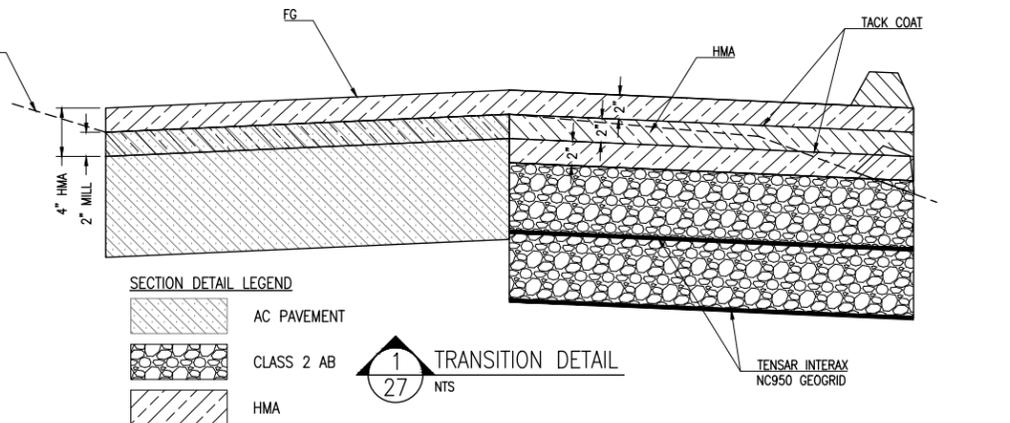
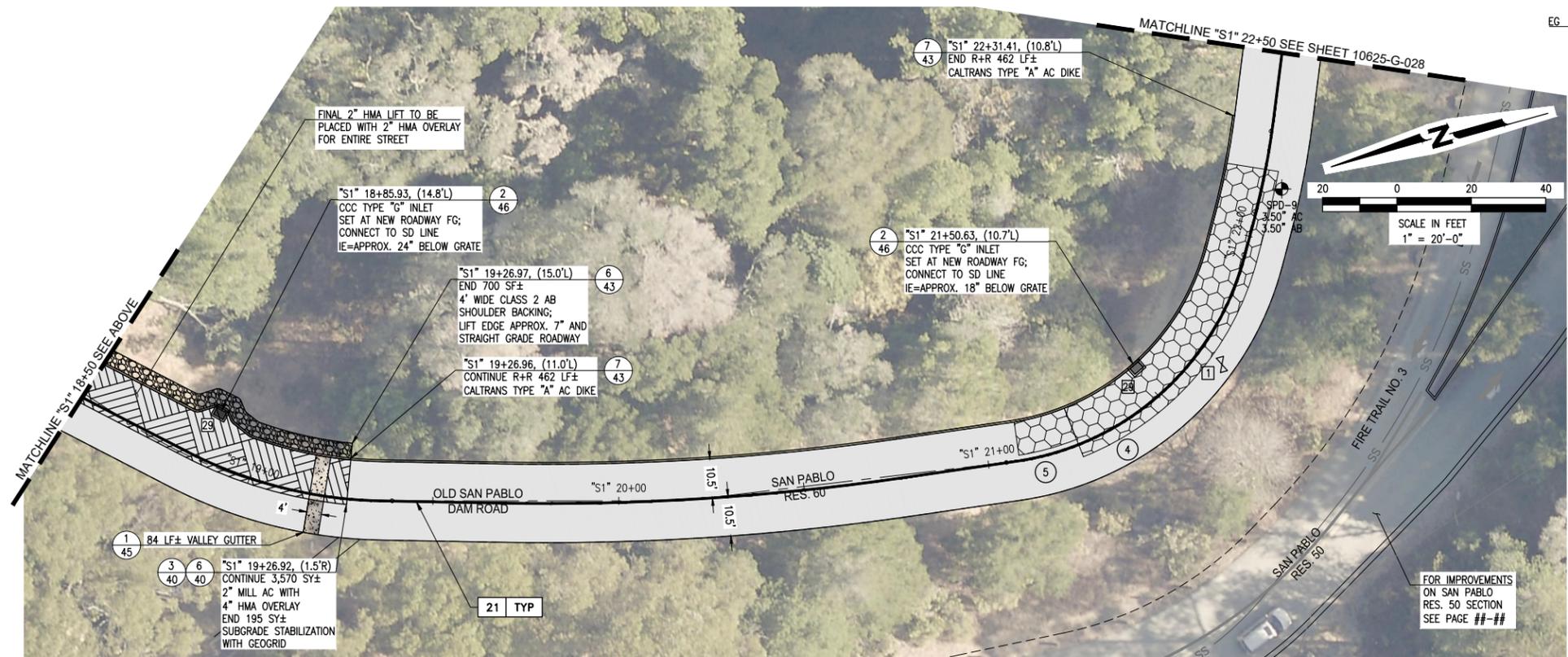
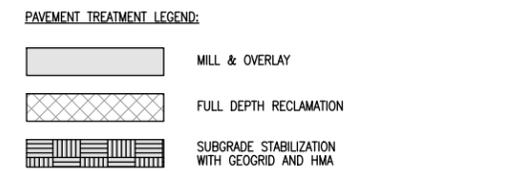


USER: PLOT SCALE:
DATE:
FILE:



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- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
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 - LANE WIDTH DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENTS. LANE WIDTHS SHALL BE 9' MINIMUM AND PARKING STALL LENGTHS SHALL BE ADJUSTED ACCORDINGLY.

- UTILITY KEYNOTES:**
- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
 - 29 CURB INLET; INSTALL STANDARD CURB INLET. SEE DETAIL 2/46.



BASE REPAIR (6" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
4	NB	90	14	1,260
5	NB	15	9	135
SAN PABLO RESERVOIR 60, STREET TOTAL AREA (SF)				1,395
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				1,604

FINAL PLANS
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EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN SAN PABLO RES. 60
"S1" 15+50 TO "S1" 22+50 PG. 27

PROJ NO. 10625-G	10625-G-027	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT.	DISC. NUMBER REV.

PLOT SCALE:

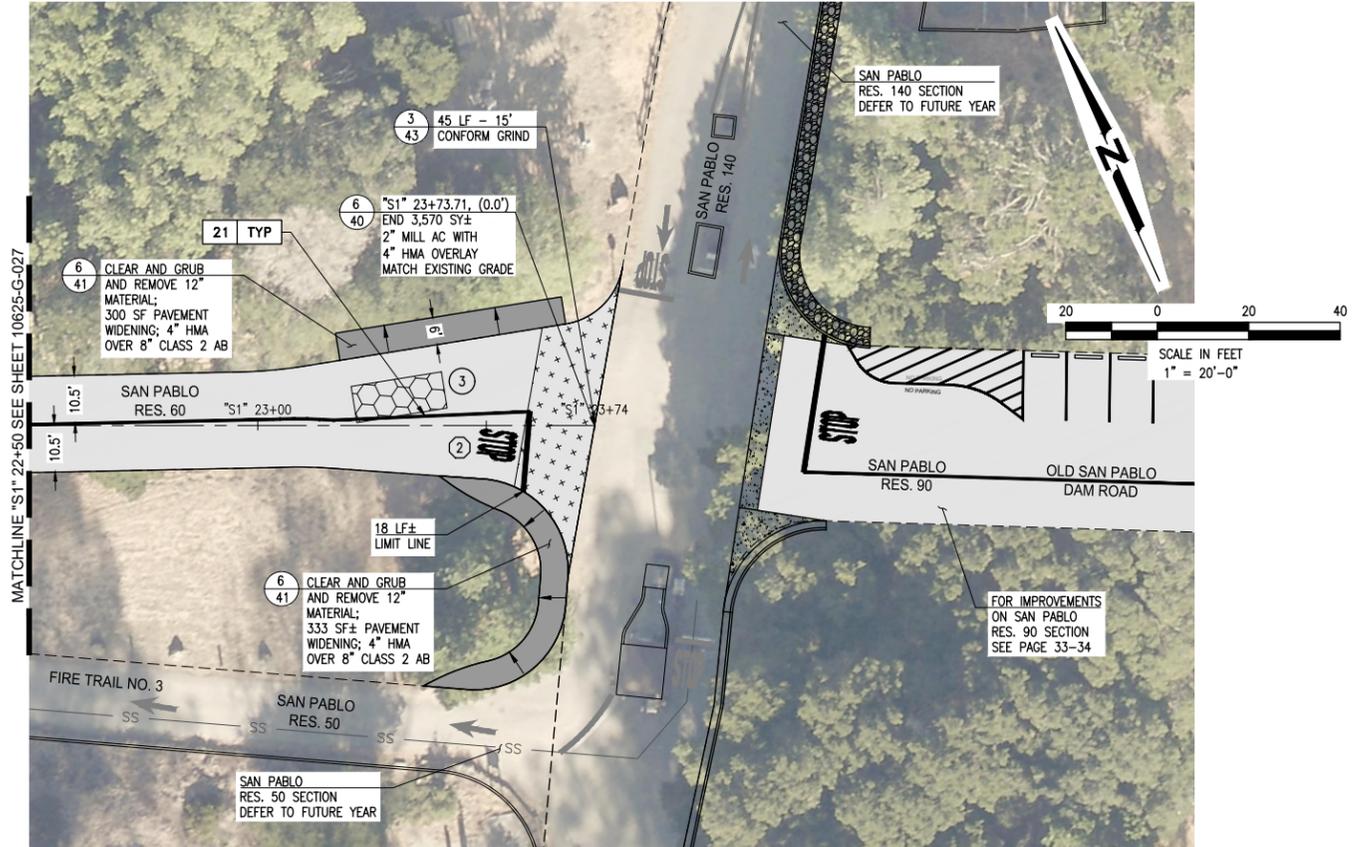


NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HATZINGER
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHARALLA
SEAL	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
APPROVED		
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	<i>Ryan Shafer</i>



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STRIPING KEYNOTES:

② CALTRANS PAVEMENT MARKING "STOP" 6/42

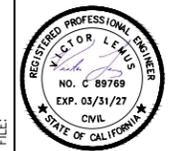
PAVEMENT TREATMENT LEGEND:

□ MILL & OVERLAY

■ PAVEMENT WIDENING

BASE REPAIR (6" DEPTH) - ①/40				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
3	NB	20	8	160
SAN PABLO RESERVOIR 60, STREET TOTAL AREA (SF)				160
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				184

USER: PLOT SCALE: DATE: FILE:



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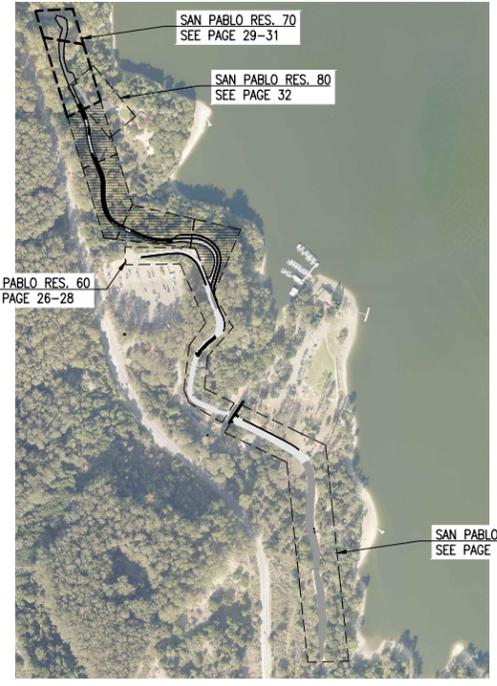
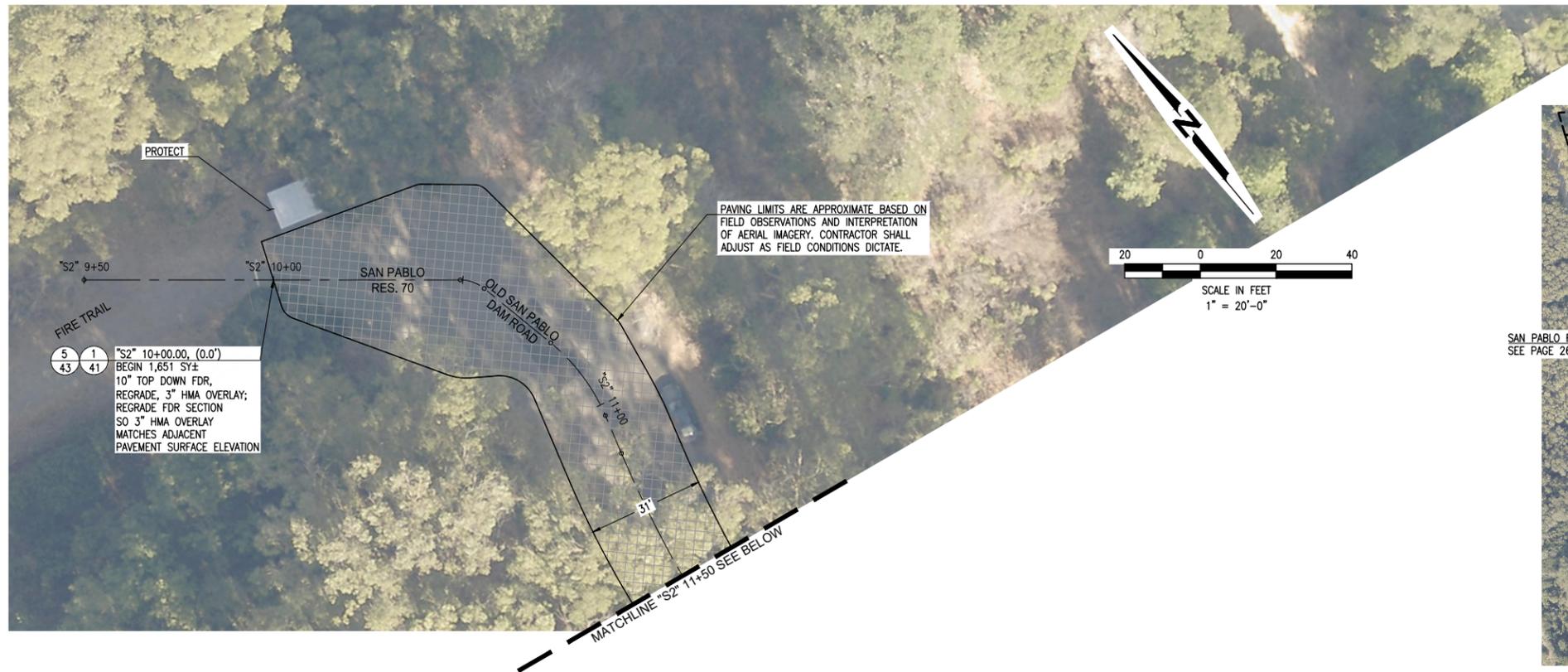
PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR OF FACILITIES MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN SAN PABLO RES. 60
"S1" 22+50 TO "S1" 23+74 PG. 28

PROJ NO. 10625-G	10625-G-028	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



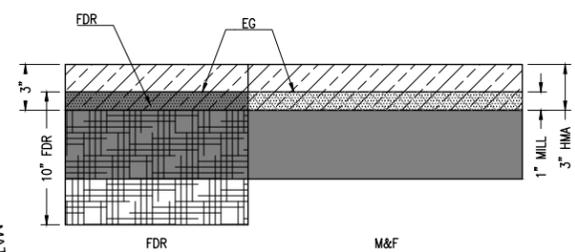
- CONSTRUCTION NOTES:**
- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 - PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
 - FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
 - CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
 - FOR RECONSTRUCTION SECTIONS THE CONTRACTOR SHALL ESTABLISH THE CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS OF THE EXISTING ROADWAY AND CONSTRUCT THE NEW SECTION TO THESE ELEVATIONS PLUS ANY CHANGES AS NOTED IN THE CROSS SECTION DETAILS.
 - LANE WIDTH DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENTS. LANE WIDTHS SHALL BE 9' MINIMUM AND PARKING STALL LENGTHS SHALL BE ADJUSTED ACCORDINGLY.

UTILITY KEYNOTES:

2 FIRE HYDRANT; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

- CAPE SEAL
- MILL & OVERLAY
- FULL DEPTH RECLAMATION



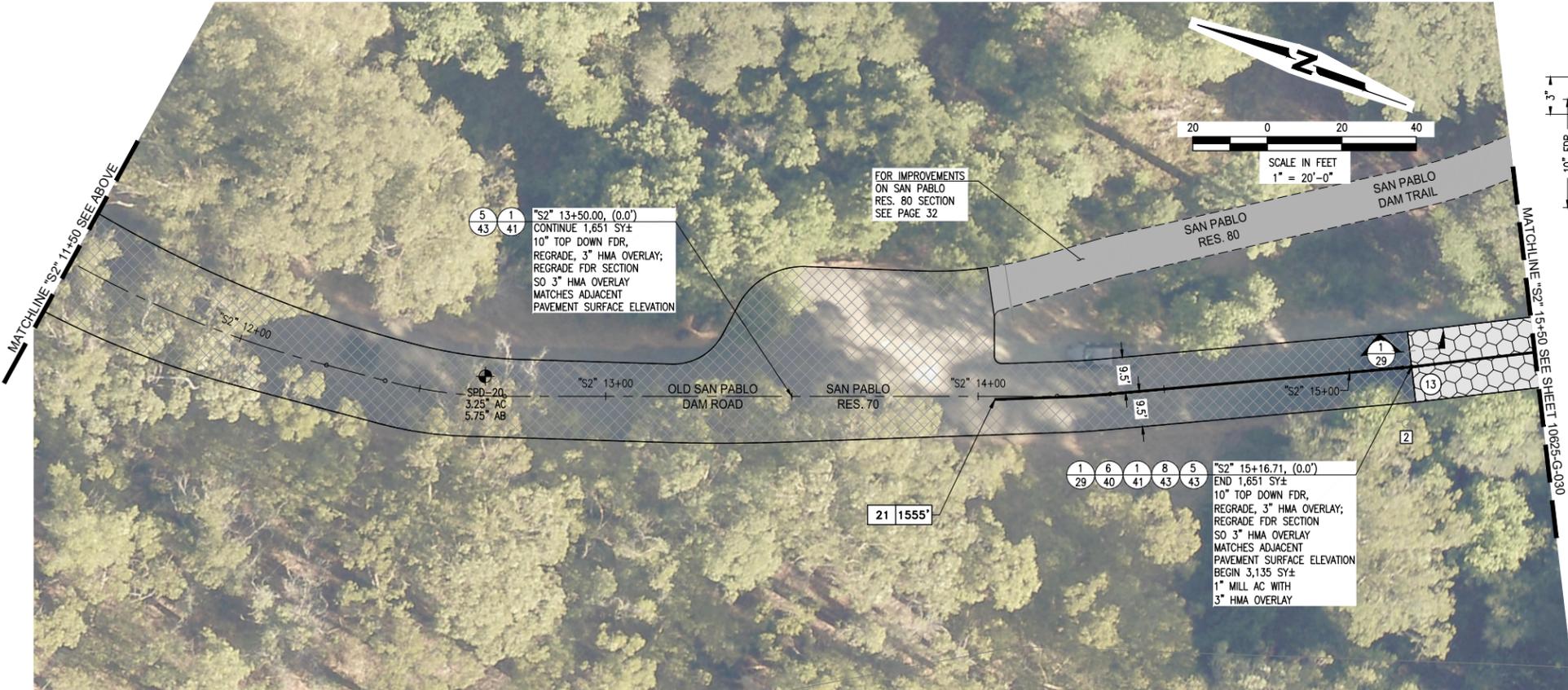
SECTION DETAIL LEGEND:

- AC PAVEMENT
- HMA
- FDR



BASE REPAIR (4" DEPTH) - 1/40

NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
13	SB	84	18	1,512
SAN PABLO RESERVOIR 70, STREET TOTAL AREA (SF)				1,512
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				1,739



**FINAL PLANS
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BIDDING
DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 70
'S2'' 9+50 TO 'S2'' 15+50**

USER: PLOT SCALE:
DATE:
FILE:



NO.	DATE	REVISION	BY	REC.	APP.

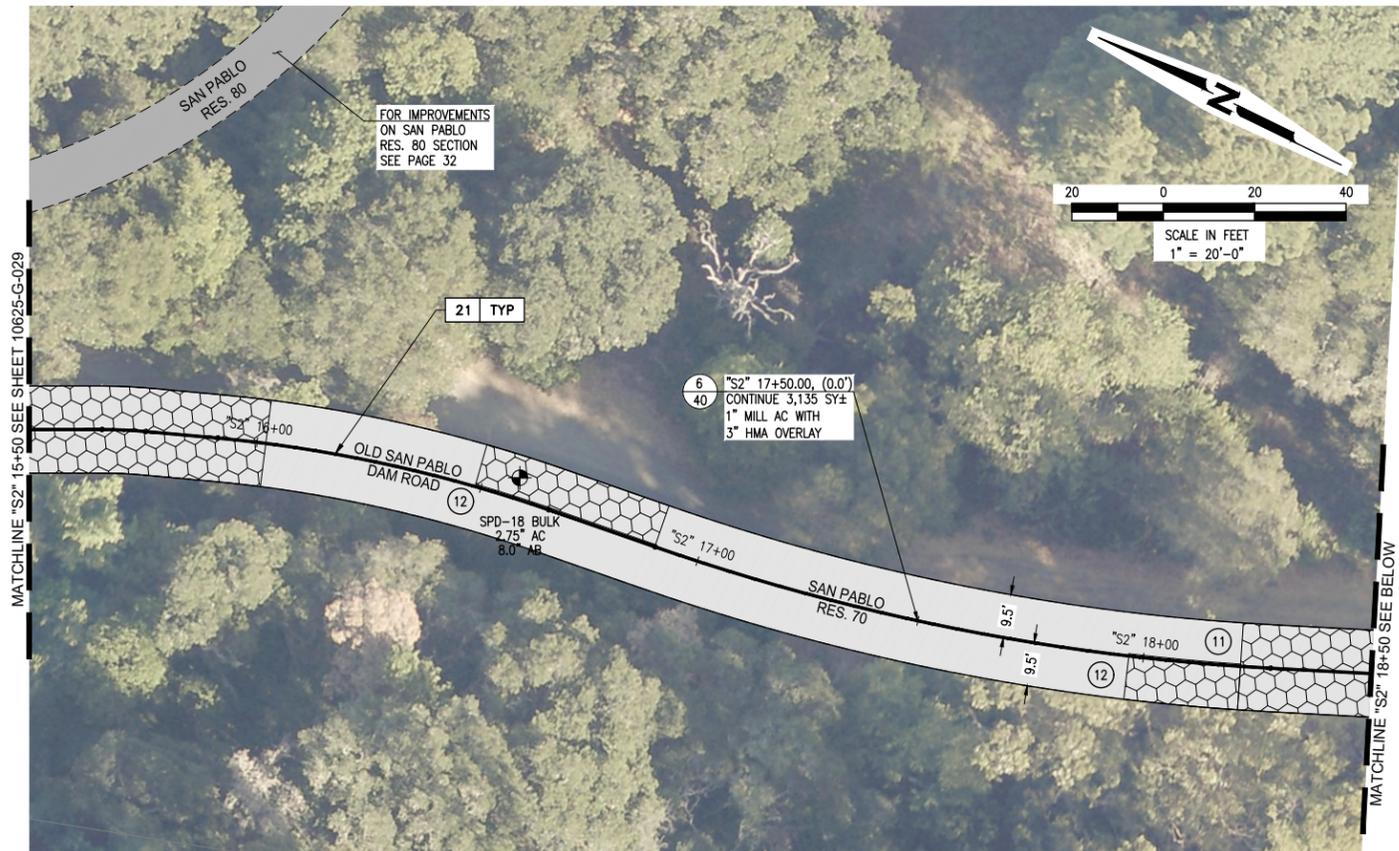


East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HEDINGER
DRAWN BY: SAMUEL MCGUIRE, DIANA BASHARALL
SP. PROJ. ENGR. R.P.E. NO. C62349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR OF FACILITIES MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881

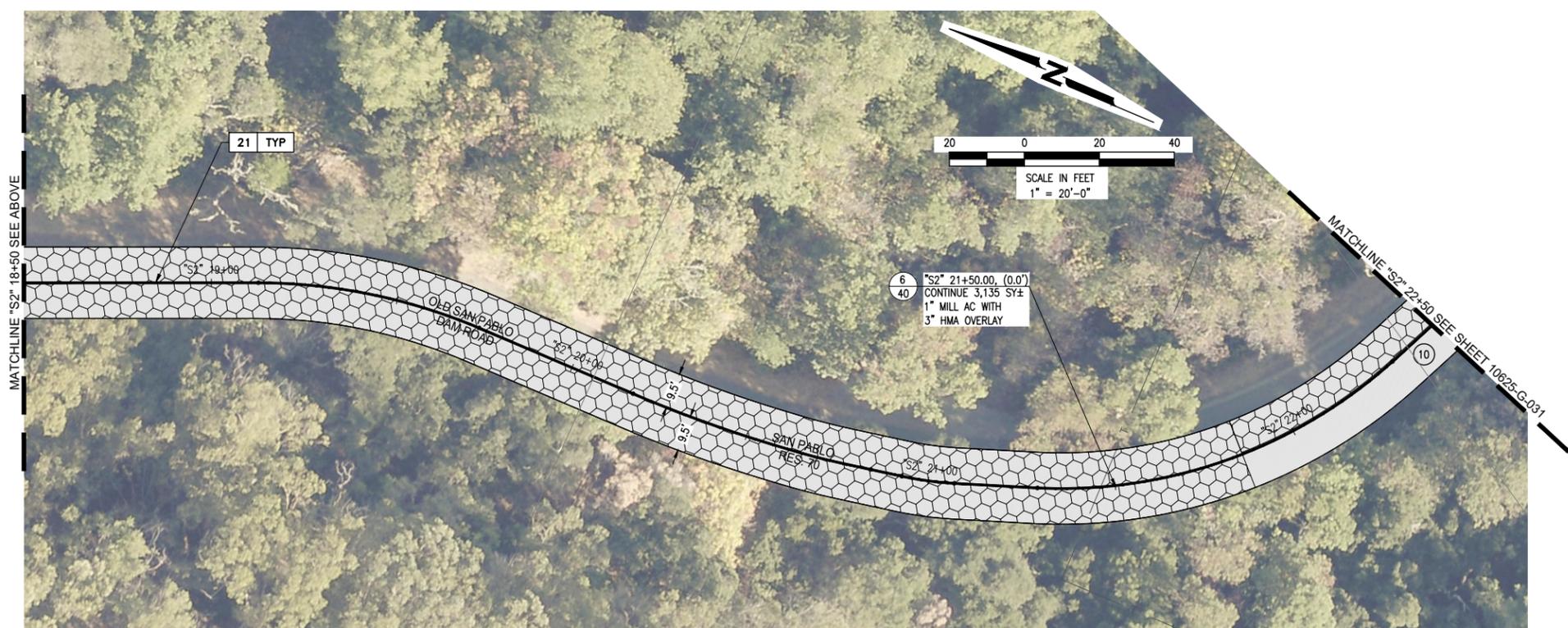
PROJ. NO. 10625-G	10625-G-029	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



- CONSTRUCTION NOTES:**
1. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
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PAVEMENT TREATMENT LEGEND:

	CAPE SEAL
	MILL & OVERLAY



BASE REPAIR (4" DEPTH) - (1/40)

NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
10	NB	80	9	720
11	NB	360	18	6,480
12	SB	25	10	250
12	NB	42	9	378
SAN PABLO RESERVOIR 70, STREET TOTAL AREA (SF)				7,828
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				9,002

**FINAL PLANS
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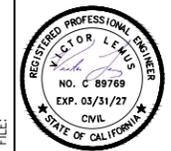
**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 70
'S2'' 15+50 TO 'S2'' 22+50**

PROJ NO. 10625-G	10625-G-030	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

USER: PLOT SCALE: DATE: FILE:



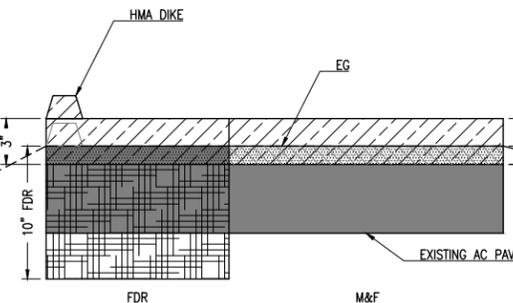
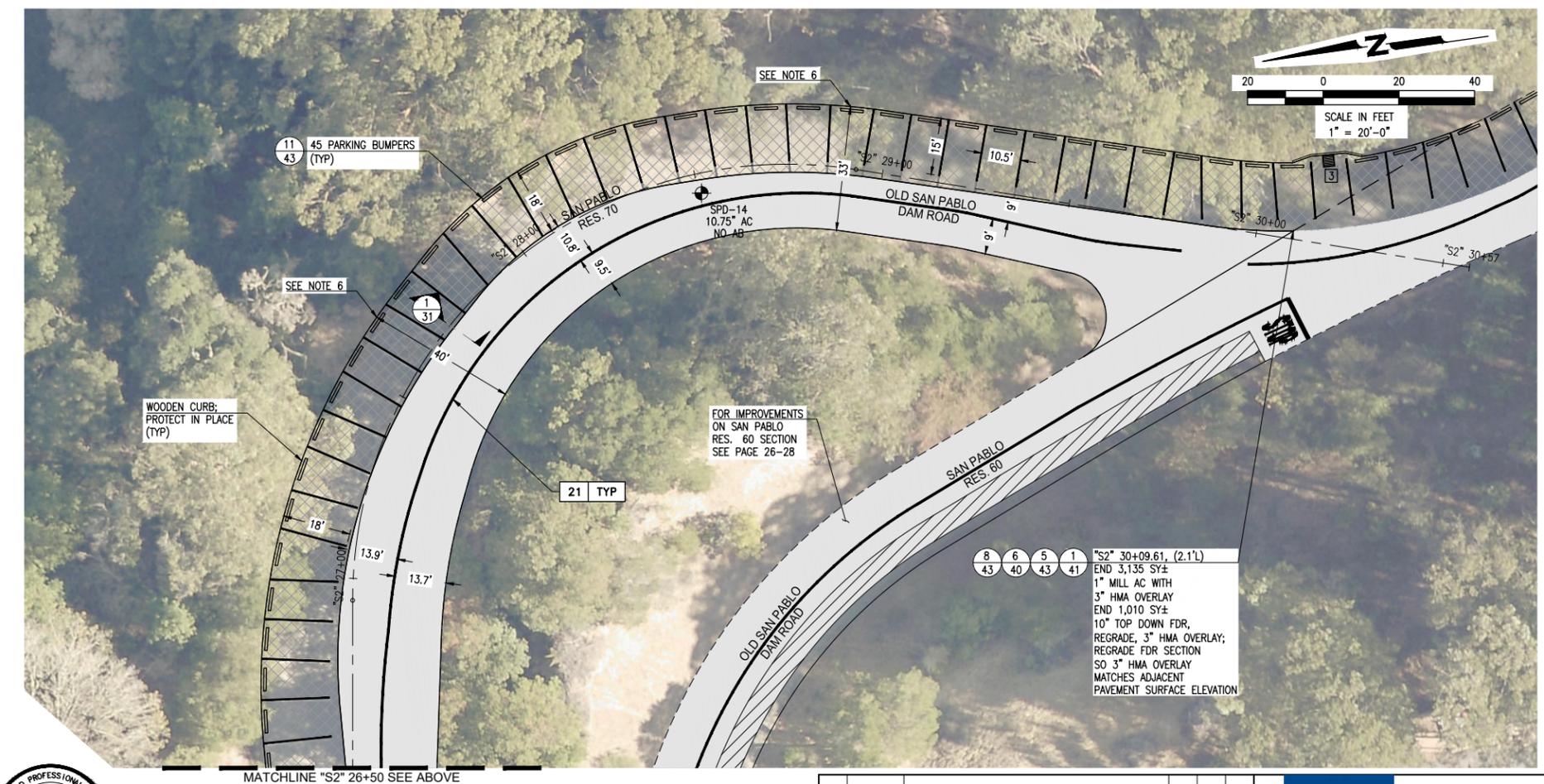
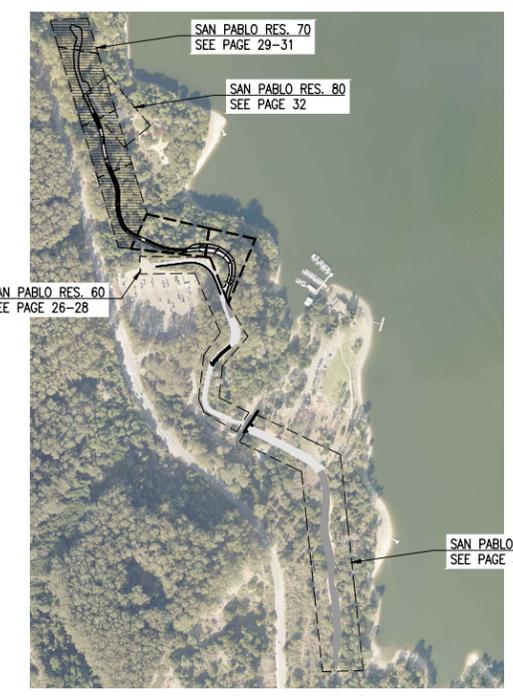
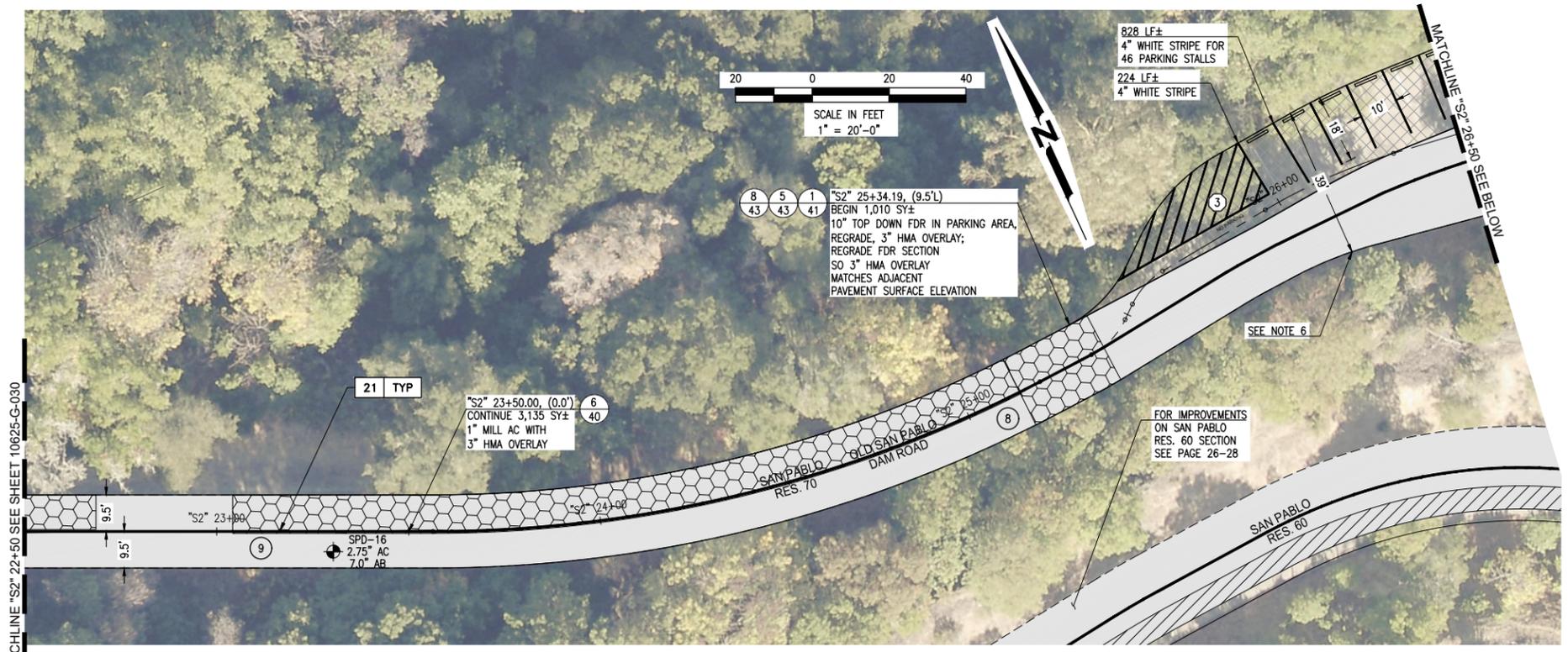
NO.	DATE	REVISION	BY	REC.	APP.



**East Bay Municipal
Utility District (EBMUD)**
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HASTINGER
DRAWN BY	SAMUEL NGUYEN, DEBORA BASHARAWA
SP. PROJ. ENGR.	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos-Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
APPROVED		<i>Sandra J. Mulhauser</i>
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	<i>Robert C. Hu</i>



**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



REGISTERED PROFESSIONAL ENGINEER
DAVID L. LEWIS
NO. C 89769
EXP. 03/31/27
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISION	BY	REC.	APP.

EAST BAY MUNICIPAL UTILITY DISTRICT (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HADJIOANGLIS
DRAWN BY	SAMUEL MCGUIRE, DEANA BASHARAWA
SB PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO. C89769	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris Villalobos</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SB PROJ. ENGR.	R.P.E. NO. E18881	<i>Sandra J. Mulhauser</i>
APPROVED		

**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

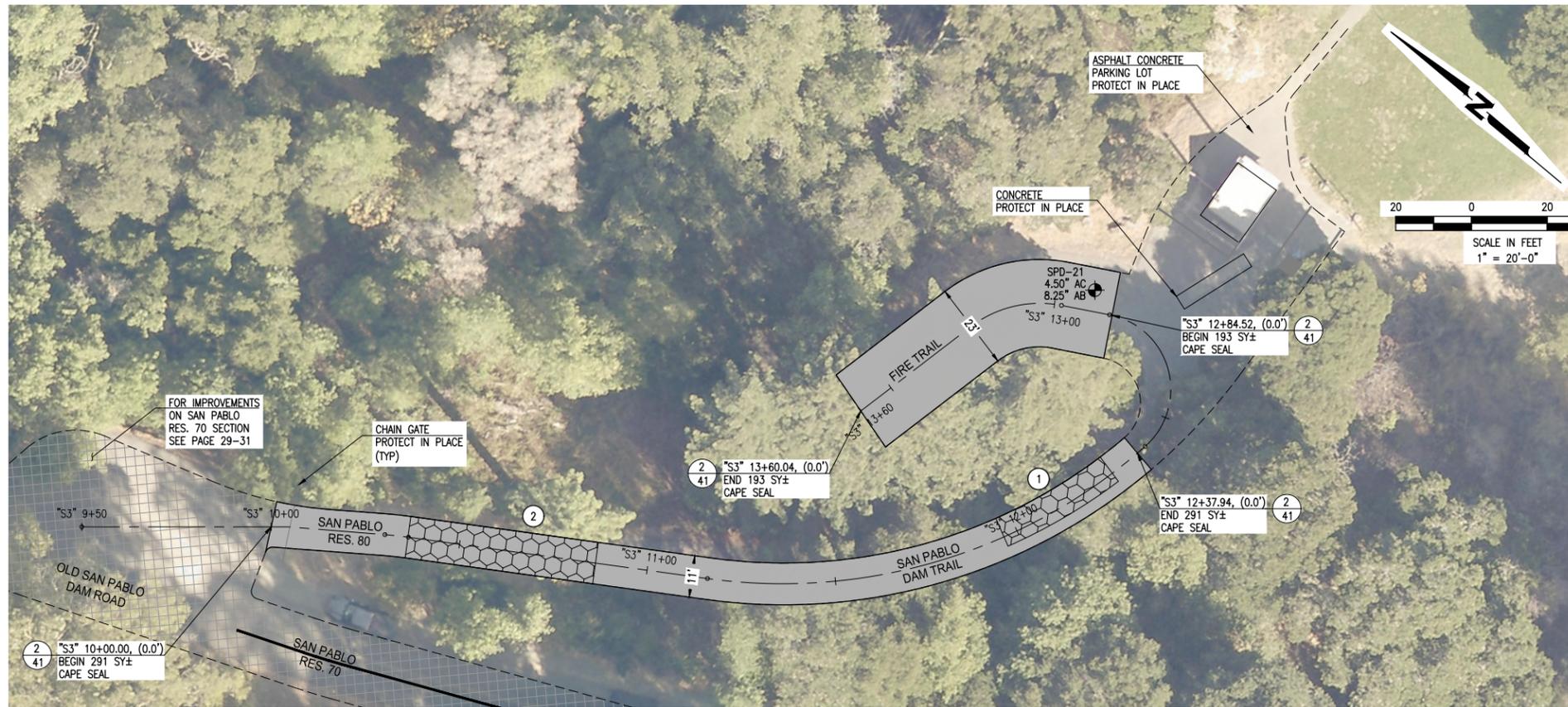
**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 70
'S2'' 22+50 TO 'S2'' 30+57**

PG. 31

PROJ. NO.	10625-G	10625-G-031	0
SCALE	1" = 20'		
DATE	11DEC2025		

USER: PLOT SCALE:
DATE:
FILE:

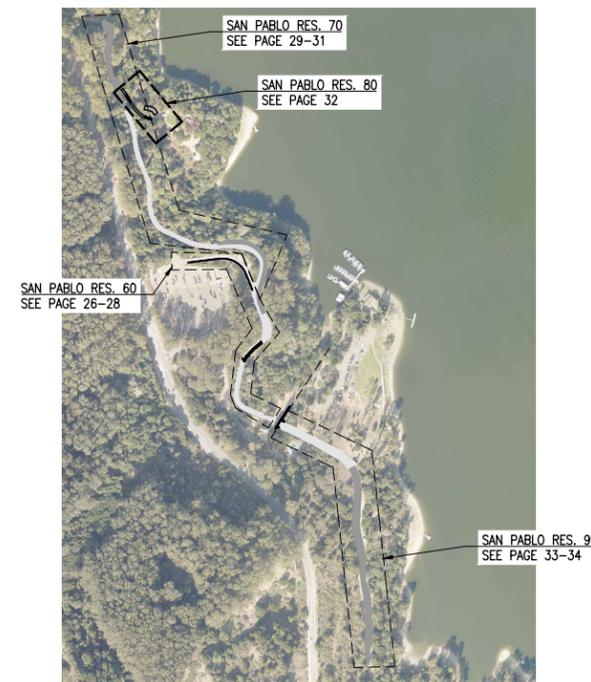


CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

PAVEMENT TREATMENT LEGEND:

- CAPE SEAL
- FULL DEPTH RECLAMATION



BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	NB	32	8	256
2	NB	50	10	500
SAN PABLO RESERVOIR 80, STREET TOTAL AREA (SF)				756
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				869

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**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 80
'S3' 9+50 TO 'S3' 13+60**

PROJ NO. 10625-G
SCALE 1" = 20'
DATE 11DEC2025

10625-G-032
0

PG. 32

NO.	DATE	REVISION	BY	REC.	APP.



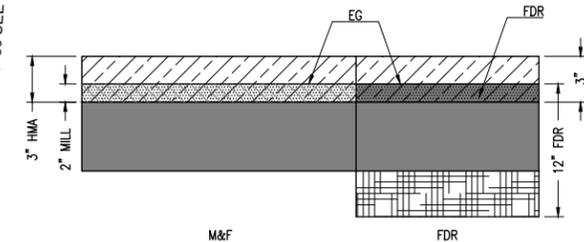
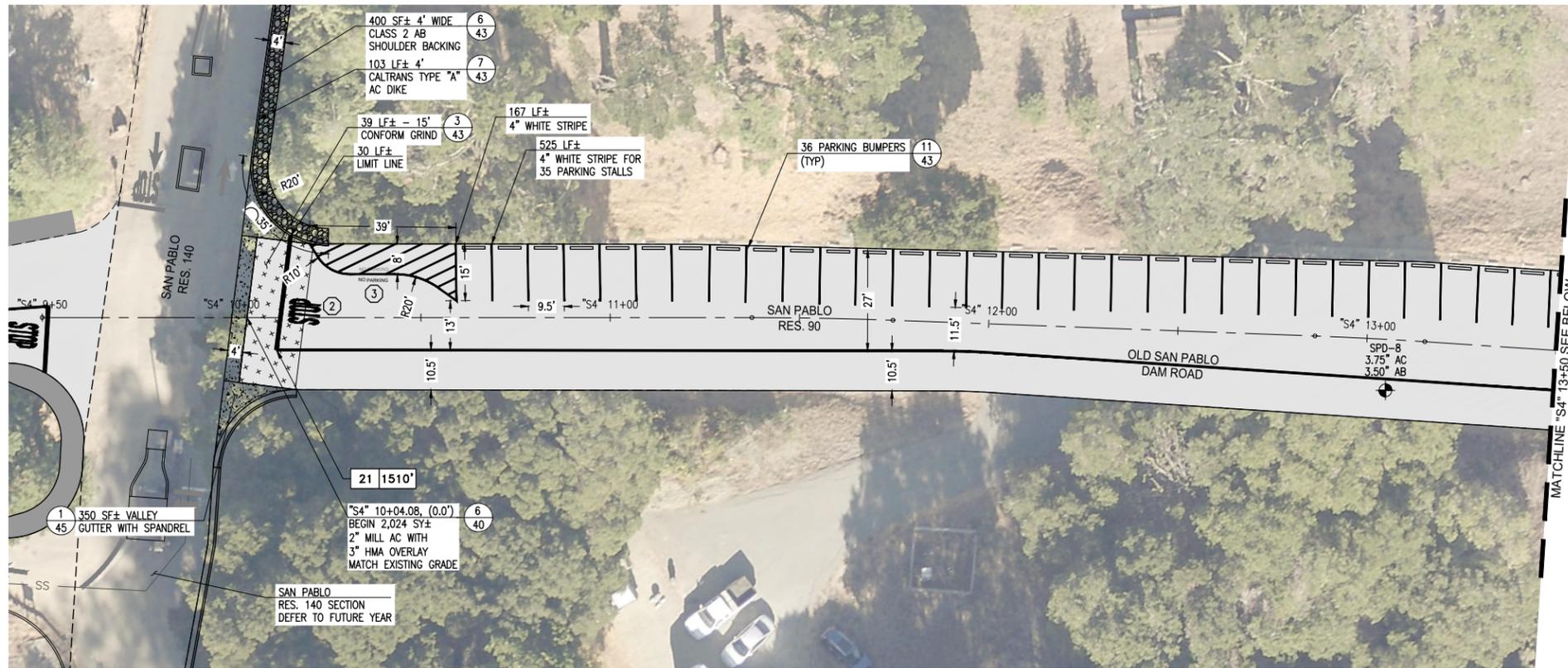
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORUWIZI, DEANA BASHIRHAMA
SE, PROJ. ENGR., R.P.E. NO. C67919
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

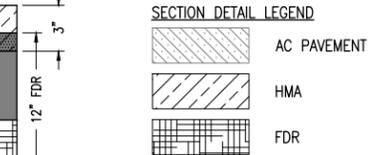
PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR, FACILITIES MAINTENANCE AND CONSTRUCTION: R.P.E. NO. E18881

USER: PLOT SCALE:
DATE:
FILE:





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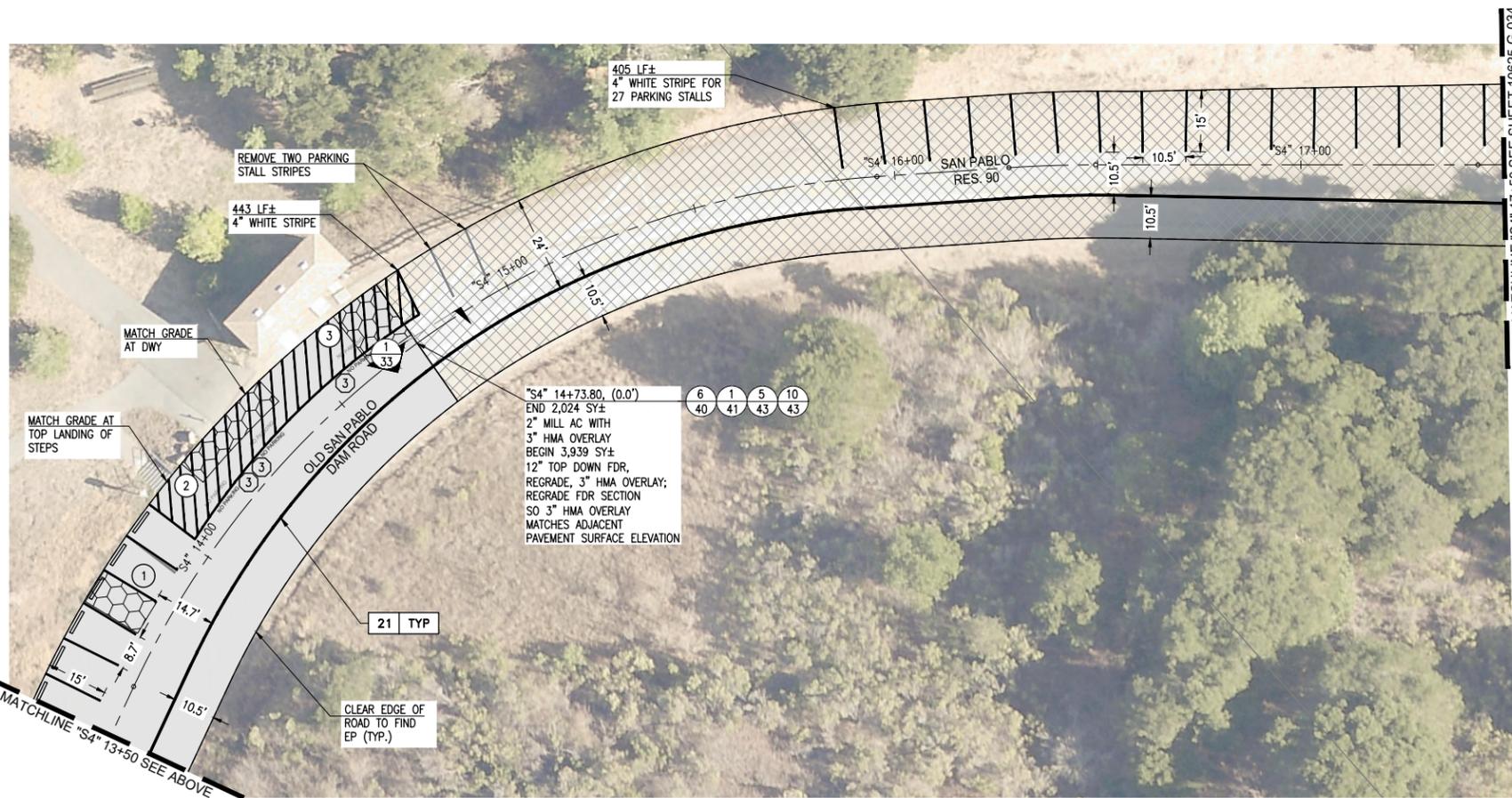


- STRIPING KEYNOTES:**
- ② CALTRANS PAVEMENT MARKING "STOP" 6/42
 - ③ CUSTOM PAVEMENT MARKING "NO PARKING" 8/42



BASE REPAIR (4" DEPTH) - ①/40

NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	NB	15	9	135
2	NB	28	7	196
3	NB	13	15	195
SAN PABLO RESERVOIR 90, STREET TOTAL AREA (SF)				526
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				605



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**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 90
'S4' 9+50 TO 'S4' 17+50 PG. 33**

PROJ NO. 10625-G	10625-G-033	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT.	DISC. NUMBER REV.

NO.	DATE	REVISION	BY	REC.	APP.

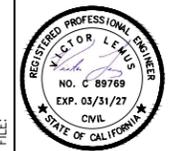


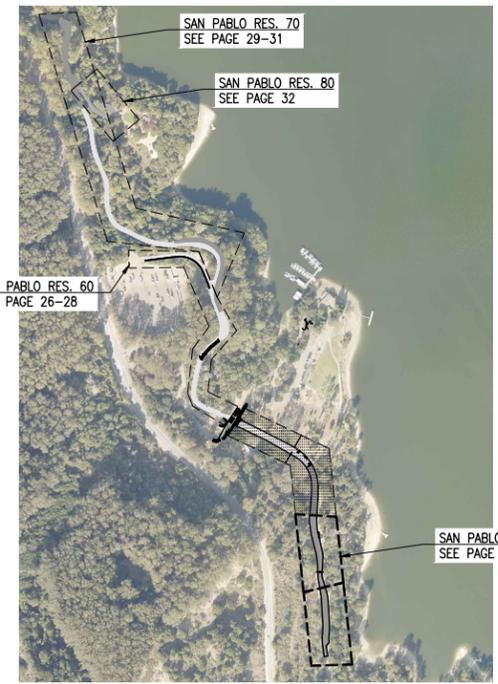
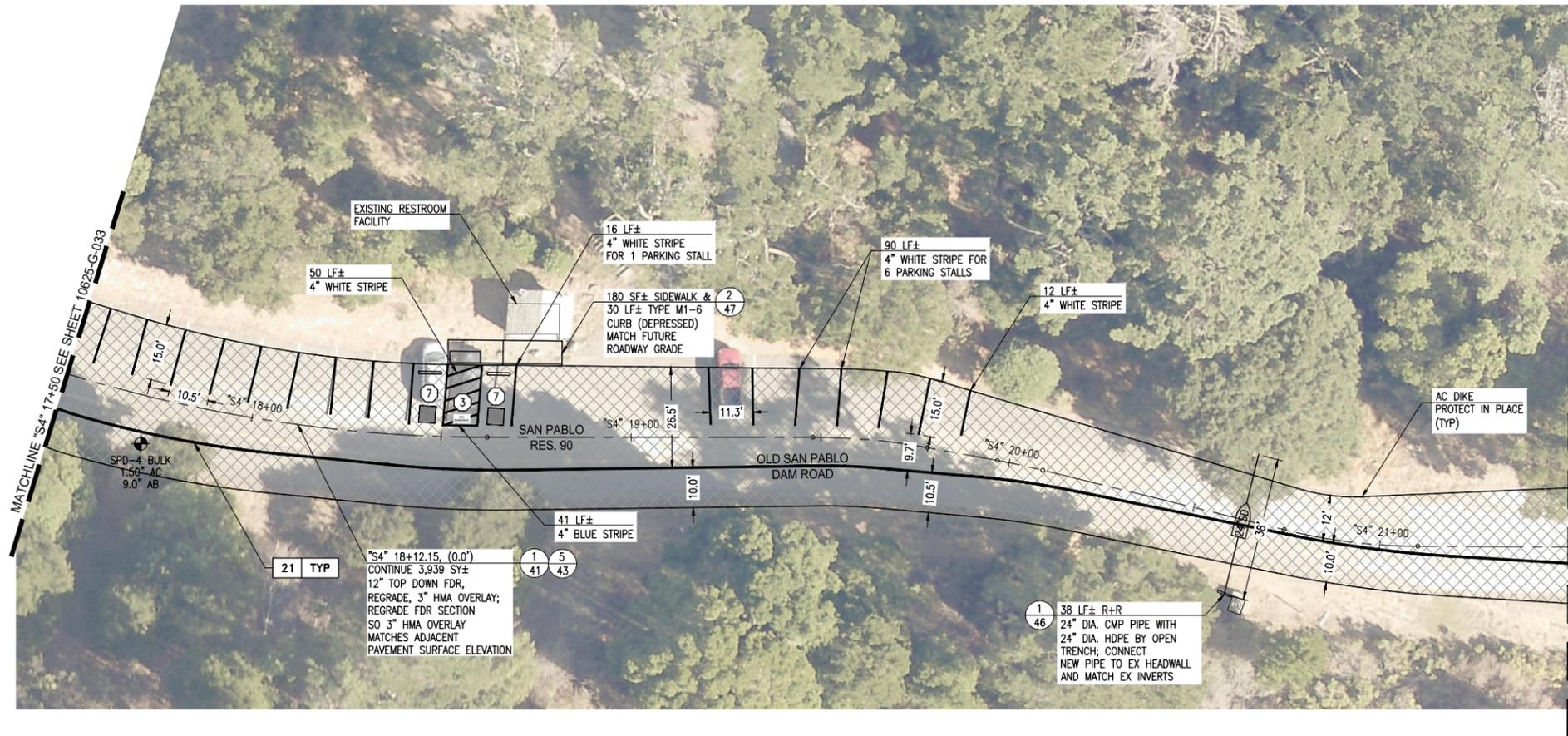
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HATZINGER
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SP. PROJ. ENGR. R.P.E. NO. C62349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

PLOT SCALE:
USER:
DATE:
FILE:

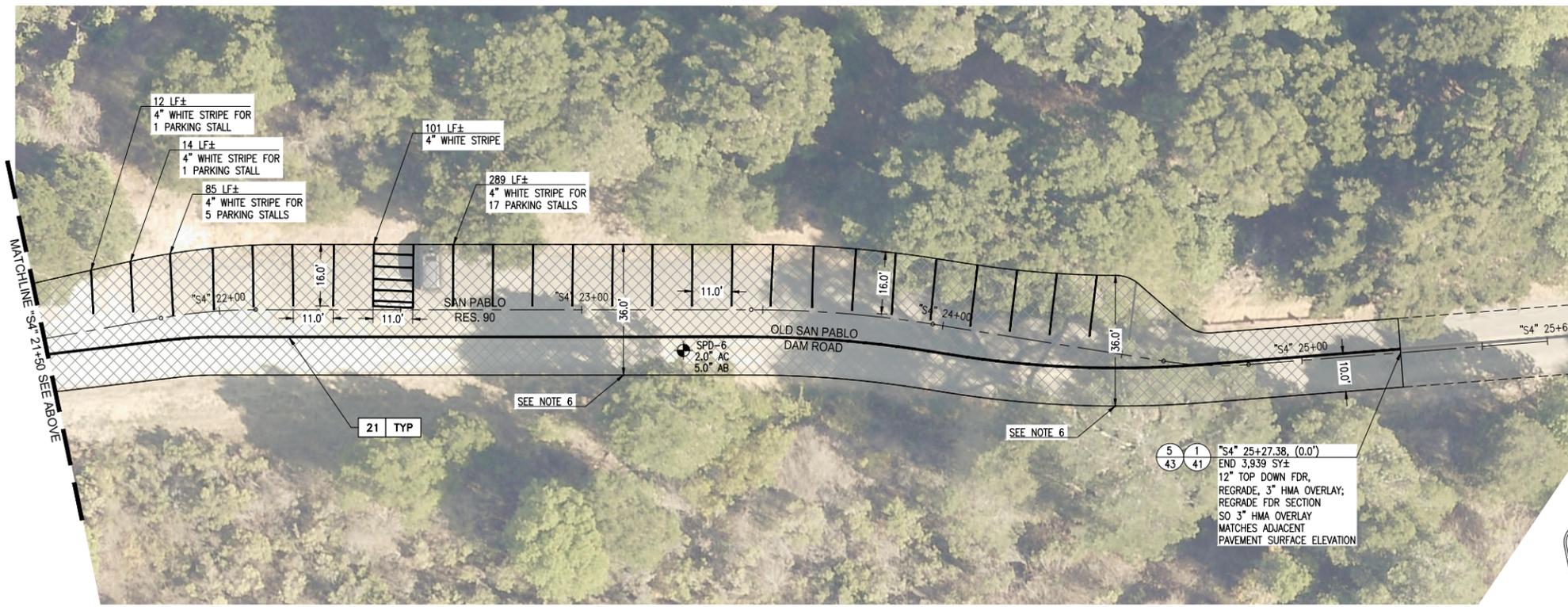




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- STRIPING KEYNOTES:**
- ③ CUSTOM PAVEMENT MARKING "NO PARKING" 8/42
 - ⑦ INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING 7/42



**FINAL PLANS
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DATE: 12/10/2025**



**EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA**

**PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL**

**IMPROVEMENT PLAN SAN PABLO RES. 90
'S4'' 17+50 TO 'S4'' 25+68**

PRJ. NO. 10625-G
SCALE 1" = 20'
DATE 11DEC2025

10625-G-034
0

NO.	DATE	REVISION	BY	REC.	APP.

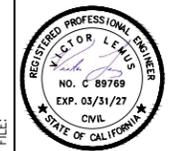
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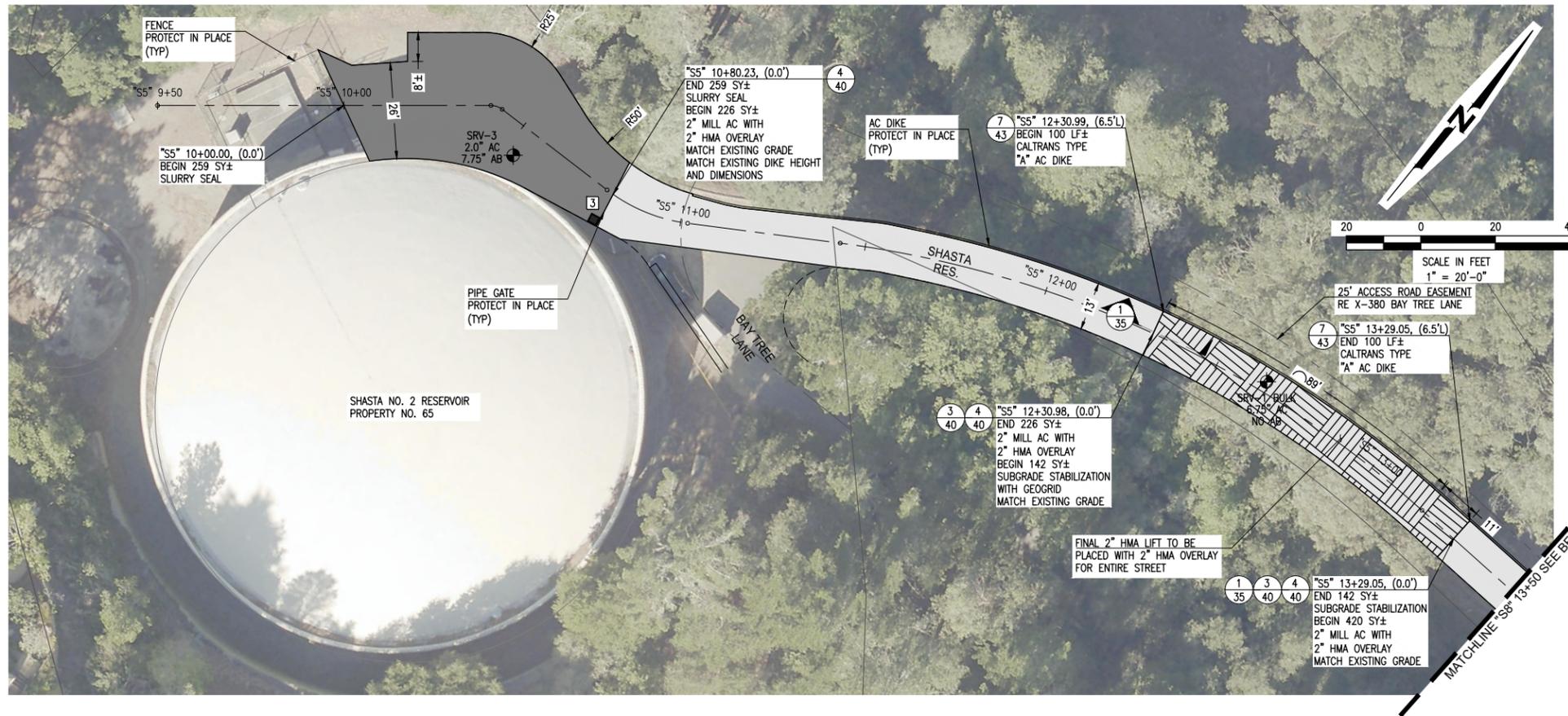
DESIGNED BY: VICTOR LEMUS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DIANA BASHIRI
SE. CIVIL ENGR. R.P.E. NO. C62349
APPROVED: VICTOR LEMUS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558
PROJECT ENGINEER: R.P.E. NO. C83558
RECOMMENDED BY: R.P.E. NO. C79823
APPROVED FOR CONSTRUCTION: R.P.E. NO. E18881

DESIGNED BY: DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: DAMARIS VILLALOBOS-GALINDO
RECOMMENDED BY: SANDRA J. MULHAUSER
APPROVED FOR CONSTRUCTION: SANDRA J. MULHAUSER

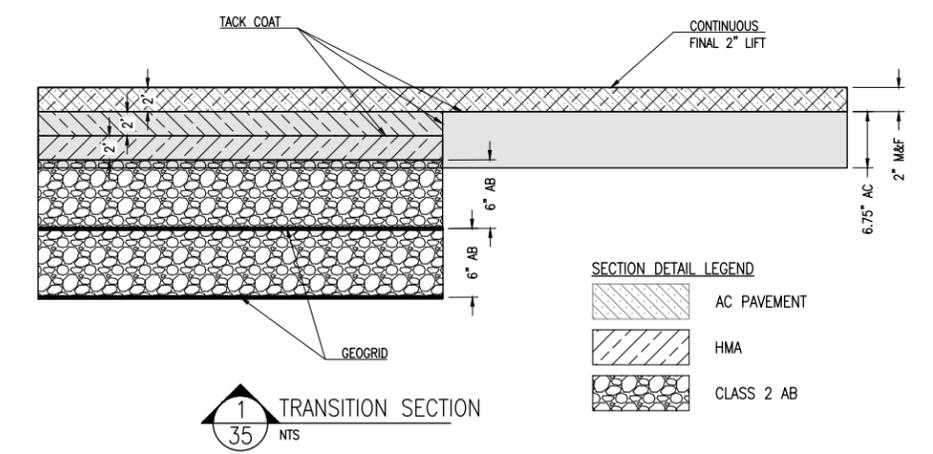
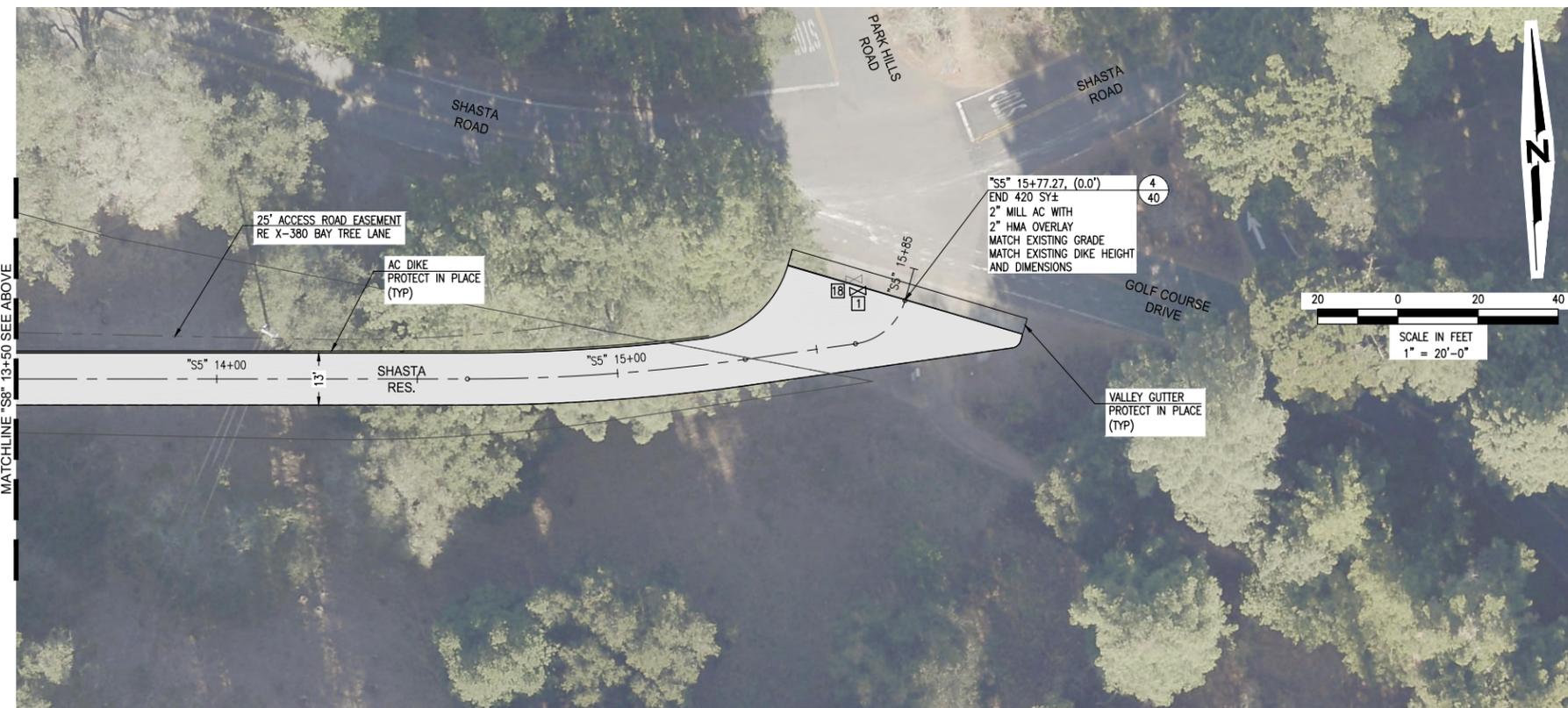
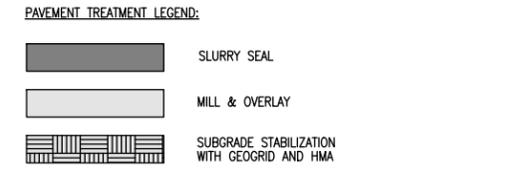
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DATE:
FILE:





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- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 - PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
 - FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
 - CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
 - LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

- UTILITY KEYNOTES:**
- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
 - 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 18 WATER VALVE BOX; PROTECT IN PLACE.



**FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025**



EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1			
CIVIL			
IMPROVEMENT PLAN SHASTA RES. ''S5'' 9+50 TO ''S5'' 15+85			
PRJ. NO. 10625-G	10625-G-035	PG. 35	
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.

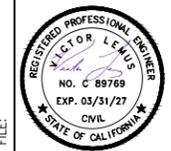
NO.	DATE	REVISION	BY	REC.	APP.

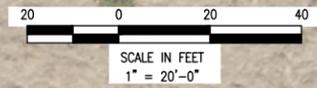
**East Bay Municipal
Utility District (EBMUD)**
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LENS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHARAH
SE. PROJ. ENGR. R.P.E. NO. C93558
APPROVED: VICTOR LENS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
SUPERVISOR OF CONSTRUCTION: R.P.E. NO. E18881

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

1. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
2. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
3. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
4. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
5. LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

UTILITY KEYNOTES:

- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
- 2 FIRE HYDRANT; PROTECT IN PLACE.
- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
- 16 ELECTRICAL VAULT; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

SURFACE RECONSTRUCTION

PLOT SCALE:
USER:
DATE:
FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

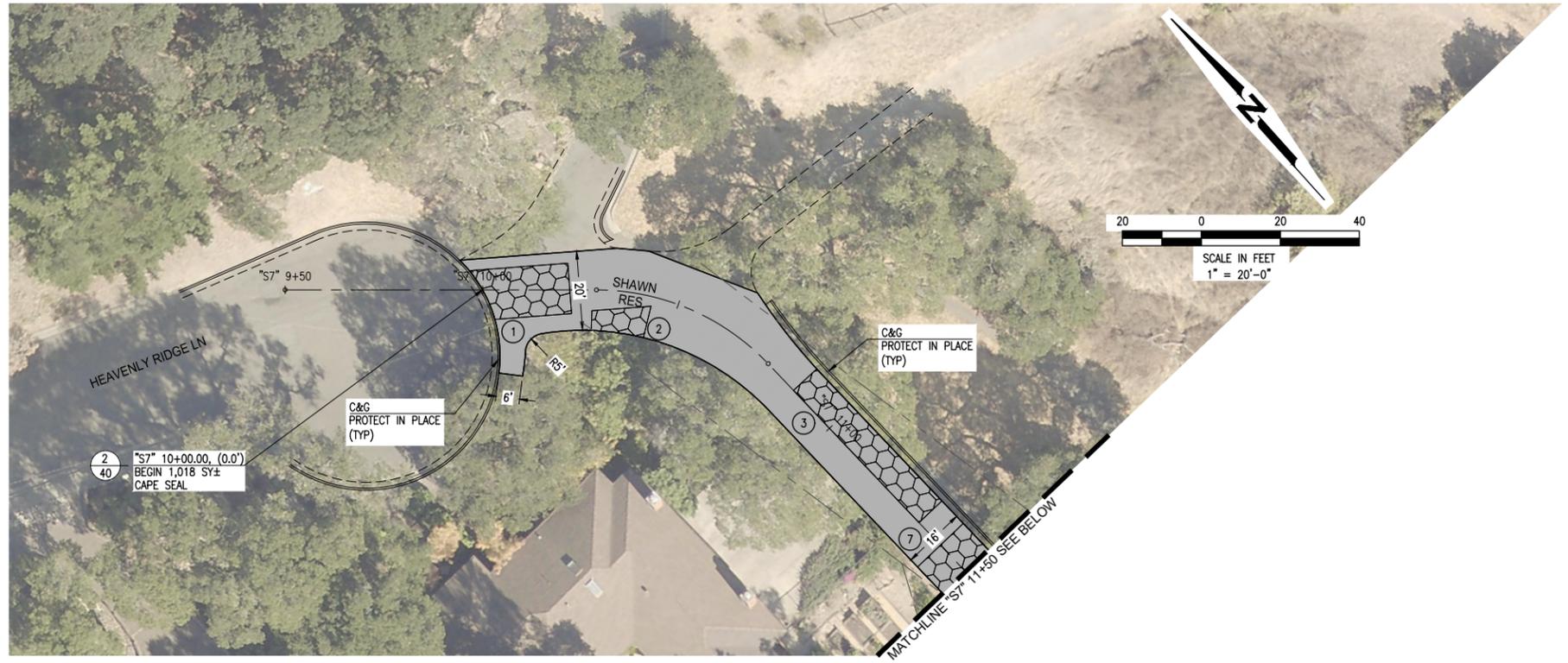
FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHIRI
SB PROJ ENGR: VICTOR LEWIS
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN SHAWN PUMP PLANT 'S6'' 9+50 TO 'S6'' 12+61			
PROJ NO. 10625-G	10625-G-036	PG. 36	
SCALE 1" = 20'			0
DATE 11DEC2025	STRUCT.	DISC.	NUMBER REV.

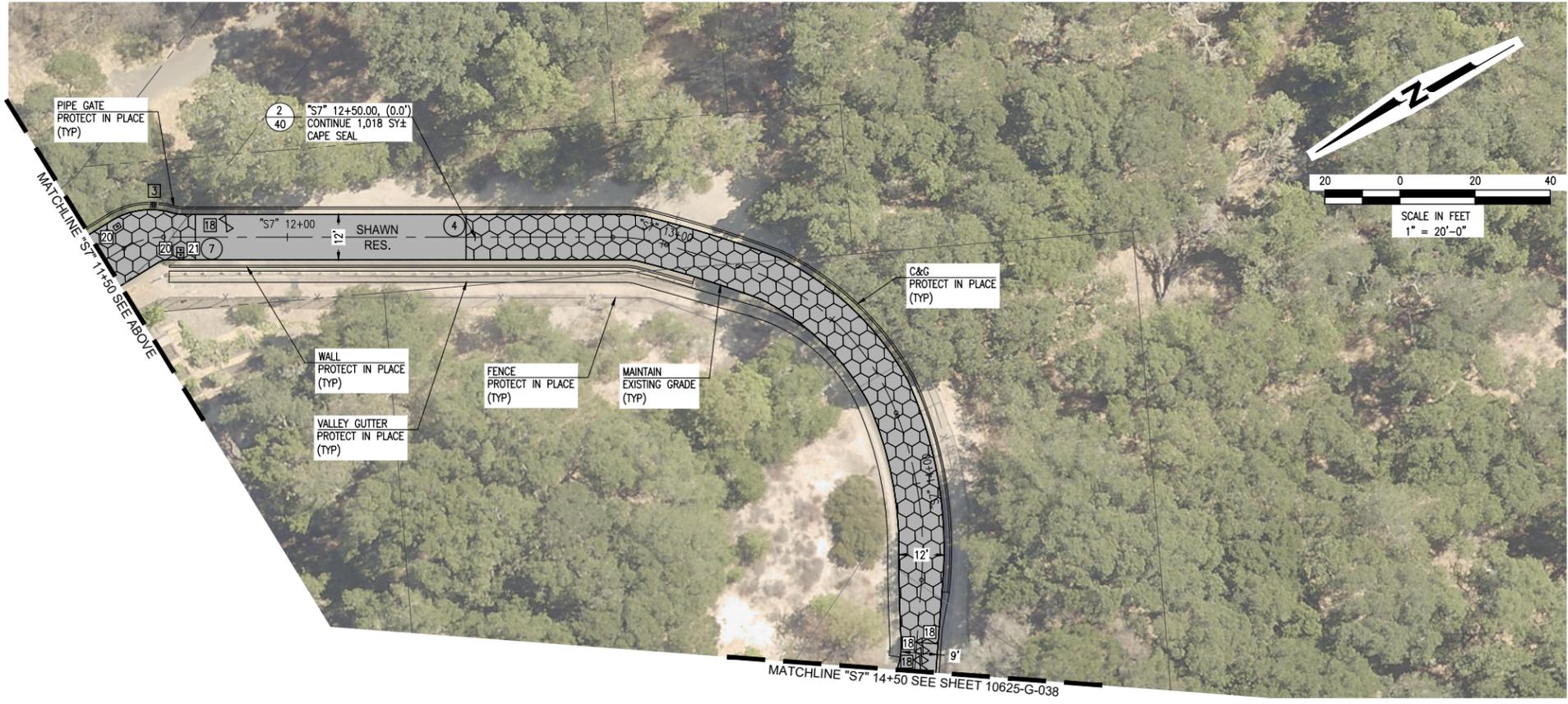


- CONSTRUCTION NOTES:**
1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
 2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
 3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
 4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
 5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
 6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
 7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
 8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

- UTILITY KEYNOTES:**
- 3 CATCH BASIN OR CURB INLET; PROTECT IN PLACE AND INSTALL BMP'S.
 - 18 WATER VALVE BOX; PROTECT IN PLACE.
 - 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
 - 21 ELECTRICAL BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL



BASE REPAIR (4" DEPTH) - (1/40)				
NO.	DIRECTION	LENGTH (LF)	WIDTH (LF)	AREA (SF)
1	EB	25	14	350
2	SB	15	5	75
3	NB	46	8	368
4	SB	185	12	2,220
7	SB	31	12	372
SHAWN RESERVOIR, STREET TOTAL AREA (SF)				3,385
TOTAL AREA (WITH 15% CONTINGENCY)(SF)				3,893

FINAL PLANS
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BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

IMPROVEMENT PLAN SHAWN RES.
"S7" 9+50 TO "S7" 14+50
PG. 37

PROJ NO. 10625-G	10625-G-037	0
SCALE 1" = 20'		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

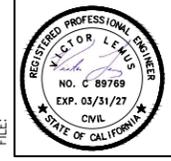
NO.	DATE	REVISION	BY	REC.	APP.

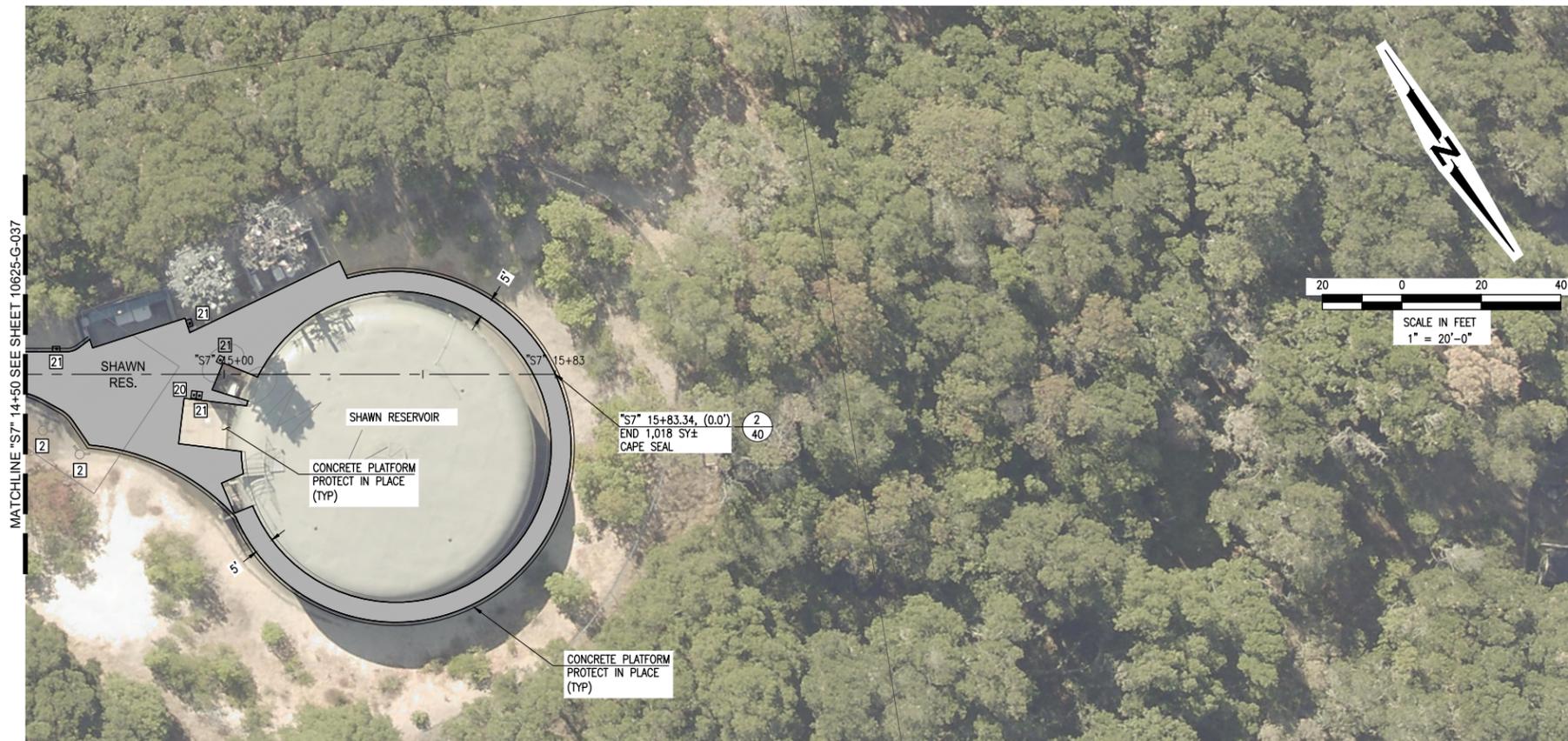
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEMUS
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL MCGUIRE, DEANA BASHARAWAL
SE: CIVIL ENGR. R.P.E. NO. C67919
APPROVED: VICTOR LEMUS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

USER: PLOT SCALE:
DATE:
FILE:





CONSTRUCTION NOTES:

1. REMOVE EXISTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND MARKERS WITH MINIMAL DAMAGE TO THE PAVEMENT SURFACE USING EQUIPMENT SIMILAR TO A ROTARY ERASER PRIOR TO PLACEMENT OF SURFACE SEAL.
2. PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS.
3. CLEAR AND SWEEP ALL AREAS TO RECEIVE SURFACE SEAL FROM VEGETATION, DEBRIS, AND ANY OTHER LOOSE AND DELETERIOUS MATERIALS PRIOR TO PLACING SURFACE SEAL.
4. DO NOT APPLY SURFACE SEAL TREATMENT OVER UTILITY COVERS, MONUMENT COVERS, OR GUTTERS. EDGE OF SURFACE SEAL SHALL BE NEAT AND STRAIGHT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
5. PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
6. FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD THE BASE REPAIR AREAS FOR PAYMENT.
7. ALL BASE REPAIRS, AND CRACK SEALING SHALL BE COMPLETED PRIOR TO PLACING SURFACE SEAL.
8. CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.

UTILITY KEYNOTES:

- 2 FIRE HYDRANT; PROTECT IN PLACE.
- 20 COMMUNICATIONS BOX; PROTECT IN PLACE.
- 21 ELECTRICAL BOX; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

CAPE SEAL

PLOT SCALE:
USER:
DATE:
FILE:



NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

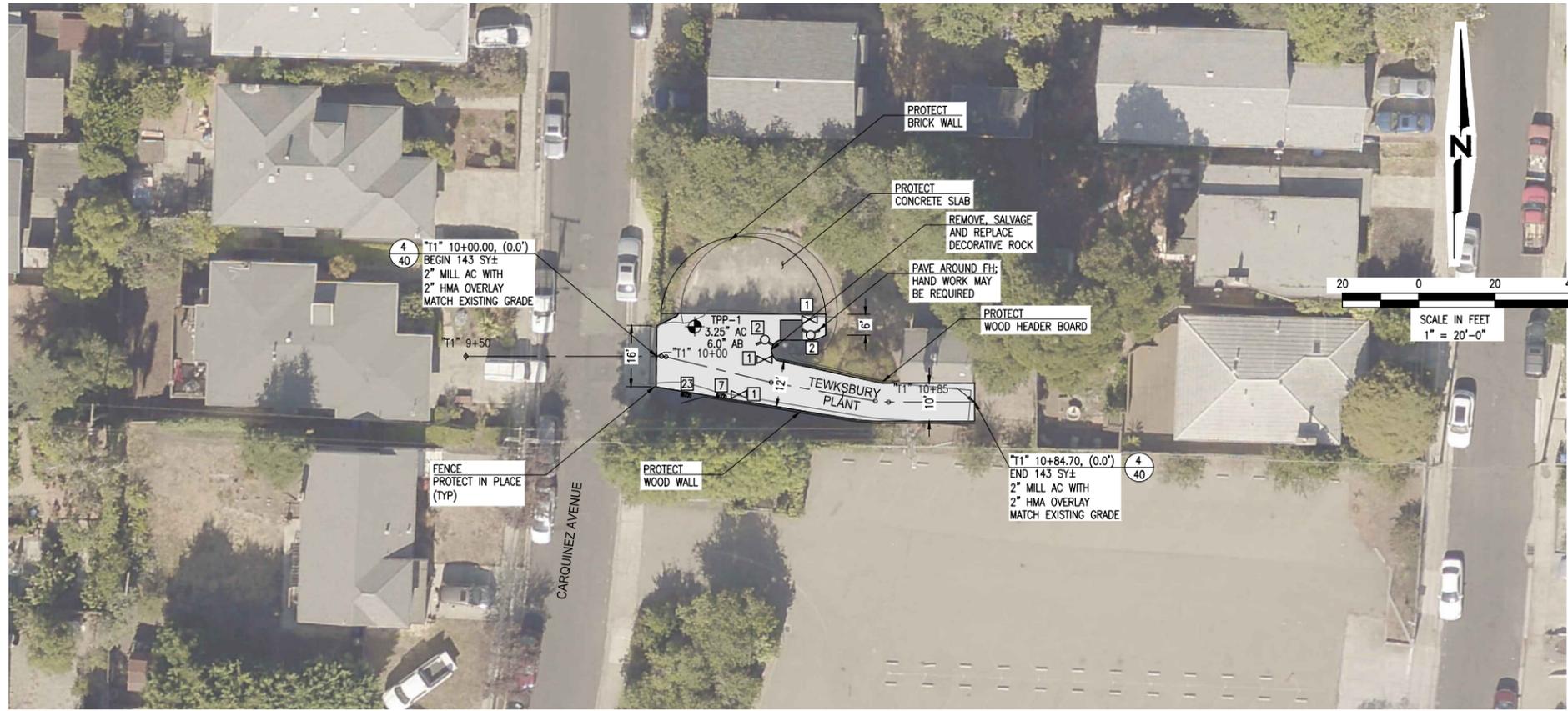
**FINAL PLANS
ISSUED FOR
BIDDING**
DATE: 12/10/2025



DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HARTUNG
DRAWN BY	SAMUEL NGORZIN, DEANA BASHIRI
SB PROJ ENGR	VICTOR LEWIS
R.P.E. NO. C89769	
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	<i>Damaris T. Galindo</i>
PROJECT ENGINEER	R.P.E. NO. C83558	<i>Damaris T. Galindo</i>
RECOMMENDED	R.P.E. NO. C79823	<i>Sandra J. Mulhauser</i>
SB CIVIL ENGR		
APPROVED		
PRINCIPAL IN CHARGE, R.P.E. NO. E18881		

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN SHAWN RES. ''S7'' 14+50 TO ''S7'' 15+83			
PROJ NO. 10625-G	10625-G-038	PG. 38	
SCALE 1" = 20'			0
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.



CONSTRUCTION NOTES:

- PAVEMENT MARKERS AND THERMOPLASTIC STRIPING AND MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
- PROTECT CONCRETE VALLEY GUTTERS DURING CONSTRUCTION.
- FINAL LOCATION AND SIZE OF BASE REPAIRS AND SPOT REPAIRS WILL BE MARKED BY ENGINEER AND DISTRICT REPRESENTATIVE. PRIOR TO CONSTRUCTION, CONTRACTOR AND DISTRICT REPRESENTATIVE SHALL RECORD AREAS FOR PAYMENT.
- CONNECT BASE REPAIR AREAS IF BASE REPAIR AREA LIMITS ARE CLOSER THAN 3'.
- LAY OUT THE STRIPING BASED ON THE FIELD CONDITIONS AFTER PAVING IS COMPLETE. DIMENSIONS GIVEN ON THE PLANS ARE APPROXIMATE AND NEED TO BE FIELD ADJUSTED.

UTILITY KEYNOTES:

- 1 WATER VALVE; ADJUST WATER VALVE BOX AND COVER TO FG. SEE DETAIL 3/41.
- 2 FIRE HYDRANT; PROTECT IN PLACE.
- 7 WATER METER; ADJUST WATER METER BOX AND COVER TO FG.
- 23 WATER METER; PROTECT IN PLACE.

PAVEMENT TREATMENT LEGEND:

MILL & OVERLAY

USER: PLOT SCALE: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal Utility District (EBMUD)
 375 11th Street
 Oakland, CA, 94607
 Ph: (866) 403-2683

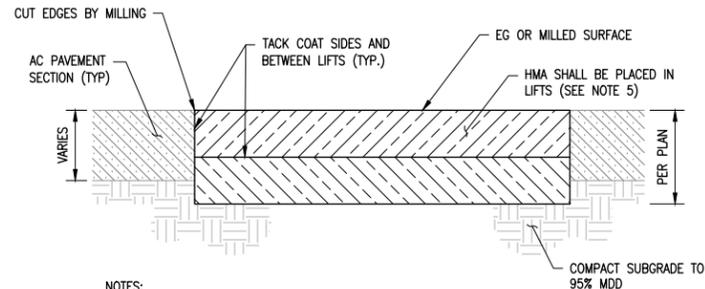
FINAL PLANS
 ISSUED FOR
 BIDDING
 DATE: 12/10/2025



DESIGNED BY: VICTOR LEWIS
 DESIGN CHECKED BY: FRANK HARTINGER
 DRAWN BY: SAMUEL NGORZIN, DEANA BASHIRI
 SB PROJ ENGR: VICTOR LEWIS
 APPROVED: VICTOR LEWIS
 PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
 PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
 RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
 APPROVED: SANDRA J. MULHAUSER
 MSB CONSTRUCTION: R.P.E. NO. E18881

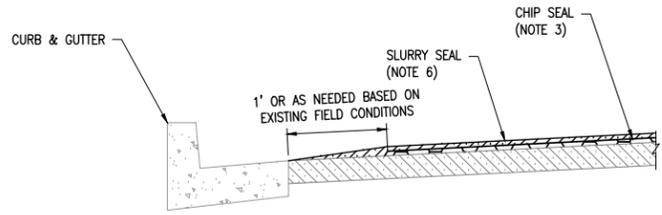
EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
IMPROVEMENT PLAN TEWKSBURY PLANT "T1" 9+50 TO "T1" 10+85			
PROJ NO. 10625-G	10625-G-039	PG. 39	0
SCALE 1" = 20'			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER
			REV.



NOTES:

- APPROXIMATE BASE REPAIR DIMENSIONS ARE PROVIDED IN SCHEDULE TABLES ON PAGES 7 THROUGH 39. EXACT LOCATION AND DIMENSIONS OF BASE REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER, CONTRACTOR AND THE DISTRICT REPRESENTATIVE PRIOR TO CONSTRUCTION. THE AGREED UPON DIMENSION SHALL BE RECORDED FOR EACH BASE REPAIR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
- OVER-EXCAVATE 6 INCHES IF UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED. SEE TECHNICAL SPECIFICATIONS FOR DETAILS.
- DEPTH OF BASE REPAIRS ARE GIVEN FROM THE EXISTING SURFACE FOR SURFACE SEAL TREATMENTS OR FROM THE MILLED SURFACE FOR MILL AND OVERLAYS.
- HMA SHALL BE PLACED AND COMPACTED IN LIFTS NOT LESS THAN 2 INCHES AND NOT EXCEEDING 3 INCHES.

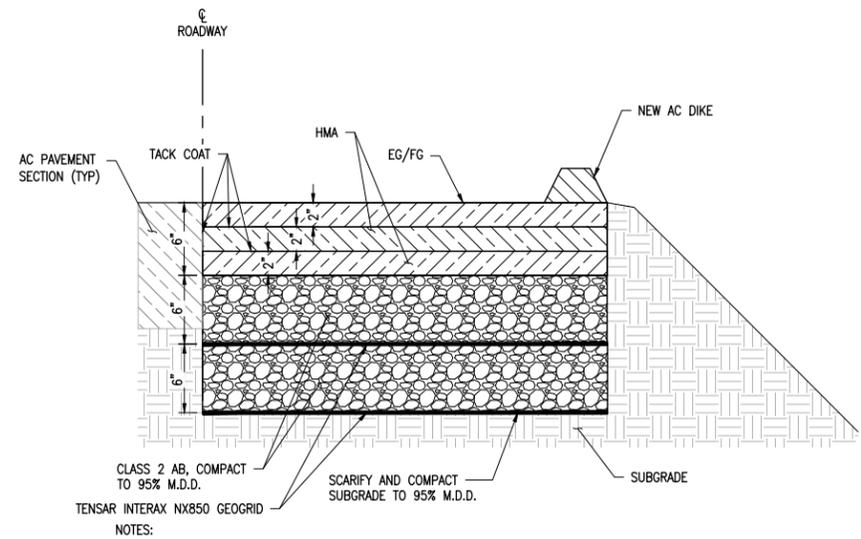
1 FULL DEPTH BASE REPAIR (4" OR 6" DEPTH)
40 NTS



NOTES:

- PAVEMENT MUST BE COMPLETELY DRY AND CLEAN PRIOR TO THE PLACEMENT OF ASPHALT RUBBER CHIP SEAL.
- IMMEDIATELY BEFORE COMMENCING THE SEAL OPERATIONS, ALL METAL UTILITY COVERS (INCLUDING SURVEY MONUMENT BOXES) SHALL BE PROTECTED BY THOROUGHLY COVERING THE SURFACE WITH AN APPROPRIATE ADHESIVE AND PAPER OR PLASTIC.
- PLACE RUBBERIZED CHIP SEAL (RCS) NO CLOSER THAN 0.5 FEET AND NO FARTHER THAN 1 FOOT FROM ALL UTILITY COVERS (E.G., MANHOLE COVERS, GRATES, VALVE COVERS, AND MONUMENT BOXES, ETC.). DO NOT PLACE RCS CLOSER THAN 1 FOOT FROM THE LIP OF CURB AND GUTTER, OR AT THE LIMITS OF THE RCS TREATMENT AREA.
- ROLL THE SURFACE TO UNIFORMITY AND THOROUGHLY BOND THE AGGREGATE OVER THE FULL WIDTH. COMPLETE ROLLING WITHIN ONE (1) HOUR AFTER ASPHALT RUBBER BINDER IS APPLIED TO THE SURFACE.
- SWEEPING SHALL BE COMPLETED PRIOR TO ALLOWING UNCONTROLLED TRAFFIC ON THE ROAD SURFACE.
- PLACE SLURRY SEAL AFTER THE RUBBERIZED CHIP SEAL (RCS) HAS CURED FOR A MINIMUM OF 7 DAYS, BUT NO LATER THAN 14 DAYS AFTER PLACING THE RCS.

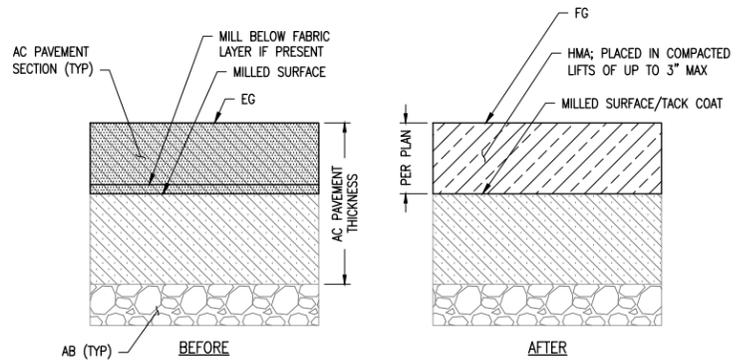
2 RUBBER CAPE SEAL
40 NTS



NOTES:

- THE APPROXIMATE DIMENSIONS OF THE SUBGRADE REPAIR AREAS HAVE BEEN MARKED IN THE FIELD WITH WHITE PAINT BRACKETS. THE APPROXIMATE LOCATIONS AND SIZES ARE ALSO SHOWN ON THE IMPROVEMENT PLANS.
- PRIOR TO PLACING AB AND HMA, THE SG SHALL BE PROOF-ROLLED PER SPECIFICATIONS TO VERIFY COMPACTION OF SG IS ACCEPTABLE FOR PAVING. CARE SHALL BE TAKEN TO NOT OVERCOMPACT/OVERWORK THE SG RESULTING IN YIELDING OR PUMPING. CONSTRUCTION TRAFFIC ON EXPOSED SG SHALL BE LIMITED AS EXCESSIVE WHEEL LOADING CAN CAUSE THE SG TO YIELD OR PUMP. DAMAGE TO THE SG FROM CONSTRUCTION TRAFFIC WHEEL LOADING SHALL BE REPAIRED AND STABILIZED AT THE CONTRACTOR'S EXPENSE.
- PLACE GEOGRID LONGITUDINAL (PARALLEL TO THE DIRECTION OF TRAFFIC).
- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.

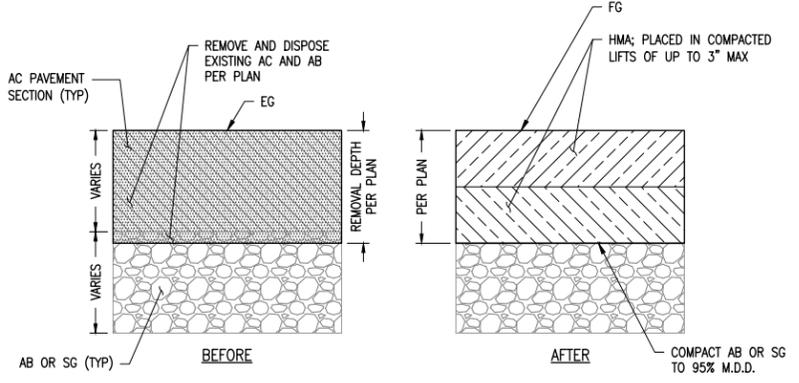
3 SUBGRADE STABILIZATION REPAIR
40 NTS



NOTES:

- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
- PAVEMENT CORE SUMMARY AND MEASUREMENTS FOR TYPICAL IN-SITU PAVEMENT SECTION CAN BE FOUND ON PAGE 6.

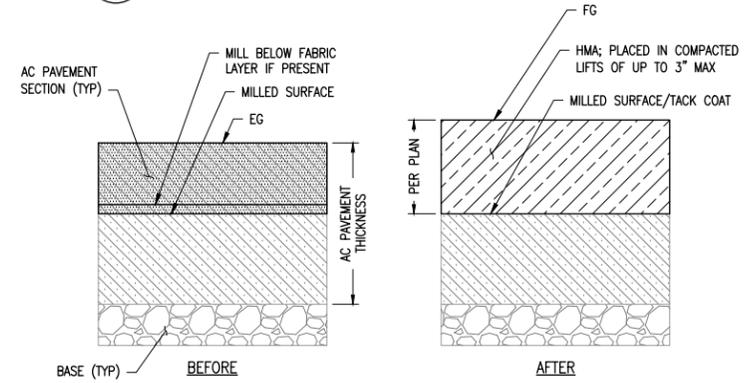
4 MILL AC WITH HMA OVERLAY (EQUAL DEPTHS)
40 N.T.S.



NOTES:

- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
- PRIOR TO PLACING AB AND HMA, THE SG SHALL BE PROOF-ROLLED PER SPECIFICATIONS TO VERIFY COMPACTION OF SG IS ACCEPTABLE FOR PAVING. CARE SHALL BE TAKEN TO NOT OVERCOMPACT/OVERWORK THE SG RESULTING IN YIELDING OR PUMPING. CONSTRUCTION TRAFFIC ON EXPOSED SG SHALL BE LIMITED AS EXCESSIVE WHEEL LOADING CAN CAUSE THE SG TO YIELD OR PUMP. DAMAGE TO THE SG FROM CONSTRUCTION TRAFFIC WHEEL LOADING SHALL BE REPAIRED AND STABILIZED AT THE CONTRACTOR'S EXPENSE.
- OVER-EXCAVATE 6 INCHES IF UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED. SEE TECHNICAL SPECIFICATIONS FOR DETAILS.
- PAVEMENT CORE SUMMARY AND MEASUREMENTS FOR TYPICAL IN-SITU PAVEMENT SECTION CAN BE FOUND ON PAGE 6.

5 SURFACE RECONSTRUCT: REMOVE AC/AB AND REPLACE WITH HMA
40 N.T.S.

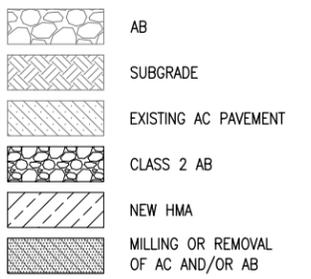


NOTES:

- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
- PAVEMENT CORE SUMMARY AND MEASUREMENTS FOR TYPICAL IN-SITU PAVEMENT SECTION CAN BE FOUND ON PAGE 6.

6 MILL AC WITH HMA OVERLAY (VARYING DEPTHS)
40 N.T.S.

PAVING LEGEND:



PLOT SCALE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

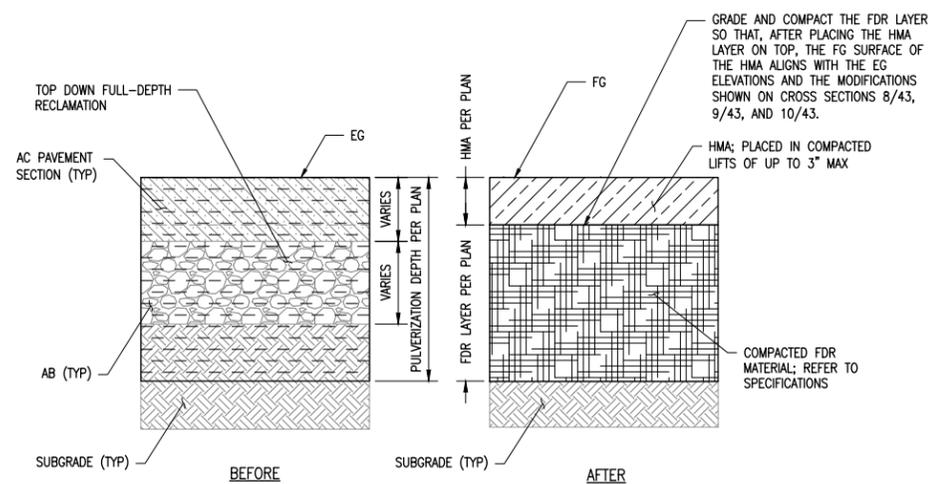
DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HASTINGER
DRAWN BY	SAMUEL NGORUWIN, DIANA BANHARHAL
SE, PROJ. ENGR.	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
RECOMMENDED	R.P.E. NO. C79823	SANDRA J. MULHAUSER
SE, CIVIL ENGR.	R.P.E. NO. E18881	
APPROVED		



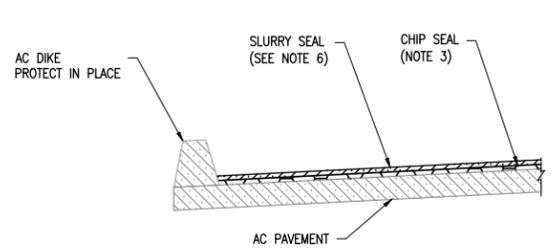
Know what's below. Call before you dig.

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
CIVIL DETAILS 1			
PROJ. NO.	10625-G	10625-G-040	0
SCALE	NO SCALE		
DATE	11DEC2025		



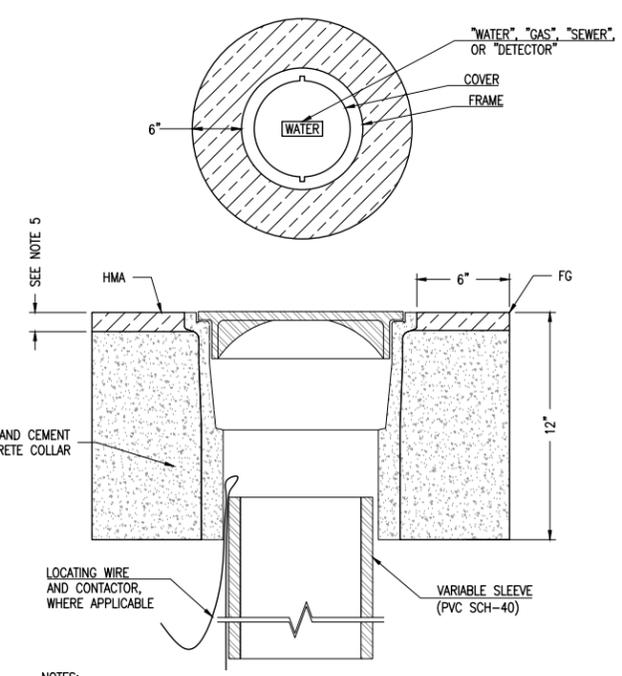
- NOTES:
- HMA SHALL BE PLACED IN COMPACTED LIFTS NOT EXCEEDING 3 INCHES.
 - TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
 - FOR TYPICAL FDR CROSS SECTION SEE DETAIL 5/43.
 - PAVEMENT CORE SUMMARY AND MEASUREMENTS FOR TYPICAL IN-SITU PAVEMENT SECTION CAN BE FOUND ON PAGE 6.

1 TOP-DOWN FULL-DEPTH RECLAMATION (FDR)
41 WITH CEMENT AND HMA OVERLAY
N.T.S.



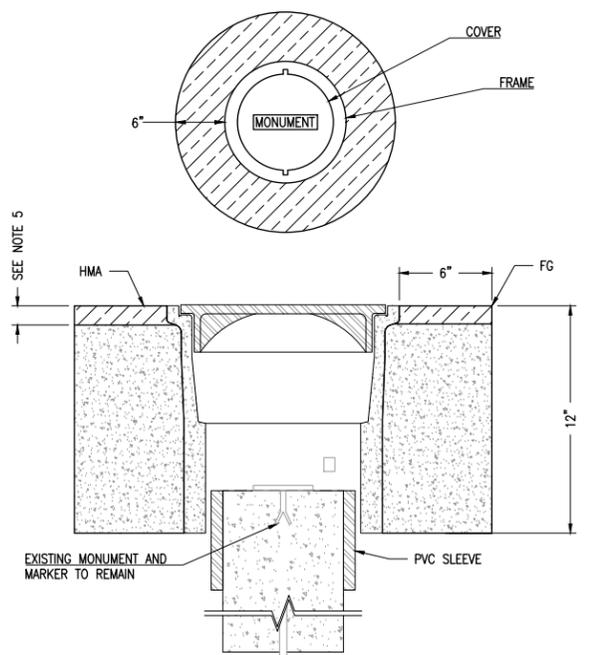
- NOTES:
- PAVEMENT MUST BE COMPLETELY DRY AND CLEAN PRIOR TO THE PLACEMENT OF ASPHALT RUBBER CHIP SEAL.
 - IMMEDIATELY BEFORE COMMENCING THE SEAL OPERATIONS, ALL METAL UTILITY COVERS (INCLUDING SURVEY MONUMENT BOXES) SHALL BE PROTECTED BY THOROUGHLY COVERING THE SURFACE WITH AN APPROPRIATE ADHESIVE AND PAPER OR PLASTIC.
 - PLACE RUBBERIZED CHIP SEAL (RCS) NO CLOSER THAN 0.5 FEET AND NO FARTHER THAN 1 FOOT FROM ALL UTILITY COVERS (E.G., MANHOLE COVERS, GRATES, VALVE COVERS, AND MONUMENT BOXES, ETC.).
 - ROLL THE SURFACE TO UNIFORMITY AND THOROUGHLY BOND THE AGGREGATE OVER THE FULL WIDTH. COMPLETE ROLLING WITHIN ONE (1) HOUR AFTER ASPHALT RUBBER BINDER IS APPLIED TO THE SURFACE.
 - SWEEPING SHALL BE COMPLETED PRIOR TO ALLOWING UNCONTROLLED TRAFFIC ON THE ROAD SURFACE.
 - PLACE SLURRY SEAL AFTER THE RUBBERIZED CHIP SEAL (RCS) HAS CURED FOR A MINIMUM OF 7 DAYS, BUT NO LATER THAN 14 DAYS AFTER PLACING THE RCS.

2 RUBBER CAPE SEAL WITH AC DIKE
41 N.T.S.



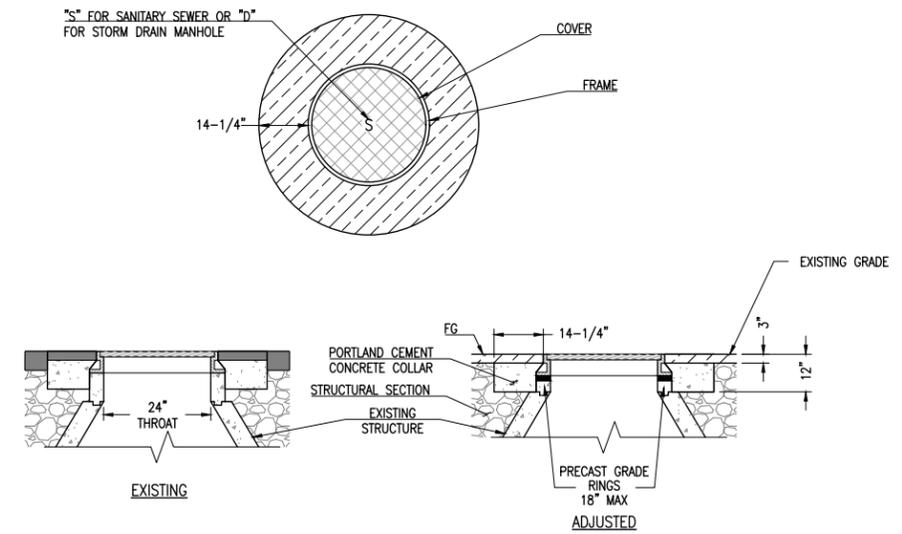
- NOTES:
- VALVE BOX LID SHALL BE PROTECTED DURING PAVING OR CLEANING TO ENSURE THAT LID MARKINGS ARE LEGIBLE.
 - FRAMES AND COVERS SHALL BE RAISED WITHIN 48 HOURS OF FINAL PAVING. VALVE BOX LID TO BE FLUSH WITH FG.
 - WHERE TRACER WIRES ARE SPLICED USE WATER TIGHT CONNECTION.
 - THE USE OF GRADE RINGS IS PROHIBITED.
 - THE CONCRETE COLLAR SHALL BE CONSTRUCTED SO THAT THE TOP OF THE COLLAR IS NO GREATER THAN THREE INCHES AND NO LESS THAN TWO INCHES BELOW THE EXISTING PAVEMENT GRADE SURROUNDING THE VALVE BOX. THE VOID BETWEEN THE TOP OF THE CONCRETE COLLAR AND THE FINISH GRADE OF THE PAVEMENT AROUND THE COLLAR SHALL BE PAVED TO FINISH GRADE WITH HMA.

3 VALVE BOX ADJUSTMENT DETAIL
41 N.T.S.



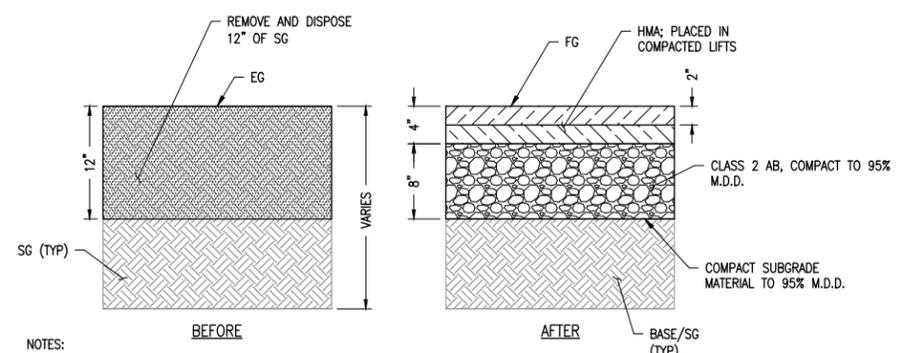
- NOTES:
- VALVE BOX LID SHALL BE PROTECTED DURING PAVING OR CLEANING TO ENSURE THAT LID MARKINGS ARE LEGIBLE.
 - FRAMES AND COVERS SHALL BE RAISED WITHIN 48 HOURS OF FINAL PAVING. VALVE BOX LID TO BE FLUSH WITH FG.
 - WHERE TRACER WIRES ARE SPLICED USE WATER TIGHT CONNECTION.
 - THE USE OF GRADE RINGS IS PROHIBITED.
 - THE CONCRETE COLLAR SHALL BE CONSTRUCTED SO THAT THE TOP OF THE COLLAR IS NO GREATER THAN THREE INCHES AND NO LESS THAN TWO INCHES BELOW THE EXISTING PAVEMENT GRADE SURROUNDING THE VALVE BOX. THE VOID BETWEEN THE TOP OF THE CONCRETE COLLAR AND THE FINISH GRADE OF THE PAVEMENT AROUND THE COLLAR SHALL BE PAVED TO FINISH GRADE WITH HMA.

4 SURVEY MONUMENT BOX ADJUSTMENT DETAIL
41 N.T.S.



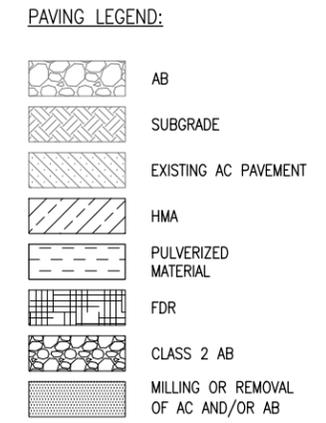
- NOTES:
- BREAK DOWN MANHOLE COVER AND FRAME TO ALLOW INSTALLATION OF TEMPORARY TRAFFIC RATED COVER AT TEMPORARY GRADE.
 - INSTALL NEW MANHOLE COVER OR FRAME IF EXISTING IS DAMAGED. NEW MANHOLE LID SHALL CONFORM TO EBMUD STANDARD PLANS.
 - PCC COLLAR SHALL BE PLACED AROUND EACH MANHOLE REGARDLESS OF WHETHER A COLLAR WAS PRESENT PRIOR TO THE WORK.
 - THE CONCRETE COLLAR SHALL BE CONSTRUCTED SO THAT THE TOP OF THE COLLAR IS NO GREATER THAN THREE INCHES AND NO LESS THAN TWO INCHES BELOW THE EXISTING PAVEMENT GRADE SURROUNDING THE MANHOLE. THE VOID BETWEEN THE TOP OF THE CONCRETE COLLAR AND THE FINISH GRADE OF THE PAVEMENT AROUND THE COLLAR SHALL BE PAVED TO FINISH GRADE WITH HMA.

5 MANHOLE ADJUSTMENT DETAIL
41 N.T.S.



- NOTES:
- TACK COAT SHALL BE APPLIED TO ALL VERTICAL PAVEMENT SURFACES AND BETWEEN LIFTS OF HMA.
 - PRIOR TO PLACING AB AND HMA, THE SG SHALL BE PROOF-ROLLED PER SPECIFICATIONS TO VERIFY COMPACTION OF SG IS ACCEPTABLE FOR PAVING. CARE SHALL BE TAKEN TO NOT OVERCOMPACT/OVERWORK THE SG RESULTING IN YIELDING OR PUMPING. CONSTRUCTION TRAFFIC ON EXPOSED SG SHALL BE LIMITED AS EXCESSIVE WHEEL LOADING CAN CAUSE THE SG TO YIELD OR PUMP. DAMAGE TO THE SG FROM CONSTRUCTION TRAFFIC WHEEL LOADING SHALL BE REPAIRED AND STABILIZED AT THE CONTRACTOR'S EXPENSE.
 - OVER-EXCAVATE 6 INCHES IF UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED. SEE TECHNICAL SPECIFICATIONS FOR DETAILS.

6 RECONSTRUCTION: REMOVE BASE AND REPLACE WITH
41 4" HMA OVER 8" CLASS 2 AB
N.T.S.



FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

CIVIL DETAILS 2 PG. 41

PROJ NO. 10625-G	10625-G-041	0
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DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.

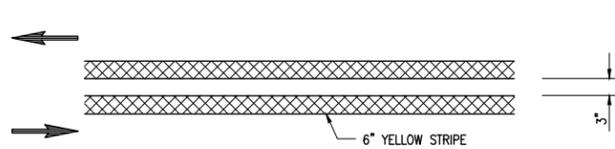
NO.	DATE	REVISION	BY	REC.	APP.

East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS	PROJECT MANAGER: DAMARIS VILLALOBOS-GALINDO
DESIGN CHECKED BY: FRANK HETTINGER	R.P.E. NO. C83558
DRAWN BY: SAMUEL MCGUIRE, DIANA BASHARAH	PROJECT ENGINEER: DAMARIS VILLALOBOS-GALINDO
SB PROJ. ENGR. R.P.E. NO. C83558	R.P.E. NO. C83558
APPROVED: VICTOR LEWIS	RECOMMENDED: SANDRA J. MULHAUSER
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER	R.P.E. NO. C79823
	APPROVED: SANDRA J. MULHAUSER
	R.P.E. NO. E18081

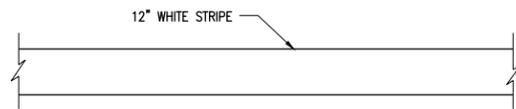
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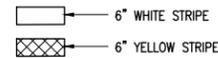
SOURCE: CALTRANS STANDARD PLANS "PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS" A20A

1 CALTRANS STRIPING DETAIL 21
42 NTS



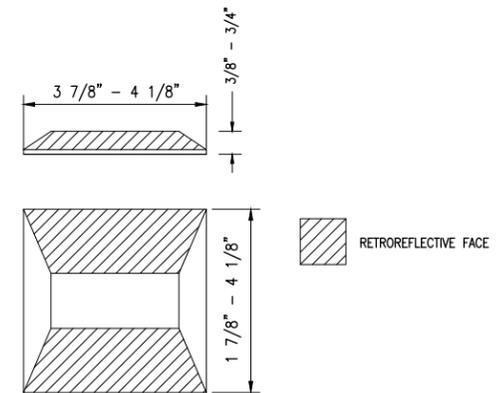
SOURCE: CALTRANS STANDARD PLANS "PAVEMENT MARKINGS WORDS, LIMIT AND YIELD LINES" A24G

2 CALTRANS LIMIT LINE / STOP BAR
42 NTS



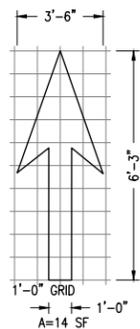
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3 CALTRANS STRIPING LEGEND
42 NTS

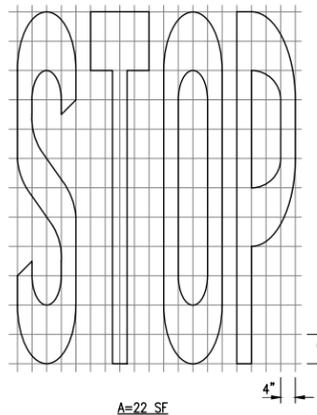


SOURCE: CALTRANS STANDARD PLANS "PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS" A20A

4 TYPE D TWO-WAY
42 RETROREFLECTIVE MARKER
NTS

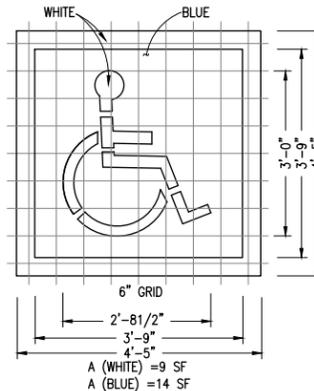


5 CUSTOM ARROW MARKING
42 NTS



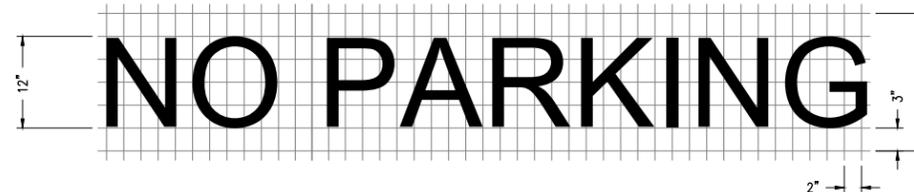
SOURCE: CALTRANS STANDARD PLANS "PAVEMENT MARKINGS WORDS" A24D

6 CALTRANS "STOP" MARKING
42 NTS

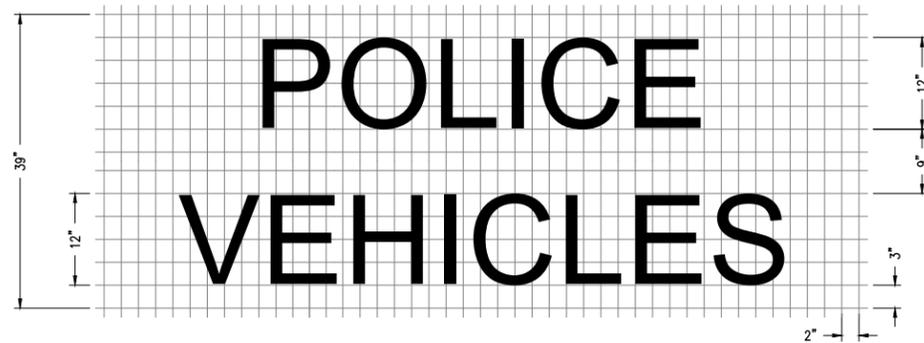


SOURCE: CALTRANS STANDARD PLANS "PAVEMENT MARKINGS SYMBOLS AND NUMERALS" A24C

7 "INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA)" MARKING
42 NTS



8 CUSTOM "NO PARKING" MARKING
42 NTS



9 CUSTOM "POLICE VEHICLES" MARKING
42 NTS



10 R99C (CA) SIGN
42 NTS



11 R7-8b SIGN
42 NTS



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

CIVIL DETAILS 3

PG. 42

NO.	DATE	REVISION	BY	REC.	APP.

EBMUD
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

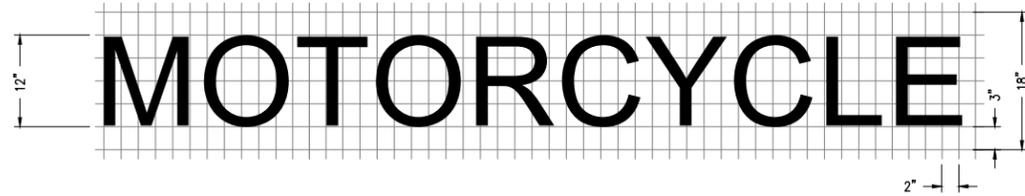
DESIGNED BY: VICTOR LENSU
DESIGN CHECKED BY: FRANK HATZINGER
DRAWN BY: SAMUEL NGORZIN, DEANA BASHIRI
SE, PROJ. ENGR. R.P.E. NO. C83558
APPROVED: VICTOR LENSU
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

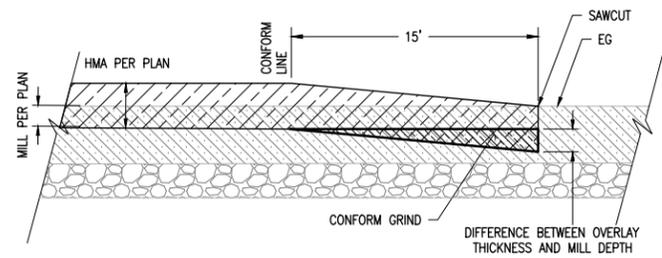
PROJ. NO. 10625-G	10625-G-042	0
SCALE NO SCALE		
DATE 11DEC2025	STRUCT.	DISC. NUMBER REV.

PLOT SCALE: USER: DATE: FILE:

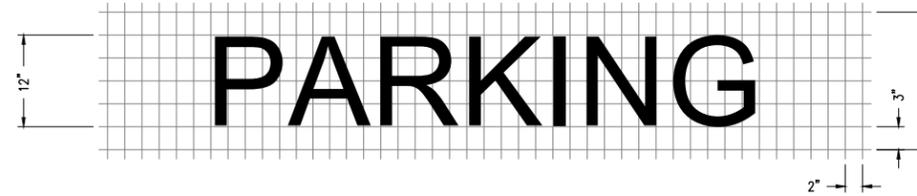




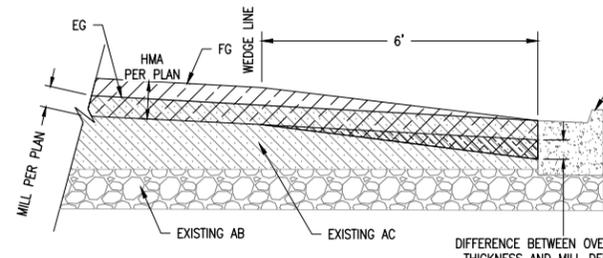
1 CUSTOM "MOTORCYCLE" MARKING
43 NTS



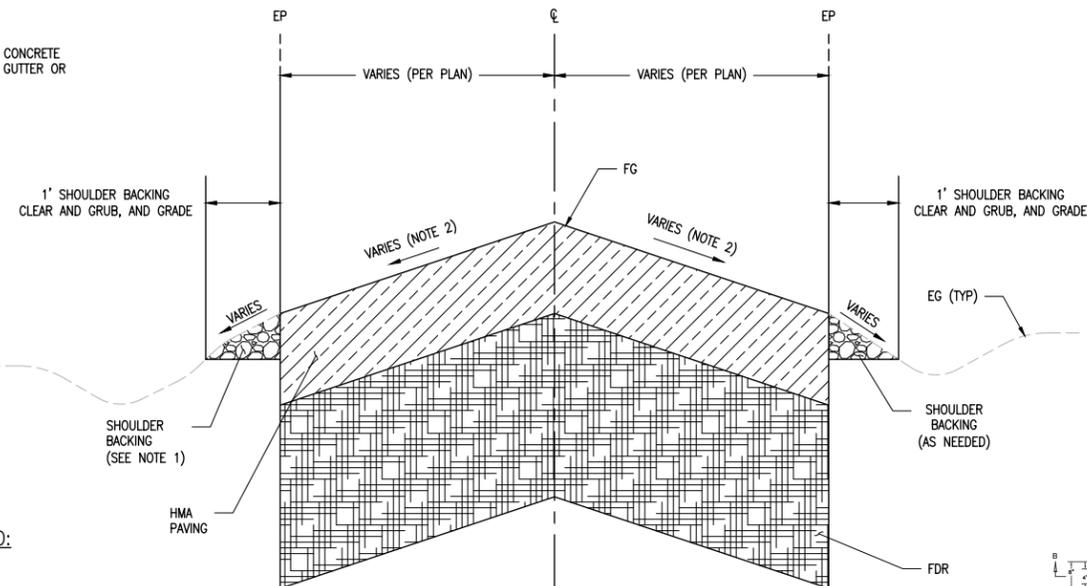
NOTE:
1. TACK COAT SHALL BE APPLIED COMPLETELY TO ALL EX AC AND PCC SURFACES PRIOR TO PLACEMENT OF NEW ASPHALT CONCRETE AS REQUIRED BY THE PROJECT TECHNICAL SPECIFICATIONS.



2 CUSTOM "PARKING" MARKING
43 NTS

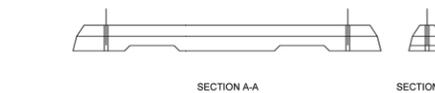
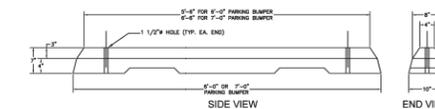
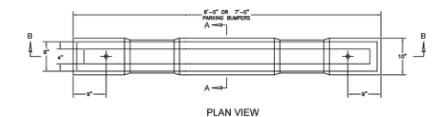
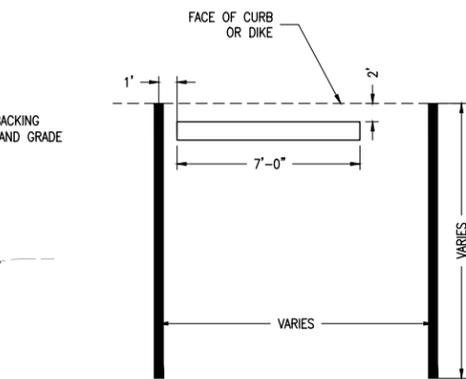


NOTE:
1. TACK COAT SHALL BE APPLIED COMPLETELY TO ALL EX AC AND PCC SURFACES PRIOR TO PLACEMENT OF NEW ASPHALT CONCRETE AS REQUIRED BY THE PROJECT TECHNICAL SPECIFICATIONS.



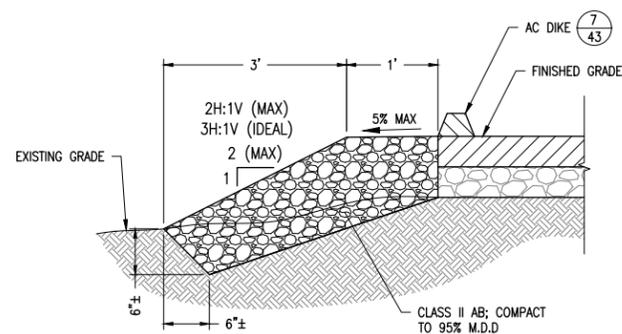
NOTE:
1. SHOULDER BACKING SHALL BE CLASS 2 AGGREGATE BASE, AS NEEDED
2. CONTRACTOR SHALL PROVIDE CROSS SLOPE TO DRAIN (2% MINIMUM) AND PER CROSS SECTION DETAIL MODIFICATIONS 8/43, 9/43, AND 10/43.

5 SAN PABLO RESERVOIR TYPICAL FDR CROSS SECTION
43 NTS

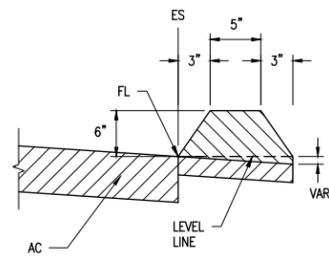


11 CONCRETE PARKING BUMPER (7'-0")
43 NTS

3 CONFORM GRIND
43 NTS



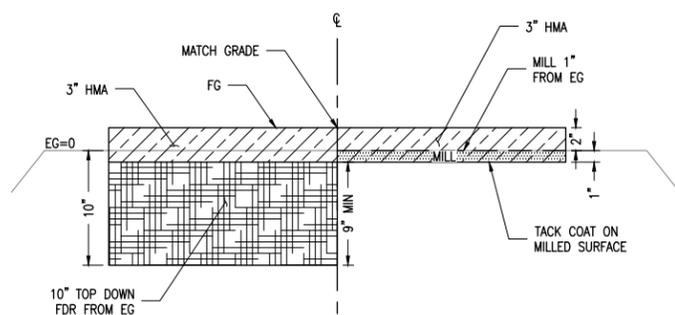
4 WEDGE GRIND
43 NTS



PAVING LEGEND:

- AB
- SUBGRADE
- EXISTING AC PAVEMENT
- CLASS 2 AB
- HMA
- CONFORM & WEDGE GRIND
- FDR
- MILLING OR REMOVAL OF AC AND/OR AB

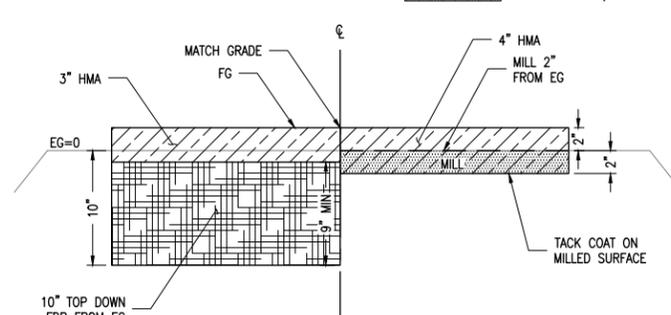
6 AB SHOULDER BACKING
43 NTS



NOTE:
1. EXISTING AC PAVEMENT VARIES AND IS NOT SHOWN.

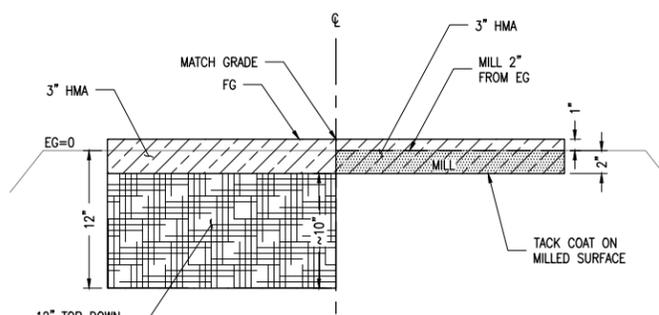
8 10" TOP DOWN FDR AND 3" HMA OVERLAY ADJACENT TO 1" MILL AND 3" HMA OVERLAY - TYPICAL DETAIL
43 N.T.S.

7 CALTRANS TYPE "A" AC DIKE
43 NTS



NOTE:
1. EXISTING AC PAVEMENT VARIES AND IS NOT SHOWN.

9 10" TOP DOWN FDR AND 3" HMA OVERLAY ADJACENT TO 2" MILL AND 4" HMA OVERLAY - TYPICAL DETAIL
43 N.T.S.



NOTE:
1. EXISTING AC PAVEMENT VARIES AND IS NOT SHOWN.

10 12" TOP DOWN FDR AND 3" HMA OVERLAY ADJACENT TO 2" MILL AND 3" HMA OVERLAY - TYPICAL DETAIL
43 N.T.S.

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA
PAVEMENT MANAGEMENT IMPLEMENTATION
YEAR 1
CIVIL

CIVIL DETAILS 4

PG. 43

PROJ. NO. 10625-G	10625-G-043	0
SCALE NO SCALE		
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.



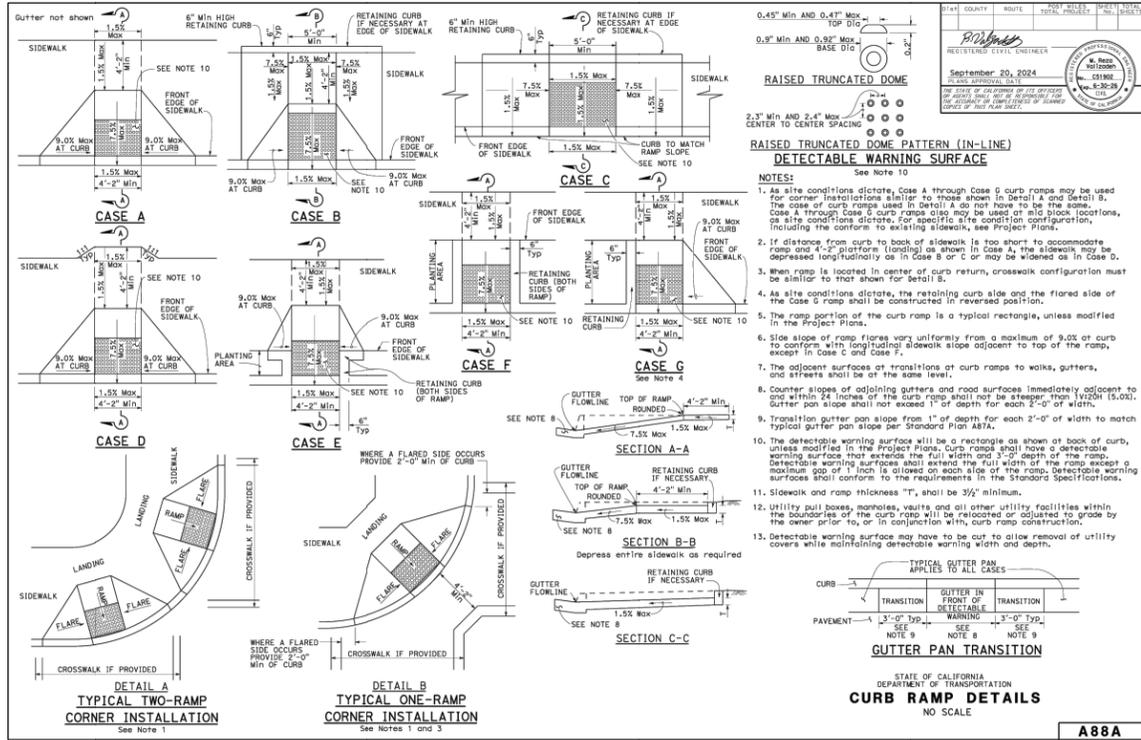
East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HASTINGS
DRAWN BY: SAMUEL NGUYEN, DEBORA BASHARAH
SE. PROJ. ENGR. R.P.E. NO. C62349
APPROVED: VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

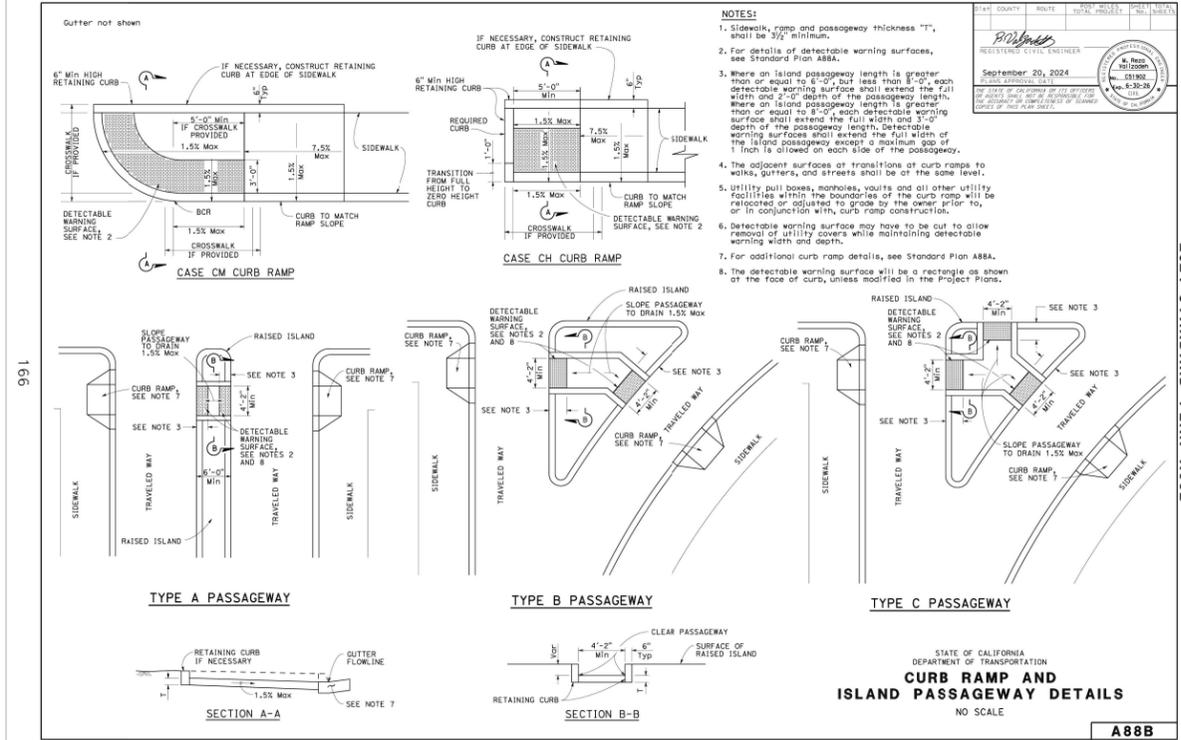
PROJECT MANAGER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER: R.P.E. NO. C83558 DAMARIS VILLALOBOS-GALINDO
RECOMMENDED: R.P.E. NO. C79823 SANDRA J. MULHAUSER
APPROVED: SANDRA J. MULHAUSER
M&C CONSTRUCTION: R.P.E. NO. E18881

NO.	DATE	REVISION	BY	REC.	APP.

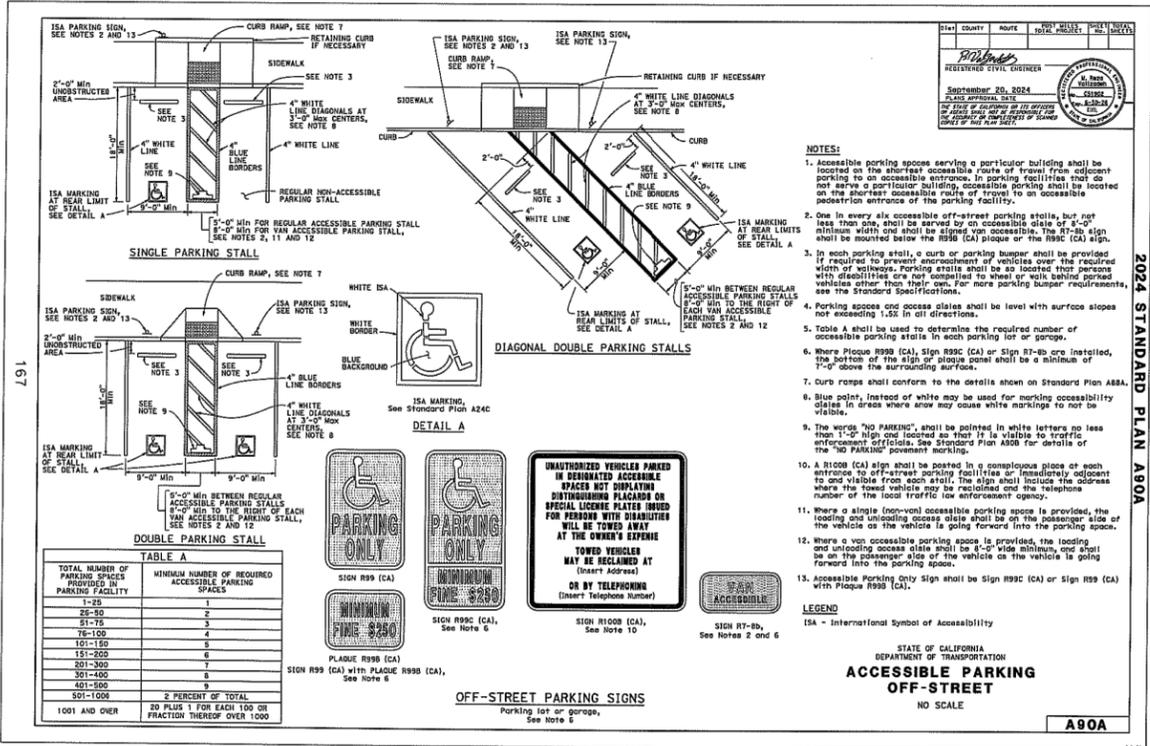
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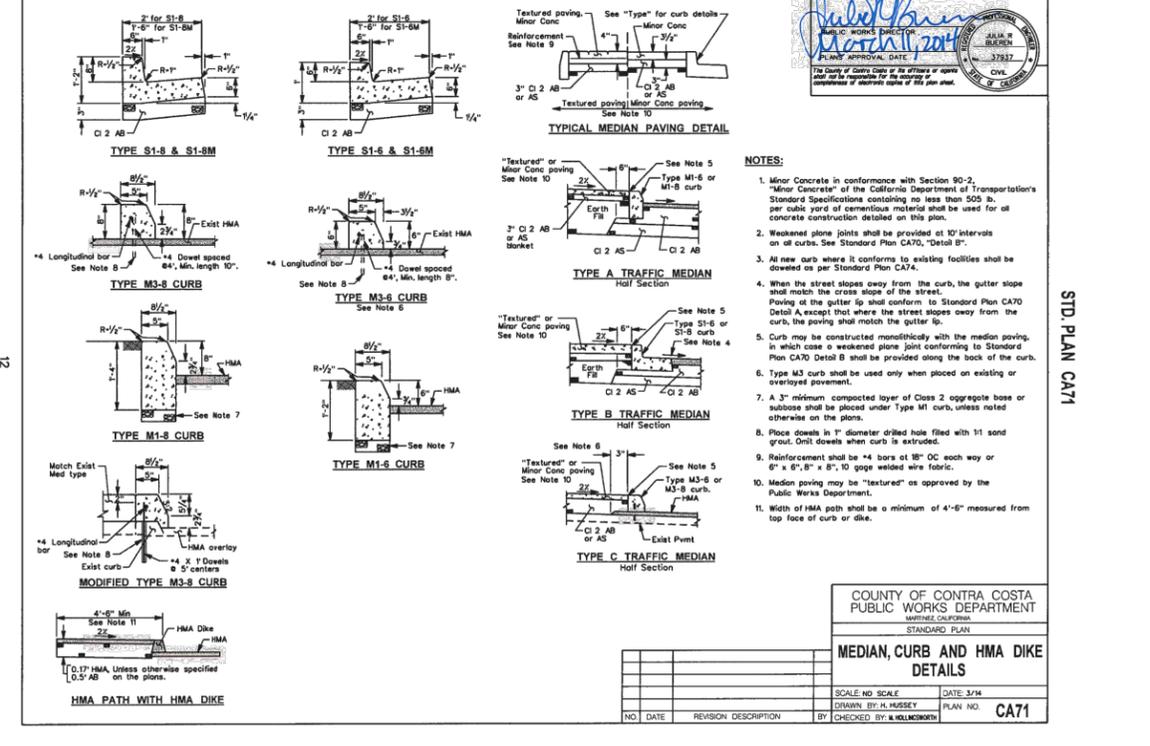
1 CURB RAMP DETAILS
44 NTS



2 CURB RAMP AND ISLAND PASSAGEWAY DETAILS
44 NTS

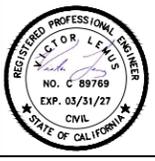


3 ACCESSIBLE PARKING OFF-STREET
44 NTS



4 CURB AND CURB & GUTTER SECTIONS
44 NTS

PLOT SCALE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HANSEN
DRAWN BY	SAMUEL MCGILVER, DIANA BASHARAW
SE, PROJ. ENGR.	VICTOR LEWIS
CIVIL ENGR.	VICTOR LEWIS
APPROVED	VICTOR LEWIS
PRINCIPAL IN CHARGE, R.P.E. NO. C42349	FRANK SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	Damaris T. Villalobos-Galindo
PROJECT ENGINEER	R.P.E. NO. C83558	Damaris T. Villalobos-Galindo
RECOMMENDED	R.P.E. NO. C79823	Sandra J. Mulhauser
APPROVED	R.P.E. NO. E18881	John C. Hu

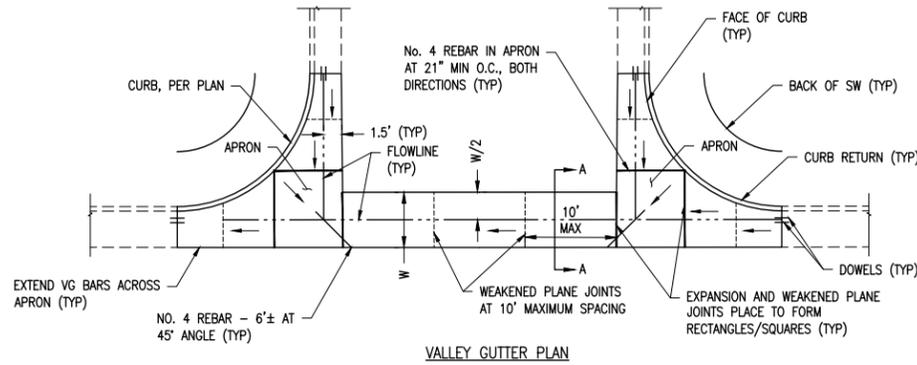
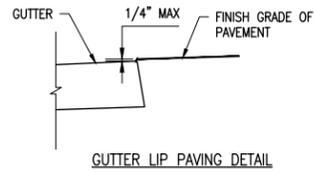
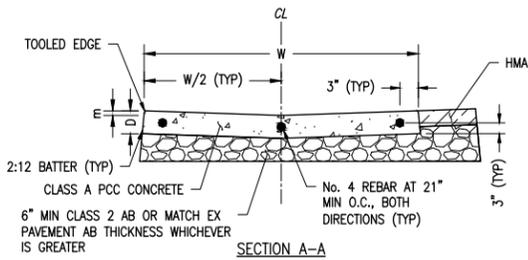
FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



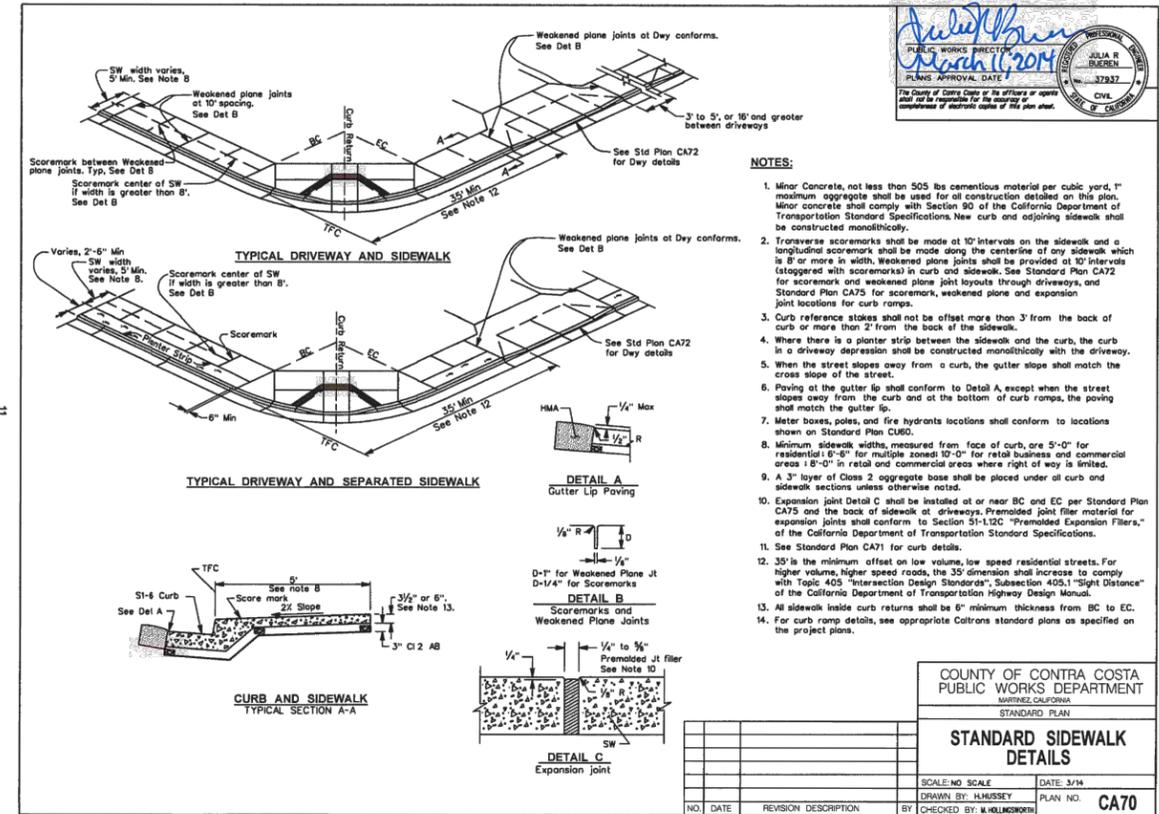
EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
CIVIL DETAILS 5			
PROJ. NO.	10625-G	SCALE	NO SCALE
DATE	11DEC2025	STRUCT.	10625-G-044
		DISC.	0
		NUMBER	0
		REV.	0

Concrete					Bar Reinforcing	
W	W/2	D	m	Slope	Valley Gutter	Apron
(FT)	(FT)	(IN)	(IN)	(%)	#4	(EA) (Equally Spaced)
4	2	8	1.5	6%	3	See Detail
6	3	8	2	6%	3	
8	4	8	3	6%	4	

Valley Gutter Dimension & Bar Reinforcing Table



1
45 NTS CONCRETE VALLEY GUTTER AND SPANDREL



2
45 NTS STANDARD CONCRETE SIDEWALK

USER: PLOT SCALE: DATE: FILE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

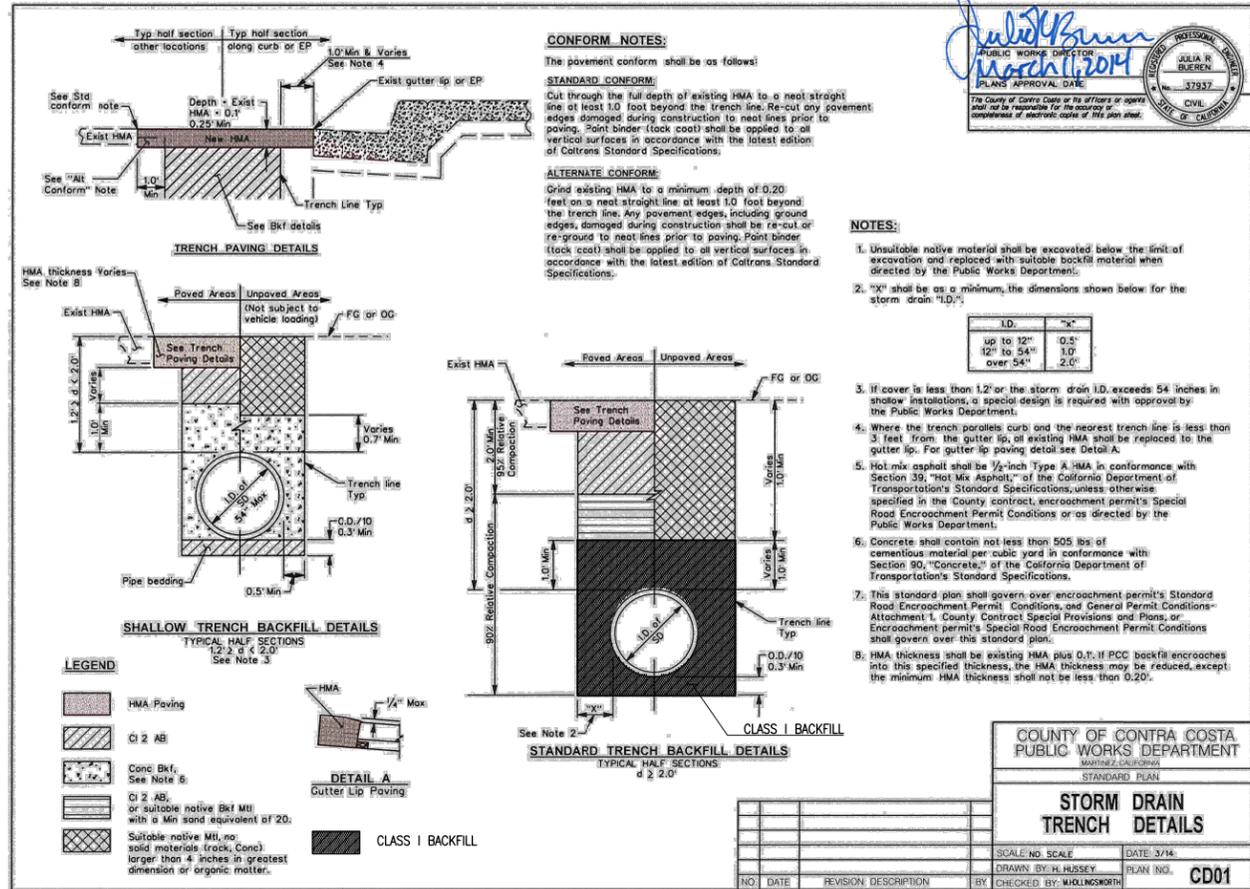
DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HADZIMANER
DRAWN BY	SAMUEL NGORZIN, DEANA BASHARAH
SE. PROJ. ENGR.	VICTOR LEWIS
R.P.E. NO.	C79709
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO.	C62349 RYAN SHAFER

PROJECT MANAGER	R.P.E. NO. C83558	Damaris T. Villalobos
PROJECT ENGINEER	R.P.E. NO. C83558	Damaris T. Villalobos
RECOMMENDED	R.P.E. NO. C79823	Sandra J. Mulhauser
SE. CIVIL ENGR.	R.P.E. NO. E18881	Ryan Shafer
APPROVED		
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	Ryan Shafer

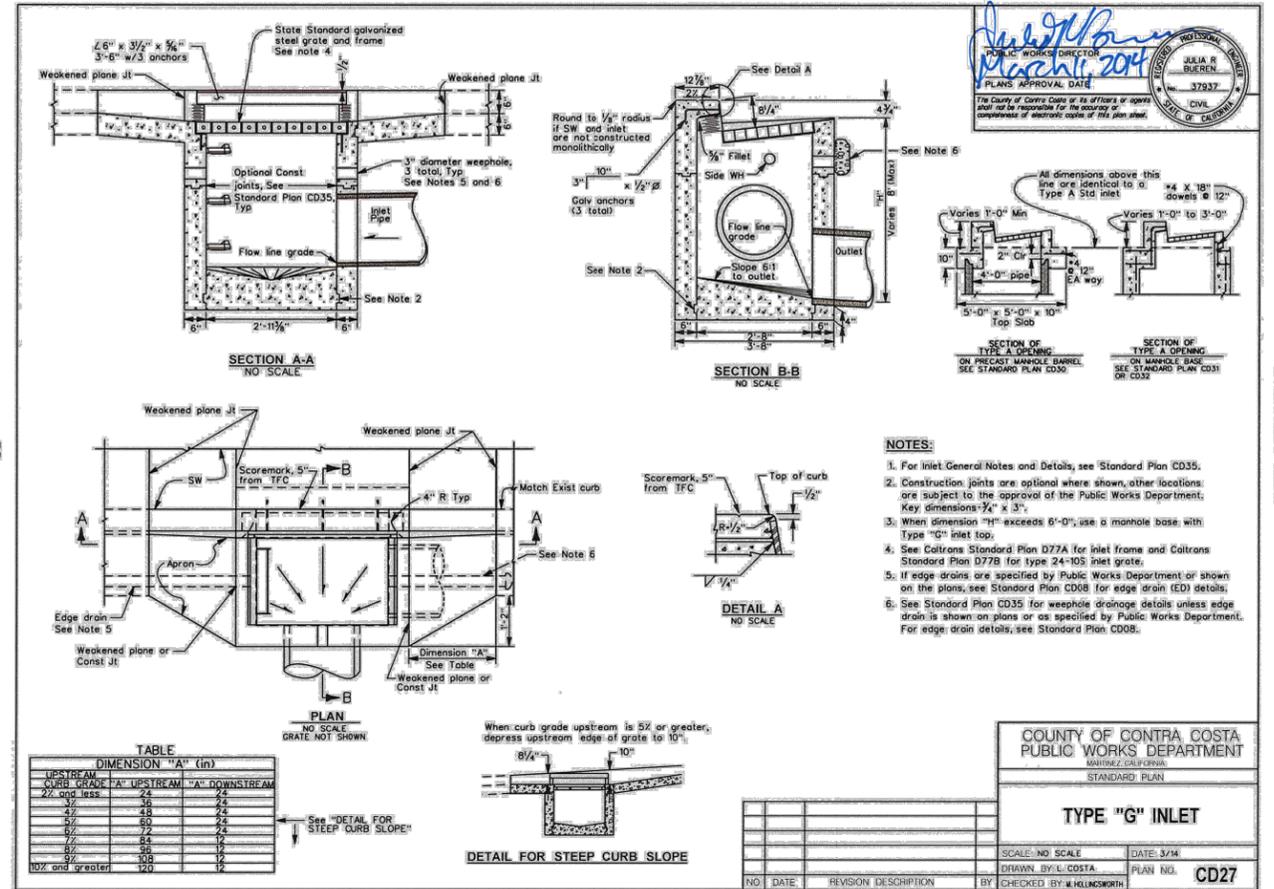
FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
CIVIL DETAILS 6			
PROJ. NO.	10625-G	10625-G-045	0
SCALE	NO SCALE		
DATE	11DEC2025	STRUCT.	DISC. NUMBER REV.



1 STORM DRAIN TRENCH DETAILS
46 NTS



2 TYPE "G" INLET
46 NTS

PLOT SCALE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal Utility District (EBMUD)
 375 11th Street
 Oakland, CA, 94607
 Ph: (866) 403-2683

DESIGNED BY	VICTOR LEWIS
DESIGN CHECKED BY	FRANK HOLLINGSWORTH
DRAWN BY	SAMUEL HOLLINGSWORTH, DEBRA BASHAWMAL
SE. PROJ. ENGR.	VICTOR LEWIS
APPROVED	
PRINCIPAL IN CHARGE, R.P.E. NO. C62349	RYAN SHAFER

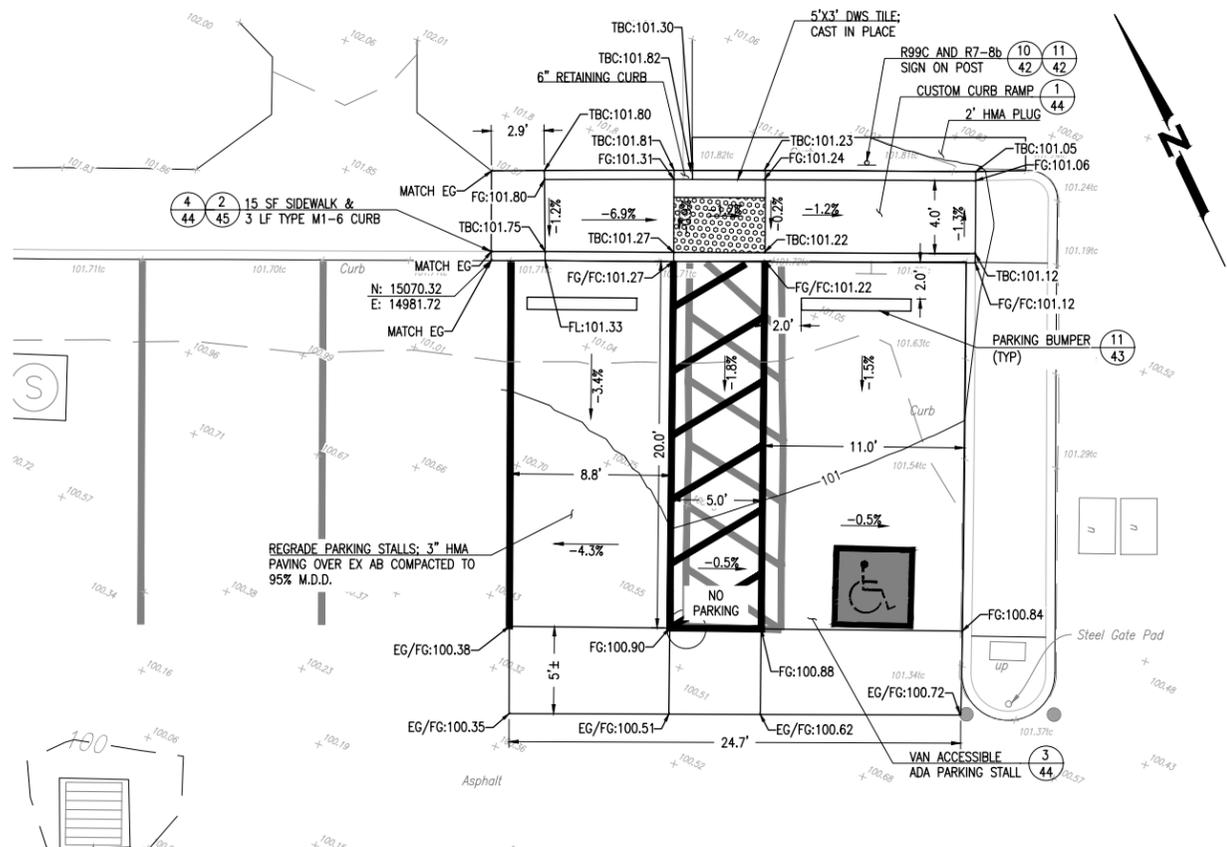
PROJECT MANAGER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
PROJECT ENGINEER	R.P.E. NO. C83558	DAMARIS VILLALOBOS-GALINDO
RECOMMENDED BY	R.P.E. NO. C79823	SANDRA J. MULHAUSER
APPROVED FOR CONSTRUCTION	R.P.E. NO. E18881	

FINAL PLANS
 ISSUED FOR
 BIDDING
 DATE: 12/10/2025

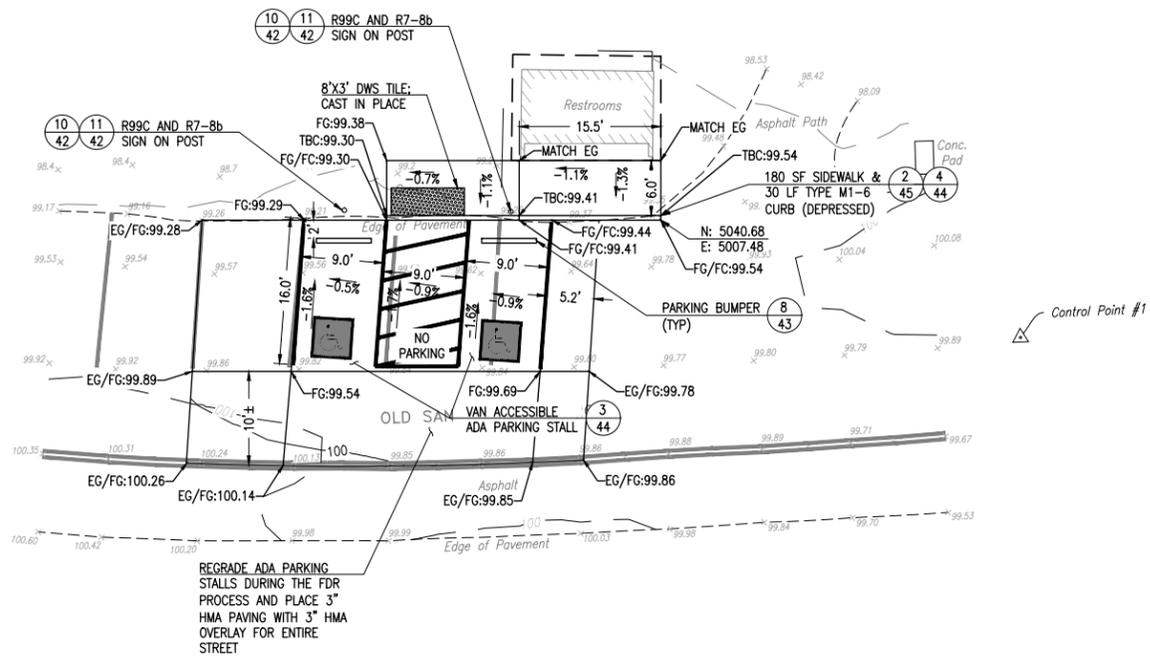


Know what's below.
 Call before you dig.

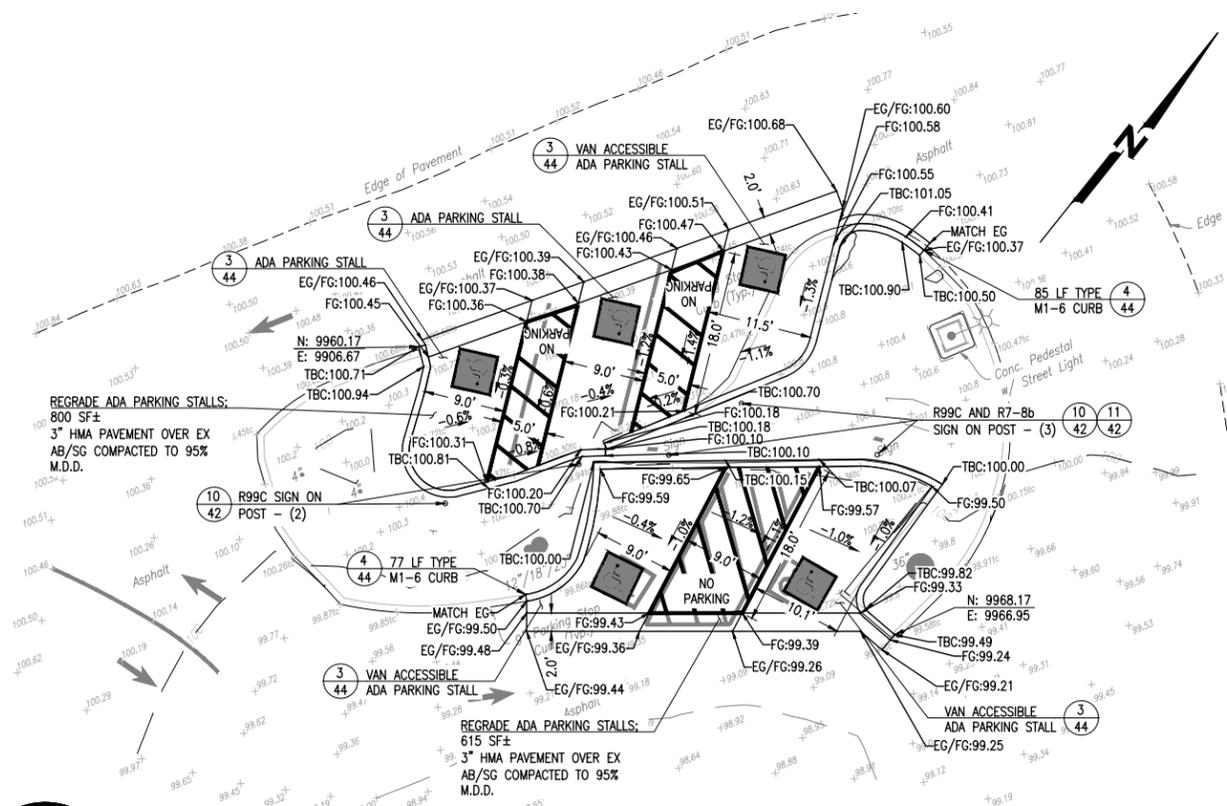
EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
DRAINAGE DETAILS			
PROJ. NO. 10625-G	10625-G-046	0	PG. 46
SCALE NO SCALE			
DATE 11DEC2025	STRUCT. DISC. NUMBER	REV.	



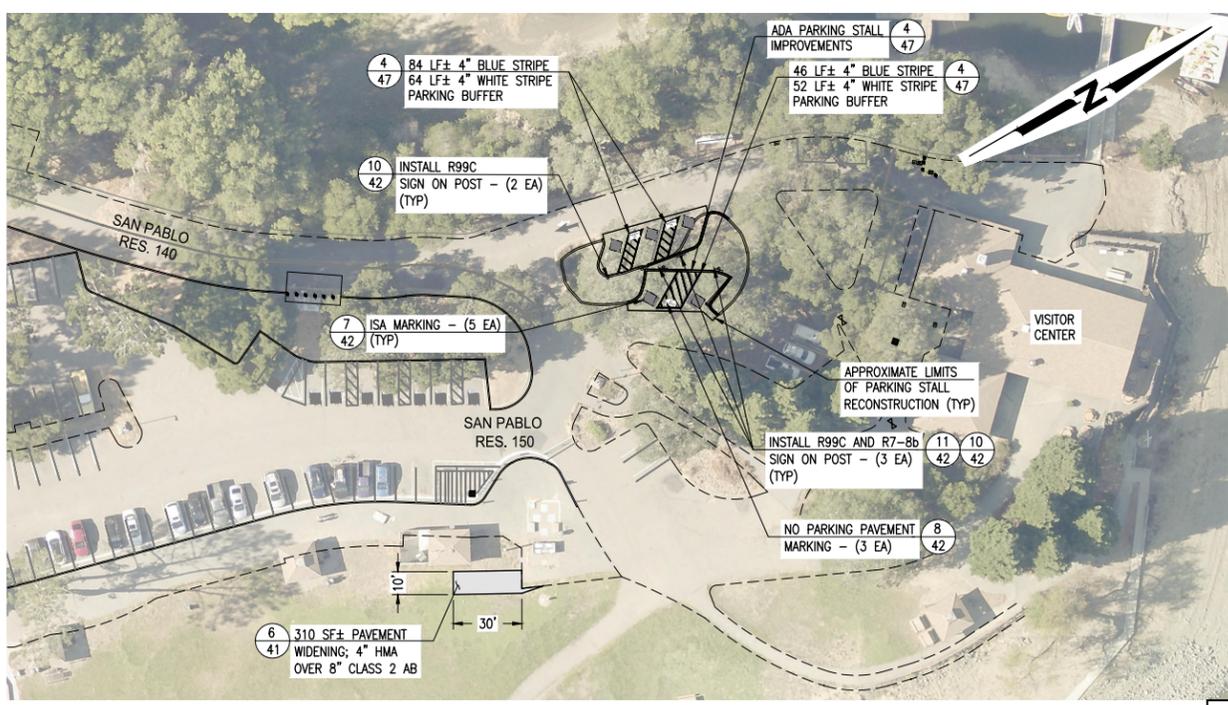
1 NORTH CENTER ADA
47 1" = 5"



2 SAN PABLO RES. 90 ADA
47 1" = 10"



4 SAN PABLO RES. 150 ADA
47 1" = 10"



3 SAN PABLO RES. 150 ADA AND HMA PAD
47 1" = 40"

FINAL PLANS
ISSUED FOR
BIDDING
DATE: 12/10/2025



Know what's below.
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PLOT SCALE:



NO.	DATE	REVISION	BY	REC.	APP.



East Bay Municipal
Utility District (EBMUD)
375 11th Street
Oakland, CA, 94607
Ph: (866) 403-2683

DESIGNED BY: VICTOR LEWIS
DESIGN CHECKED BY: FRANK HETTINGER
DRAWN BY: SAMUEL MCGUIRE, STANA BANARJALI
RECOMMENDED BY: VICTOR LEWIS
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. C62349 RYAN SHAFER

PROJECT MANAGER: R.P.E. NO. C83558 [Signature]
PROJECT ENGINEER: R.P.E. NO. C83558 [Signature]
RECOMMENDED BY: CIVIL ENGR. R.P.E. NO. C79823 [Signature]
APPROVED FOR CONSTRUCTION: R.P.E. NO. E18881 [Signature]

EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA			
PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 CIVIL			
ADA DETAILS 1			
PRJ. NO. 10625-G	10625-G-047	PG. 47	
SCALE AS NOTED			
DATE 11DEC2025	STRUCT.	DISC.	NUMBER REV.

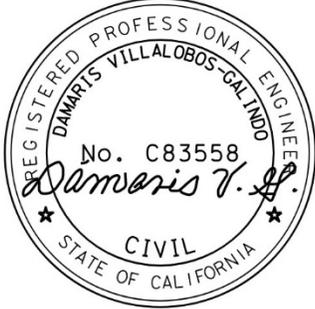


EXHIBIT H TECHNICAL SPECIFICATIONS

DOCUMENT 00 01 07

PROFESSIONAL SEALS

The following design professionals have signed and sealed the original specifications for this project in accordance to the List of Specification Sections.

<p>CIVIL ENGINEER</p>  <p>DAMARIS VILLALOBOS-GALINDO (DVG) EBMUD California License C 83558 Expiration Date: March 31, 2027</p>	<p>CIVIL ENGINEER</p>  <p>VICTOR LEMUS (VL) NCE California License C 89769 Expiration Date: March 31, 2027</p>
--	--

SPECIFICATION SECTION AND TITLE	DESIGN PROFESSIONAL SEAL BY
DIVISION 00 – PROCURMENT AND CONTRACTING DOCUMENTS – ALL SECTIONS	DVG
DIVISION 01 – GENERAL REQUIREMENTS – ALL SECTIONS	DVG, VL
DIVISION 02 – EXISTING CONDITIONS – ALL SECTIONS	VL
DIVISION 10 – SPECIALTIES – ALL SECTIONS	VL
DIVISION 31 – EARTHWORK – ALL SECTIONS	VL
DIVISION 32 – EXTERIOR IMPROVEMENTS – ALL SECTIONS	VL
DIVISION 33 – UTILITIES – ALL SECTIONS	VL

END OF SECTION

PAVEMENT MANAGEMENT IMPLEMENTATION YEAR 1 – EXHIBIT H
TECHNICAL SPECIFICATIONS

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DOCUMENTS**

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00 01 10	Table of Contents
00 73 00	Supplementary General Conditions

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01 14 00	Work Restrictions
01 18 05	Project Utility Sources and Site Conditions
01 21 00	Allowances
01 26 13	Requests for Information
01 29 00	Payment Procedures
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01 33 00	Submittal Procedures
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01 35 44	Environmental Requirements
01 35 45	Biological, Cultural and Paleontological Resource Requirements
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12/03/25

Project No. 10625-G

00 01 10 - 1

Table of Contents

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33 42 11 Stormwater Gravity Piping

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APPENDICES

APPENDIX A – Forms and Schedules

APPENDIX B – District-Approved Disposal Facilities

DOCUMENT 00 73 00

SUPPLEMENTARY GENERAL CONDITIONS

The following supplements shall modify, delete, and/or add to the General Conditions. Where any article, paragraph, or subparagraph in the General Conditions is supplemented by one of the following paragraphs, the provisions of such article, paragraph, or subparagraph shall remain in effect and the supplemental provisions shall be considered as added thereto. Where any article, paragraph, or subparagraph in the General Conditions is amended, voided, or superseded by any of the following paragraphs, the provisions of such article, paragraph, or subparagraph not so amended, voided, or superseded shall remain in effect.

1. In Article 1.2.1

A. Renumber .20 through .33 to .22 through .35, respectively.

B. Renumber .1 through .19 to .2 through .20, respectively.

C. Before Paragraph 1.2.1.2, insert:

“.1 Act of God: An occurrence or condition and effect as defined in Public Contract Code § 7105.”

D. After Paragraph 1.2.1.20, insert:

“.21 Force Majeure: An event of force majeure is an event or circumstance which is beyond the control and without the fault or negligence of the Contractor or the District, and which by the exercise of reasonable diligence the Contractor or the District is unable to anticipate or prevent, provided that the event or circumstance is limited to: adverse weather conditions, including, but not limited to, National Weather Service Red Flag Warnings, public safety power shutoffs, drought, fires, or floods; wars; civil or military disturbances; acts of terrorism; epidemics; acts of civil or military authority; or governmental actions, that affect the Contractor’s or District’s ability to perform its contractual scope of work.”

2. In Article 1.3.3.1, delete Items 9 and 10, and replace with:

- “ 9. Remainder of Division 00
- 10. Appendices
- 11. Referenced Standard Specifications”

3. In Article 3.4, replace Paragraphs 3.4.2.7 through 3.4.2.9 with:

“.7 If Contractor does not certify the Claim as required above, the Claim will be considered incomplete and subject to denial without any further recourse by, or remedy to, the Contractor.

- .8 A claim complying with the requirements of Article 3.4 by the Contractor sent to the District through the District's Construction Management Information System ("CMIS", see Section 01 31 23.10) and by registered or certified mail with return receipt requested, either on its own behalf, or on behalf of one of its subcontractors of any tier that is a separate demand for a time extension, including without limitation, for relief from damages or penalties for delay, for money or damages arising from work done by, or on behalf of the Contractor for which payment is not otherwise provided, or to which the Contractor is not otherwise entitled, or payment of an amount disputed by the District shall be subjected to the following procedures:
- a) Upon receipt of a Claim, the District will conduct a reasonable review of the Claim and will provide to the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed within 45 days from the date of receipt. The time for providing the written statement may be extended by mutual agreement between the District and the Contractor. If the District requires approval from its governing Board, and its Board does not meet within the 45-day period from receipt of a Claim, then the 45-day period shall be extended to three days following the next duly publicly noticed meeting of the District's Board.
 - b) Upon request by the District, the Contractor shall furnish reasonable documentation to support the Claim, as outlined in Article 3.4.2.
 - c) Any payment due on an undisputed portion of the Claim will be paid within 60 days after the District issues the written statement referenced in Subparagraph 3.4.2.8.a, above.
 - d) If the Contractor disputes the District's written statement, or if the District fails to timely respond to a Claim, the Contractor may demand in writing, sent through the CMIS and by registered or certified mail with "return receipt requested", an informal conference to meet and confer for settlement of the issues in dispute with the District. Within 30 days from the date of receipt of such demand to meet and confer, the District will schedule and hold a meet and confer conference, unless the timing is extended by mutual agreement of the Contractor and the District.
 - e) Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the District will provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. If additional unpaid undisputed portions of the Claim are identified, payment on such undisputed portions will be made within 60 days after the District issues the written statement referenced in this Subparagraph 3.4.2.8.e.
 - f) Following receipt of the District's written statement in Subparagraph 3.4.2.8.e, the Contractor may identify in writing any disputed portion of the Claim and request mediation. The disputed portion of the Claim, as identified in writing by the Contractor, shall be submitted to nonbinding mediation. The costs of mediation shall be shared equally by the District and the Contractor. The District 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 as provided herein. If the District and the Contractor cannot agree upon a mediator, they shall each 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. Alternatively, the parties may agree to any nonbinding process, included but not limited to neutral evaluation or a dispute review board, and such nonbinding process shall be considered to comply with the mediation requirements set forth herein. Unless otherwise agreed by the District and the Contractor in writing, the mediation shall excuse any further obligation under Public Contract Code § 20104.4 to mediate after litigation has been commenced. The District and the Contractor may mutually agree to waive mediation in writing, at which time the procedures set forth in Article 3.4 shall be deemed complete and complied with, other than the mediation provided herein.

- g) If mediation of the disputed portion of the Claim is unsuccessful, the Contractor shall be required to follow all of the other claim procedures set forth in Article 3.4.
- h) Failure by the District to respond to a Claim within the time periods set forth herein will result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of Subparagraph 3.4.2.8, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.
- i) Amounts not paid in a timely manner as required in Subparagraph 3.4.2.8 will bear interest at 7 percent per annum.
- j) It is intended that the provisions stated in this Subparagraph 3.4.2.8 be a summary of the requirements of Public Contract Code § 9204, and it is not intended that the provisions herein shall waive or alter the requirements of Public Contract Code § 9204, except to the extent permitted by law upon mutual written agreement by the Contractor and the District.

.9 Condition Precedent (Government Code, Sections 930, et seq.):

- a) The Disputes and Claims procedures set forth in Article 3.4 are the exclusive procedures for presenting any Claims and are a condition precedent to filing a Government Code Claim, which, in turn, is a condition precedent to the right to initiating any action against the District related to the Claim. Failure to comply with the Disputes and Claims procedures set forth in Article 3.4 is a waiver of any Claim arising from or related to the facts and circumstances described in the Claim or the Notice of Intent to File a Claim.”

4. In Article 4.2.1, replace Article 4.2.1 in its entirety with:

“4.2.1 Superintendent. The Contractor shall employ a qualified, competent superintendent who shall be present at the project site at all times whenever work is being

performed and who shall supervise and direct all Work being performed by the Contractor, Subcontractors, and their respective agents and employees to ensure that the Work is being carried out in accordance with the Contract Documents. The superintendent shall be a regular employee of the Contractor and shall have been so for at least 30 days prior to work on this project. The Contractor shall designate, in writing, the name, scope, and authority of the superintendent before the Work begins. Instructions and information given by the Engineer to the Contractor's superintendent about the Work are binding on the Contractor. Failure of the Contractor to have a designated superintendent at the project site as required by this paragraph shall constitute a material breach of this Contract, and shall further constitute grounds for suspension of all work until the Contractor has fully complied with the requirements of this paragraph. Any such suspension shall be considered an inexcusable delay by the Contractor, and may serve as grounds for termination for default at the election of the District.”

5. After Article 4.3.3, add:

“4.3.4 All personnel including sole proprietors performing electrical work covered by Division 26 of the contract documents shall be journeymen or registered apprentices or shall be certified as electricians pursuant to certification standards established by the Division of Labor Standards Enforcement. Personnel shall submit satisfactory proof of certification or registration to the Engineer prior to performing electrical work.”

6. In Article 4.7.1, delete:

“ However, the Contractor is not responsible for the cost of repair or restoration of damage to the Work caused by an Act of God as that term is defined in Section 7105 of the Public Contract Code.”

7. After Article 8.2.3, add:

“8.2.4 The deductions for liquidated damages shall be:

8.2.4.1 \$___/day from date of required “ready for service” until the actual “ready for service” date as defined in Section 01 11 00 Summary of Work.

8.2.4.2 \$___/day from date of actual “ready for service” or required Contract Completion, whichever occurs later, until actual Contract Completion as defined in Document 00 72 00 General Conditions.

8.2.4.3 \$___/hour or fraction thereof that shutdown for pipeline connection exceeds the time allowed by Article _____ in Section _____.

8.2.5 At the District's option, the deduction for liquidated damages will begin with the first progress payment following the incurrence of liquidated damages.

8.2.6 The above liquidated damages are necessary to ensure timely completion and to defray costs of additional construction inspection and contract administration.

Timely completion is required to improve the water storage and distribution system and to assure adequate water for firefighting and for public health.”

8. In Article 11

- A. Delete Article 11.3 in its entirety.
- B. Renumber Article 11.4 to 11.3.
- C. After Article 11.3, insert:

11.4 Termination or Suspension of the Contract - Act of God or Force Majeure

11.4.1 If an Act of God or Force Majeure occurs, the Engineer may, by written notice, either suspend this contract pursuant to Article 11.3, or terminate this contract pursuant to Article 11.2. In the case of suspension pursuant to Article 11.4, the 90-day suspension period limitation in Article 11.3.1 shall not apply. If the contract is not suspended or terminated, or if the contract is resumed after suspension, the Contractor shall fully restore the work except as limited by Public Contract Code, Section 7105(a), in the case of an “Act of God.”

11.4.2 If the contract is terminated because of an Act of God or Force Majeure, the Contractor will be paid for Work performed prior to the Act of God or Force Majeure at either (i) the Unit Prices named in the contract; or (ii) in the event no unit prices are named, a sum equal to the percentage that the Contract Sum for the Work completed, at the time of occurrence of the Act of God or Force Majeure bears to the Contract Sum for all Work to be performed under the contract as determined by the Engineer. In no event will the District be liable to the Contractor for breach of contract, extra work, or damages because the contract is terminated due to an Act of God or Force Majeure.”

9. After Article 12.1.8, add:

“12.1.9 The Contractor and all Subcontractors of any tier shall be properly registered with the State Department of Industrial Relations at the time of bid opening and for the duration of the project pursuant to Section 1725.5 of the Labor Code.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.”

10. After Article 12.2.4, add:

“12.2.5 The Contractor and all subcontractors are required to submit certified payroll records online, on a monthly basis to the Labor Commissioner. In addition, the Contractor and all subcontractors shall maintain and provide payroll records on forms as provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.”

11. In Article 13.3, replace Articles 13.3.2 and 13.3.3 in their entirety with:

“13.3.2 There shall be no discrimination in the performance of this contract, against any person, or group of persons, on account of race, color, religion, religious creed, national origin, ancestry, gender including gender identity or expression, age (over 40), marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), veteran or military status, family or medical leave status, genetic information, or sexual orientation. The Contractor shall not establish or permit any such practice(s) of discrimination with reference to the contract. Contractors determined to be in violation of this section will be deemed to be in material breach of the contract.

13.3.3 Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.”

END OF DOCUMENT

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The following is a general summary of work and is not all inclusive; the Contractor shall perform all other related or required work as fully described in the specifications and drawings.
- B. Work for this project includes mobilization and demobilization of construction equipment and materials; construction area signs; clearing, grubbing, and environmental protection; traffic control; concrete curb ramp; concrete curbs; concrete sidewalk; concrete valley gutter; HMA dike; removal and replacement of storm drain pipe; installation of curb inlets; adjustment of utilities to finish grade; removal of existing thermoplastic striping and markings; full-width cold planing; crack sealing; surfacing and base removal; pavement subgrade preparation; potential subgrade over-excavation; subgrade stabilization including geogrid and placement of aggregate base; full depth base repairs; full-depth reclamation (FDR); application of cement for FDR; hot-mix asphalt overlays; rubberized chip seal; PM type II slurry seal; and installation of thermoplastic striping and markings.
- C. The items in the list below shall be done in the following sequence:
 - 1. For mill and overlay streets, the Contractor shall perform the cold planing first followed by full-depth base repairs (measured from top of milled surface), followed by crack sealing, and finally apply the hot mix asphalt overlay.
 - 2. For surface seal streets, the Contractor shall first remove the existing thermoplastic striping and markings followed by full-depth base repairs, followed by crack sealing, and finally apply the surface-seal layer(s).

1.2 RELATED SECTIONS

- A. Section 01 14 00 – Work Restrictions
- B. Section 01 31 23.15 – Certified Payroll Electronic Submission
- C. Section 01 33 00 – Submittal Procedures
- D. Section 01 35 24 – Project Safety Requirements

1.3 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

- A. Notice to Proceed.

1. Project Award is anticipated within approximately two months from RFP Evaluation. See GSA Conditions Article 8.1 for more information for Notice to Proceed requirements.
 2. The Contractor expressly asserts that it has taken into consideration and made allowances for all ordinary delays and hindrances to the work to be performed.
- B. Following issuance of the Notice To Proceed, the Contractor shall commence with identifying, gathering, and turning in all required submittals for review and approval of the District. The Contractor is not allowed to perform any work on the site(s) until the issuance of the Notice To Commence Field Work. Submittals requiring approval or acceptance by the District prior to the issuance of this notice shall include, at a minimum, the following:
1. A completed Certified Payroll Electronic Submission Account Sign-up Form as specified in Section 01 31 23.15.
 2. Initial Critical Path Method Construction Schedule.
 3. A Schedule of Submittals as specified in Section 01 33 00.
 4. Project Health & Safety Plan and Fall Protection Procedures as specified in Section 01 35 24.
 5. Water Control and Disposal Plan, Spill Prevention and Response Plan, and Dust Control and Monitoring Plan as specified in Section 01 35 44.
- C. A Notice To Commence Field Work for the site(s) will be issued within 30 calendar days after the Notice To Proceed, pending receipt of acceptable required submittals. No site work shall occur prior to issuance of the Notice To Commence Field Work.
- D. Required Milestones and Contract Completion
1. All work covered by the contract shall be completed within 214 Calendar Days from the date the Notice to Proceed is issued and prior to the start of the rainy season.
 2. For the purposes of this specification and contract, the “rain season” shall be defined as the period beginning on November 15 and continuing through April 15, unless otherwise directed by the Engineer.
 3. The Contractor’s bid shall include sufficient job-site overhead, home office overhead, and all other overhead for the full contract duration.
 4. Refer to Caltrans standard specifications for tracking contract time in the form of Weekly Statements of Working Days. Any time adjustments requested should be approved by the Engineer and tracked in the Weekly Statement of Working Days.

E. Responsibility for Completion

1. Whenever it becomes apparent from the Construction Schedule, or from monthly progress review meetings that phasing or contract completion dates will not be met, the Contractor shall take some or all of the following actions at no additional cost to the District:
 - a. Increase construction manpower in such quantities and crafts as will bring the progress of the work into conformance with all other specified requirements.
 - b. Increase the number of hours of work per shift, shifts per days of work, days of work per week, the amount of construction equipment or any combination of the foregoing, to bring the scheduling and progress of the work in conformance with all other specified requirements.
 - c. Reschedule the work under this contract in conformance with all other contract requirements to demonstrate completion of the contract work within the contract time.
 - d. Any additional steps necessary to ensure timely completion of the project.
 - e. Float in the Construction Schedule shall be for the benefit of the project and shall be available to the District as well as the Contractor in the event of contract change.

1.4 CONTRACT DRAWINGS

- A. The drawings which form a part of this RFP are in a separate exhibit (Exhibit G). The District will accept no responsibility for errors resulting from misinterpretation or scaling of the drawings. The project drawings and some standard and reference drawings have been reduced in scale.
 1. After Notice to Proceed the Contractor will be provided with a minimum of 2 sets of full-size Project Drawings. Additional sets will be provided upon request.

1.5 CHANGES

- A. Changes to the work will be set forth in written Contract Change Orders that specify the work to be done or change to be made, and the payment to be made or credit to be taken and the adjustment of time, if any. See GSA Conditions, Article 7.
- B. A copy of the District's standard Contract Change Order form is in Appendix A

1.6 COMMUNICATIONS REGARDING THE WORK

- A. Upon award of the contract, all correspondence and inquiries related to the work specified herein shall be directed to the PMI Year 1 Project Manager, or as directed by the District:

Dámaris Villalobos-Galindo, P.E.
Associate Civil Engineer
EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
PHONE: (510) 287-1240

- B. The Contractor shall prioritize all communications regarding the work which require a response by the District. The Contractor shall initiate all communication regarding work as far in advance as is practical to permit timely District response.
- C. Appendix A contains standard communication forms that shall be used by the Contractor in communications regarding the work. The Contractor shall fill in all information required by the forms. If a space on the forms calls for information that is not applicable to the specific communication involved, the Contractor shall fill in "None", "N/A" or other similar comment. If additional information is required beyond that called for on the forms, it shall be provided by the Contractor as an attachment to the form.
 - 1. The standard communication forms and their intended use are as follows:
 - a. Submittal Transmittal: This form shall accompany the transmittal of all submittals by the Contractor in accordance with Section 01 33 00, Submittal Procedures.
 - b. Request For Information (RFI): This form shall be used by the Contractor in its RFI regarding any clarifications, interpretation or additional details that the Contractor may need concerning the requirements of the Contract Documents; as well as any questions or comments concerning any conflicts, errors or discrepancies which the Contractor may discover. The Contractor shall provide sequential numbering for each RFI to simplify subsequent reference to the questions involved.
 - c. RFI Response Form: This form will be used by the Engineer when responding to an RFI submitted by the Contractor.
 - d. Change Order Request (COR): The form shall be used by the Contractor when it submits a COR for a change in the Contract Documents. The Contractor shall provide sequential numbering for each COR. CORs shall be submitted by the Contractor in accordance with the provisions of the GSA Conditions. All subsequent correspondence regarding the items addressed in the COR shall include the COR number.
 - e. Contract Change Order Form: All Change Orders to the contract under the provisions of Article 7 of GSA Conditions shall be executed on copies of the attached form.
 - f. Daily Extra Work Reports: All work involved with Force Account Compensation shall be recorded by the Contractor on copies of the attached Daily Extra Work Reports, in accordance with the requirements of Article 7.4

of the GSA Conditions. These reports shall be used as the basis of computing all costs involved with Force Account work, and shall be submitted by the Contractor to the District on the day the work is performed.

- g. Deficiency Notice: This form will be used by the District to inform the Contractor of defective work in accordance with the GSA Conditions, Article 3.2. The Contractor shall sign and date this form upon receipt.

1.7 WAGE RELATED WORKPLACE POSTINGS

- A. The Contractor and every Subcontractor shall post at the workplace and comply with all required wage related workplace postings. Copies of the required postings may be downloaded or ordered electronically from the Department of Industrial Relations website at <http://www.dir.ca.gov/wpnodb.html>.

1.8 DISTRICT EQUAL EMPLOYMENT OPPORTUNITY (EEO) POSTERS

- A. Post in a prominent and accessible location on the project site District-furnished EEO posters. The posters shall be maintained for the duration of the project. Request additional posters from the Engineer if their replacement becomes necessary.

1.9 LOCAL EMPLOYMENT AND TRAINING PROGRAM

- A. The District encourages Contractors (and their subcontractors), who have active District contracts, to provide job training and employ local residents with little work experience and/or residents who are returning to work from welfare.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 14 00
WORK RESTRICTIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes special requirements and construction constraints that may affect the Work. These requirements and constraints are in addition to those appearing elsewhere in the specifications.
- B. Related sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 35 44 – Environmental Requirements
 - 3. Section 01 35 45 – Biological, Cultural, and Paleontological Resource Requirements
 - 4. Section 01 77 00 Closeout Procedures

1.2 SUBMITTALS

- A. Certification that all requirements of agencies having jurisdiction over the Work have been satisfied

1.3 WORK HOURS

- A. Work or activity of any kind shall be limited to the hours from 7:00 a.m. to 6:00 p.m. Monday through Friday with the exception of the North Service Area Center which shall be done during weekends, unless otherwise approved by the Engineer. See Section C for more details on North Service Area Center and San Pablo Reservoir Recreation Area. . Contractor shall provide a construction schedule per Section 01 33 00.
- B. Contractor shall notify District project representative no less than two (2) weeks ahead of starting the work at each facility to allow enough time for facility operations and maintenance coordination.
- C. Contractor shall note during the site visit the spatial and access limitations for all sites and plan the work, traffic control, and staging accordingly.
- D. There are work and hour restrictions the Contractor shall follow for the North Area Service Center San Pablo Reservoir facilities.
 - 1. North Area Service Center:

- a. Contractor shall coordinate with Construction and Maintenance Superintendent, Dennis Cronin, at (510) 377-1610 and give him two (2) weeks advance notification prior to starting any work on site to allow for relocation of yard equipment. Weekday work, when approved, must be coordinated with the Superintendent to avoid interfering with regular facility operations.
 - b. Contractor shall refer to the project plans for suggested Phasing Plan. Contractor may propose an alternative Phasing Plan but shall receive written approval from the Engineer prior to implementation.
 - c. The Contractor shall perform the paving and striping work at this facility during the weekends, unless otherwise approved by the Engineer. See drawings for suggested Phasing Plan and timing of weekend and weekday work.
 - d. Existing utility adjustments and coordination may be performed on weekdays with prior notification to, and approval by, the Engineer. Any delays resulting from coordination with external utility agencies shall be borne by the Contractor.
 - e. Concrete work may be performed on weekdays with prior notification to, and approval by, the Engineer.
 - f. Driveway access to North Service Center must be maintained at all times.
 - g. The Contractor shall provide notification to the Engineer no less than two (2) weeks prior to starting work. No additional compensation will be allowed if the Contractor failed to properly notify the Engineer, causing the District to be unable to relocate equipment and materials in a timely manner, resulting in a delay to the Contractor's scheduled work.
 - h. All schools in close proximity to the North Area Service Center (within 500' buffer radius from North Area Service Center), including Making Waves Academy located at 4123 Lakeside Drive in Richmond, and La Petit Academy located at 3891 Lakeside Drive in Richmond, must be notified no less than two (2) weeks in advance of any work at the facility.
 - i. Only one phase of work will be allowed at a time.
2. San Pablo Reservoir Area:
 - a. Contractor shall coordinate with the Engineer, District Project Manager and Senior Ranger, Alberto Mendo, at (510) 719-8673 and give them two (2) weeks advance notification prior to commencement of work. In addition, once work begins, provide weekly notices outlining the exact locations of work and the type of work for the upcoming week.

- b. Work shall not be allowed on weekends and holidays, unless otherwise directed by the Engineer.
 - c. Include certified flaggers at the San Pablo Reservoir Area facility at all times during construction.
 - d. Paving work shall follow the work hour restrictions stated above.
 - e. Phasing plan shall be approved by the Senior Ranger. Contractor shall produce a phasing plan for the San Pablo Reservoir Area that keeps half of the roadway width open for public and emergency vehicles. Traffic to be encountered at this location includes but is not limited to EBMUD work trucks and maintenance vehicles, boat trolleys, emergency vehicles, and private vehicles, in addition to recreational bicycle riders. Minimum lane width access during construction should be 10’.
 - f. The District’s preference is to complete work on these facilities when the reservoir is closed to the public after the second Sunday in November. In addition, work is to be done after bird nesting season is over (bird nesting season starts on February 1st and ends on August 31st). Contractor shall propose a schedule and phasing plan that minimizes disruption to public use and facility operations while providing adequate pavement curing time and appropriate weather conditions. Proposed schedule and work phasing plan is to be reviewed and approved by the Engineer.
- E. Work in excess of eight hours per day, work on Saturdays, work on Sundays, or work on District holidays requires prior consent of the Engineer and is subject to Cost of Overtime Construction Inspection. Notify the Engineer no less than 96 hours prior to beginning scheduled work at night or on a Saturday, Sunday or District holidays.
- F. District holidays
- 1. Holidays are:
 - New Year’s Day
 - Martin Luther King Day (3rd Monday in January)
 - Lincoln's Birthday
 - Washington's Birthday (3rd Monday in February)
 - Cesar Chavez’s Birthday
 - Memorial Day (last Monday in May)
 - Juneteenth (June 19)
 - Independence Day
 - Labor Day (1st Monday in September)
 - Veteran's Day
 - Thanksgiving Day and following Friday
 - Christmas Day
 - Day after Christmas

2. When a holiday falls on Sunday, the following Monday shall be observed as the holiday. When a holiday falls on Saturday, the preceding Friday shall be observed as the holiday.
 - a. Day after Christmas Exception:
 - 1) When the Day after Christmas falls on a Saturday, the Day after Christmas holiday shall be observed on the following Monday.
 - 2) When the Day after Christmas falls on a Monday, the Day after Christmas holiday shall be observed on the following Tuesday.

1.4 COST OF OVERTIME CONSTRUCTION INSPECTION

- A. Overtime construction work performed at the option of, or for the convenience of, the Contractor will be inspected by the District at expense of the Contractor. For any such overtime beyond the regular 8-hour day and for any time worked on Saturday, Sunday, or holidays the charges will be as shown in the following schedule:

	<u>Charge per Hour</u>
Associate Engineer	\$134.71
Assistant Engineer	\$121.99
Senior Construction Inspector	\$119.00
Construction Inspector	\$107.83
Junior Engineer	\$10.23
Pickup truck	\$40.51

- B. Charges for overtime inspection shall be captured on a Daily Extra Work Report (Appendix A). The daily extra work report shall include an accurate description of the overtime work being performed and the total District staff/equipment hours, which shall be signed by the Contractor. At the end of the month the charges will be totaled, and a credit change order will be prepared for execution, and for deduction of the overtime inspection charges in the following month's payment.
- C. There will be no charges for the inspection of overtime work ordered by the Engineer or required by the specifications.

1.5 COOPERATION WITH OTHER WORK FORCES

- A. Other contractors, other utilities and public agencies or their contractors, other District contractors, and District personnel may be working in the vicinity during the project construction period.
- B. Any costs for providing cooperation with other work forces shall be considered as included in the bid price for the various contract items of Work and no separate payment will be made therefor.

1.6 MAINTENANCE OF FACILITY OPERATION

- A. The Contractor will be performing Work at or near operating telecommunications, water storage, and water distribution sites. Under these conditions, extra precautions will be necessary to ensure that no damage occurs to those distribution facilities, including piping, utilities, roads, and structures, that are to remain in operation and are not to be modified or replaced. Any temporary facilities, materials, equipment and labor required to achieve these objectives shall be provided by the Contractor at its own expense. At the completion of Work, all such temporary facilities, materials and equipment remaining shall be removed from the site.

1.7 CONSTRUCTION NOISE

- A. Noise-generating activities greater than 90 dBA (impact construction such as concrete breaking, concrete crushing, tree grinding, etc.) shall be limited to the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday and, with exceptions and with prior approval by the Engineer, between 9:00 am and 6:00 pm on weekends at the North Area Service Center.

1.8 SCHEDULING CONSTRAINTS

- A. Exceptions to the work hour constraints in Article 1.3 – Work Hours may be made upon application to the Engineer.
- B. All Work shall be in accordance with Section 01 35 44 – Environmental Requirements and Section 01 35 45 – Biological, Cultural & Paleontological Resource Requirements.
- C. Sequence of work
 1. Mobilization
 2. Construction Area Signs
 3. Clearing, grubbing and environmental protection
 4. Concrete Improvements (curb, curb & gutter, curb ramps, valley gutter)
 5. Utility Adjustment
 6. Storm Drain Pipe Replacement and Curb Inlets
 7. Paving Operations
 8. AC Dike
 9. Thermoplastic Striping and Markings

1.9 OUTSIDE AGENCY PERMITS

- A. The Contractor shall comply with all requirements of any permits and be responsible for all associated costs.
- B. Where requirements of the permits differ from those of the drawings and specifications, the more stringent requirements shall apply.
- C. Neither a building permit nor an electrical permit is required.
- D. The Contractor shall comply with all requirements of any easements and shall be responsible for all associated costs.
- E. The Contractor shall be responsible for obtaining any City or County encroachment permit for work or traffic control that encroaches outside of the District's property. Failure to obtain such permits, resulting in loss of production or schedule delays shall be the sole responsibility of the Contractor, and no additional compensation is allowed.
- F. The Contractor may choose to obtain additional permits or easements from adjoining property owners for the purpose of facilitating the work, material storage and other such needs. It shall be the Contractor's responsibility to acquire and pay for such permits or easements and to abide by all requirements and provisions of the permits or easements. The District will assist the Contractor, when necessary, in obtaining such permits and easements. Any damage to property, either inside or outside the limits of the easements obtained by the District, shall be the responsibility of the Contractor.
- G. Where requirements of the permits or easements differ from those of the drawings and specifications, the more stringent requirements shall apply.
- H. Before final payment will be authorized, the Contractor will be required to furnish the District with written releases from property owners or public agencies per Section 01 77 00 – Closeout Procedures.

1.10 AVAILABLE UTILITIES

- A. The Contractor shall provide all water and is responsible for associated costs.
 - 1. Contractor may obtain a District-issued hydrant meter. Refer to <https://www.ebmud.com/customers/start-or-stop-service/hydrant-meters>
- B. Power will not be available

1.11 WORK DURING NATIONAL WEATHER SERVICE RED FLAG WARNINGS & FIRE WEATHER WATCHES

- A. During any red flag warnings or fire watch events in the work area, stop all Hot Work including any electric or gas welding, cutting or brazing, wire or grinding wheel, or

any extreme heat, flame or spark producing equipment, procedures or operations, unless wildfire safety mitigations have been approved by the Engineer.

- B. Request(s) for extension of Contract Time resulting from red flag or fire watch events will be considered Weather Conditions Unfavorable for Prosecution of Work per General Conditions Article 8.5.
- C. Obtain approval from the Engineer for any type of Hot Work during any National Weather Service Red Flag Warnings & Fire Weather Watches.
- D. Exercise extreme precaution for all approved work during any National Weather Service Red Flag Warnings & Fire Weather Watches.
- E. Red flag and Fire Watch warnings can be found here:
<https://www.weather.gov/wrh/CAFW>

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 18 05

PROJECT UTILITY SOURCES AND SITE CONDITIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor shall pay attention to the existing (known and unknown) utilities at or near the project site and site conditions.
- B. Related Sections:
 - 1. Section 31 23 16 – Excavation
 - 2. Section 31 23 33 – Trenching and Backfilling
 - 3. Section 32 01 23 – Full Depth Reclamation with Portland Cement
 - 4. Section 32 12 16.81 – Asphalt Concrete Paving and Subgrade Stabilization

1.2 SITE INVESTIGATION AND REPRESENTATION

- A. The Contractor acknowledges that it has satisfied itself as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, tide stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this Contract.
- B. The Contractor further acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the District or included in these Contract Documents. Any failure by the Contractor to become acquainted with all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- C. Before undertaking each part of the work, the Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The Contractor shall field verify the depth and location of all buried utilities, and existing systems, and location of hazardous waste and contaminants as part of the contract. The Contractor shall promptly report in writing to the Engineer any conflict, error, or discrepancy which the

Contractor may discover and shall obtain a written interpretation or clarification from the Engineer before proceeding with any work affected thereby.

1.3 EXISTING UTILITIES AND IMPROVEMENTS

- A. Overhead and underground utilities are not shown on the drawings. The Contractor shall take all necessary precautions to avoid damage to existing utilities.
- B. The Contractor shall notify Underground Service Alert (USA) at least four (4) days prior to excavation, telephone 811. The Contractor shall also contact all utility owners not registered with USA but known to have utilities in the project area to field locate underground utilities at least four (4) days prior to excavation.
- C. The Contractor shall hire a private utility locator in advance of any excavation activity so that any underground utility within the project area can be positively located.
- D. Known existing underground conduits, pipelines and other utilities have been shown on the contract drawings in their approximate locations with reasonable accuracy. However, the accuracy or completeness of utilities indicated on the drawings is not guaranteed. It shall be the responsibility of the Contractor to determine the exact location of all utilities and their service connections. All potholing or other procedures for verifying utility location shall be performed by the Contractor as necessary to prepare for its excavation at least four (4) work days in advance of scheduled excavation and/or prior to fabrication of any appurtenances. The Contractor shall immediately notify the Engineer as to any utility located by the Contractor which has been incorrectly shown or omitted from the drawings. Potholing will be required to positively locate underground utilities (exact alignment and depth) within the Full Depth Reclamation, subgrade stabilization, pavement widening, and subgrade over-excavation areas. Potholing shall be completed after the utility locator has located the underground utilities using a non-invasive method first.
- E. An underground utility is indicated with reasonable accuracy if the indicated horizontal centerline is within 36-inches of the actual horizontal centerline when measured along the centerline of the project pipeline. An underground utility facility is indicated with reasonable vertical accuracy if the indicated vertical centerline is within 24-inches of the actual vertical centerline when measured along the centerline of the project pipeline.
- F. Existing utilities that are shown, or that are made known and located, to the Contractor prior to excavation and that are to be retained and all utilities that are constructed during excavation operations shall be properly supported and protected from damage during the progress of the work.
- G. As-builts shall be updated to reflect all utilities encountered whether indicated on the contract drawings or not.
- H. Attention is directed to the possible existence of underground utilities not indicated on the plans and to the possibility that underground utilities may be in a location different

from that indicated on the plans. The Contractor shall ascertain the exact locations of underground utilities whose presence is indicated on the plans, the locations of their service laterals and the location of any other underground utilities and service laterals which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage such utilities or interfere with their service, including, but not limited to underground service laterals for water, gas, sanitary sewer, electric, telephone, cable and storm drain utilities which may not necessarily be marked by the utility owner. All potholing or other procedures for verifying underground utility locations shall be performed by the Contractor at least four (4) work days in advance of scheduled excavation and/or prior to fabrication of appurtenances.

1. If the Contractor cannot locate an underground utility whose presence is indicated on the plans, the Engineer shall be notified in writing. If the Engineer determines that the underground utility for which such notice has been given has not been depicted on the plans with reasonable accuracy (within 36-inches horizontally of actual location), the additional cost incurred in locating the utility will be paid for as extra work as provided in Article 7 of the General Services Agreement (GSA) Conditions.
 2. If the Contractor discovers underground utilities not indicated on the plans, Contractor shall immediately give the Engineer and the Utility Company written notification of the existence of such utility. Such utilities shall be located and protected from damage as directed by the Engineer and the cost of such work will be paid for as extra work as provided in Article 7 of the GSA Conditions.
- I. The Contractor shall notify all Owners of utilities when its work is in progress and shall make arrangements as are necessary to make any emergency repairs. Known utilities in the area are listed in Article 1.5 of this Section.
 - J. Should any damage to a utility occur during the progress of the work, the Contractor shall notify the District and the utility at once and render every assistance possible to repair the damage and restore the service. No extra compensation nor extension of project time will be made for the repair of any services or utility damaged by the Contractor nor for any damage incurred through neglect or failure to provide adequate protection to existing utilities. The provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
 - K. Damaged water pipelines may be repaired by the District at the Contractor's expense at the discretion of the Engineer. Repair work will be coordinated by the District (if in public right-of-way: (866) 403-2683). If the Contractor fails to pay the cost of repairs to water pipelines within thirty days of receipt of the invoice, the District reserves the right to deduct the amount owed from the Contractor's next Progress Payment. If so directed by the Engineer, the Contractor shall make repairs at its expense.
 - L. In the event that the Contractor damages any underground utilities not shown on the plans or not depicted on the plans with reasonable accuracy (within 36-inches

horizontally of actual location) or any lateral service the location of which could not be inferred by the Contractor, a written report thereof shall be made immediately to the Engineer. The Contractor's report shall also advise the Engineer of any schedule delays. Compensation for such delays will be determined in accordance with Article 8 of the GSA Conditions. The Contractor shall be entitled to no other compensation for any such damage.

- M. All utilities encountered along the line of the work shall remain continuously in service during all work under the Contract, unless otherwise shown on the drawings, or unless other arrangements satisfactory to the Engineer are made with the Owner of said utilities.

1.4 CONTRACTOR'S RESPONSIBILITY FOR UTILITY FACILITIES AND SERVICE

- A. Where the Contractor's operations could cause damage or inconvenience to utilities (e.g., railway, telegraph, telephone, television, power, oil, gas, water, sewer, fuel lines or irrigation systems), the Contractor shall make all arrangements necessary for the protection of these utilities and services.
- B. The Contractor shall be solely and directly responsible to the owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.
- C. Neither the District nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.
- D. In no event shall interruption of any utility service be allowed outside work hours unless granted by the Utility owner.
- E. No sand, mud, rocks or other construction debris shall be disposed of in the sanitary sewers, storm sewers, waterways, or creeks.
- F. Where bypassing of sewage is required to perform sewer repairs or service relocations and where temporary pumps are required to bypass any sewage across traffic lanes, the discharge lines crossing the traffic lanes shall be buried a minimum of 4 inches below the pavement surface and backfilled with temporary asphalt concrete surfacing. Contractor shall take all necessary steps to assure continuous flow of sewage. Bypassing of untreated wastewater to surface waters or waterways shall not be permitted.
- G. The Contractor shall replace, at its own expense, any and all existing utilities or structures removed or damaged during construction, to their pre-existing condition unless otherwise provided for in these Contract Documents.

H. The Contractor shall repair or replace, at its own expense, all pavement damaged during the construction, to its pre-existing condition unless otherwise provided for in these Contract Documents.

I. Provisions of this Section shall also apply to temporary utilities.

1.5 NAMES OF KNOWN UTILITIES SERVING THE AREA

A. The following is a list of the known utilities serving the area, but is not limited to:

Name of Utility:

East Bay Municipal Utility District (water)

PG&E (electric and gas)

AT&T (telephone)

Comcast (telecom and CATV)

Contra Costa County (storm drain/sewer)

1.6 INTERFERING STRUCTURES

A. The Contractor shall take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the plans. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed, and it is presented as a guide to avoid possible difficulties.

B. The Contractor shall protect all existing structures, trees, shrubs, and other items on the project site that are to be preserved, by substantial barricades (or as required by the Owner), or other devices commensurate with the hazard, from injury or destruction by vehicles, equipment, workers, or other agents.

C. Where existing curb/gutter, fences, gates, landscaping, buildings, or any other structure must be removed to properly execute the work, or are damaged during the work, they shall be restored at the Contractor's expense to their original condition or better.

D. Without additional compensation, the Contractor may remove and replace in a condition as good as or better than original, any small structures such as fences, and signposts that interfere with the Contractor's operations. The Contractor shall obtain written acceptance of their removal and replacement plan by the Engineer and the item(s) Owner.

1.7 CONTRACTOR SHALL DOCUMENT ALL EXISTING SITE CONDITIONS PRIOR TO THE START OF WORK USING TIME-STAMPED VIDEO AND/OR PHOTOGRAPHS TO SUBSTANTIATE PRE-CONSTRUCTION CONDITIONS AND ANY PRE-

EXISTING DAMAGE. COPIES OF ALL DOCUMENTATION SHALL BE SUBMITTED TO THE ENGINEER. FIELD RELOCATION

- A. During the progress of construction, it is expected that minor relocations of the work will be necessary. Such relocations shall be made only with approval of the Engineer. If existing structures are encountered that will prevent construction as shown, notify the Engineer before continuing with the work in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures.
- B. If the Contractor fails to notify the Engineer when a structure which interferes with construction is encountered, and proceeds with the work despite this obstruction, the Contractor shall do so at its own risk with no additional compensation nor extension of Contract Time.
- C. Any Contractor request(s) for additional compensation or extension of Contract Time resulting from necessary field relocations will be considered as set forth in Articles 7 and 8 of the GSA Conditions.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: All items noted in Schedule of Allowances.
- B. Related contract documents:
 - 1. Section 01 35 44 – Environmental Requirements
 - 2. Section 01 35 45 Biological, Cultural & Paleontological Resource Requirements

1.2 SCHEDULE OF ALLOWANCES

- A. The following monetary amounts shall be included in the bid on the Proposal Form provided in Exhibit A of the Request for Proposal.

1.	Environmental Monitoring and Work suspension allowance (includes unanticipated Work disruptions due to bird nesting, protected wildlife, and cultural resources)	\$75,000
2.	Hazardous waste disposal allowance (includes costs for any unexpected hazardous wastes encountered)	\$50,000
3.	Dike/curb damage repair allowance (includes costs for reconstruction of existing AC dikes due to unintended damage)	\$140,000
Total Allowances		\$265,000

1.3 COSTS INCLUDED IN ALLOWANCES

- A. Cost of product and material to Contractor, less applicable trade discounts.
- B. Cost of labor required.
- C. Cost of equipment required.
- D. Applicable taxes and fees.

1.4 USE OF ALLOWANCES

- A. All work under allowances shall be approved in writing by the Engineer prior to commencement of work by the Contractor.
- B. All labor, material, and equipment shall be subject to approval of the Engineer.
- C. Contractor shall provide shop drawings, product data, and samples for materials provided under allowances.
- D. Unused portions of the allowances shall be credited to the District.

1.5 PAYMENT

- A. Payment for work completed under allowances shall be in accordance with Article 7.3 of the General Conditions, Determination of Costs for Change Order Work or in accordance with unit prices listed on the bid form, as applicable.
- B. Contractor shall maintain complete and accurate daily records of the costs of any portion of the work completed under allowances.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 26 13

REQUESTS FOR INFORMATION

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall prepare a Request for Information (RFI) when it believes that additional interpretation or clarification of the Contract Documents is needed, or that information not included in the Contract Documents is required to complete the Work. RFIs may also be used to alert the Engineer of apparent conflicts, inconsistencies, ambiguities, or omissions. "Request for Information" and "Request for Interpretation" shall have the same meaning.
- B. RFIs shall be submitted to the Engineer immediately upon the Contractor's discovery of a condition described in Paragraph 1.1.A. Any work undertaken prior to receipt of an RFI response shall be at the sole risk of the Contractor.
- C. RFIs generated during submittal preparation shall be submitted by the Contractor sufficiently in advance to not only allow for investigation and preparation of a response, but also for inclusion of the response into the submittal. Failure by the Contractor to allow sufficient time shall not be cause for entitlement to a time extension.
- D. The Contractor is responsible for all costs associated with preparing, submitting, and otherwise administering RFIs.

1.2 SUBMITTAL

- A. Before submitting each RFI, the Contractor shall carefully review the following relevant information:
 - 1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto
 - 2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work
 - 3. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto
 - 4. The Contract Documents
 - 5. Project correspondence and documentation

- B. RFIs forms (included in Attachment A) shall be completed, scanned, and submitted via email to the District PMI Year 1 Project Manager, or as Directed by the District. Contractor shall submit a separate RFI for each topic, item, issue, or system, and shall include the completed RFI form and all supporting documentation. Include “RFI No. – Pavement Management Implementation Project” in email subject line when submitting an RFI. District Project Manager contact information is as follows:

Dámaris Villalobos-Galindo, P.E.
Associate Civil Engineer
EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
Phone: (510) 287-1240

- C. RFIs shall clearly describe the problem and specifically state what is requested. Relevant portions of the Contract Documents shall be cited, marked-up and attached.
- D. The Contractor shall review each RFI before submitting and compare it with the Contract Documents to verify that a response is indeed required. RFIs generated by subcontractors or suppliers shall be reviewed by the Contractor prior to submission and shall be submitted under the Contractor’s cover.
- E. A recommendation or proposed solution may be included when appropriate or expedient.
- F. Known and potential schedule or cost impacts shall be noted in the RFI.

1.3 RESPONSE

- A. The Engineer will respond in writing and reply via email to an RFI from the Contractor within a reasonable amount of time, generally no more than fifteen (15) calendar days following receipt. Upon submission of a new RFI, Contractor shall note the priority of the new RFI as it relates to others already under review, if applicable.
- B. The Engineer’s response to an RFI will only provide clarification and interpretation of the Contract Documents.
- C. The Contractor shall review District responses to RFIs without delay and immediately notify the Engineer if it believes further information or clarification is needed by submitting a revision to the original RFI. Resubmittals shall clearly state the reason for resubmitting.
- D. RFIs will be returned without review, if in the opinion of the Engineer, one of the following conditions exists:
 - 1. The Contractor submits an RFI as a submittal, memo, or other type of correspondence

2. The Contractor submits the RFI under the pretense of a Contract Documents discrepancy or omission without thoroughly reviewing the documents
 3. The Contractor submits the RFI in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded or be taken as an isolated portion of the Contract Documents in part, rather than as a whole
 4. The Contractor submits an RFI in an untimely manner without proper coordination and scheduling of work-related trades
- E. The Engineer's review and response to an RFI shall not constitute approval of any deviation from the requirements of the Contract Documents unless the Contractor clearly requested such deviation in the RFI and the Engineer has given express written approval of such variation in the RFI response. The Contractor shall not in any case be relieved of its responsibilities for careful review of the Engineer's response noted in Paragraph 1.3.C.
- F. The Engineer's review will not dictate the means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents), nor alter the Contractor's safety plans or programs incident thereto.
- G. The Engineer may furnish the Contractor additional detailed written instructions to further explain the work. If the Contractor believes that the Engineer's response requires it to perform work beyond the scope of the Contract Documents or that will delay the critical path work activities, the Contractor shall refer to the procedures set forth in General Conditions Articles 7 and 8 for requesting adjustments to Contract Sum and/or Time, as applicable.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

1.1 GENERAL

- A. Payment will be made at the unit price bid for each item listed on the Proposal Form submitted as part of the Request for Proposal (RFP) Packet (Exhibit A), or as extra work as provided in the General Conditions.
- B. Payment for unit-price items will be based on the measurements and quantities described therefore. Variations in bid quantity will be as provided in Article 7.5 of the GSA Conditions.
- C. The District reserved the right to adjust the quantity of any item or proportions of the work as may be deemed necessary or advisable by the Engineer. The Contractor unit price will not be adjusted after acceptance.
- D. Contractor shall reference Section 01 21 00 – Allowances, for requirements related to payment of unplanned or unforeseen costs. All work or materials designated to be compensated under allowance shall comply with the procedures, limitations, and documentation requirements specified therein. No additional compensation will be considered for unplanned costs unless expressly authorized and processed in accordance with Section 01 21 00.
- E. Initial progress payment will not be made prior to approval by the Engineer of the Schedule of Costs, the Construction Progress Schedule, the Subcontractor Payment Report (Form P-047 in Appendix A), and the Schedule of Submittals.
- F. No subsequent progress payment will be made prior to receipt by the Engineer of the monthly revision of the Construction Progress Schedule and of the Subcontractor Payment Report (Form P-047) as specified in Article 1.3 below.
- G. No subsequent progress payment will be made prior to receipt by the Engineer of Certified Payrolls for the previous month. If the Certified Payrolls are not complete or contain errors, the Engineer will withhold from payment the gross amount of the portion of previous month's payroll that is in question until the matter is resolved.
- H. The Contractor, and its subcontractors and suppliers shall utilize LCPtracker (A registered trademark of LCPtracker, Inc.) for submission of all certified payrolls throughout the duration of the Contract. See Section 01 31 23.15 – Certified Payroll Electronic Submission.
- I. The Contractor and its subcontractors of any tier shall also furnish the payroll records specified in Labor Code Section 1776 directly to the Labor Commissioner.

J. Related Sections:

1. Section 01 31 23.15 – Certified Payroll Electronic Submission

1.2 SCHEDULE OF COSTS FOR PAYMENTS

- A. Submit to the Engineer, within 10 work days after Notice to Proceed, seven (7) copies of a Schedule of Costs. The Schedule of Costs shall be a detailed breakdown for each bid item of the quantities and prices of work and materials required to perform and complete the contract.
- B. To facilitate adjustments to bid item quantities and costs during construction, the Schedule of Costs shall include a breakdown of all costs included in each Bid Item, such as labor, material, equipment, fixed cost elements, incidental expenses, jobsite and home office overhead, and profit.
- C. To facilitate payment of Lump Sum Bid Items, the Schedule of Costs shall also include a breakdown by items of the work for each Lump Sum Bid Item. The total of the price breakdown shall agree with the lump-sum price bid. The price breakdown shall, as a minimum, show the cost of each item of the Construction Progress Schedule. Any additional breakdown of the Schedule of Costs, by quantities and prices of work and materials, considered necessary by the Engineer will be as determined by the Engineer. The price breakdown shall not be unbalanced, shall be subject to adjustment between the Engineer and the Contractor, and will be used as a basis for progress payments.
- D. Acceptance of the Schedule of Costs by the Engineer shall not relieve the Contractor of the responsibility of performing all the work needed to complete the project at the price bid.

1.3 SUBCONTRACTOR PAYMENT REPORT (FORM P-047)

- A. List all subcontractors on Subcontractor Payment Report (Form P-047, Appendix A). Furnish the following information:
 1. Name, address, phone number, and type of work to be performed
 2. Contact name
 3. White Men (WM), White Women (WW), or Ethnic Minority (EM) composition of ownership
 4. Original dollar amounts, revised dollar amounts, total payments to date, and projected total payments
- B. The listing of subcontractors shall be obtained from Contract Equity Program Summary (Form P-035) which will be prepared by the District after verifying information provided by the Contractor on Contract Equity Participation (See Contract Equity Program and Equal Employment Opportunity in Exhibit A of Request For

Proposal for more information). A copy of Form P-035 will be furnished to the Contractor after award.

- C. Submit an updated Subcontractor Payment Report (Form P-047) showing dollars expended for each listed subcontractor no later than the 25th day of each month thereafter.

1.4 PROGRESS PAYMENTS

- A. The Engineer will make an approximate measurement of all approved materials delivered to the jobsite and work performed by the Contractor through the 25th day of each calendar month for the purpose of making a progress payment. No payment will be made for the fabrication or production of materials off the jobsite, or for materials stored off the jobsite. However, at the discretion of the Engineer, payment may be made for approved materials that have been properly stored and insured off the jobsite. The Engineer will classify the work according to items listed on the Bid Form and will estimate the value thereof on the basis of the prices shown, or as extra work. The classification of the work performed and the value thereof will be based on the Schedule of Costs submitted by the Contractor.
- B. From the amount thus determined, five percent thereof will be deducted as retention by the District for performance security. The amount of all payments previously made to the Contractor and any amounts due the District from the Contractor for supplies, materials, services, damages, or otherwise deductible under the terms of the contract will be deducted from the remainder.
- C. In addition to the retention under Paragraph B above, the whole or part of any payment of the estimated amount due the Contractor may be withheld as an additional retention if such course be deemed necessary to protect the District from loss due to the Contractor's failure to perform any of the following:
 - (1) meet its obligations; (2) expedite the work; (3) correct rejected work; (4) settle damages as provided; or (5) produce substantial evidence that no claims will or have been filed, and/or if it has been determined that unpaid balances may be insufficient to complete the work.
- D. The remaining amount, after the deductions given above, will be paid as a progress payment by the District to the Contractor. Payment will normally be made on the third Friday of the succeeding month. If payment is not made within 30 days from the 25th day of the month for undisputed progress payments, then the District will pay interest to the Contractor in accordance with Section 20104.50 of the Public Contract Code.
- E. All material and work covered by progress payments thereupon become the sole property of the District, but this provision shall not be construed as relieving the Contractor from sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the District's right to require fulfillment of all of the contract terms.

1.5 SUBSTITUTION OF SECURITIES

- A. Pursuant to Public Contract Code Section 22300 and upon Contractor's request, the District will make payment of funds retained from progress payments for performance security under Article 1.4, Paragraph B if the Contractor deposits in escrow with the District Treasurer or with a state or federal chartered bank acceptable to the District as escrow agent, securities eligible for the investment of District funds under Government Code Section 16430 or bank or savings and loan certificates of deposit, upon the following terms and conditions:
1. The Contractor shall bear the expense of the District and the escrow agent, either the District Treasurer or the bank, in connection with the escrow deposit made.
 2. Securities or certificates of deposit shall be of a value at least 100 percent of the amounts of retention to be paid to the Contractor pursuant to this section.
 3. The Contractor shall enter into an escrow agreement using the District's standard Retention Agreement form, which includes provisions governing inter alia:
 - a. The amount of securities to be deposited
 - b. The Contractor shall be the beneficial owner of any securities substituted and shall receive any interest or dividends thereon
 - c. The providing of powers of attorney or other documents necessary for the transfer of the securities to be deposited
 - d. Conversion to cash to provide funds to meet defaults by the Contractor
 - e. The decrease in value of securities on deposit
 - f. The termination of the escrow upon completion of the Contract
 4. The Contractor shall obtain the written consent of the surety to the escrow agreement.
 5. A copy of the District's standard escrow agreement form is in Appendix A. Submit three original copies executed by the escrow agent and the Contractor to the Engineer.

1.6 FINAL PAYMENT AND RELEASE OF CLAIMS

- A. Notice of acceptance and final payment:

Upon the completion of the work as determined by the Engineer, a notice of Contract Acceptance will be issued and recorded with the Counties. The District will pay to the Contractor within 35 calendar days after filing of the notice of acceptance, or as soon thereafter as practicable, the remaining amount due the Contractor, less all prior payments and advances withheld whatsoever to or for the account of the Contractor

for supplies, materials, services, damages, or otherwise deductible under the terms of the contract. All prior estimates and payments including those relating to extra work shall be subject to correction by this payment, which throughout this contract is called "final payment".

B. Release of claims:

Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall have delivered to the Engineer a complete release of all claims against the District arising under and by virtue of this contract and related to undisputed amounts, including claims of subcontractors and suppliers of either materials or labor. If disputed contract claims in stated amounts are unresolved 35 calendar days after filing of the notice of Contract Acceptance, a progress payment of undisputed amounts and retained funds will be made by the Engineer upon receipt of a release specifically excluding the disputed contract claims. Upon resolution of disputed claims, the Contractor shall execute a supplemental release and, upon delivery, the District will make final payment. A copy of the release form is included in Appendix A.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 31 23.15

CERTIFIED PAYROLL ELECTRONIC SUBMISSION

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor and its subcontractors of any tier shall utilize LCPtracker for submission of all certified payrolls throughout the duration of the Contract. “Copy” or “Copies” shall refer to electronic copies unless a hard copy is specified. This requirement applies to the Contractor and all its subcontractors of any tier providing certified payroll.
1. LCPtracker is a cloud-based software provided by LCPtracker, Inc.
 2. LCPtracker is paid for by the District.
 3. On-line training is provided at no cost.
 4. LCPtracker will be made available to all Contractor and subcontractor personnel working under the Contract.
 5. The joint use of this system is to facilitate electronic exchange of information, automation of key processes, and overall management of certified payroll.
 6. LCPtracker shall be the required means of certified payroll and labor compliance documentation submission and management.
 7. The Contractor shall submit a completed Certified Payroll Electronic Submission Account Sign-up Form for establishing User Account with the District’s LCPtracker database. See last page of this section.

1.2 USER ACCESS LIMITATIONS

- A. The Engineer will establish a User account for the Contractor on LCPtracker. Instructions to set up a password and activate the new account will be generated by the system and sent to the Contractor. User profiles will define levels of access into the system and determine assigned function-based authorizations and user privileges to enter and access information in LCPtracker.
- B. Subcontractors will be given access to LCPtracker by and through the Contractor. Entry of information exchanged and transferred between the Contractor and its subcontractors on LCPtracker shall be the responsibility of the Contractor.
- C. All questions and technical support on the use of the software shall be directed to LCPtracker support staff.

1.3 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

- A. Review comments made (or lack thereof) by the District on Contractor-submitted documentation shall not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. District's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

1.4 CONTRACTOR RESPONSIBILITY

- A. Contractor shall be responsible for entering or otherwise converting to electronic format all certified payroll records and uploading them through the LCPtracker web site.
- B. Use of the system may entail additional data entry of weekly payroll information including; employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. The Contractor's payroll and accounting software shall be capable of generating a "comma delimited file" that will interface with the LCPtracker software.
- C. The Contractor shall be responsible for the validity of its information, and its subcontractor's information, placed in LCPtracker.
- D. Validations and warnings are activated in LCPtracker to assist the contractor with compliance.
- E. Contractors must ensure that a payroll or non-performance payroll has been submitted for all subcontractors.
- F. All contractor and subcontractors personnel who enter electronic certified payroll should participate in LCPtracker trainings and review training materials.
- G. Contractor shall designate a prime approver who shall review and approve certified payroll from the contractor and all subcontractors that work on the project.

1.5 CONNECTIVITY LIMITATIONS

- A. LCPtracker is a web-based environment and therefore, subject to the inherent speed and connectivity limitations of the Internet. The Contractor is responsible for its own connectivity to the Internet. LCPtracker response time is dependent on the Contractor's equipment, including processor speed, Internet access speed, etc. and current traffic on the Internet. The District will not be liable for any delays associated from the usage of LCPtracker including but not limited to slow response time, down time periods, connectivity problems, or loss of information. The Contractor shall ensure connectivity to the LCPtracker system (whether at the home office or job site). Under no circumstances will usage of LCPtracker be grounds for a time extension or cost adjustment to the Contract.

1.6 TRAINING

A. Once the contractor's user account is established, LCPtracker provides two convenient training options:

1. Computer-Based Training Courses

a. Pre-recorded videos can be viewed at any time by logging into the LCPtracker website and following these simple steps:

- Enter your user name/password
- Select the "Training Materials" link located at the top of the page
- Select Contractor Training Videos

2. Web-Based Training Sessions

a. On-Demand and Live training sessions facilitated by members of LCPtracker's Support team are available online. Live Training sessions are offered several times per month. The requirements to participate are a computer with Internet access, an email address and a microphone & speakers on your computer or access to a phone. To register for the online training sessions:

- Enter your user name/password
- Select "Book Now" on the Projects tab

B. Contractor training for the options above is provided at no cost to the Contractor and its subcontractors.

PART 2 - PRODUCTS

2.1 DESCRIPTION

1. LCPtracker certified payroll reporting software (no substitutions), paid for by the District, provided by LCPtracker, Inc.

PART 3 - EXECUTION

3.1 LCPtracker UTILIZATION

A. LCPtracker shall be utilized in connection with all certified payroll required by these Contract Documents.

3.2 SUPPLEMENTS

A. The following supplement follows END OF SECTION and is a part of this specification:

1. Certified Payroll Electronic Submission Account Sign- up Form

END OF SECTION

Certified Payroll Electronic Submission Account Sign-up Form

Spec. Number: PROJECT NO. 10625-G

Project Title: PAVEMENT MANAGEMENT IMPLEMENTATION - YEAR 1

Company Name: _____

Contact Name (First and Last Name): _____

Contact Phone Number: _____

Contact E-Mail: _____

(Login information will be sent to this email address)

Business Address: _____

City: _____ State: _____ Zip Code: _____

Federal Tax ID Number: _____

California PWCR Number: _____

Contractor License No. or 10-digit Phone Number: _____

Contractor License (To Display on Certified Payroll): _____

LCPtracker UserID (if available): _____

Contractor's Prime Approver

(This is the person entering and approving all payroll records, including for subcontractors)

Prime Approver's Name: _____

(First and Last Name)

Phone Number: _____

E-MAIL: _____

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. The requirements of this section apply to all submittals in the Contract Documents.
2. Submit samples, drawings, and data for the Engineer's review which demonstrate fully that the construction, and the materials and equipment to be furnished will comply with the provisions and intent of this Specification. All submittals shall be written in Standard American English and all numerical data, whether in drawings, test reports, engineering calculations, manufacturer's literature, or maintenance manuals, shall be in United States Customary System (USCS) measuring units (foot, pound, gallons, etc). If original design work was completed in metric units, their equivalent USCS dimension and unit shall be indicated. All submittals, in printed or electronic format, shall be original quality and completely legible. Any obfuscation or loss of clarity of original which may result in ambiguous interpretation is not acceptable.
3. Specific items to be covered by the submittals and entered into the Submittal Log shall include, as a minimum, the following:
 - a. For pipelines, submit a detailed layout of the pipeline with details of bends and fabricated specials and furnish any other details necessary.
 - b. Temporary Traffic Control Plan and Haul Route(s)
 - c. CPM Construction Schedule
 - d. Notification to residents
 - e. Pre-construction photographs and/or video
 - f. Water Pollution Control Plan and Best Management Practices
 - g. Certificate of Compliance for Products
 - h. FDR QC Plan and Mix Designs
 - i. Asphalt Paving QC Plan
 - j. Hot-Mix Asphalt Mix Design – Type A 1/2" Max

- k. SS-1H Emulsified Asphalt
 - l. Paving Asphalt Binder (PG 64-10)
 - m. 3/4" Class 2 Aggregate Base source and gradation
 - n. Geogrid cut sheet
 - o. Concrete (PCC) mix design, including high early strength concrete (2,500 psi minimum in 48 hrs)
 - p. Detectable warning surface product information
 - q. Crack Seal (hot-applied)
 - r. Polymer Modified Type II Slurry Seal Mix Design
 - s. Rubberized Chip Seal Mix Design
 - t. Pavement Markers
 - u. Bituminous Marker Adhesive
 - v. Thermoplastic Paint (White, Blue, and Yellow)
 - w. Glass Beads
 - x. Roadway sign and post
 - y. Substitutions
4. Additional submittals required: See pertinent sections of this specification.
5. Submit a Schedule of Submittals including monthly updates.

B. Related sections:

- 1. Section 01 29 00 – Payment Procedures
- 2. Section 01 61 00 – Common Product Requirements
- 3. Section 01 78 39 – As-Built Drawings

1.2 PRODUCT HANDLING

- A. Submittals shall be accompanied by a cover page and shall be in strict accordance with the provisions of this section.
- B. Submit priority of processing when appropriate.

- C. Submit materials to the EBMUD Materials Testing Laboratory when so specified. Submit other submittals via email to District PMI Year 1 Project Manager, or as directed by the District and in accordance with Article 3.1 unless specified otherwise. District Project Manager contact information is as follows:

Dámaris Villalobos-Galindo, P.E.
Associate Civil Engineer
EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
Phone: (510) 287–1240

1.3 SUBMITTALS

- A. Submittals shall include the following information:
 - 1. A copy of the applicable section(s), with addendum updates included as appropriate, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements.
 - 2. A check mark shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer is the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications.
- B. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
- C. Any deviation from the contract documents not specifically requested and clearly identified, although accepted through oversight, may be rejected at any stage of the work. The Contractor shall, at its own expense, reconstruct all work affected by the later rejection of a contract deviation that was not specifically called out and explained for review and acceptance by the District as detailed above.
- D. Prior to the start of Work, the Contractor shall provide Certificates of Compliance from material suppliers confirming that all materials meet the requirements of the applicable specification sections. The District reserves the right to reject any material based solely on the Certificate of Compliance.

PART 2 - PRODUCTS

2.1 SCHEDULE OF SUBMITTALS

- A. Schedule of Submittals shall be in the form of a submittal log similar to that shown in Appendix A.
- B. Complete columns (a) through (g) showing all submittals required by the specifications.
 - 1. Dates in column (g) shall be coordinated with the construction progress schedule to ensure sufficient time is allowed for processing of submittals and procurement of material prior to start of a construction activity.

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.
- B. Clearly mark the literature with the materials and options being provided to illustrate conformance with the specification details.
- C. Provide the complete part number and include the legend containing the descriptive details that define the meaning of each digit of the number.

2.3 SUBSTITUTIONS

- A. Engineer's approval required:
 - 1. The contract is based on the materials, equipment, and methods described in the Contract Documents. Any Contractor-proposed substitutions are subject to the Engineer's approval.
 - 2. The Engineer will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data, and all other information required by the Engineer to evaluate the proposed substitution.
 - 3. Where substitutions are proposed for consideration, Contractor shall submit a written request for the substitution and shall show that it is equal to the specified item. The proposed substitution shall be identified separately and included with the required submittal for the item. When submitting a variation or substitution the Contractor warrants that:
 - a. The contract has been reviewed to establish that the substitution, when incorporated, will be compatible with other elements of work.

- b. The Contractor shall perform all necessary work for making substitutions workable and shall bear any additional cost necessary because of the proposed substitution.
4. Substitutions not specifically requested, although accepted through oversight, may be rejected at any stage of the work. The Contractor shall, at its own expense, reconstruct all work affected by the later rejection of a substitution that was not specifically requested.

B. Trade names and "or equal as approved by the Engineer" provision:

1. See Article 4.4 of the General Conditions.
2. See Instructions To Bidders, Article 3, for proposals for "or equal" substitutions made prior to bid opening as permitted pursuant to PCC Section 3400.

C. Electronic Files:

1. Electronic files shall be created in both searchable Portable Document Format (PDF) compatible with current versions of Adobe Acrobat (e.g. Acrobat DC) or ISO-compliant PDF viewers and Word format compatible with Microsoft Word 2013 or later. The security features (e.g. password protection) of all submitted files shall be disabled so that the District can perform future editing without restriction. Any custom-developed drawings shall also be submitted electronically in both PDF and the native CAD file format for future editing of the drawings by the Engineer. For CAD files, the associated PDF files shall be saved such that all CAD layering is preserved in the PDF file.
2. Electronic versions shall match the hard copy page for page with blank pages deleted. Electronic files shall be converted to PDF directly rather than using optical scanning. For any document not already in electronic format, the documents shall be scanned using optical character recognition to provide searching capability in the document.
3. All electronic files shall be submitted to the Engineer via email..

2.4 AS-BUILT DRAWINGS

- A. See Section 01 78 39 – As-Built Drawings

2.5 CONTRACTOR'S DAILY REPORTS

- A. Submit electronically to the Engineer on a daily basis, and no more than 2 work days after the end of each shift, a copy of their daily report which shall contain at a minimum the following information for each project site:
 1. Listing of all craft workers performing work on site, noting for each work their trade, classification, employer, and the number of hours worked.

2. Listing of all equipment located at the job site, noting for each piece of equipment the owner or renter, whether it was operational or idle, and, if operational, the number of hours in operation.
3. Detailed description of all work performed on site including start and end times for work performed by the Contractor and each Subcontractor.
4. Weather conditions observed at the site.
5. Listing of all visitors to the job site.
6. Description of any delays or impacts to production including event, duration, schedule impact, and apparent cause of each.
7. Description of site safety and environmental conditions including any issues requiring correction, and corrective actions taken.

2.6 SUBMITTAL QUANTITIES

- A. Submit one (1) electronic copy of the scanned data and drawings in searchable PDF (compatible with current versions of Adobe Acrobat or ISO-compliant PDF viewers). Submit scanned copy to the Engineer.
- B. Submit quantity specified of materials submitted to the EBMUD Materials Testing Laboratory.
 1. Call the EBMUD Materials Testing Lab (MTL) before or by 8:30 am on the day when the testing is required. Call the MTL reservation phone line at (510) 287-1990 to schedule tests.
 2. If the District is not available for sample pick-up and delivery, the Engineer will serve in the role of the District.

2.7 ELECTRONIC SUBMITTALS

- A. Provide electronic submittals in searchable PDF (compatible with current versions of Adobe Acrobat or ISO-compliant PDF viewers). All portions of the electronic submittals shall be legible and shall be in full color identical to the original material. Provide manufacturer's literature in original electronic file, if available.
- B. Provide one electronic submittal file for each submittal except as noted hereinafter. The electronic submittal file name shall use the following format: submittal number – specification section number - description (e.g.: “001.1-01 33 00-Coating of Widgets”). Providing multiple electronic files for a single submittal (except as noted hereinafter) is not acceptable. The Contractor shall merge multiple files into a single electronic file.
- C. For larger submittals containing multiple volumes, submit one electronic file for each hardcopy volume and each electronic submittal file name shall include the

corresponding hard copy volume number (e.g. “001.1-01 33 00-Coating of Widgets – Volume 3”).

- D. All portions of the electronic submittals shall be provided with text searching capabilities whenever possible. For any document not already in electronic format, the documents shall be scanned using optical character recognition to provide text searching capability in the document.
- E. Electronic files shall be submitted to the Engineer via email.

2.8 REVIEW CHECKLISTS

- A. Review Checklists are required for some specification sections (when specified in the section).
- B. Each submittal requiring review checklists shall comply with the following:
 - 1. Each page of the submittal shall include a unique and sequential page number. The page numbers shall be located in the same general location on each page.
 - 2. Page numbering may include “point numbers” (10.1, 10.2, etc.) to facilitate inserting pages without renumbering an entire submittal. However, all pages in the submittal shall be in numerical order.
 - 3. The review checklists shall be completed in its entirety with accurate page number references for each checklist item. Submittals with inaccurate review checklists may be returned without review for correction.
 - 4. The review checklist shall be inserted at the beginning of the submittal.

PART 3 - EXECUTION

3.1 GENERAL

- A. Prepare and use a transmittal form for submittals that includes the following information:
 - 1. *Project name and specification number
 - 2. *Date of submittal
 - 3. **“To: Dámaris Villalobos-Galindo
PMI Yr 1 Project Manager
Water Distribution Planning Division, Major Facilities MS #701
damaris.villalobos-galindo@ebmud.com
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623-1055
ATTN: Office Engineer”

4. *"From:" Name and address of Contractor
5. Name and address of subcontractor
6. Name and address of supplier
7. Name of manufacturer
8. *Spec. Section, Article Number, Paragraph and Subparagraph Number and/or drawing number and detail references
9. Location of use
10. *Submittal number
11. *Signature and title of transmitter
12. *Original submittal or resubmittal

Note: All transmittals shall include asterisked items as a minimum to be acceptable for review.

- B. Use the "Item Number" on the Schedule of the Submittal for the corresponding submittal number. On a resubmittal, add a numerical suffix to the original submittal number. For example, 6.1 indicates the first resubmittal of submittal Number 6.
- C. Use a separate transmittal form for each specific item or class of material or equipment within a division for which a submittal is required. Transmittal of a submittal of multiple items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or when items are so functionally related that review of the group as a whole is appropriate.
- D. If a submittal contains multiple items, then each item shall be clearly labeled throughout the submittal or indexed in a manner eliminating confusion in identifying how each item relates to the whole. When submittal items have been assigned a "District equipment tag number" in the contract documents, each tag number shall be included throughout the submittal to clearly associate the specific submittal information to specific tag numbers.
- E. Stamp or permanently print on each submittal the following certification statement.

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated into the project, is in compliance with the Contract drawings and specifications, can be installed in the allocated spaces, and is submitted for District (record/review).

Certified by _____ Date _____"

3.2 SCHEDULE OF SUBMITTALS

- A. Submit initial Schedule of Submittals within 15 days after Notice to Proceed.
- B. Submit revised Schedule of Submittals within 15 days after date of request from the Engineer. Engineer will review Schedule of Submittals and will notify Contractor that schedule is acceptable or not acceptable within 10 days after receipt.
- C. The Schedule of Submittals shall identify Contractor “or equal” substitution proposals made prior to bid opening (see Instructions To Bidders, Article 3), which have been accepted by the Engineer.

3.3 COORDINATION OF SUBMITTALS

A. General:

- 1. Prior to submittal for Engineer's review, use all means necessary to fully coordinate all material, including the following procedures:
 - a. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data.
 - b. Coordinate as required with all trades and with all public agencies involved.
 - c. Secure all necessary approvals from agencies having jurisdiction and signify with agency stamp, or other means, that approvals have been secured.
 - d. Clearly indicate all deviations from the Contract Documents.

B. Grouping of submittals:

- 1. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items; the Engineer may reject partial submittals as not complying with the provisions of the Contract Documents.

C. Resubmittals:

- 1. The Contractor shall include a Comment and Response sheet with each resubmittal. The Comment and Response sheet shall be the first item after the submittal transmittal form. The Comment and Response sheet shall include each review comment (word for word) from the previous submittal cycle, followed by the Contractor’s response clarifying how the comment has been addressed in the resubmittal. All responses shall at a minimum have a general description of what new information in the resubmittal addresses the review comment; and where in the resubmittal this new information can be located (tab number, page number, etc).

2. Resubmittals that do not comply with the requirements set forth in subparagraph C.1 above will be returned to the Contractor without review. The Contractor shall resubmit with an appropriate Comment and Response sheet as specified herein.

3.4 TIMING OF SUBMITTALS

A. General:

1. Make all submittals far enough in advance of scheduled dates of installation or construction to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
2. In scheduling, unless otherwise noted, allow at least twenty (20) work days for District Engineer's review. No time extension will be allowed for the Contract due to time loss in the review process.

3.5 REVIEW BY ENGINEER

A. Acceptance of each submittal by the Engineer will be general only and shall not be construed as:

1. Permitting any departures from the contract requirements.
2. Relieving the Contractor of the responsibility for any errors and omissions in details, dimensions, or of other nature that may exist.
3. Approving departures from additional details or instructions previously furnished by the Engineer.

B. Submittals (excluding manuals and as-built drawings) will be returned to the Contractor marked "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", "Acknowledged Receipt", or "Rejected", except that in some cases, all copies of a submittal may be returned to the Contractor marked "Returned Without Review".

1. "No Exceptions Taken" indicates that item covered by the submittal may proceed provided it complies with requirements of the specifications. Final acceptance will depend upon that compliance.
2. "Make Corrections Noted" indicates that item covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the specifications. Final acceptance will depend on that compliance.
3. "Revise and Resubmit" indicates that the Contractor shall not proceed with any phase of the item covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations and requirements of the specifications.

4. "Acknowledged Receipt" indicates that the item is required to be submitted to the Engineer primarily for information or record purposes, and is not subject to Engineer's review.
 5. "Returned Without Review" indicates that the submittal was not reviewed by the Engineer due to the submittal being incomplete, illegible, inadequate, or otherwise failing to conform to the requirements of the specification. Contractor shall prepare a new submittal for this item.
 6. "Rejected" indicates that the submittal proposes an action of which the Engineer does not approve, makes an assertion with which the Engineer disagrees, appears to show intent to violate the terms of the Contract, or is otherwise objectionable to the Engineer and is returned to the Contractor with prejudice.
- C. Resubmit revised drawings or data as indicated unless otherwise specified.
- D. Work requiring the Engineer's review and acceptance shall not begin until the submittals for that work have been returned as "No Exceptions Taken" or "Make Corrections Noted".

3.6 CHANGES TO ACCEPTED SUBMITTALS

- A. A resubmittal is required for any proposed change to a submittal that has been marked "No Exceptions Taken" or "Make Corrections Noted". Changes which require resubmittal include, but are not limited to, drawing revisions, changes in materials and equipment, changes to installation procedures and test data. All resubmittals shall include an explanation of the necessity for the change.
- B. Minor corrections to an accepted submittal may be accomplished by submitting a "Corrected Copy".

END OF SECTION

SECTION 01 35 24

PROJECT SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor is solely and exclusively responsible for maintaining job-site safety and compliance with Cal/OSHA regulations found at Title 8, California Code of Regulations (CCR), and Federal OSHA, found at Title 29, Code of Federal Regulations (CFR); where applicable.
- B. Contractor shall be the Creating, Controlling, and Correcting Employer for purposes of compliance with Cal/OSHA's multi-employer worksite rule (Title 8 CCR §336.10) for all work and workers associated with the project.
- C. Contractor and subcontractor workforce shall have sufficient experience and training to perform the work of the contract demonstrated by training, certifications, licensing, and permits. This includes specialized work related to OSHA and EPA requirements.
- D. Meet with the Engineer prior to commencement of the Work to review the project safety requirements as applicable to the Contractor's procedures and to develop mutual understandings relative to compliance with the safety requirements and administration of the Contractor's project safety programs.
- E. Contractor and subcontractor shall comply with Section 01 14 00 regarding work during national weather service red flag warnings and fire weather watches especially for facilities located in the hills.
- F. Site Activities
 - 1. Provide for public safety when working within any of the 17 project facilities, within the public right of way, and in the vicinity of active District facilities.
 - 2. Follow the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) to provide site safety when working in public streets, highways, bikeways, and private roads open to public travel.
 - 3. Provide Safety Equipment & Training for specified topics herein as required.
 - 4. Establish weekly tailgate/toolbox meetings to inform workers of construction site hazards and planned activity.
 - 5. Control exposure to harmful dusts, fumes, mists, vapors and gases at the project site or location, regardless of employer, so that respective Permissible Exposure

Limits (PEL) established by Title 8, CCR are not exceeded. Control guidance includes, but is not limited to:

- a. Title 8 CCR §1528-1537; Construction Airborne Contaminants
 - b. Title 8 CCR §5155; General Industry Airborne Contaminants
 - c. Title 8 CCR §5200-5220; Regulated Carcinogens
 - d. Title 8 CCR §5221-5223; Fumigation
6. Physically delineate and assign work areas and restrict access by unauthorized persons during the course of work.
 7. Provide and post safety signs at project/property entrances and hazard control areas including but not limited to:
 - a. Requirements for personal protective equipment (hard hats, safety shoes, reflective vests, safety glasses, respiratory protection, etc.)
 - b. Access or prohibition to demolition work areas
 8. Unsafe tools, equipment, or machinery shall not be brought onto the project. Unsafe tools, etc. shall be considered as those tools in need of repair, replacement, lacking proper maintenance, or are unsuitable for the task. This also includes tools and equipment not used in accordance with manufacturer guidance.
 9. Construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.
 10. Assemble, install, erect, and prepare safety related equipment, devices, and products in accordance with manufacturer specifications and recommendations. Manufacturer documentation shall be provided to the Engineer upon request.
 11. Comply with:
 - a. Department of Transportation (DOT) testing regulations (49 CFR Part 32)
 - b. CA State Vehicle Code (Section 34520)
 - c. All applicable legally valid rules and regulations regarding drug and alcohol misuse, including consumption, sale or possession
 12. Firearms, explosive devices, and other dangerous weapons are prohibited on District property or while engaged in contract Work.

13. Safe access shall be provided for construction inspectors and other authorized District employees in order to inspect or review Work in progress.

G. Related Sections

1. Section 01 14 00 – Work Restrictions
2. Section 01 33 00 – Submittal Procedures
3. Section 01 35 44 – Environmental Requirements
4. Section 31 23 16 – Excavation
5. Section 31 23 33 – Trenching and Backfilling

1.2 DEFINITIONS

- A. Where used in the Contract Documents, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular and plural of the words and terms.
1. Cal/OSHA: California Occupational Safety & Health Administration
 2. Competent Person: As defined in Title 8 CCR §1504 of the Construction Safety Orders.
 3. Confined Spaces: Any space not designed for human occupancy and having the characteristics identified in Title 8, CCR §5156-5159, and §1950-1962
 4. Excavation: Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal
 5. Exposure Assessment: An assessment of potential biological, chemical, physical, and radiological hazards encountered on the project site.
 6. Hazard: Any source of potential damage, harm or adverse physical and/or health effects to someone.
 7. Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:
 - a. Flammable gas, vapor, or mist in excess of 10 percent of its Lower Explosive Limit (LEL)
 - b. Airborne combustible dust at a concentration that meets or exceeds its LEL
 - c. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent

- d. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Article 4 of the Construction Safety Orders and Group 16 of the General Industry Safety Orders
 - e. Any other atmospheric condition that is immediately dangerous to life or health
8. Hazardous Energy Control Procedure (HECP): A procedure to implement hazard energy control and isolation in accordance with Lock-Out Tag-Out as defined by Title 8, CCR §3314.
9. Hazardous Substance: Any substance included in the list of hazardous substances prepared by the Director, California Department of Industrial Relations, pursuant to Labor Code Section 6382. Includes hazardous waste.
10. Hot Work Permit: The Hot Work Permit form at the end of this section shall be used for any electric or gas welding, cutting or brazing, wire or grinding wheel, chipping or any extreme heat, flame or spark producing equipment, procedures or operations. The Contractor shall be responsible for all atmospheric testing and monitoring, as well as other listed items on permit form. Contractor shall work with associated fire district(s) to discuss fire requirements and obtain permit, if necessary.
11. Permit-Required Confined Space: A confined space that has one or more of the following characteristics:
- a. Contains or has a potential to contain a hazardous atmosphere
 - b. Contains a material that has the potential for engulfing an entrant
 - c. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
 - d. Contains any other recognized serious safety or health hazard
12. Trench: A narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, (measured at the bottom of the excavation), the excavation is also considered to be a trench.

1.3 SUBMITTAL OF PLANS AND PROCEDURES

A. General

1. Prepare and submit in accordance with the applicable provisions of Section 01 33 00 – Submittal Procedures.
2. The plans and procedures shall be kept current.
3. Submit each plan via email to the District PMI Year 1 Project Manager, or as directed by the District. Submittals shall be electronically searchable with standard software for review. District Project Manager contact information is as follows:

Dámaris Villalobos-Galindo, P.E.
Associate Civil Engineer
EBMUD – Engineering & Construction Department
E-Mail: damaris.villalobos-galindo@ebmud.com
Phone: (510) 287-1240

4. The plans and procedures identified in Article 1.3 shall be kept current. New hazards, mitigations, or procedures identified during the course of the Work shall be submitted as revisions to the identified plans and procedures within five (5) days of being identified.

B. Project Health & Safety Plan

1. Submit a Project Health & Safety Plan for the Work to be performed prior to start of the Notice to commence field work (NTCFW) and/or prior to any limited notice to commence field work (LNTCFW).
2. The Project Health & Safety Plan shall implement applicable Title 8, California Code of Regulations for the work performed.

C. Submit the name of individual(s) & contact information prior to start of Work who are designated as:

1. Project Health & Safety Representative
2. Competent/Qualified Persons, as appropriate, for:
 - a. Fall prevention: guardrail, delineators, holes & openings guards, etc.
 - b. Trench and excavation inspection
 - c. Trench and excavation protective system design
 - d. Confined space supervisor

- D. Submit an Injury & Illness Prevention Plan (IIPP) in accordance with Title 8 of the California Code of Regulations, Section 3203.
- E. Submit a Workplace Violence Prevention Plan (WVPP) in accordance with the Code of Civil Procedure §527.8, and Labor Code §6401.7 and 6401.9.
 - 1. The WVPP shall either be addressed in the written Injury and Illness Prevention Program or maintained in a separate document.
 - 2. Adhere to all requirements of the CA Labor Code §6401.9 in the workplace and follow any additional District-specific requirements when at a District facility or working on District projects. Such requirements may include safety measures specific to a facility, for maintenance of safety and security, and will be communicated by the District.
 - 3. Notification of a workplace violence incident:
 - a. Should the Contractor become aware of an incident that meets the definition of workplace violence while working at District facilities, the Contractor shall perform an investigation and provide a report to the Engineer within 15 work days.
 - b. Immediate corrective action shall be taken to ensure the hazard is mitigated.
 - c. The incident shall be documented on the Workplace Violence Incident Log of the employer(s) whose employee(s) experienced the workplace violence.
- F. Submit an Emergency Action Plan that prepares responses to employee accident/injury events, or any serious unplanned event (e.g.: utility break, fire, structure collapse, etc.) that requires notifying any first aid provider or response agencies (e.g.: fire departments, utility agencies, rescue teams, etc.)
 - 1. Plan shall include a map to medical facilities that are capable of caring for worker accidents & injury.
 - 2. Plan shall include emergency contact numbers.
- G. Submit a Job Hazard Analysis (also known as Task Hazard Analysis, or Activity Hazard Analysis) for work performed.
- H. Submit a Demolition Plan for the scope of work determined in the specification and for additional work required.
- I. Submit a Fall Protection plan/procedures to the Engineer for review prior to any work at heights at the jobsite.
 - 1. The fall protection plan shall address protective measures for fall and elevation hazards including but not limited to:

- a. Steep slopes and embankments
 - b. Floor holes, and other openings at walking surface level, including open pits and vaults
 - c. Work near trench and excavation
 - d. Structures in progress of construction, modification, or repair
2. The plan shall address specific safety measures, including PPE and engineering controls for work occurring at heights greater than 7-1/2 feet.
 3. Procedures shall conform to applicable provisions of Sections 1669 through 1671.2, Title 8, California Code of Regulations.
 4. The plan/procedures shall address rescue of workers who may fall.

J. Excavation Safety Plan

1. Submit an Excavation Safety Plan in accordance with Title 8 CCR §1541.
2. Obtain an excavation permit per Title 8, CCR §341(a)(1) when required.
3. California Government Code §4216 describes the requirements and procedures for excavation notifications and utility excavation.

K. Threat to Public Health Response Plan

1. If a threat to public health within District areas of operation is declared by a governing public health agency or local, state or federal government, submit a plan outlining worker safety to be in compliance with applicable OSHA and public health guidelines, which shall include the following:
 - a. Designate a Site Safety Representative (SSR) to monitor and implement all recommended safety practices regarding any threat to public health with all Contractor staff members. Labor supervisors shall have the authority, through consultation with the SSR, to halt all activities that do not adhere to the safety practices. The SSR shall have training commensurate with this hazard and all required industrial hygiene practices that may be required on the job site. This person shall be responsible to maintain supplies of appropriate disinfectants and make sure that workers follow decontamination, hand washing, distancing, and PPE rules.
 - b. Employee Screening: Establish an assembly point for staff and daily screening protocol before the start of work each day that complies with the recommended social distancing parameters. If workers leave and re-enter the work site during the shift, re-screen individuals prior to re-entry into the work site.

- c. Informational Meetings: Provide a daily tailgate session reviewing site protocols to mitigate potential spread of the infection. Tailgates should occur daily and contractors should document attendance and require worker signatures.
 - d. Personal Protective Equipment (PPE): Employ a task-specific Job Hazard Analysis (JHA). Establish the level of PPE required for each specific task. This is especially important for tasks that may require staff to work inside of the recommended social distancing zone.
 - e. Disinfection Procedures: The Contractor shall clean and sanitize trailers, toilets and other enclosed spaces. Establish deep cleaning schedules on job sites to address exposed surfaces. Areas that require a cleaning schedule shall include, but not be limited to: trailer/office spaces, elevators and lifts, operating equipment, electrical equipment, restrooms, and other “high touch” areas of the job site. The Contractor shall allow adequate time for proper cleaning and disinfection each day. In addition, the Contractor shall establish a cleaning and decontamination protocol prior to entry and exit of the job.
 - f. Hand Washing Stations: Provide hand washing and sanitizing stations throughout the job site to provide for regular hand cleaning. Sanitizer used shall be appropriate for the control of the infection of concern. Stations should be of sufficient quantity to allow staff to remain within the work areas without exiting into break areas, and shall be maintained continuously.
 - g. Social Distancing Guidelines: Include a procedure to reduce contact between employees using social distancing. This procedure shall include progress meetings and how to hold these meetings while maintaining social distancing.
 - h. Sick Employee Action Procedures: Identify response procedure and disinfection if a field staff (Contractor’s staff, its subcontractors’ staff, and District field staff) is sick or symptomatic, including quarantine duration, notification procedures and a field staff return to work procedure. This Sick Employee Action Procedures shall also include back-up personnel for all critical staff.
 - i. For work sites where the Contractor, multiple subcontractors, and District staff share the same workspace, inform all parties about all Site-Specific Health and Safety Plan requirements for infection prevention. Where one contractor enters the space of another contractor, the most stringent requirements shall be followed.
2. The Engineer may require the Contractor to submit an updated Threat to Public Health Response Plan to conform with District practices or evolving regulatory requirements as they are updated.

L. Submit Underground Service Alert (USA) Marking Record

1. Submit utility locate and marking number and documents, and verification of markings.
2. Make available to the Engineer the record of all subsequent utility marking events and meetings on the project.

M. Accident Reports

1. Complete and submit a report when any injury or event occurs. See Article 3.3 for reporting requirements.

N. Confined Space Operating Procedures:

1. Submit confined space operating and rescue procedures to the Engineer for review. Procedures shall conform to the applicable provisions of Sections 5156 through 5158, Title 8, California Code of Regulations.

1.4 TRAINING AND QUALIFICATIONS REQUIREMENTS

- A. Ensure that all personnel who, as the result of work on this contract, will likely be exposed to hazardous conditions or hazardous substances at the site have received the appropriate training for the hazards they may encounter. Establish minimum training requirements and do not allow untrained workers to enter or perform Work at the site.
- B. Submit certification of current training & qualification for each worker engaged in work with hazardous conditions or hazardous substances.

PART 2 - PRODUCTS

2.1 SAFETY EQUIPMENT

- A. Provide the equipment to comply with the requirements of this section and all associated safety requirements of the Contract Documents.

PART 3 - EXECUTION

3.1 PROJECT HEALTH AND SAFETY PLAN

A. General

1. The Project Health & Safety Plan shall be made available electronically.
2. A hard copy of the Project Health & Safety Plan shall also be available on-site.
3. The Project Health & Safety Plan shall apply to all personnel working at, or visiting the site including, but not limited to, Contractor's employees, suppliers, truckers, and District personnel.

4. The Project Health & Safety representative shall verify that all persons are in compliance with applicable safety and health requirements and take action to ensure compliance where deficiencies are identified.
5. Complete the Pre-work Project Jobsite Survey at the end of this Section prior to work subject to Cal/OSHA's Construction Safety Orders.

3.2 HAZARD CONTROL

A. General

1. The Engineer or District Safety representative may suspend or stop Work, notify Cal/OSHA, or both if observations/inspection of project work and work locations are in not in conformance with Title 8 CCR, and/or safety submittals, work plans and job hazard analyses.

B. Meet and satisfy the requirements outlined in the checklists identified herein and at the end of this section for project safety controls.

C. Demolition

1. Limit access to demolition areas.
2. Ensure structural demolition adheres to demolition plan.
3. Ensure access and work on structures planned for demolition or in progress of demolition are evaluated by a qualified person for safety.

D. Confined Space Procedures

1. Evaluate each confined space and post the classification.
2. Ensure hazardous energy is controlled and isolated (LOTO).
3. Confined spaces designated (classified) as PERMIT REQUIRED shall be supported by a rescue team.
4. Documentation shall be maintained for the duration of the contract.
5. Documentation shall be submitted to the District PM upon conclusion of project site work.
6. Ignition sources are prohibited within 5 meters of confined spaces and confined space operations; exception:
 - a. Equipment and tools explicitly designed for potentially hazardous confined space work.

7. Fuels and combustible materials are prohibited within 5 meters of confined spaces and confined space operations.
8. Smoking is prohibited within 5 meters of confined spaces and confined space operations.

E. Fire Prevention and Protection

1. Perform all Work in a fire-safe manner and supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. Comply with applicable federal, local, and state fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standards for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.
2. A long-handled, round-point shovel, or a fire extinguisher shall be kept at an accessible (unlocked) location on the construction site at all times.
3. Earthmoving and portable equipment with internal combustion engines shall be equipped with a spark arrestor to reduce the potential for igniting a wildfire. Such equipment shall be maintained to ensure proper functioning of spark arrestor.
4. For all work occurring between April 1 and December 1, or any other periods during which a high fire danger has been identified:
 - a. Equipment that could produce a spark, fire, or flame shall not be used within 10 feet of any flammable materials.
 - b. Portable tools powered by gasoline-fueled internal combustion engines shall not be used within 25 feet of any flammable materials.
5. Vegetation management for fire prevention and protection
 - a. Prior to and during construction:
 - 1) Create and maintain a defensible space around construction site, construction ingress and egress sites through landscaping, mowing, disking, and/or spraying dry brush or native grasses to a height of 4-inches or less with consultation from a Certified Arborist and approval from the Engineer.
 - 2) Ensure and maintain 5-feet of vertical clearance between roof surfaces and portions of trees overhanging all structures within construction site, and keep roofs free of leaves, needles, twigs, and other combustible matter.

- b. Neatly stack all combustible materials away from structures within construction site and have all combustible growth cleared 15-feet around the stack.
6. During construction, maintain an unobstructed horizontal clearance at access drives of not less than the required width of the access drives, and an unobstructed vertical clearance of not less than 13 feet 6 inches above all roadways.

3.3 ACCIDENT REPORTS

- A. Report injuries to the Engineer upon occurrence and incident response. Examples of reportable injuries include but are not limited to: broken limbs, amputation, chemical exposure, etc.
 1. Contractor is solely and exclusively responsible for notifying Cal/OSHA within 8-hours of the occurrence of a serious injury or fatality. Copies of all related Cal/OSHA correspondence shall be submitted to the Engineer.
 2. Reports shall document the root cause(s) of the accident, and how the accident will be prevented from recurring. Furnish further information to the Engineer as requested.
- B. Report all accidents/incidents to the Engineer arising out of, or in connection with, the performance of the Work whether on, or adjacent to the site, giving full details and statements of witnesses. Examples include, but are not limited to, near misses, property damage, heavy equipment accidents, trench collapse, structural failure, cementitious material spills, chemical release/spills, or accidental water releases.
 1. Reports shall document the root cause(s) of the accident, and how the accident will be prevented from recurring. Furnish further information to the District as requested.
- C. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident/incident, arising out of or in connection with the performance of the contract, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.
- D. Notify the Engineer if Cal/OSHA arrives at the jobsite for any purpose, including inspections, consultations, or investigations.
- E. Notify the Engineer if any other regulatory agency arrives at the jobsite for any purpose, including inspections, consultations, or investigations.
- F. Notify the Engineer if any emergency response agency or first aid provider is summoned or arrives on the project site.

3.4 SUPPLEMENTS

A. The following supplements follow the END OF SECTION and are a part of this section:

1. Excavation – Trench Daily Inspection form
2. Hot Work Permit checklist
3. Confined Space Specification checklist
4. Pre-work Project Jobsite Survey

END OF SECTION

Excavation--Trench Daily Inspection

Specification#:

Date:

Contractor:

Competent Person:

A. Excavation / Trench Characteristics					
Soil type	Stable Rock	Type A	Type B	Type C	Type A (short-term)
Ratio	Vertical	¾:1	1:1	1½:1	½:1
Slope Angle	90°	53°	45°	34°	63°
Characteristics					
1. What soil testing device was used to determine soil type?					
2. Surface Encumbrances? Describe.					
3. Spoils placed 2 ft or more from the edge of the cut, cavity, or depression?					
4. Shields extend at least 18 in above trench where ground is sloped toward the excavation?					
5. Depth of the cut limited to no more than 2 ft below the bottom of the shield?					
6. Depth 20 ft or more for the cut, cavity?					
7. A registered professional engineer approved the procedure if the depth is more than 20 ft?					
8. Does the procedure require benching or multiple benching? Shoring? Shielding?					
9. Does the trench exhibit any tension cracks?					
10. Does the trench exhibit any sliding?					
11. Does the trench exhibit any toppling?					
12. Does the trench exhibit any bulging?					
13. Does the trench exhibit any soil heaving?					
14. Does the trench exhibit any boiling?					
B. Standing Water and Water Accumulation					
1. Is there water in the cut, cavity, or depression?					
2. Shoring or shield systems approved by a registered professional engineer.					
3. Water removal equipment used and monitored by a competent person.					
4. Safety harnesses and lifelines used where water is present.					
5. Surface water diverted away from the trench.					
6. Employees removed from the trench during rainstorms.					
7. Trenches inspected by a competent person after each rain event.					
C. Crossing of Trenches					
1. Vehicle crossings designed by registered professional engineer.					
2. Vehicle crossings installed under supervision of a registered professional engineer.					
3. Walkways / Bridges have a safety factor of 4					
4. Walkways/Bridges have a minimum clear width of 20 in					
5. Walkways / Bridges fitted with standard rails					
6. Walkways / Bridges extend a minimum of 24 in past the surface edge of the trench.					
D. Ingress and Egress					
1. Trenches 4-ft or more in depth provided with a fixed means of egress.					
2. Spacing between ladders or other means of egress no more than 25 ft laterally					
3. Ladders secured and extend a minimum of 36 in above landing.					
4. Metal ladders isolated from electric utility hazard sources					
E. Exposure to Vehicles					
1. Employees wear reflectorized or high-visibility materials vests or garments.					
2. Trained flag person with signs, signals, and barricades per the traffic control plan.					
3. Traffic control established per traffic control plan.					

Excavation--Trench Daily Inspection

F. Exposure to Falling Loads
1. Employees are not permitted to work under raised loads.
2. Employees are protected from loads or objects falling from lifting or digging equipment.
3. Employees are required to stand away from equipment that is being loaded or unloaded.
4. Equipment/truck is properly equipped with a cab shield or adequate canopy for loading operations.
5. Equipment/truck operators stay in their vehicle during loading and unloading.
G. Warning Systems for Mobile Equipment
1. Does mobile equipment have a warning system?
2. Vehicles are prevented from falling into the trench
3. Barricades installed where necessary.
4. Hand or mechanical signals used as required.
5. Stop logs must be installed when danger of vehicles falling into the trench.
6. Soil graded away from the excavation (vehicle control and channeling of run-off water).
H. Hazardous Atmospheres
1. Employees shall not be permitted to work in hazardous and/or toxic atmospheres.
2. Oxygen not less than 19.5%
3. Oxygen not more than 23.5%;
4. LEL not exceeding 20% limit;
5. Ammonia not exceeding 25PPM PEL nor 35 PPM STEL.
6. Cl (chlorine) not exceeding .5PPM PEL nor 1PPM STEL.
7. CO not exceeding 25PPM PEL nor exceeding 200PPM ceiling.
8. H2S not exceeding 10PPM PEL nor 15PPM STEL nor 50PPM Ceiling
9. Not exceeding concentrations of OSHA & ACGIH hazardous substances exposure limits.
10. Test atmosphere prior to entering the trench and periodically thereafter.
11. Testing frequency increased if equipment is operating in the trench.
12. Testing frequency increased if welding, cutting, or burning is performed in the trench.
13. Employees required to wear respiratory protection must be trained, fit-tested.
I. Emergency / Rescue
1. Rescue equipment required when a hazardous atmosphere exists or can reasonably be expected to exist.
2. Lifeline provided and attended for bell-bottom pier holes work, or other similar hazards.
3. Emergency plan available?
4. Emergency Response agency numbers ready to use?
J. Inspections
1. Inspections made by a competent person.
2. Inspections are documented.
3. Daily and before the start of each shift.
4. As dictated by the work being done in the trench.
5. After every rainstorm.
6. After other events that could increase hazards (windstorm, thaw, earthquake, slide, etc.).
7. When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
8. When there is a change in the size, location, or placement of the spoil pile.
9. When there is any indication of change or movement in adjacent structures.

Corrective Actions:

HOT WORK PERMIT

This permit is required for any operation involving open flame or producing heat and/or sparks; welding, cutting, grinding, soldering, mowing, disking, or using a torch.

Work Done by: Employee Contractor Staff Performing Work: _____ Date: _____ Time: _____

Specification No. / Work Order No.: _____ Location: _____ Type of Hot Work: _____

FIRE RISK LEVEL LOW MODERATE/HIGH EXTREME*

----- *If "EXTREME", Hot Work is NOT PERMITTED. STOP HERE* -----

PRE-WORK CHECKLIST

- | YES | NO | |
|-----------------------------|--------------------------|--|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Equipment and/or tools free from damage? |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Ventilation equipment in place, if needed? |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | First Aid/CPR trained person available? |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | Atmospheric hazards controlled (if present prior to work)? |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | Guards and shielding installed if needed? |
| 6. <input type="checkbox"/> | <input type="checkbox"/> | Signs/barricades needed to warn of hazards? |
| 7. <input type="checkbox"/> | <input type="checkbox"/> | PPE inspected and donned? |
| 8. <input type="checkbox"/> | <input type="checkbox"/> | Appropriate fire suppression equip. on site? |
| 9. <input type="checkbox"/> | <input type="checkbox"/> | Handheld Radio or other communication device available? |

For all questions answered, "NO", document precautions taken to minimize hazards: _____

Depending on type of work, complete the appropriate checklist(s)

- Confined Space**
- Adequate ventilation provided
 - Thoroughly clean and remove all flammables and combustibles
 - Atmosphere checked with gas monitor
 - Complete clearance procedure/LOTO, if required
 - Complete confined space assessment and/or permit paperwork
 - Use Air Monitoring log to document all air monitoring results
 - Use Spark proof tools & lighting, if indicated
 - Attendant communicates w/workers while hot work being performed

Additional precautions to be taken: _____

District Notified at Start of Work (Time): _____ District Notified at End of Work (Time): _____

SIGNATURES REQUIRED

I understand and will abide by the conditions described in this permit.

Person Performing Work: _____ Date: _____

Fire Watcher Initials (if applicable) Start of work: _____ End of Fire Watch: _____ Date: _____

Open Flame Work – Is a fire watch required?

- | YES | NO | |
|-----------------------------|--------------------------|---|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Does the work necessitate disabling a fire detection, suppression, or alarm system component? |
- Are Combustible Materials:
- | | | |
|-----------------------------|--------------------------|---|
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Closer than 35 ft. to the point of operation? |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | More than 35 feet away, but easily ignited by sparks? |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | Wall or floor openings within 35 ft expose it in adjacent areas? |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | Adjacent to the other side of metal partition, walls, ceilings, or roofs which could be ignited by conduction or radiation? |

YES to any of the above indicated that a fire watch is required. Trained and equipped Fire Watch shall be provided during operations and at least sixty (60) minutes after work is complete.

Fire Watcher's Name: _____

Type of suppression equipment to be used: _____

- Welding & Cutting**
- Equipment has been inspected & is in good condition
 - Floors swept and overhead structure clean from dust, lint, and debris
 - Fire-resistive covers and metal shields provided as needed
 - All floor and wall openings covered and/or protected.
- Mowing, Discing or Controlled Burn**
- Notify Rangers for potential fire truck response
 - Extinguisher backpack on equipment & inspected
 - Fire Extinguisher present & inspected

Confined Space Specification Checklist

Specification#:

Date:

Contractor:

Confined Space Supervisor:

<p>Confined Space criteria:</p> <ul style="list-style-type: none"> <input type="checkbox"/> size and shape allow a person to enter, and <input type="checkbox"/> limited or restricted means of entry or exit, and <input type="checkbox"/> not designed for continuous employee occupancy. <p>Identify the space: [vault, tank, reservoir, pipe, aqueduct, sewer, etc.]</p> <p>Sketch:</p>	<p>Permit-Required Confined Space (PRCS) criteria: The confined Space has one or more of the following characteristics:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Contains a hazardous atmosphere; <input type="checkbox"/> Has the potential to contain a hazardous atmosphere; <input type="checkbox"/> Contains a material that may engulf of an entrant; <input type="checkbox"/> Contains a material with potential to engulfment of an entrant; <input type="checkbox"/> Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls; <input type="checkbox"/> Has an internal configuration such that an entrant could be trapped or asphyxiated by a floor which slopes downward and tapers to a smaller cross-section; <input type="checkbox"/> Contains any other recognized serious safety health hazard.
--	--

Permits, Procedures, Inspections, Training

Will Hot Work be performed? Y / N Attach Hot Work Permit.	Will LOTO / Isolation be needed? Y / N Attached LOTO / Isolation procedure.	Is the confined space within an excavation or trench? Y / N Attach excavation or trench daily checklist.	Are workers trained for confined space work and/or rescue? Y / N Attach record or certification.
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Document air monitoring:

Oxygen	between 19.5% and 23.5%	
Flammability	less than 10% LEL	
Carbon Monoxide	less than 25 PPM	
Hydrogen Sulfide	less than 10 PPM	
Chlorine	less than 0.5 PPM	
Lead	less than 50 µg/m ³	
Silica	less than 25 µg/m ³	

Permit-Required Confined Space (PRCS) assessment for hazard control or elimination.

Hazard	Control or Elimination method.
Hazardous Atmosphere	
Potential Hazardous Atmosphere	
Engulfment Material	
Potential Engulfment Material	
Entrapment Configuration convergent walls	
Entrapment Configuration sloped floor	
Overhead Hazards	
Electrical (Arc-flash, shock)	
Mechanical parts, systems, or components.	
Slipping / Tripping / Falling from elevation	
Temperature & Humidity	
Illumination / Darkness	
Infection/Bio-hazard	
Other Hazardous Material	

PRCS require effective rescue services and retrieval methods.
Alternate Procedures may be used if all **PRCS** hazards are eliminated.

Pre-work Project Jobsite Survey

CCR Title 8 §1511(b)

Safety Requirement

Prior to the start of any work subject to Cal/OSHA's Construction Safety Orders, a thorough survey of the proposed jobsite's conditions will be made by a qualified employee to determine, so far as practicable, the predictable hazards that site workers will encounter and the kind and extent of safeguards that will be necessary to complete the work in a safe manner.

- a. A qualified employee is a person who by training and/or experience has the ability to recognize hazards that exist or may arise while performing work.
- b. Cal/OSHA Construction Safety Orders establish minimum safety standards in connection with the construction, alteration, painting, repairing, construction maintenance, renovation, removal, or wrecking of any fixed structure or its parts, and to all excavations.
- c. Cal/OSHA defines the word "survey" to mean that BEFORE employees begin ANY work at the site, a person qualified to identify and assess the typical hazards associated with the type of work about to be performed and actually:
 - 1) Inspects the site;
 - 2) Makes note of the real or potential hazards;
 - 3) Corrects what is correctable or notes what is uncorrectable; and
 - 4) Informs the affected employees of the hazards, the corrections or uncorrected hazards, and any mitigation necessary.

Conducting the Survey

Prior to allowing any work to begin each day or shift, the contractor for completing the work (or his or her delegate) will ensure that a qualified person has surveyed the proposed worksite to identify actual and potential hazards that will or may be encountered, discuss the identified hazards with all District staff who will be performing tasks at the jobsite, and ensure that effective controls and safeguards are in place to prevent death, injury, or illness.

Attachment A provides initial guidance to establish a pre-work project jobsite survey, and shall be supplemented based on project scope and conditions

Documenting the Survey

A written record of the survey is recommended to be maintain in the project file.

Attachment A Pre-Work Project Jobsite Survey

<p><u>General Conditions:</u></p> <ol style="list-style-type: none"> 1. Weather 2. Location 3. PPE 4. Traffic 5. Environmental <p><u>Communications:</u></p> <ol style="list-style-type: none"> 6. USA Markings 7. High Priority Utility 8. Public Contact 9. Emergency Contacts 10. Radio/ phone capabilities <p><u>Overhead and Underground Hazards:</u></p> <ol style="list-style-type: none"> 11. Power lines and/or Trees 12. Sign Posts 13. Structures 14. Soil / Surface Conditions 15. Shoring/ Protective Systems 	<p><u>General Conditions:</u></p> <p>Weather (wind, wet conditions, visibility, heat, shade available, humidity, increased fire danger).</p> <p>Location (security, address, land marks, residential, commercial, industrial, public safety, sidewalks, driveways, pedestrians, vaults, pits, tripping hazards, hazardous vegetation).</p> <p>PPE (Hard hats, vests, eye protection, face shield, hearing protection, gloves, tyvec suit, safety shoes).</p> <p>Traffic (time of day, visibility, flow rate, speed, school route, bus route, equipment staging, parking, warning devices, arrow boards, land and road closures, traffic plans).</p> <p>Environmental (soil contamination, near creeks, run-off, silt, BMP's, storm drains, photographs, soils reports)</p> <p><u>Communications:</u></p> <p>USA Markings (has it been requested, ticket #, expiration date, marks visible, marks complete, missing marks).</p> <p>High Priority Utility (60+psig natural gas, petroleum, 60,000+Voltage, pressurized sewer); if marks are within 10-foot then a field meeting with the owner is required.</p> <p>Public Contact (proper notification to affected customers, maintain access to property, work site clearly posted).</p> <p>Emergency Contacts (EBMUD, other utilities, response agencies, 911, etc.).</p> <p>Radio/phone (consider signal strength and cellular capabilities).</p> <p><u>Overhead and Underground Hazards:</u></p> <p>Power lines (appropriate clearance for equipment, high voltage). Trees (low hanging limbs, roots, stability).</p> <p>Sign Posts (street lamps, traffic signals, road signs, mail</p>
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<p><u>Equipment and Terrain</u> -</p> <p>In consultation with operator</p> <p>16. Terrain</p> <p>17. Road conditions</p> <p>18. Can the planned equipment safely perform this work?</p> <p>19. Does special equipment need to be acquired?</p> <p style="text-align: center;"><u>SKETCH / NOTES</u></p>	<p>boxes).</p> <p>Structures (low overhangs, restricted access, foundations, any surcharge loads?).</p> <p>Soil / Surface Conditions (stability, fissures, cracks, slumps, previously disturbed, type, wet, tidal influence)</p> <p>Shoring / Protective Systems (box, shield, hydraulic, end-shore, sheeting, benching, slope, is tab data available?)</p> <p><u>Equipment and Terrain</u> - In consultation with operator</p> <p>Terrain (slope, access, paved, unpaved, ground stability, fissures, weather factors, wet, muddy, vegetation, obstacles, on or near water)</p> <p>Road conditions (paved, unpaved, gravel, adequate work space, traffic and public safety)</p> <p><i>Can the planned equipment safely perform this work?</i> (wheeled, tracked, backhoe, excavator, crane, front loader, etc).</p>
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Contractor shall obtain and deploy needed resources to ensure worksite safety.

SECTION 01 35 44

ENVIRONMENTAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes:

1. Comply with applicable Federal, State and Local environmental regulations in the execution of the Work.
2. Procure and pay for all necessary local, state, and federal permits to perform the Work.
3. Implement all required environmental plans, procedures, and controls during performance of the Work.
4. Characterize all wastes and imported backfill materials per Contract Documents.
5. Handle and dispose of all wastes, including Hazardous Wastes, in a proper and lawful manner.
6. In the event of a conflict or inconsistency between this Section and any provisions of the Contract Documents, the more stringent provision shall prevail.

B. Site Activities

1. Protect storm drains and surface waters from impacts of project activity.
2. Store materials and wastes such as demolition material, soil, sand, asphalt, rubbish, paint, cement, concrete or washings thereof, oil or petroleum products, or earthen materials in a manner to prevent it from being washed by rainfall or runoff outside the construction limits.
3. Reuse or dispose of excess material consistent with all applicable legal requirements and disposal facility permits.
4. Clean up all spills and immediately notify the Engineer in the event of a spill.
5. Equip stationary equipment such as motors, pumps, and generators with drip pans.
6. Divert or otherwise control surface water and waters flowing from existing projects, structures, or surrounding areas from coming onto the work and staging areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas.

7. Following completion of Work, remove ditches, dikes, or other ground alterations made by the Contractor. The ground surfaces shall be returned to their former condition, or as near as practicable, in the Engineer's opinion.
8. Prevent visible dust emissions from leaving the work areas.
9. Maintain construction equipment in good operating condition to reduce emissions.
10. Handle, store, apply, and dispose of any chemical or hazardous material used in the performance of the Work in a manner consistent with all applicable federal, state, and local laws and regulations.

C. Related Sections

1. Document 00 73 00 – Supplementary General Conditions
2. Section 01 14 00 – Work Restrictions
3. Section 01 35 24 – Project Safety Requirements
4. Section 01 74 05 – Cleaning
5. Section 31 11 00 – Clearing and Grubbing

1.2 ACRONYMS

AMS	Alternative Management Strategies
ARARs	Applicable or Relevant and Appropriate Requirements
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practices
CCR	California Code of Regulations
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CIH	Certified Industrial Hygienist
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
FSP	Field Sampling Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
MMRP	Mitigation Monitoring and Reporting Program
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PPMRP	Practices and Procedures Monitoring and Reporting Plan
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act

RWQCB	Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SMARTS	Storm Water Multi-Application and Report Tracking System
SOP	Standard Operating Procedure
SOW	Scope of Work
STLC	Soluble Threshold Limit Concentration
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCLP	Toxicity Characteristic Leaching Procedure
TTLC	Total Threshold Limit Concentration
TWW	Treated Wood Waste
USEPA	United States Environmental Protection Agency
WDR	Water Discharge Requirements

1.3 DEFINITIONS

- A. **Characterization:** Identification of chemical, microbiological, or radiological constituents of solid and liquid wastes. Characterization typically involves sampling and analysis performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the State Water Resources Control Board for the purposes of classifying a waste as hazardous, non-hazardous, or other classification.
- B. **Construction and Demolition Waste (or Debris):** Materials resulting from construction, remodeling, repair, or demolition operations on any structure.
- C. **Contamination:** Any confirmed or anticipated release, spill, or emission, of any substance in the air, soil, surface water, or groundwater which may constitute a risk to the environment or human health. Note: Naturally occurring substances, such as asbestos, arsenic and chromium, may also be considered contaminants if they constitute a risk to human health.
- D. **Divert/Diversion:** The use of waste (or debris) for any purpose other than disposal in a landfill, incineration facility, or alternative daily cover. Methods to divert materials from landfills include reuse, salvage, and recycling.
- E. **Excavation Soils:** Material resulting from any excavation (cut, cavity, trench, or depression in the earth's surface formed by earth removal).
- F. **Hazardous Waste:** A waste or combination of wastes as defined in 40 CFR 261.3, or regulated as hazardous waste in California pursuant to Division 4.5, Title 22, California Code of Regulations, and Chapter 6.5, Division 20, California Health and Safety Code.
- G. **Qualified Environmental Professional(s):** A person with working knowledge of Federal, State, and local laws and regulations governing environmental compliance including hazardous materials management and disposal requirements. A person also

with experience conducting environmental investigations including applicable methods and techniques of environmental sampling, analysis, and modeling.

- H. Sanitary Sewer Discharge: Any discharges to a sanitary sewer system, including the EBMUD collection system.
- I. Staging Area: That area shown on the plans for the use of the contractors where construction related activities will occur, including long-term and short-term equipment storage and maintenance, materials storage (both temporary and long term), parking, office space, etc.

1.4 SUBMITTALS

A. Storm Water Management Plan

- 1. Submit a Storm Water Management Plan that describes measures that shall be implemented to prevent the discharge of contaminated storm water runoff from the jobsite. Contaminants to be addressed include, but are not limited to soil, sediment, concrete residue, pH less than 6.5 or greater than 8.5, and any other contaminants known to exist at the jobsite location.

B. Waste Management

- 1. Prepare a Waste Management Plan and submit a copy of the plan for the Engineer's acceptance prior to start of work (except for water wastes which shall be addressed in the Water Control and Disposal Plan). The Waste Management Plan shall address all Construction and Demolition Waste, universal wastes, Hazardous Wastes, Excavation Soils, and any other solid debris intended to be removed from the project site(s).
 - a. Identify each type of material that will be generated during the project for disposal, recycling, salvage, or other management and estimate the volume/weight of each.
 - b. Identify how the Contractor will handle, transport, dispose of, or otherwise divert each type of material required to be removed under this contract in a safe, appropriate, and lawful manner in compliance with all applicable regulations of local, state, and federal agencies having jurisdiction over the removed materials.
 - c. Identify diversion goals for all Construction and Demolition Wastes generated during the project. The specified diversion goals shall meet the minimum requirements of the local ordinances in the City/County/jurisdiction where each project site is located.
 - d. Identify any onsite or offsite soil reuse or recycling but note the limitations on this practice below.

- 1) Excavation Soils shall not be reused or recycled without explicit approval from the Engineer. Do not assume approval for any reuse of soils. Any proposed reuse shall be initially discussed with the Engineer for evaluation. If soil reuse is planned onsite or offsite, include a Soil Reuse Plan within the Waste Management submittal outlining sites and specific locations where soil will be reused and the estimated volumes of soil to be used at each site. Necessary sampling and analytical work shall be included in the Sampling and Analysis Plan to be provided by the Contractor.
- 2) Soil reuse is not allowed in excavations for District drinking water pipelines.
- 3) Soil reuse is not allowed at sites with land use covenants or other site restrictions.
- 4) Notwithstanding items 2 and 3 above, soil reuse may be allowed in other circumstances as outlined below:
 - a) Soil may be placed in the same trench or excavation it came from on District property if no evidence of contamination (e.g. oil, sheen, chemical odors, discoloration, etc.) is found in the excavated soil.
 - b) Soil may be sent to offsite reuse facilities with published contaminant acceptance criteria when:
 - i) Offsite facility is on the District-Approved Disposal Facility list included in Appendix B
 - ii) Offsite facility has regulatory approval to accept soil
 - iii) Contractor tests soil for acceptability at facility
 - iv) Contractor submits test results and approval of facility receiving soil for reuse
- e. Include a list of recycling facilities and processing facilities that will be receiving recyclable or recoverable materials, including, but not limited to concrete, asphalt, and metals.
- f. Identify materials that are not recyclable or not recovered which will be disposed of in a landfill (or other means acceptable by the State of California and local ordinance and regulations). List the permitted landfill, or other permitted disposal facilities, which will be accepting the disposed waste materials. All landfills, hazardous waste, and universal waste disposal sites shall be approved for use by the Engineer. Refer to Appendix B for a list of approved facilities.

5. A certificate of analysis for soil from a soil recycler or supplier may be substituted for sampling and analysis of imported fill in the project.

D. Spill Prevention and Response Plan

1. Submit plan detailing the means and methods for preventing and controlling the spilling of known hazardous substances used on the jobsite or staging areas.
 - a. Include a list of the hazardous substances proposed for use or generated by the Contractor on site, including petroleum products.
 - b. Define measures that will be taken to prevent spills, monitor hazardous substances, and provide immediate response to spills.
 - c. Include provisions for notification of the Engineer or alternate contact and appropriate agencies including phone numbers; spill-related work, public health, and safety issues; spill control, and spill cleanup.
 - d. Map showing hazardous materials project-related storage locations, names of the hazardous materials, and volumes/quantities.
 - e. Submit a Safety Data Sheet (SDS) for each hazardous substance proposed to be used prior to delivery of the material to the jobsite.

E. Dust Control

1. Submit a plan detailing the means and methods for controlling and monitoring dust generated by demolition and other work on the site for the Engineer's acceptance prior to any work at the jobsite.
 - a. Identify methods to comply with all applicable regulations including but not limited to the Bay Area Air Quality Management District (BAAQMD) visible emissions regulation and Public Nuisance Rule.
 - b. Outline practices for preventing dust emissions and procedures to be used during operations and maintenance activities.
 - c. When sandblasting, spray painting, spraying of insulation, or other activities inconvenient or dangerous to property or the health of employees, the public, or construction workers are in progress, the area of activity shall be enclosed adequately to contain the dust, over spray, or other hazard. In the event there are no permanent enclosures in the area, or such enclosures are incomplete or inadequate, the Contractor shall provide suitable temporary enclosures as required by the Engineer to meet field conditions in accordance with the recommendations of the owner-furnished equipment supplier (if applicable) and the Contractor's equipment supplier requirements. Said temporary or permanent enclosures shall be adequately ventilated to ensure the safety of the workers.

d. Describe equipment and methods used to monitor compliance with the plan.

F. Waste Disposal Records

1. Copies of waste management and disposal records including bills of lading, manifests, weight tickets, and receipts from waste management facilities shall be submitted to the Engineer. This provision applies to Hazardous Wastes, universal wastes, treated wood wastes, solid wastes disposed at landfills, and radioactive wastes.

1.5 UNIT PRICES

A. Clearing, Grubbing and Environmental Protection

1. Measurement Method: By lump sum
2. Includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to clearing the surfaces of debris prior to improvements, installing, replacement, and removal of materials, handle and disposal of all waste, sampling and analysis of material to be disposed, installing temporary drainage inlet protection, cleanup and disposal of retained sediment and debris, and removal of all Sediment Filter Bags at the conclusion of the project and as specified in this specification section and in section 31 11 00 – Clearing and Grubbing.
3. Partial payment for the Bid Item “Clearing, Grubbing and Environmental Protection” will be made as follows:
 - a. Fifty percent (50%) of the total amount bid for Clearing, Grubbing and Environmental Protection will be paid with the first progress payment after at least five percent (5%) of the original Contract Amount for other items of work has been performed.
 - b. When at least ten percent (10%) of the original Contract Amount for other items of work has been performed, an amount will be included in the next monthly progress payment to increase the total amount of Clearing, Grubbing and Environmental Protection paid to seventy-five percent (75%) of the total amount bid for Best Management Practices.
 - c. When at least twenty percent (20%) of the original Contract Amount for other items of work has been performed, an amount will be included in the next monthly progress payment to increase the total amount of Clearing, Grubbing and Environmental Protection paid to ninety percent (90%) of the total amount bid for Best Management Practices.
 - d. Upon substantial completion, one-hundred percent (100%) of the remaining contract price paid for Clearing, Grubbing and Environmental Protection will be included in the estimate for payment.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 IMPORTED FILL MATERIAL

- A. Submit a certificate of analysis and/or laboratory analytical reports for approval by the Engineer prior to use on a project. Use of imported fill will be evaluated in accordance with Paragraph 1.4C "Imported Fill" noted above as applied to the specific import fill and receiving site conditions.
 - 1. Engineer may witness sampling and may take samples for District records and for additional analyses if required. Notify the Engineer at least 3 work days prior to sampling.

3.2 STORM WATER

- A. Follow all provisions in local storm water permits and/or rules during construction.
- B. Maintain sufficient best management practices or other controls as outlined in the storm water management plan to prevent impacts to storm water from pollution including soil, dust, stored hazardous materials, and construction activities.
- C. In excavation, fill, and grading operations, care shall be taken to minimize the disturbance of the pre-existing drainage pattern. Particular care shall be taken to not direct drainage water onto private property or into streets or drainageways inadequate for increased flow. Drainage means shall be provided to protect the Work.

3.3 WATER DISPOSAL

- A. Non-Storm Water Discharges
 - 1. Follow provisions in non-storm water discharge plan if discharging groundwater, wash water, or other non-storm water discharges.

3.4 WASTE MANAGEMENT & DISPOSAL

- A. Segregate, stage, label/mark, and properly manage waste at the jobsite in a manner that complies with applicable regulations and to facilitate proper disposal.
- B. Characterize all liquid wastes, solid wastes, and other wastes prior to removing from the project site. Sampling and analysis shall adhere to the Sampling and Analysis Plan.
- C. Engineer will review laboratory analysis results for District acceptance of Contractor Characterization of waste classification.
- D. Engineer will obtain a Hazardous Waste Generator's EPA ID Number if required for disposal of Hazardous Wastes and TWW.

- E. Engineer will give Contractor written notice to dispose of all or a portion of the waste material at a Class I disposal site if the Engineer determines that such disposal is required based on review of Contractor's waste characterization and the analytical results of samples collected.
 - 1. Additional payment for disposal (transport and dispose) at Class I site will be in accordance with Article 7 of the GSA Conditions.
- F. Non-hazardous waste shall be disposed as outlined in the approved Waste Management Plan.
- G. Waste materials from different sites shall not be transported or mixed until the material is determined to be non-hazardous. Unless pre-approved by the Engineer for direct hauling, excavation materials shall be stored or stockpiled at each site until classified and accepted for movement by the Engineer.
- H. Transport materials and/or wastes in accordance with all local, state, and federal laws, rules, and regulations.
- I. Contractor shall not assume any soil is approved for offsite reuse. Offsite reuse is only permitted with explicit approval from the Engineer after a careful review of the Contractor's proposed reuse.
- J. Contractor shall be responsible for all costs of disposal of Construction and Demolition Waste material and liquid wastes, along with any waste generated by the Contractor's work including Hazardous Waste generated from hazardous materials except as outlined in paragraph E above.
- K. All waste disposal shall be performed in accordance with applicable laws and regulations.
- L. If the Contractor proposes to dispose of construction debris, trench spoils, excavation spoils, etc., at a landfill, it shall be responsible to provide and pay for all permits and analyses required by the landfill. If the analyses determine that the material is hazardous, then an equitable adjustment of the Contract for the cost of hazardous waste disposal will be made in accordance with Article 7 of the GSA Conditions, and the following:
 - 1. Time extension or contract costs will not be granted for delays that could have been avoided by the Contractor redirecting its forces and equipment to perform other work on the contract.
- M. Ditches, washes, or drainage ways shall not be filled.
- N. Disposal operations shall not create unsightly or unsanitary nuisances.
- O. The Contractor shall maintain the disposal site in a condition of good appearance and safety during the construction period.

- P. Prior to final acceptance of the work, the Contractor shall have completed the leveling and cleanup of the disposal site.

3.5 AIR QUALITY CONTROL

- A. Implement all necessary air pollutant construction measures per the Bay Area Air Quality Management District “Basic Construction Mitigation Measures” (BAAQMD CEQA Guidelines May 2017), including, but not limited to the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. The contractor shall post a District-furnished, publicly visible sign with District and Air District contact information regarding dust complaints.

- B. Implement all necessary air pollutant construction measures per the Bay Area Air Quality Management District “Additional Construction Mitigation Measures” (BAAQMD CEQA Guidelines May 2017) including but not limited to the following:

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

3. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
 4. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
 5. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
 6. Minimizing the idling time of diesel-powered construction equipment to two minutes.
 7. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
 8. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
 9. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.
- C. Implement all necessary District air pollutant construction measures, including but not limited to the following:
1. Gravel or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. Submit specifications for any dust palliatives applied to unpaved roads to the Engineer.
 2. Water and/or cover soil stockpiles daily.
 3. All transitions from soil to a paved road shall have best management practices applied to prevent drag out of soil.
 4. Water used for dust control shall not run off the job site and cause erosion or other issues.
 5. Use of recycled water for dust control is encouraged.
 6. Use line power instead of diesel generators at all construction sites where line power is available.
 7. Temporary sources of air emissions (such as portable pumps, compressors, generators, etc.) shall be electrically powered unless the use of such equipment is not practical, feasible, or available.

8. All portable engines and equipment units used as part of construction shall be properly registered with the California Air Resources Board or otherwise permitted by the appropriate local air district, as required
9. Minimize the use of diesel generators where possible.
10. Follow applicable regulations for fuel, fuel additives, and emission standards for stationary, diesel-fueled engines.
11. Locate generators at least 100 feet away from adjacent homes, schools, and parks.
12. Perform regular low-emission tune-ups on all construction equipment, particularly haul trucks and earthwork equipment.
13. On road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals.
14. Demolition debris shall be recycled for reuse to the extent feasible. See the Construction and Demolition Waste Management Plan paragraphs above for requirements for wood treated with preservatives (TWW).

3.6 NOISE CONTROL

- A. Comply with sound control and noise level rules, regulations, and local ordinances, which apply to any work performed pursuant to the contract. Noise-generating activities shall be limited to the hours specified in Section 01 14 00.
- B. Take appropriate measures, including muffling of equipment, selecting quieter equipment, erecting noise barriers, modifying work operations, and other measures as needed to bring construction noise into compliance.
- C. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler as recommended by the manufacturer.
 1. Internal combustion engines shall not produce more than a maximum noise level of 85 dBA at five (5) feet. No internal combustion engine shall be operated on the project without said muffler.
 2. Use the best available noise control techniques (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) for all equipment and trucks, as necessary.
- D. Truck operations (haul trucks and concrete delivery trucks) shall be limited to the daytime hours specified in Section 01 14 00.
- E. Stationary noise sources (e.g., chippers, grinders, compressors) shall be located as far from sensitive receptors as possible. Enclosure opening or venting shall face away from sensitive receptors. Enclosures shall be designed by a registered engineer regularly involved in noise control analysis and design.

- F. If impact equipment (e.g., jack hammers, pavement breakers, rock drills etc.) is used during project construction, Contractor is responsible for taking appropriate measures, including but not limited to the following:
1. Hydraulically or electric-powered equipment shall be used wherever feasible to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used. External jackets on the tools themselves shall be used, where feasible. Quieter procedures, such as drilling rather than impact equipment, shall be used whenever feasible. It is the Contractor's responsibility to implement any measures necessary to meet applicable noise requirements.
 2. Impact construction including jackhammers, hydraulic backhoe, concrete crushing/recycling activities, vibratory pile drivers etc. shall be limited to the daytime hours specified in Section 01 14 00.
 3. Erect temporary noise barriers or noise control blankets around the construction site, particularly along areas adjacent to residential buildings.
 4. Limit the noisiest phases of construction to 10 work days at a time, whenever feasible.
 5. Notify neighbors/occupants within 300 feet of project construction at least thirty days in advance of extreme noise generating activities about the estimated duration of the activity.
 6. Noise Monitoring shall be conducted periodically during noise generating activities. Monitoring shall be conducted using a precision sound-level meter that is in conformance with the American National Standards Institute (ANSI) Standard S1.4, Specification for Sound Level Meters. Monitoring results shall be submitted weekly to the Engineer.
- G. In inhabited areas, particularly residential, operations shall be performed in a manner to minimize unnecessary noise generation.
- H. Every effort shall be made to minimize excessive levels of noise, particularly over a prolonged periods of time. Scheduling of particularly noisy construction operation shall be coordinated with the District.
- I. Powder actuated anchors and fasteners may be used if approved, and where directed by the Engineer. Blasting of any description is strictly prohibited on any portion of the work of this contract.
- J. Use of radio or other music amplification devices will not be permitted on the job site.

3.7 SAMPLING AND ANALYSIS

- A. Sampling shall conform to the accepted Sampling and Analysis Plan provided by the Contractor and shall include all of the following:
 - 1. Appropriate methods for handling, preservation, and container selection
 - 2. A documented chain of custody with:
 - a. An identifying sample number assigned for each sample
 - b. Name and organization of each person having custody of the sample
 - c. Job name and location
 - d. Time of day and date sample taken
 - e. Material sampled
 - f. Tests to be performed
 - 3. For projects involving acquisition or sampling conducted under regulatory oversight, Quality Assurance & Quality Control (QA/QC) samples shall be collected and analyzed.
- B. Analytical methods shall be appropriate and approved for the purpose of the sampling.
 - 1. Analysis of wastes shall be conducted according to methods listed in Environmental Protection Agency Document SW 846.
 - 2. Analysis of wastewaters and sanitary sewer discharges shall comply with methods outlined in 40 CFR 136.
- C. Submit laboratory analysis results that include:
 - 1. Sampling and analytical methods
 - 2. Sample locations
 - 3. Completed Chain of Custody
 - 4. QA/QC reports received from the laboratory
 - 5. Drawings, maps, photographs, or other descriptions that clearly identify what location or material is represented by the sample
- D. Engineer will witness sampling and may take samples for District records and for additional analyses if required. Notify the Engineer at least 3 work days prior to sampling.

END OF SECTION

SECTION 01 35 45

BIOLOGICAL, CULTURAL, AND PALEONTOLOGICAL RESOURCE REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes:

1. Comply with applicable Federal, State and Local environmental regulations and permits, as required, in the execution of the Work.
2. Meet with the Engineer prior to commencement of Work to review the project environmental requirements, permits, and issues.
3. Implement all required environmental plans, procedures, and controls during performance of the Work.
4. In the event of a conflict or inconsistency between this Section and any provisions of the Contract Documents, the more stringent provision shall prevail.

B. Pre-Construction biological or cultural resources survey additional restrictions

1. If the pre-construction biological or cultural resources surveys, or construction monitoring indicate the need for additional restricted areas and/or additional special-status species measures, in addition to those specified in the Contract Documents, and if the Contractor is required to stop work and relocate work activities, the Contractor's costs associated with these protective measures will be borne by the District and payment will be made in accordance with Section 01 21 00 – Allowances.
2. Any delays to the Contractor's progress due to protection of biological or cultural resources not specified in the Contract Documents will be evaluated by the Engineer. Refer to Article 8.4 of the General Conditions. Contractor shall be responsible for enforcement of work restrictions with all its subcontractors and suppliers of any tier.

C. Related Sections

1. Document 00 73 00 – Supplementary General Conditions
2. Section 01 14 00 – Work Restrictions
3. Section 01 21 00 - Allowances

4. Section 01 35 24 – Project Safety Requirements
5. Section 01 35 44 – Environmental Requirements

1.2 ACRONYMS

CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CDFW	California Department of Fish and Wildlife
EPA	Environmental Protection Agency
IPM	Integrated Pest Management
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
NOAA	National Oceanic and Atmospheric Administration
OSHA	Occupational Safety and Health Administration
PPMRP	Practices and Procedures Monitoring and Reporting Plan
QA/QC	Quality Assurance/Quality Control
RWQCB	Regional Water Quality Control Board
SOP	Standard Operating Procedure
SOW	Scope of Work
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fisheries and Wildlife Service

1.3 DEFINITIONS

- A. Cultural Resources (include architectural resources, archaeological resources, tribal cultural resources, and human remains):
 1. Architectural resources include buildings, structures, objects, and historic districts. Residences, cabins, barns, lighthouses, military-related features, industrial buildings, and bridges are examples of architectural resources. An architectural resource can be considered a historic property if it is at least 50 years old and listed in, or eligible for listing in, the National Register of Historic Places or the California Register of Historical Resources.
 2. Archaeological resources consist of prehistoric and historic-era archaeological resources.
 - a. Prehistoric archaeological resources consist of village sites, temporary camps, lithic scatters, roasting pits/hearths, milling features, petroglyphs, rock features, and burials. Associated artifacts include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs).

- H. Special-status Plants and Wildlife: Special-status species include any species which is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), under the provisions of the Endangered Species Act; any species covered by the Migratory Bird Treaty; any species designated by the USFWS as “Candidate” species or "Sensitive” species; any designated (rare, threatened, or endangered) and candidate species for listing by the California Department of Fish and Wildlife (CDFW); and any species which is listed and protected by state statute in a category implying potential endangerment or extinction.
- I. Topsoil: The upper most soil horizon that supports vegetation which varies by work site, location, and contour.
- J. Tree Drip Line: Outside perimeter of tree branch spread.
- K. Waterways: Any drainage conveyance including, but not limited to streams, creeks, rivers, ditches, culverts, channels, and sloughs.
- L. Wetlands: Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

1.4 DISTRICT PERMITS AND DISTRICT-PREPARED REPORTS

- A. The District has prepared the following documents (See Appendices) for the use of the Contractor, who shall adhere to the requirements set forth therein:
 - 1. EBMUD Low Effect East Bay Habitat Conservation Plan (HCP)

The Designated Biologist will be the enforcer of the aforementioned HCP.

1.5 QUALITY CONTROL AND ACCOUNTABILITY

- A. Many of the requirements contained in this Section are based on conditions attached to environmental permits and agreements obtained by District. Violation of these conditions can result in monetary fines, requirements for restoration of or compensation for damage, or stoppage of Work. Fines imposed upon the District resulting from Contractor noncompliance with environmental requirements included in the Contract Documents shall be paid by the Contractor.
- B. Contractor shall be held fully responsible for any damage resulting from Contractor operations to natural vegetation, wildlife, cultural resources, waters of the United States and water quality, and any other environmental resources located either:
 - 1. Outside the Work areas permitted in the Contract Documents or

2. Inside the Work areas but clearly marked by Engineer on the drawings or in the field to indicate that avoidance of that resource is required.
- C. Engineer may require the Contractor to remove construction personnel that cause flagrant and/or repeated violations of the biological, cultural, or paleontological specifications. Engineer will monitor Contractor compliance and will record non-compliance events. Written notice of non-compliance will be given to the Contractor within 24 hours. District may require remedial actions of Contractor including, but not limited to, additional training of Contractor personnel.
- D. Whenever a noncompliance occurs, submit to the Engineer memoranda documenting remedial action taken to address the instance of non-compliance with environmental measures. Contractor memoranda shall specify the environmental measure addressed, how compliance was met, what problems were encountered, and any corrective remedial actions taken or planned to prevent further occurrences. The Engineer may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No equitable adjustments will be allowed to the Contractor for any such suspensions.

1.6 PROTECTION OF BIOLOGICAL RESOURCES

- A. Protection of biological resources include:
 1. Jurisdictional wetlands, waters, streambeds, banks and associated riparian vegetation;
 2. Native and nonnative trees protected under local ordinances;
 3. Roosting and nesting habitat for raptors and other protected bird species; and
 4. Special status species, as specified herein.
- B. The District will conduct biologic and tree surveys in advance of construction and will conduct biologic monitoring during construction. The results of the surveys and monitoring actions will indicate requirements to be implemented by the Contractor.
- C. Jurisdictional Wetlands, Waters, and Streambeds
 1. Minimize the impact of construction activities on identified wetland, streambed, and other aquatic areas by complying with the requirements as specified herein and in Section 01 35 44 – Environmental Requirements.
- D. EBMUD Low Effect Habitat Conservation Plan (HCP) at San Pablo Reservoir Recreation Area
 1. The San Pablo Reservoir Recreation Area is part of EBMUD East Bay Watershed lands and is covered by the HCP. The HCP requires that work on watershed lands is conducted in a manner to reduce potential harm to threatened and endangered

species that exist on the watershed. The HCP has specific avoidance measures that must be implemented for projects on watershed lands.

2. HCP avoidance measures that apply to Work at the San Pablo Reservoir Recreation area shall be enforced by the Designated Biologist and include but are not limited to:
 - a. HCP specific training, in addition to the training indicated in Section 3.1.
 - b. Pre-project biological survey within 30-days prior to onset of staging and construction activities.
 - c. All vehicles shall maintain a speed of no more than 15 mph on watershed roadways.
 - d. Avoid construction during wet weather.
 - e. All trenching left overnight shall be sloped at the ends or have ramps installed for wildlife to escape.
 - f. No driving on unpaved roads or undeveloped areas.

1.7 COLLECTION AND HARASSMENT OF SPECIES

- A. Comply with applicable federal and state laws that provide protection to plants and animals.
- B. Do not intentionally “take” (meaning harm, harass, pursue, hunt, shoot, wound, trap, kill, capture, or collect) any species that are listed as threatened, endangered, or special status. Protection extends to animals, dead or alive, and all their body parts. The exceptions are those incidentally taken during normal clearing of the Work Area in conformance with the above acts and all permits or agreements obtained for this Work under these acts. Do not intentionally “take” any other species of plant or wildlife at or around the construction site. This includes all fish, snakes, lizards, frogs, turtles, birds, and mammals.
- C. In the event that any threatened or endangered species, or other special status wildlife, are found in or near the Work where they could be affected by construction activities, notify Engineer and proceed with construction after District has removed these species, or the species has left the work area on their own accord. Immediately report to Engineer any incidental “takings,” as defined above, of animals or plants listed.
- D. The Designated Biologist will accomplish capture and relocation of special status animals, including permitting requirements, as appropriate. The Contractor shall adjust operations as necessary to accommodate such capture and relocation program.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 TRAINING AND CERTIFICATION

- A. Before beginning construction, all Contractor personnel involved in ground-disturbing activities are required to attend an environmental training program provided by the District, of up to one day for site supervisors, foremen and project managers and up to 30 minutes for non-supervisory Contractor personnel. Contractor general personnel will receive a worker environmental awareness training.
- B. The Contractor is responsible for ensuring that all workers requiring environmental training are identified to the District.
- C. Prior to accessing or performing construction work, the identified Contractor personnel shall:
 - 1. Sign a wallet card provided by the Engineer verifying that the Contractor personnel has attended the appropriate level of training relative to their position; have understood the contents of the environmental training, and shall comply with all project environmental requirements.
 - 2. Display an environmental training hard hat decal (provided by the District after completion of the training) at all times.

3.2 PROTECTION OF BIOLOGICAL RESOURCES

A. General Requirements

- 1. Project boundaries shall be delineated and flagged prior to construction by the Contractor.
 - a. Staging areas and construction access points shall be delineated in the field away from sensitive plant species, and all staging shall occur within these designated areas.
 - b. All construction activities, including the movement of heavy equipment, shall be conducted within the delineated Project boundaries to minimize habitat disturbance.
- 2. Keep construction equipment and personnel out of designated restricted areas.
 - a. Depending on the proximity of the populations to the construction work area, populations will be monitored by the Designated Biologist to ensure inadvertent impacts are avoided.

3. Clearing and grubbing of the construction site shall be confined to the minimum area necessary to facilitate construction activities.

B. Tree Protection

1. No trees shall be removed by this project. If pruning and/or trimming is needed, prior approval by the Engineer shall be necessary. Pruning shall adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.
2. Erect exclusion fencing five feet outside of the drip lines of trees to be protected prior to ground disturbing activities. Erect and maintain a temporary minimum 3-foot-high orange plastic mesh exclusion fence at the locations as shown in the drawings prior to ground disturbing activities. The fence posts shall be six-foot minimum length steel, installed at 10-foot maximum on center, and be driven into the ground. The Contractor shall be prohibited from entering or disturbing the protected area within the fence except as directed by the Engineer. Exclusion fencing shall remain in place until construction has been completed and the Engineer approves its removal.
3. No grading, construction, demolition, trenching for irrigation, planting or other work, except as specified herein, shall occur within the tree protection zone established by the exclusion fencing installed shown in the drawings. In addition, no excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the tree protection zone.
4. In areas that are within the tree drip line and outside the tree protection zone that are to be traveled over by vehicles and equipment, the areas shall be covered with a protective mat composed of a 12-inch thickness of wood chips or gravel and covered by a minimum 3/4-inch-thick steel traffic plate. The protective mat shall remain in place until construction is completed and the Engineer approves its removal.

C. Special-Status Plant Populations:

1. In addition to the training identified in Article 3.1 above, special-status plant population training will include a description of the sensitive plant species in the Project vicinity, including natural history and habitat, the general protection measures to be implemented to protect the species, and a delineation of the limits of the work areas. Identified Contractor personnel will be required to sign documents stating that they understand that take of special-status plant species and destruction or damage of their habitat would be a violation of state and federal law.
2. In the spring prior to construction, the Designated Biologist will conduct preconstruction sensitive plant surveys in all areas where ground disturbance will occur. Any observed sensitive plant species will be mapped and flagged for

avoidance where feasible. The District will notify CDFW upon discovery of any sensitive plant species during preconstruction surveys.

3. Sensitive plant species shall be avoided, or impacts shall be minimized by limiting ground disturbance where sensitive plants are present.
4. To minimize impacts on sensitive vegetation immediately adjacent to designated construction areas, the District will designate areas containing sensitive vegetation as restricted areas.

D. Birds Protected under the Migratory Bird Treaty Act and Roosting Bats

1. Provide 30 days' written notice to the Engineer prior to ground disturbing activities.
 - a. The District will conduct biological reconnaissance in advance of construction and will conduct biologic monitoring during construction as necessary.
2. Protected Bird or Bat Species
 - a. If protected species or suitable habitat for protected bird or bat species is found during biological survey, identified Contractor personnel shall complete the training below in addition to the training identified in Article 3.1:
 - 1) Watch a video at a District-designated location, conducted by the Designated Biologist. The program will discuss all sensitive habitats and sensitive species that may occur within the project work limits, including the responsibilities of the Contractor's personnel, applicable mitigation measures, and notification requirements.
 - b. Birds Protected under the Migratory Bird Treaty Act (MBTA):
 - 1) It is unlawful to pursue, hunt, take, capture, or kill any migratory bird without a permit issued by the U.S. Department of the Interior.
 - 2) If ground disturbing activities occur between February 1 and August 31, during the nesting season, the Designated Biologist will conduct a preconstruction survey for nesting birds within 7 days prior to construction to ensure that no nest will be disturbed during construction.
 - 3) If active nests of migratory bird species (listed in the MBTA) are found within the project site, or in areas subject to disturbance from construction activities, an avoidance buffer to avoid nest disturbance shall be constructed. The buffer size shall be determined by the Designated Biologist in consultation with EBMUD and is based on the nest location, topography, cover and species' tolerance to disturbance.

- 4) If an avoidance buffer is not achievable, the Designated Biologist will monitor the nest(s) to document that no take of the nest (nest failure) has occurred. Active nests shall not be taken or destroyed. If it is determined that construction activity is resulting in nest disturbance, work should cease immediately, and the Contractor shall notify the Engineer who will consult with the Designated Biologist and EBMUD staff.
- 5) If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further action is required. Nests initiated during construction (while significant disturbance from construction activities persist) may be presumed to be unaffected, and only a minimal buffer, determined by the Designated Biologist, would be necessary.

E. Project-Specific Protected Wildlife Species

1. Training

- a. In addition to the training identified in Article 3.1 above, identified Contractor personnel shall complete project-specific protected wildlife species training. The training will include a description of project-specific protected wildlife species, including natural history and habitat, a review of the state and federal listing of the species, the general protection measures to be implemented to protect the special-status species, and a delineation of the limits of the work areas. Identified Contractor personnel shall be required to sign documents stating that they understand that take of listed species and destruction or damage of their habitat would be a violation of state and federal law.

2. Alameda Whipsnake

- a. Seven days and twenty-four hours prior to construction activities, the Project area will be surveyed for Alameda whipsnakes by the Designated Biologist. Surveys of the Project area will be repeated if a lapse in construction activity of two weeks or greater occurs.
- b. If the Alameda whipsnake is observed at the construction site at any time during construction, work will cease immediately until the snake leaves the work area on its own or is relocated outside of the work area by the Designated Biologist. Any sightings and any incidental take will be reported to the USFWS and CDFW immediately by the District.
- c. A monitoring report of all activities associated with surveys and mitigation for this species will be submitted to the USFWS and CDFW by the District no later than three months after construction is completed. The monitoring report will describe methods and results of any field survey efforts and mitigation measures implemented before, during or after project construction.

END OF SECTION

SECTION 01 55 26

TRAFFIC REGULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Comply with the traffic regulation requirements as specified herein.
- B. Where specific requirements are not detailed herein or in permits, comply with the requirements of the most current version of the California Manual on Uniform Traffic Control Devices (MUTCD).
- C. All proposed street closures shall be clearly identified in the Traffic Control Plan (TCP) and shall conform to the section "Traffic Control Devices" below. Construction area signs for street closures and detours shall be posted a minimum of forty-eight (48) hours prior to the commencement of any street closure. The Contractor shall maintain safe access around the project limits at all times.
- D. In addition to the street closures shown on the construction documents, supplemental right-of-way signage shall be installed as needed to inform the public of increased construction truck traffic and temporary access restrictions on easement roads, and to maintain overall public safety.
- E. The Contractor shall provide the District a 3 week advance notification for all sites prior to beginning construction. District operations will be notified so they can prepare for the planned work.

1.2 SUBMITTALS

- A. Issue at least 15 calendar days prior to work detailed traffic control plans, reviewed by the District, and approved by all agencies having jurisdiction within the project scope, and that conform to all requirements of these specifications and the most recently adopted edition of the MUTCD. Traffic Control Plan shall include:
 - 1. Circulation and detour plans to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.
 - 2. A description of emergency response vehicle access. If the road or area is completely blocked, preventing access by an emergency responder, a contingency plan shall be included.
 - 3. Procedures, to the extent feasible, to schedule construction of project elements to minimize overlapping construction phases that require truck hauling.
 - 4. Designated Contractor staging areas for storage of all equipment and materials, in such a manner to minimize obstruction to traffic.

5. Locations for parking by construction workers.
 6. Establish truck-haul routes prior to commencement of project and obtain written acceptance from the Engineer prior to the issuance of the Notice to Commence Field Work. Strictly adhere to the approved haul routes and obtain permission from the Engineer if proposing to deviate from established routes.
- B. Secure staging areas for all the project sites. Equipment may be staged on District, County, or City right-of-way, only if written permission is obtained from the respective agency prior to mobilizing equipment.

1.3 QUALITY ASSURANCE

- A. Detailed traffic control plan shall be prepared by a California-licensed Traffic Engineer.
- B. The Traffic Engineer who prepares the detailed traffic control plan shall be available at any time during the duration of the contract to modify the traffic control plan if and as required by the agency having jurisdiction.
- C. No changes or deviations from the approved detailed traffic control plan shall be made, except temporary changes in emergency situations, without prior approval of the Traffic Engineer, the District's Engineer, and all agencies having jurisdiction.
- D. Immediately notify the Traffic Engineer, the District's Engineer, and the agencies having jurisdiction of occurrences that necessitate modification of the approved traffic control plan.

1.4 JOB CONDITIONS

- A. The Contractor's detailed traffic control plan shall be based on the approved conceptual traffic control plan except where modifications to the plan have been approved by all agencies having jurisdiction.

1.5 UNIT PRICES

- A. Traffic Regulation
 1. Measurement Method: By lump sum
 2. Includes full compensation for performing the scope of work specified in the "Traffic Regulation" Technical Specifications section, including all necessary designation of an individual dedicated traffic control coordinator, traffic control plan submittals and revisions, project signs, electronic signage boards, implementation and maintenance of the approved traffic control plans for all work in construction zones throughout the duration and for all stages of the project, complete in place, and as specified in the "Traffic Regulation" Technical Specification section.

3. Payments for the lump sum item shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

PART 2 - PRODUCTS

2.1 TRAFFIC CONTROL DEVICES

- A. Traffic signs, flashing lights, barricades and other traffic safety devices used to control traffic shall conform to the requirements of the most recently adopted edition of the MUTCD and the agency having jurisdiction.
 1. Portable signals shall not be used unless permission is given in writing by the agency having jurisdiction.
 2. Warning signs used for nighttime conditions shall be reflectorized or illuminated. "Reflectorized signs" shall have a reflectorized background and shall conform to the current State of California Department of Transportation specification for reflective sheeting on highway signs.

PART 3 - EXECUTION

3.1 GENERAL

- A. Except where public roads have been approved for closure, traffic shall be permitted to pass through designated traffic lanes with as little inconvenience and delay as possible.
- B. Install temporary traffic markings where required to direct the flow of traffic. Maintain the traffic markings for the duration of need and remove by abrasive blasting when no longer required.
- C. Convenient access to driveways and buildings in the vicinity of work shall be maintained as much as possible. Temporary approaches to, and crossing of, intersecting traffic lanes shall be provided and kept in good condition.
- D. When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.
- E. Provide temporary signs as required by the traffic control plan and remove signs when no longer required.
- F. Haul routes for each construction phase shall be provided to all trucks serving the site during the construction period.
- G. For complete road closures, immediate emergency access to be provided if needed to emergency response vehicles.

- H. A minimum of twelve (12) foot travel lanes shall be maintained unless otherwise approved.

3.2 ALTERNATING ONE-WAY TRAFFIC

- A. Where alternating one-way traffic has been authorized, the following shall be posted at each end of the one-way traffic section at least one week prior to start of work:
 - 1. The approximate beginning and ending dates that traffic delays will be encountered.
 - 2. The maximum time that traffic will be delayed.
- B. The maximum delay time shall be approved by the agency having jurisdiction.

3.3 FLAGGING

- A. Provide flaggers to control traffic where required by the approved traffic control plan.
 - 1. Flaggers shall perform their duties and shall be provided with the necessary equipment in accordance with the current "Instructions to Flaggers" of the California Department of Transportation.
 - 2. Flaggers shall be employed full-time on traffic control and shall have no other duties.

3.4 TEMPORARY TRAFFIC CONTROL

- A. All traffic control devices shall conform to the latest edition of the MUTCD, and as amended by the latest edition of the MUTCD California supplement. Electronic signage board with changeable message shall be placed on Rifle Range Road for Arlington Reservoir, Shasta Road for Shasta No. 2 Reservoir, Summit Road for Berkeley View No. 1 Reservoir, and on Old San Pablo Dam Road for San Pablo Reservoir, in both directions 2 weeks in advance until all work in those areas complete.
- B. The Contractor shall replace within 72 hours, all traffic signal loop detectors damaged during construction. Any work that disturbs normal traffic signal operations and ensure proper temporary traffic control (lane shifts, lane closures, detours etc.) shall be coordinated with the agency having jurisdiction, at least 72 hours prior to commencing construction.
- C. A minimum of 12-foot travel lanes shall be maintained unless otherwise approved.
- D. Access to driveways will be maintained at all times unless other arrangements are made.
- E. All traffic control devices shall be removed from view when not in use. Lane closures are expected for FDR sections on day FDR materials need to cure. Contractor shall incorporate anticipated lane closure days to the traffic control plans.

- F. Before leaving a work area, ensure the area is left orderly. Trenches shall be backfilled or plated during non-working hours.
- G. Sidewalks for pedestrians will remain open if safe for pedestrians. Alternate routes and signing will be provided if pedestrian routes are to be closed.
- H. All traffic control signage shall be removed once facility work has been completed.

END OF SECTION

SECTION 01 61 00

COMMON PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall furnish all materials needed to complete the work and installations required under the terms of this contract, except those materials specified to be furnished by the District.
- B. The Contractor shall submit satisfactory evidence of compliance with the specifications of such materials to be furnished and used in the work as the Engineer may require. Materials incorporated in the work and not specifically covered in the specifications shall be the best of their kind. See Article 4.4 of the General Conditions.
- C. Similar products shall be by the same manufacturer unless otherwise specified.
- D. Provide identical products when products are required in quantity.
- E. Related Sections:
 - 1. Section 01 33 00 – Submittal Procedures

1.2 APPROVAL OF MATERIALS

- A. The Contractor shall furnish without additional cost to the District such quantities of construction materials as may be required by the Engineer for test purposes. The Contractor shall place at the Engineer's disposal all available facilities for and cooperate with the Engineer in the sampling and testing of all materials and workmanship. The Contractor shall prepay all shipping charges on samples. No samples are to be submitted with the bids unless otherwise specified.
- B. Each sample submitted shall be labeled. A letter, in duplicate, submitting each shipment of samples shall be mailed to the Engineer by the Contractor. Both the label on the sample and the letter of transmittal shall indicate the material represented, its place of origin, the names of the producer and the Contractor, the Specification number and title, and a reference to the applicable drawings and specification paragraphs.
- C. Materials or equipment of which samples are required shall not be used on the work until approval has been given by the Engineer in writing. Approval of any sample shall be only for the characteristics or for the uses named in such approval and no other. No approval of a sample shall be taken in itself to change or modify any contract requirement.

- D. Failure of any material to pass the specified tests will be sufficient cause for refusal to consider under this contract any further sample of the same brand or make of that material.

1.3 HANDLING

- A. Deliver manufactured products in the manufacturers' original unbroken containers or packaging, with identifying labels intact and legible.
- B. Immediately on delivery, assure and document product compliance with requirements of Contract Documents and reviewed submittals, and verify that products are properly protected and undamaged.
- C. Handle products and packages in a manner to avoid soiling or damaging.
- D. Promptly remove damaged or defective products from the site and replace at no cost to the District.

1.4 INSPECTION

- A. One copy of each of the Contractor's purchase orders for materials forming a portion of the work shall be furnished to the Engineer, if requested. Each such purchase order shall contain a statement that the materials included in the order are subject to inspection by the Engineer. Materials purchased locally will be inspected at the point of manufacture or supply, and materials supplied from points outside the San Francisco Bay Area will be inspected upon arrival at the job, except when other inspection requirements are provided for specific materials in other sections of this Specification.

1.5 STORAGE

- A. Store manufactured products in accordance with the manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weathertight enclosures.
 - 2. Maintain temperature and humidity within the ranges specified by the manufacturers.
- B. Exterior Storage
 - 1. Store fabricated products above the ground, on blocking or skids, to prevent soiling and staining.
 - 2. Cover products subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
 - 3. Store loose granular material in a well-drained area on solid surfaces to prevent mixing with foreign matter.

- C. Arrange storage to facilitate inspection.
- D. Periodically inspect stored products to ensure that specified conditions are maintained, and the products are free from damage or deterioration.
- E. Protection after Installation
 - 1. Provide coverings necessary to protect installed products from damage due to traffic or construction operations. Remove coverings when no longer needed.
 - 2. Maintain temperature and humidity conditions for interior equipment and finish products in accordance with the manufacturers' instructions.
- F. Equipment and materials shall not show any pitting, rust, decay, or other deleterious effects of storage when installed in the Work.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1 - GENERAL

1.1 GENERAL

- A. Mobilization shall include the obtaining of all bonds, insurance, permits, and licenses; moving onto the site of all plant and equipment; furnishing and erecting plants, temporary buildings, and other construction facilities; all as required for the proper performance and completion of the work. Mobilization shall include but not be limited to the following principal items:
1. Moving all of the Contractor's plant and equipment on to the site.
 2. Installing temporary construction power, wiring, and lighting facilities.
 3. Establishing fire protection system.
 4. Securing construction water supply.
 5. Providing all on-site Contractor communication facilities, including telephones, and radio pagers and any radio communications facilities required for the Contractor to coordinate its forces.
 6. Providing on-site sanitary facilities and potable water facilities.
 7. Arranging for and erection of Contractor's work and storage yard, including site security.
 8. Posting all EPA and OSHA required notices and establishment of safety programs.
 9. Post all required labor and EEOE notices.
 10. Have the Contractor's superintendent at the job site full time.
 11. Submittal and District acceptance of the Construction Schedule.
 12. Obtain required encroachment permits from the various cities to properly perform the work as shown on the plan. Failure to obtain such permits, resulting in loss of production shall be the sole responsibility of the Contractor, and no additional compensation is allowed
 13. Establishing site security, lighting, fencing (for staging area), and signing.
 14. Obtaining all bonds, insurance, permits and licenses.

15. Providing an organization chart of the project and for the Contractor's firm. The project chart shall include the name, title and responsibilities of each position which is involved in the work.
16. Providing the Engineering Field Office as specified in Section 01 50 00 – Temporary Facilities and Controls [Optional].
17. Other mobilization items approved by the Engineer required to support the complete work (i.e. Health and Safety Plans).
18. Provide and purchase a minimum of five (5) Bluebeam Revu (Standard) licenses/seats for the Contractor's use, including any training required for software operation, in accordance with Section 01 78 39.

1.2 UNIT PRICES

A. Mobilization

1. Measurement Method: By lump sum
2. Includes full compensation for performing the scope of work as specified in the "Mobilization" Technical Specifications section.
3. Partial payment for the Bid Item "Mobilization" will be made as follows:
 - a. When 5 percent (5%) of the original contract amount is earned, 50 percent (50%) of the amount bid for mobilization, or 5 percent (5%) of the original contract amount, whichever is lesser, may be paid.
 - b. When 10 percent (10%) of the original contract amount is earned, 75 percent (75%) of the amount bid for mobilization, or 7.5 percent (7.5%) of the original contract amount, whichever is lesser, may be paid.
 - c. When 20 percent (20%) of the original contract amount is earned, 95 percent of the amount bid for mobilization, or 9.5 percent (9.5%) of the original contract amount, whichever is lesser, may be paid.
 - d. When 50 percent (50%) of the original contract amount is earned, 100 percent (100%) of the amount bid for mobilization, or 10 percent (10%) of the original contract amount, whichever is lesser, may be paid.
 - e. Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent (10%) of the original contract amount will be paid.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 74 05

CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Section includes: Perform the work necessary for cleaning during construction and final cleaning on completion of the work.
- B. Cleaning for specific products or work is specified in the individual specification sections.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 GENERAL

- A. At all times maintain areas covered by the Contract and public properties free from accumulations of waste, debris, and rubbish caused by construction operations.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. Do not burn or bury rubbish and waste materials on project site. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains. Do not dispose of wastes into streams or waterways.
- C. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- D. Use cleaning materials only on surfaces recommended by cleaning material manufacturers.

3.2 CLEANING DURING CONSTRUCTION

- A. During execution of work, clean site and public properties and legally dispose of waste materials, debris, and rubbish to assure that buildings, grounds, and public properties are maintained free from accumulations of waste materials and rubbish. All soil and any other material tracked onto the streets by the Contractor shall be cleaned immediately. The Contractor shall comply with all rules and regulations as applicable for its cleaning method.
- B. Contractor shall sweep at the Engineer's direction in particular after the milling asphalt operations in order for the Engineer to remark base repairs and for the Contractor to determine the crack sealing areas,

- C. Dispose of all refuse off District property as often as necessary so that at no time shall there be any unsightly or unsafe accumulation of rubbish.
 - 1. Pine needles, leaves, sticks, and other vegetative debris on the ground shall be removed if they are in the way of construction, present a safety hazard, or present a fire hazard. Otherwise they shall be left in place during construction and final cleaning.
- D. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- E. Provide approved containers for collection and disposal of waste materials, debris, and rubbish.
- F. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed and semi-exposed surfaces.
- G. Repair, patch, and touch up marred surfaces to specified finish to match adjacent surfaces.
- H. Broom clean paved surfaces; rake clean other surfaces of grounds.
- I. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- J. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on new improvements.
- K. Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.

3.3 RESTORATION

- A. At such time or times as any temporary construction facilities and utilities are no longer required for the work, the Contractor shall notify the Engineer of its intent and schedule for removal of the temporary facilities and utilities and obtain the Engineer's approval before removing the same. As approved, the Contractor shall remove the temporary facilities and utilities from the site as its property.
- B. In unfinished areas, such as planted medians, the condition of the site shall be left in a condition that will restore original drainage, evenly graded, seeded or planted as necessary, and left with an appearance equal to, or better than original.
- C. Site and facilities shall be returned to their original "as-found" condition or as otherwise specified, at the completion of the project.
- D. A final inspection and acceptance by the agency having jurisdiction will be required prior to acceptance by the Engineer.

3.4 FINAL CLEANING

- A. At the completion of work on all portions of the contract and immediately prior to final inspection, cleaning of the entire project will be accomplished according to the following provisions:
 - 1. Thoroughly clean, sweep, wash, and polish all work and equipment, including finishes. The cleaning shall leave the structures and site in a complete and finished condition to the satisfaction of the Engineer.
 - 2. Should the Contractor not remove rubbish or debris as specified above, the District reserves the right to have the cleaning done at the expense of the Contractor.
- B. Employ professional cleaners for final cleaning.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces.
- D. Repair, patch, and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Remove from District property all temporary structures and all material, equipment, and appurtenances not required as a part of, or appurtenant to, the completed work.
- G. Leave watercourses, storm drains, inlets, and ditches open and clear.
- H. All track marks left on existing infrastructures, including but limited to adjacent concrete surfaces, pavement striping and markers, and all road leading up to the facilities shall be restored at no additional cost to the District.
- I. Asphalt pancakes shall be removed as well.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION OF PROJECT CLOSEOUT

- A. Project Closeout is hereby defined to include general requirements near the end of the contract time, in preparation for final acceptance, final payment, normal completion of contract, occupancy by the District and similar actions evidencing completion of the work. Individual specification sections may contain additional requirements.
- B. Related Sections:
 - 1. Section 01 29 00 – Payment Procedures
 - 2. Section 01 35 44 – Environmental Requirements
 - 3. Section 01 35 45 – Biological, Cultural & Paleontological Resource Requirements
 - 4. Section 01 74 05 – Cleaning
 - 5. Section 01 78 39 – As-Built Drawings

1.2 SUBMITTALS

- A. Project Closeout items: Required prior to release of final payment.
 - 1. As-Built and Record Drawings: As required in Section 01 33 00 – Submittal Procedures and Section 01 78 39 – As-Built Drawings.
 - 2. Equipment and Parts Close-out List: A summary list of materials and parts required by the individual specification sections.
 - 3. Special Bonds, Special Warranties, and Service Agreements: As required by individual specification sections. Provide written evidence that these bonds, warranties, and agreements have been satisfactorily performed.
 - 4. Releases of Claims: As required in Section 01 29 00 – Payment Procedures.
 - 5. Releases from Agreements: As required by individual specification sections.
 - 6. Cleaning: As required in Section 01 74 05 – Cleaning.
 - 7. Field Records: As required by individual specification sections.

8. Inspections and certifications from outside agencies: As required by individual specification sections.

1.3 DESCRIPTION OF OPERATIONAL COMPLETION

- A. The work will be considered operationally complete when all technical and administrative submittals, testing, training and startup, as applicable, are completed satisfactorily in accordance with the product's Technical Specification Section requirements and when all roadways are open and accessible to both the public and EBMUD employees.
- B. Operational completion should be attained within 214 Calendar Days from NTP (per the project duration requirements).
- C. After Operational Completion is reached, the Contractor will have 30 Calendar Days to complete all Punch List work.
- D. A deduction for liquidated damages of \$714.28 per Calendar Day will be assessed for not meeting District-specified Operational Completion.
 1. Liquidated damages will start accruing from Calendar Day 215.
 2. Liquidated damages will stop accruing on the day that the Contractor achieves Operational Completion as defined herein.

1.4 CERTIFICATION OF OPERATIONAL COMPLETION

- A. When the Contractor considers that the Work, or a portion or phase thereof which the District agrees to accept separately, is operationally complete, the Contractor shall certify in writing that the work is operationally complete and shall prepare and submit to the Engineer a comprehensive list of items to be completed or corrected prior to contract completion (punchlist). The Engineer may add additional work items to the punchlist.
- B. Failure to include an item on the punchlist does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the Contractor's punchlist, the Engineer will make an inspection to determine whether the Work or designated portion thereof is operationally complete.
- C. If the Engineer's inspection discloses any item, whether or not included on the Contractor's list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, upon notification by the Engineer and before an issuance of the Certificate of Operational Completion is provided, complete or correct such item. The Contractor shall then submit a request for another inspection by the Engineer.
- D. When the Work or designated portion thereof is accepted by the Engineer to be operationally complete, the Engineer will prepare a Certificate of Operational

Completion. The date of Operational Completion shall be the date of the Engineer's inspection and acceptance.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. Upon completion of work or a part thereof and immediately prior to Contractor's notice of completion, clean the facilities and areas of work or parts thereof, as applicable to this project, per Section 01 74 05.

3.2 RESTORATION OF DAMAGED WORK

- A. Restore or replace damaged materials and finishes caused by movement of equipment or other operations as specified or directed by the Engineer, at no additional cost to the District.
- B. Restoration shall be equal to the original Work, and finishes shall match the appearance of existing adjacent Work.

3.3 REMEDIAL WORK

- A. Replace Work due to faulty workmanship or materials at no additional cost to the District.
- B. Coordinate Work with the District and perform at such time and manner to cause minimal interruption and inconvenience to the District's operations.

3.4 WARRANTIES

- A. Article 10 of the GSA Conditions cover the Contractor's responsibility to remedy defects due to faulty workmanship and materials that appear within one year, unless noted otherwise, from the date of final acceptance.
- B. Special warranties are required by various sections of the specifications. Assemble written warranties, label and submit to the Engineer.
 - 1. Equipment warranties shall be written in the manufacturer's standard form and shall be countersigned by the subcontractor or supplier and the Contractor.
 - 2. All other warranties shall be written on the subcontractor's or supplier's letterhead and shall be countersigned by the Contractor.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

D. Additional Requirements

1. **Related Damages and Losses:** When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.
2. **Reinstatement of Warranty:** When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
3. **District's Recourse:** Written warranties made to the District are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the District can enforce such other duties, obligations, rights, or remedies.
 - a. **Rejection of Warranties:** The District reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
4. The District reserves the right to refuse to accept work for the Project where a special warranty, certification, or similar commitment is required on such work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.

E. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-inch by 11-inch paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name, of the product, and the name, address and telephone number of the installer.
2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the Project title or name, and the name of the Contractor.
3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

3.5 FINAL INSPECTION

- A. Prior to requesting Engineer's final inspection for certification of final acceptance and final payment, as described in Section 01 29 00 Payment Procedures, complete the following and list known exceptions (if any):
 - 1. Submit copy of Engineer's final punchlist of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Engineer.
 - 2. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 3. Submit specific warranties, maintenance agreements and final certifications.
- B. Contractor shall provide a "Notice of Completion." This notice shall certify in writing that the work has been completed in accordance with the Contract Documents, and request Engineer's final inspection.
- C. Within seven (7) days after receipt of the Contractor's notice that the work has been completed, including punchlist items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstance, the Engineer will reinspect the work. Upon completion of reinspection, Engineer will either prepare a certificate of final acceptance or advise the Contractor of work not complete or obligations not fulfilled as required for final acceptance. If necessary, inspection procedure will be repeated.

3.6 RELEASES FROM AGREEMENTS

- A. Furnish District written releases from property owners or public agencies where agreements or special easements have been made, or where Contractor's operations have not been kept within the District's construction right-of-way.
- B. In the event Contractor is unable to secure written releases, inform the Engineer of the reasons:
 - 1. The Engineer will examine the site and will direct the Contractor to complete work that may be necessary to satisfy terms of the agreement.
 - 2. Should Contractor refuse to perform this work, the Engineer reserves the right to have it done by separate contract and deduct the cost of same from the contract price, or require the Contractor to furnish a satisfactory bond in a sum to cover legal claims for damages.
 - 3. When the Engineer is satisfied that work has been completed in agreement with the Contract Documents and terms of agreements, the right is reserved to waive the requirement for written release if: (1) Contractor's failure to obtain such statement is due to the grantor's refusal to sign, and this refusal is not based upon

any legitimate claims that Contractor has failed to fulfill the terms of the agreement, or (2) Contractor is unable to contact or has had undue hardship in contacting the grantor.

END OF SECTION

SECTION 01 78 39

AS-BUILT DRAWINGS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. As-Built Drawings also known as “project record documents”, or “record drawings” shall show the actual as--constructed conditions of installed or modified systems, equipment and material. The purpose of as--built documents is to provide accurate information for the future modification, expansion, operation, and maintenance of the plant.
- B. The as-built drawings are especially important for recording field conditions of embedded or concealed material and equipment. These embedded or concealed items shall include, but are not limited to, buried structures, , backfill material, piping, cables and raceways.
- C. The Contractor shall maintain up-to-date changes to the record documents continuously as the Work progresses. Annotate the documents to reflect all changes made or encountered during construction. The Contract Documents will be provided in Portable Document Format (PDF), and all annotations and notes shall be made directly to the PDF documents using Bluebeam per this specification. The Contractor shall work using a live cloud-based Bluebeam hosted session that can be accessed simultaneously by the Contractor, subcontractors, and the District. This session shall be hosted for the duration of the project, and shall replace the traditional hard-copy drawings used for as-built recording.
- D. Supplementary documents generated during the course of construction, either by the Engineer or Contractor, shall also be in PDF format. The Contractor shall coordinate with the Engineer regarding file management, naming conventions, and coordination of attachments. The Contractor shall designate a single person (plus a backup) to be responsible for record document management who shall be the liaison to the Engineer regarding record drawings and file management.
- E. As-built preparation activities shall clearly be shown as part of the Critical Path Method construction schedule.
- F. Additional as-built document requirements may be specified elsewhere which shall be met in addition to the requirements of this section.
- G. In addition to the basic training identified in Subparagraph 2.3A.5, the Engineer will arrange a 4-hour Bluebeam training session specific to District standards, color and naming conventions, timing, and approval process. Attendees shall include the Contractor’s project manager, project trade superintendents, and designated as-built coordinator, at a minimum. All parties responsible for generation and maintenance of

the Contractor's as-built drawings shall attend the training. The Bluebeam training and associated costs shall be part of the mobilization bid item.

H. Related sections:

1. Section 01 29 00 – Payment Procedures
2. Section 01 33 00 – Submittal Procedures
3. Section 01 71 13 - Mobilization

1.2 VALUES

- A. Project as-built documents have substantial value to the District for Operations and Maintenance of the facilities.
- B. No additional compensation will be granted for preparation of as-built records for added drawings. See Article 3.4 – Payment.

PART 2 - PRODUCTS

2.1 DISTRICT-SUPPLIED DRAWINGS AND CHANGES TO THE CONTRACT DOCUMENTS

- A. The following District-supplied drawings, contract documents, and PDF files shall be maintained by the Contractor in accordance with this section, for review by the Engineer throughout the construction period, and accepted by the Engineer as a record document after the Contractor has completed construction of the project:
 1. Contract drawings and specifications.
 2. Supplemental drawings issued by the District to facilitate completion of the Work.
 3. Drawings, agreements, tabulations, and schedules supplied by Engineer via the Requests for Information (RFI), Design Change (DC), and Change Order (CO) processes.

2.2 CONTRACTOR-SUPPLIED DRAWINGS AND OTHER DOCUMENTS

- A. In accordance with Section 01 33 00 – Submittal Procedures and this section, the Contractor shall supply and maintain the following drawings and other contract documents in both CAD (drawings only) and PDF format for review and acceptance by the Engineer:
 1. Documents, drawings, and schedules specified for inclusion in Operation and Maintenance (O&M) manuals.

2.3 ELECTRONIC AS-BUILT DRAWINGS

A. Marked-up as-built drawings:

1. The Contractor shall maintain project as-built drawings to thoroughly capture the as-constructed and as-left conditions of installed or modified systems, equipment and material.
2. All contractors and sub-contractors shall own and/or subscribe to Bluebeam Revu for use on this project. The number of users is to be determined based on project needs. Bluebeam Revu shall be used to update and mark up construction documentation including but not limited to the bid set, addenda, as-built drawings, QA/QC documentation, and Punch Lists.
3. The Contractor shall purchase the following:
 - a. A minimum of five (5) Bluebeam Revu (Standard) licenses/seats for the Contractor's use.
 - b. See <https://www.bluebeam.com> for information regarding license/seats, pricing and training for Bluebeam Revu software.
4. As-Built Coordinator: The Contractor shall designate in writing, an As-Built Coordinator for the duration of the project who will be responsible and accountable for completing as-built drawings on an ongoing basis in accordance with the requirements of this section. The designated person shall be dedicated to as-built completion and may not be the project manager, scheduler, superintendent, or any person already filling another role on the project except as approved by the Engineer. As-Built Coordinator shall have demonstratable experience coordinating as-built preparation on a similar size or complexity. If, in the opinion of the Engineer, as-builts are of poor quality, incomplete, inaccurate, delinquent, or otherwise non-compliant with the terms of this section, the Engineer may at its sole discretion direct the Contractor to provide supplemental or replacement personnel to bring the as-builts into compliance.
5. The Contractor and its subcontractors shall be certified through training by the software vendor on use of the approved digital documentation software/app prior to project construction. The Contractor shall arrange and pay for a minimum of 2 hours of training for each person granted a license/set including District staff.
6. The Contractor shall provide at least one computer terminal on the project site which can be used by trade workers, superintendents, or other contractor staff to mark-up the electronic as-builts. The computer terminal should be located near a printed plan set and a plan set table. The contractor shall provide at least 3 portable tablets or 2 in 1 tablet/computers with a stylus pen to allow for portable mark-ups of the as-built set as construction occurs. These will be used to document field changes and confirm as-built mark-ups in real time with District construction support staff.

7. Referring to an RFI, submittal, or change order is not an acceptable markup. Drawings shall be marked as if they will be sent to a drafter (e.g. if a pipe is moved to a different location from the contract drawings due to an RFI, redline the pipe in the new location, do not just refer to the RFI).
8. Information to be recorded shall include but not be limited to the following:
 - a. Actual detail used where more than one option is allowed by the contract documents
 - b.
 - c. Actual details of all material lists and schedules including quantities, descriptions, sizes, model numbers, and materials of construction
 - d. Field dimensions where they differ from those on the drawings
 - e. Other details showing as-built conditions that are shown differently or only in general on the drawings
 - f. Any deviations between the project drawings and the “as found” conditions encountered during the Contractor’s work including location of existing buried features uncovered during construction
 - g. Only symbols and abbreviations shown on District Standard Drawings included in the contract reference drawings shall be used. Where no District symbol or abbreviation is available, industry association standards such as ISA, IEEE, ANSI etc. shall be applicable.
9. The Contractor shall record dimensions and changes during construction and shall submit to the Engineer to review the accuracy and completeness of the as-built data on a monthly basis.
 - a. Red mark-up color shall be used to indicate additions and/or modifications to the drawings.
 - b. Green mark-up color shall be used to indicate deletions to the drawings.
 - c. Yellow mark-up color shall be used to indicate portions of the drawing that have been field verified to confirm portions installed as designed and to show construction progress.
 - d. Blue mark-up color shall be used to indicate instructions or comments to drafting personnel during finalization of the drawings.
 - e. All marks on drawings shall be dark and legible. Text shall be legibly used using the text box icon.

- f. Only symbols and abbreviations shown on District Standard Drawings included in the contract reference drawings shall be used. Where no District symbol or abbreviation is available, industry association standards such as ISA, IEEE, ANSI, etc. shall be applicable.

B. Record as-built shop and vendor drawings shall be created as described below:

1. Submit record as-built shop and vendor drawings to document any and all design work developed for this project by the Contractor, subcontractors, equipment manufacturers, vendors, or suppliers.
2. Create record as-built shop drawings utilizing MicroStation or AutoCAD software. Manually drafted shop drawings in pencil or ink are not acceptable.
 - a. Provide an electronic set of record as-built shop drawings.
 - b. Record as-built shop drawings shall also be submitted to the Engineer:
 - 1) MicroStation or AutoCAD format and
 - 2) Searchable PDF (compatible with Adobe Acrobat version XI or later).
3. Text size used on drawings shall have a minimum height of 1/10-inch, if computer generated or typed.
4. Drawings shall contain a 2-1/2" wide by 3/4" high blank box for the Engineer's use, which shall be placed directly against the margin at the bottom right corner of the drawing.
5. Drawings shall also contain the manufacturer's title block at the bottom right side in a boxed area with a maximum size of 8" wide by 4" high. The manufacturer's title block shall contain the manufacturer's name, address, and telephone number, the name of the project as it appears on the cover of the project specifications, the District specification number, a descriptive title for the drawing, the date the drawing was accepted, the total number of drawings included in the set of drawings, and the manufacturer's drawing number.

C. As-Built Log

1. The Contractor shall use Bluebeam Revu to maintain a shared log of as-built for each drawing on the project. The Engineer and the Contractor's designated As-built Coordinator shall review the electronic version of the As-builts drawing files in Bluebeam Revu at the end of each month in a one-hour review meeting and submit a complete PDF copy of the as-builts prior to payment each month. During this review meeting the contractor shall bring a copy of each Change Order Request, Contractor Request for Change, Request For Information, Design Clarification, and major submittals.

D. Schedule for submitting Record As-Built Drawings.

1. Contractor shall submit current as-built drawing files, PDF full-size plots of as-built drawings, and as-built log to the Engineer to receive assigned cost for monthly preparation of as-builts per Section 01 29 00 – Payment Procedures.
2. Final electronic files and one (1) complete plotted full-size hardcopy, and one 11"x17" print shall be submitted prior to Ready for Service. This submittal shall include all record as-built contract drawings and record as-built shop drawings.
3. Marked-up contract drawings or record as-built contract drawings refers to those drawings originally included in the bid documents, as modified by the Contractor (via hand-markup and electronic update, respectively) to reflect as-built conditions. The Contractor may utilize an interim hand-marked-up copy of the drawings but shall continuously maintain an electronic cloud-based copy on Bluebeam.

PART 3 - EXECUTION

3.1 GENERAL

- A. Contractor immediately upon setting up the job site field office shall coordinate with the District to provide the training to the Contractor's staff assigned to be responsible for record document management.
- B. Contractor shall begin recording as-built information immediately upon commencement of the Work.
- C. Although some drawings are considered diagrammatic with respect to placement of conduit, piping, etc., Contractor shall closely follow the routing shown. If there are required deviations, Contractor shall record the as-built conditions as work progresses and provide all changes to the as-built documents with dimensions as outlined below:
 1. Buried or embedded items within buildings and other structures including but not limited to, piping, electrical raceways, cables, duct banks, or other related appurtenances, in or under concrete, asphalt or soil, which are not placed as shown on the drawings, shall show as-built dimensions horizontally and vertically from a wall, formed footing, finish floor, ceiling or finish top of curb. Items placed in the center of concrete slabs do not need to have vertical dimensions.
 2. All buried or embedded items as described above which are outside of buildings shall be tied to the plant survey grid system both horizontally and vertically with proper stationing, invert elevations and/or top of buried item. Survey data shall show all transition points (changes in direction, change in elevation, etc.). All items which are installed by horizontal or vertical curves shall show as-built curve data.

- D. Contractor shall use setting in the Bluebeam toolbox to identify all changes as from “Contractor” or “Subcontractor” and shall be approved by the Contractors as-built coordinator.

3.2 MAINTAINING AS-BUILT DOCUMENTS

- A. District-issued Field Instructions, Contract Change Orders (CCOs), along with Clarifications submitted as part of RFIs or other documents between Contractor and the Engineer shall be considered part of the as-built process. The Contractor shall annotate the record documents as follows:
 - 1. Simple modifications: Mark-ups of a stand-alone nature that can be accommodated in the available blank spaces on a drawing without obscuring other information may be annotated directly on the PDF.
 - 2. Complex modifications and where drawings were used to communicate changes: For changes affecting large portions of drawings or that cannot be accommodated in the available blank spaces, in lieu of fully annotating the drawing, the Contractor may refer to the document directly on the record document and attach a PDF copy of the change to the record documents in a manner approved by the Engineer. All changed work must be identified with clouds around the areas which are modified by the change and referenced to the attached document(s).
- B. As-built documents shall be kept current using the markup procedures described herein. If in the opinion of the Engineer the as-builts are of poor quality, incomplete, inaccurate, delinquent, or otherwise non-compliant with the terms of this section, subsequent monthly progress payments will be adjusted by the District as described in Article 3.4 until the as-built documents are brought into compliance.

3.3 AS-BUILT UPDATE PROCESS

- A. General:
 - 1. As previously described herein, all record documents are to be maintained in a shared Bluebeam session hosted by the Contractor. When record documents are finalized with no additional changes pending, as-built documents shall be submitted electronically in accordance with the Section 01 33 00 – Submittal Procedures.
 - 2. When significant changes to the drawings are required, the Engineer may elect to update the project record drawings at the same time as the Contractor updates its as-built drawings. Following the preliminary review process, the as-built annotations on the Contractor’s drawings will be used to update the District’s electronic files and the Engineer will issue a revised drawing to replace the original contract drawing in the Contractor’s as-built documentation. The Contractor shall record any further changes to the work on the revised drawing in accordance with this section.

3. Contractor shall submit final as-builts to the Engineer within 30 working days of completion of Commissioning for each area or subsystem, or prior to Ready for Service for each area or subsystem, whichever comes first:
 - a. Contractor shall present a list of documents that have been updated during construction for approval and acceptance by the Engineer.
 - b. For record documents requiring updates, Contractor shall compare all as-built documents with the actual field conditions and show the actual field conditions on the as-built documents before submitting them for review.
4. As-built drawings submitted to the Engineer will be returned without review for any of the following reasons:
 - a. Work has not been completed, including work related to Field Instructions, Change Orders, clarifications, or other agreements pending.
 - b. Not all components and equipment have been properly labeled on the drawings. All equipment numbers (device and equipment number labeling codes) shall be shown on all drawings depicting the equipment. Equipment numbers must be coordinated with the plans and drawings and shown on all District-supplied and all Contractor-supplied drawings that depict equipment. The Contractor shall request equipment numbers from the Engineer for all new equipment installed.
 - c. Actual field conditions are not accurately shown on the documents.
 - d. Drawing cross references are incomplete. District-supplied drawings must be cross referenced to Contractor-supplied drawings and Contractor-supplied drawings must be cross referenced back to the District-supplied drawings.

B. As-built groups and systems:

1. Final as-built documents shall be submitted together in the following logical groups or systems:
 - a. All site drawings including survey data.
 - b. All Portland cement concrete and related items.
 - c. All hot-mix asphalt improvements and related items.
 - d. All electrical and instrumentation data related to an area, including Interconnection and Instrument Loop Drawings, together with all associated shop drawings and connection drawings; all related drawings found in the O&M manuals; and Process and Instrumentation diagrams.

C. Preliminary review process:

1. In order to minimize the number of re-submittals, the following procedure shall be used:
 - a. Upon assembly of an as-built submittal, Contractor shall notify the Engineer that the Bluebeam session is ready for review. Prior to review, a list of as-built documents with all drawing numbers (which can be performed in the Bluebeam session), descriptions and originators listed shall be submitted to the Engineer for review. The Engineer will review the list of as-built documents and meet with Contractor to review the submittal for completeness and accuracy. Contractor may be required to add or subtract documents as directed by the Engineer to ensure a complete and reviewable package.
 - b. Some drawings may show work in several areas or systems. The list of as-built documents shall clearly identify drawings of this type. The area on this type of drawing which is to be reviewed as part of this submittal shall be clearly outlined by Contractor.
 - c. Documents that represent more than one area of work must be submitted for each area of work they represent and must receive approval for each area of work.
 - d. After the preliminary review, Contractor shall submit the as-built package with the necessary corrections for as-built review.

D. As-built re-submittals:

1. Returned as-built submittal documents shall be revised per the Engineer's comments. Re-submittal shall be done by using the same submittal number with a numeric suffix after the submittal number. Reference to the previous submittal number and item number is required when resubmitting. Re-submittals shall address all comments from the Engineer. Partial re-submittals will not be reviewed and will be returned in their entirety without review. The Contractor may be back charged for the administrative cost of the District's review of each re-submittal in excess of the first re-submittal.

3.4 PAYMENT

- A. Payment for preparation of as-built drawings shall be included as part of the other bid items and no additional compensation shall be allowed.

END OF SECTION

SECTION 02 41 13

SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Work includes: Perform selective demolition including removal and disposal of asphalt, concrete, thermoplastic striping and markings, other construction materials, appurtenances, and other work as shown on the drawings and as specified herein.
- B. Related sections:
 - 1. Section 01 35 24 – Project Safety Requirements
 - 2. Section 01 35 44 – Environmental Requirements

1.2 JOB CONDITIONS

- A. Asbestos-related work and hazardous substance removal work shall be performed by Contractor who is properly certified by the Contractors State License Board and registered with the Division of Occupational Safety and Health.
- B. Promptly repair damages caused to adjacent facilities by demolition operations at no cost to the District.
- C. Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.
- D. Provide interior and exterior shoring, bracing, and support to prevent movement, settlement or collapse of structures and adjacent facilities to remain.
- E. Blasting is not permitted.

1.3 SUBMITTALS

- A. Submit Construction and Demolition Waste Disposal Plan in accordance with Section 01 35 44.
- B. Submit demolition plan showing schedule of phased demolition, as part of and consistent with the progress schedule, hazard control methods, plans to stabilize structure while not in the active stages of demolition, and method of demolition proposed at each site.
- C. Submit plan on methods and materials to be used to protect existing facilities and equipment, as applicable, during demolition operations for the Engineer's approval.

- D. Shop drawings: Proposed shoring plans stamped by a Civil Engineer registered in the State of California.

1.4 UNIT PRICES

- A. Remove Thermoplastic Markings and Striping, Lane Markers, and Delineators
 - 1. Measurement Method: By lump sum
 - 2. Payment for “Remove Thermoplastic Markings and Striping, Lane Markers, and Delineators” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to submitting the Lead Compliance Plan and to remove and dispose of pavement markers, stripes and markings, as specified in the Caltrans Standard Specifications, and as specified in this section and in Section 01 35 44 – Environmental Requirements.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 GENERAL

- A. Demolition operations shall be conducted in accordance with Article 31 of the Construction Safety Orders, Title 8, California Code of Regulations.
- B. Conduct demolition operations and removal of debris to ensure minimum interference with roads, walks, and other adjacent occupied or in-use facilities to remain as shown on the drawings.
- C. Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
- D. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt dispersion. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations.
- E. Remove, handle, and dispose of off-site, in a safe, appropriate, and lawful manner, and in accordance with Site Safety and Health Plan, all materials and equipment that are required to be removed under this contract.

3.2 PREPARATION

- A. Utilities:
 - 1. Notify District or appropriate utilities to turn off affected services before starting demolition.
 - 2. Remove utility lines exposed by demolition excavation.

3.3 DEMOLITION

- A. Drawings define minimum portions of structures and facilities, to be removed. Unless otherwise shown, rough cuts or breaks may be made exceeding limits of demolition shown.
- B. Remove material from existing improvements as required to permit connection of new work. Avoid both damage to the portion to remain, and interference with the use and operation of existing structures and utilities.
 - 1. Pavement to be removed shall be saw cut to a uniform line prior to removal.
 - 2. Shut off, cap, or otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
 - 3. Completely remove all materials designated for removal as shown on the drawings.
- C. Cut off concealed or embedded piping, conduit, boxes, reinforcing steel, anchor bolts, or other materials a minimum of 3/4" below the final finished surface.
- D. Patch existing surfaces to create a neat, smooth appearance. Use non-shrink grout to patch concrete or masonry surfaces. Use like materials for other surfaces.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove, handle, and dispose of off-site, in a safe, appropriate and lawful manner, and in accordance with Section 01 35 44, all materials that are required to be removed under this contract.
- B. Underground conduits, pipes, and drainage facilities that are to be demolished shall be removed flush with any excavation and a 0.5 foot thick plug of concrete placed securely in the pipe end to provide closure.
- C. Burning of removed materials is not permitted on the site.

END OF SECTION

SECTION 10 14 53

SIGNAGE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Permanent signage, posts, footing and excavation as shown on the Drawings. This section does not include temporary construction signage installation and removal.

1.2 FIELD CONDITIONS

- A. Protect adjacent improvements.
- B. Coordinate location of signs with pavement marking as applicable or as directed by the Engineer.

1.3 REFERENCES

- A. California Department of Transportation (Caltrans):
 - 1. Current Caltrans Standard Specifications
- B. California Manual on Uniform Traffic Control Devices (CA MUTCD)
 - 1. 2014 Edition, Revision 9

1.4 SUBMITTALS

- A. Submit shop drawings to the Engineer for approval prior to ordering signs.

1.5 UNIT PRICES

- A. R7-8b Sign, R99C Sign, and Post for R7-8b and R99C
 - 1. Measurement Method: Per actual count of each sign and post installed.
 - 2. Payment for “R7-8b Sign”, “R99C Sign”, and “Post for R7-8b and R99C” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to removing, furnishing, installing, or relocating traffic signs (traffic signs shall conform to the latest edition of the CA MUTCD supplement) and posts and furnish and install new signposts, complete in place, and as specified in the “Signage” Technical Specification section.

PART 2 - PRODUCTS

2.1 SIGNPOST

- A. Unless otherwise indicated, new signposts shall be 2" I.D. (2-3/8" O.D.) Schedule 40 galvanized iron with one end finished to receive mounting cap and fittings in accordance with Section 56-2 of the Caltrans Standard Specifications.
- B. Concrete for signpost footings shall have a minimum compressive strength of 2,500 psi after 28 days.
- C. Hardware shall be galvanized steel or aluminum clamp on u-brackets, single or double, and conform to Section 82-5.02G of the Caltrans Standard Specifications.

2.2 SIGNS

- A. Sign panels, unless noted otherwise, shall be reflectorized porcelain enamel. The signs shall be according to the CA MUTCD. Signs shall be of the size noted on the Drawings or when not specified, shall be the smallest available size.

PART 3 - EXECUTION

3.1 SIGNS AND SIGNPOSTS

- A. Signs and posts shall be installed in accordance with Section 82-3 of the Caltrans Standard Specifications and per manufacturer.

END OF SECTION

SECTION 31 05 19.19

GEOGRID FOR EARTHWORK

PART 1 - GENERAL

1.1 GENERAL

- A. This section includes work for placing geogrid at locations specified on the plans that exhibited subgrade failure and slope movement in the field. Contractor shall refer to the project plans for the subgrade stabilization repair detail which shows repair section and geogrid layers to be used in the repair. Typically the repair is 18" in depth from the existing surface grade and it includes placement of Class 2 aggregate base, geogrid, asphalt concrete dike, and asphalt concrete paving.
- B. Related Sections:
 - 1. Section 31 22 00 – Grading
 - 2. Section 31 23 13 – Subgrade Preparation
 - 3. Section 31 23 16 – Excavation

PART 2 - PRODUCTS

- A. Contractor shall furnish Tensar InterAx NX850 geogrid or approved equal.

PART 3 - EXECUTION

- A. Place geogrid longitudinal (parallel to the direction of travel) and overlap geogrid 3-feet with the upslope geogrid placed above the lower slope grid (shingle effect) and connected with heavy gauge U-shaped staples driven into the subgrade every 5-feet along the overlap seam.

END OF SECTION

SECTION 31 11 00
CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Perform clearing and grubbing operations within the limits of the work shown on the drawings to remove objectionable material including trees, tree stumps, brush, and other vegetation and debris.
- B. Related sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 35 44 – Environmental Requirements
- C. Definitions: Grubbing is defined as the removal from below the surface of the natural ground of tree stumps and vegetation, including roots 1-inch in diameter and larger.

1.2 SUBMITTALS

- A. Submit a Waste Management Plan in accordance with Section 01 35 44, including permission from disposal site owner, to the Engineer for acceptance prior to any clearing and grubbing work.

1.3 JOB CONDITIONS

- A. Trees and vegetation beyond the limits of the work shall not be removed or disturbed without the approval of a Certified Arborist.
- B. Burning of trees, trees stumps, brush or other vegetation is not permitted.
- C. Clearing and grubbing shall be performed in advance of excavating operations.

1.4 UNIT PRICES

- A. Clearing, Grubbing and Environmental Protection
 - 1. Refer to Section 01 35 44 for measurement and payment.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 EXTENT OF REMOVAL

- A. Clear and grub within the limits of excavation and grading within the limits indicated on the drawings.
- B. Contractor shall supply a Certified Arborist to evaluate the tree roots and provide recommendations as needed.
- C. Tree limbs or branches which interfere with the work may be removed with consultation of Certified Arborist and approval of the Engineer. Cuts larger than 1-1/2 inches in diameter shall be coated with an approved sealing compound.
- D. Contractor shall obtain Engineer's prior approval before performing any tree removal.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
- B. Do not begin site clearing until receipt of notification to proceed from the Engineer.
- C. Do not begin site clearing until built elements to be salvaged or relocated have been removed.
- D. If hazardous materials are discovered during site clearing operations, stop work and notify the Engineer; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

3.3 CLEARING AND GRUBBING

- A. Do not remove or damage vegetation beyond the limits indicated on plans.
 - 1. Exception: Specific trees and vegetation indicated on plans to be removed.
 - 2. Exception: Selective thinning of undergrowth specified elsewhere.
- B. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
 - 1. At vegetation removal limits.
 - 2. Around trees to remain within vegetation removal limits; locate no closer to tree than at the drip line.
 - 3. Around other vegetation to remain within vegetation removal limits.

- C. Contractor shall trim the tree canopy to 15' from the ground or as recommended by the Certified Arborist with prior approval by the Engineer.
- D. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil with prior approval from Engineer.
- E. Vegetation Removed:
 - 1. Do not burn, bury, or leave on site, except as indicated.
 - 2. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
- F. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to the District.
- G. Remove utilities and utility structures, including but not limited to drain inlets, storm water conveyance pipes, water and sewer pipes or services as indicated on plans.
- H. Remove other site items as indicated in plans for salvage, relocation, or recycling.

3.4 DISPOSAL

- A. All trees, tree stumps, brush, and other vegetation and debris removed shall be disposed of in accordance with accepted disposal plan.
- B. Do not stockpile items removed in conjunction with clearing and grubbing operations. Remove and dispose of all such materials from the site on the same day as the clearing and grubbing operations.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from surrounding areas.

END OF SECTION

SECTION 31 22 00

GRADING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Grading for asphalt concrete paving and placing of aggregate base.
- B. Grading for placing Portland Cement Concrete (PCC) improvements.
- C. Grading for Full-Depth Reclamation surface to grades and lines indicated.

1.2 RELATED SECTIONS

- A. Section 31 23 13 – Subgrade Preparation
- B. Section 32 01 23 – Full Depth Reclamation with Portland Cement
- C. Section 32 11 23 – Aggregate Base Courses
- D. Section 32 12 16 – Asphalt Paving
- E. Section 32 12 16.81 – Asphalt Pavement and Subgrade Stabilization
- F. Section 32 16 00 – Curbs, Gutters, Sidewalks, and Driveways

1.3 REFERENCE STANDARDS AND REPORTS

- A. ASTM D1557-12(2021) - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).

1.4 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.
- B. Compaction Density Test Reports.

1.5 PROJECT CONDITIONS

- A. Protect above- and below-grade utilities that remain.
- B. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs to remain from grading equipment and vehicular traffic.

1.6 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 01.

1.7 SCHEDULING

- A. Schedule work under the provisions of Division 01.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that intended elevations for the work are as indicated.

3.2 PREPARATION

- A. Stake and flag locations of known utilities.
- B. Locate, identify, and protect from damage above- and below-grade utilities to remain.
- C. Protect site features to remain, including but not limited to benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from damage by grading equipment and vehicular traffic.
- D. Protect trees to remain by providing substantial fencing around entire tree at the outer tips of its branches; no grading is to be performed inside this line.

3.3 GRADING AND COMPACTION

- A. Grading shall be done according to the slopes and grades shown on the plans or per the typical cross-section details provided in the plans.
- B. Moisture condition material to the optimum moisture content as obtained by ASTM D1557-12(2021). Compact to 95 percent maximum dry density (MDD).
- C. Yielding or unsuitable subgrade shall be over-excavated to a depth of six (6) inches and replaced with 3/4" max Class 2 aggregate base. Maximum compacted lift thickness of replacement material shall be 6 inches. Prior to replacing the void with aggregate base, the Contractor shall moisture condition and compact the new subgrade to ninety-five percent (95%) of maximum dry density (ASTM D1557) and subsequently install a geogrid (Tensar InterAx NX850, or approved equivalent).
- D. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.4 TOLERANCES

- A. Top Surface of Subgrade: Plus, or minus 1/2 inch from required elevation.

- B. Top Surface of Finish Grade: Plus, or minus 1/2 inch.

3.5 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds in coordination with Arborist and with approval by Engineer; if root damage has occurred, obtain instructions from the Engineer as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.6 ACCEPTANCE AND QUALITY CONTROL

- A. Inspection and testing will be performed as directed below or as included in each section:
 - 1. Each 750 tons, or part thereof, placed in a paving day will be considered as one sublots.
 - 2. In place density shall be between 92.0 percent and 96.0 percent of maximum theoretical unit weight using a nuclear gauge. Gauge compaction shall be performed in accordance with CTM 375.
 - a. The Engineer will collect samples and verify the mix, including the conformance with aggregate quality characteristic at the beginning of the project.
 - b. The Engineer will also test for air void content, Hveem stability and voids in mineral aggregate (VMA) at least once per day.
 - 3. Contractor quality control is optional. However, if the contractor fails to submit quality control result to the Engineer within 72 hours of HMA Placement, the Contractor waives all rights to dispute the Engineer's result.
 - 4. Test the samples and report test results, except for California Test 389 and AASHTO T 283 test results, within 5 business days of sampling. For California Test 389 and AASHTO T 283 test results, report test results within 15 days of sampling. If you proceed before receipt of the test results, the Engineer may consider the HMA placed to be represented by these test results.
 - 5. In the event when nuclear gauge compaction test results are failing, the Contractor can request coring to verify the results. Three cores will be sampled for each subplot and the average of the three cores for each subplot will determine the in-place density. The core locations will be determined using random sampling charts in CTM 375.

- a. Cores may be taken up to 5 calendar days after placement and may be 4 or 6 inches in diameter. The Engineer will provide results within 3 working days of receiving the cores.
 - b. Passing cores shall be paid for by the owner. Failing cores will be paid for by the Contractor. If the core testing procedures both passing and failing cores, the cost will be prorated between the Contractor and the owner.
6. The Engineer may withhold acceptance in the event of any failing test result until the Contractor has addressed the failing material to the Engineer's satisfaction
- B. As directed by the Engineer, the District's Geotechnical Engineer will:
1. Be notified by the project Engineer of requests for field compaction tests either the day before or by 8:30 am on the day when the testing is required. If District's Geotechnical Engineer is not available to assist, the Engineer shall support the District with performance of work, soil conditions encountered and laboratory and field density testing.
 2. Be present at the site intermittently during work to observe performance of work and soil conditions encountered. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
 3. Perform laboratory and field density tests to evaluate compaction achieved. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
 4. Observe methods of compaction and report findings to the Engineer. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
- C. The Contractor shall
1. Cooperate with the District's Geotechnical Engineer in all aspects of the work.
 2. Notify the Engineer and the District's Geotechnical Engineer at least 4 working days prior to required observation or testing.
 3. Be responsible for expense of all retesting of subgrade, aggregate base, or FDR section found to be inadequate at firsts testing, including fees for travel, personnel time, laboratory expenses, office work, supervision, and testing which may be incurred by reason of such retesting. The Engineer will deduct such expenses from monies due the contractor under the Contract.
- D. No earthwork shall be performed without direct knowledge of the District's Geotechnical Engineer unless otherwise directed by the Engineer.

3.7 CLEANING

- A. Surplus material and debris becomes property of the Contractor for off-site disposal in accordance with applicable state and local codes, ordinances, and regulations.

END OF SECTION

SECTION 31 23 13
SUBGRADE PREPARATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Subgrade preparation for surface reconstruction, full-depth base repair, concrete improvements, and shoulder backing.
- B. Subgrade and base stabilization and depth.
- C. Grading, excavation, and fill specified lines and grades.
- D. Backfill finish elevations.
- E. Moisture condition.
- F. Subgrade compaction.
- G. Subgrade Over-Excavation

1.2 RELATED SECTIONS:

- A. Section 02 41 13 – Selective Site Demolition
- B. Section 31 05 19.19 – Geogrid for Earthwork
- C. Section 31 11 00 – Clearing and Grubbing
- D. Section 31 22 00 – Grading
- E. Section 31 23 16 – Excavation
- F. Section 32 01 17 – Flexible Paving Repair
- G. Section 32 11 23 – Aggregate Base Courses
- H. Section 32 12 16 – Asphalt Paving
- I. Section 32 12 16.81 – Asphalt Pavement and Subgrade Stabilization
- J. Section 32 16 00 – Curbs, Gutters, Sidewalks and Driveways

1.3 SUBMITTALS

- A. Contractor shall provide laboratory compaction curve results and compaction testing results to Engineer per Section 31 22 00, Article 3.6.

1.4 UNIT PRICES

A. Roadway Pavement Subgrade Preparation

1. Measurement Method: By the square yard.
 - a. Basis for area measurements shall exclude areas that, when excavated, reveal a compact and level surface of either aggregate base or subgrade that does not require the use of a roller. Assessment and measurements shall be agreed upon prior to paving.
2. Payment for “Roadway Pavement Subgrade Preparation” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to, moisture conditioning and compaction, proof-rolling, excavation, transporting, and fill, and grading of the subgrade, and doing all the work involved to prepare the subgrade for HMA paving, complete in place, and as specified in the “Subgrade Preparation” Technical Specification section.

B. Subgrade Over-Excavation (Revocable Bid Item)

1. Measurement Method: By the cubic yard (volume) as described below.
2. Payment for “Subgrade Over-Excavation (Revocable Bid Item)” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to soils sampling (testing and analysis required for disposal at a licensed disposal facility), excavation, transporting and disposal of unsuitable material, furnishing, transportation and placement of geogrid and aggregate base to replace an equivalent depth of removed unsuitable material, moisture conditioning and compaction and doing all work involved to construct the subgrade over-excavation, complete in place, and as specified in the “Subgrade Preparation” Technical Specification section.
3. Basis for volume calculations shall be the area to be over-excavated and the measured depth. The quantity in cubic yards in the bid schedule is based on 25 percent (25%) of the subgrade preparation area for surface reconstruction with a depth of six (6) inches requiring subgrade over-excavation. The pay quantity will be the actual volume measured in the field and no adjustments to the unit price will be made for pay quantities differing from the quantity stated in the bid schedule. No adjustment of compensation will be made for any increase or decrease in the quantities required, regardless of the reason for the increase or decrease. The provisions in Section 4-1.05 “Changes and Extra Work,” of the Standard Specifications shall not apply to “Subgrade Over-Excavation (Revocable Item).”

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 EQUIPMENT

- A. Subgrade and or base materials below full depth pavement sections, surface reconstruction street sections, or within subgrade stabilization repairs shall be compacted with roller type equipment to achieve a firm and non-yielding pavement surface that is suitable to be paved.
- B. Construction traffic on exposed subgrade shall be limited as excessive wheel loading can cause subgrade to yield/pump. Damage to subgrade from construction traffic wheel loading shall be repaired and stabilized at Contractor's expense.

3.2 EXCAVATION AND REMOVAL

- A. Excavation and removal of various existing items which are in conflict with the work (including concrete ramps, sidewalk, curbs and gutters, asphalt and/or concrete pavement and other obstructions encountered during excavation) shall be considered as included under various applicable sections of these specifications.
- B. Materials including failed street areas, pavement fabric, tree roots, subgrade, or base material which are removed from the worksite to accommodate the installation of new facilities shall become the property of the Contractor and shall be disposed of in accordance with Sections 01 41 13 & 31 11 00.
- C. The subgrade shall be prepared to match the existing grades prior to excavation/removal, unless otherwise indicated. The Contractor shall identify the required lines, levels, and contours and flag locations of known utilities. Grading shall be done to match the existing grades prior to excavation/removal and to tie the new pavement to the existing facilities to remain.

3.3 COMPACTION

- A. Subgrade areas that do not meet the compaction requirements shall be reworked and retested or over-excavated as described below. Prior to placing HMA, subgrade shall be proof rolled to verify compaction of subgrade is minimum 95 percent maximum dry density (M. D. D.). Care should be taken to not over compact/overwork subgrade resulting in yielding or pumping.
- B. The engineer shall be notified immediately if 95 percent M.D.D. compaction cannot be obtained. HMA paving that occurs on streets where the subgrade has not been approved by the Engineer shall be removed at no cost to the District.

3.4 PAVING TIMEFRAME

- A. The maximum time allowed between exposing subgrade after removal of AC surfacing and subgrade and placement of the first HMA lift shall be three (3) days.

3.5 SUBGRADE OVER-EXCAVATION

- A. When encountered during excavation, the Contractor shall remove unsatisfactory or unsuitable material to a depth of six (6) inches and shall fill or backfill the over-excavation with 3/4" max Class 2 aggregate base and geogrid (Tensar InterAx NX850, or approved equivalent).
- B. Prior to replacing the void with aggregate base, the Contractor shall moisture condition and compact the new sub-grade to ninety-five percent (95%) of maximum dry density (ASTM D1557) and subsequently install a geogrid (i.e. Tensar InterAx NX850, or approved equivalent). The aggregate base shall then be moisture conditioned, placed in lifts not to exceed six (6) inches when compacted to ninety-five percent (95%) of maximum dry density.
- C. As an alternative to replacing the unsuitable subgrade material with a geogrid and aggregate base, the Contractor may use HMA at the discretion of the Engineer. For the purposes of bidding, scheduling, traffic control, and notification to public, the Contractor should assume that unsuitable subgrade and/or base materials shall be over-excavated and replaced with geogrid and aggregate base.
- D. Surplus excavated soils shall be disposed of at a licensed disposal facility. The contractor shall follow the disposal requirements of the Waste Management Plan described in Section 01 35 44 – Environmental Requirements.

END OF SECTION

SECTION 31 23 16

EXCAVATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Excavate for asphalt pavement section reconstruction, over-excavation where unsuitable material is encountered, and for concrete improvements, to the required lines and grades as indicated on the drawings.

B. Related sections:

1. Section 01 18 05 – Project Utility Sources and Site Conditions
2. Section 01 33 00 – Submittal Procedures
3. Section 01 35 24 – Project Safety Requirements
4. Section 01 35 44 – Environmental Requirements
5. Section 31 11 00 – Clearing and Grubbing

1.2 SUBMITTALS

A. See Section 01 33 00 – Submittal Procedures.

B. Submit copy of Cal/OSHA excavation permit prior to excavation work.

1.3 JOB CONDITIONS

A. Existing utilities:

1. Locations shown on the drawings may be based on information furnished by the utility owners at the time of design, derived from visible surface facilities, or based on subsurface exploration by the District.
2. If a utility facility is encountered which was not shown on the drawings or identified in the specifications, and is in conflict with the work, immediately notify the utility owner and the Engineer in writing and arrange for necessary work.

B. Excavation safety:

1. All excavation work and all work in the vicinity of an excavation shall be in full conformance to:
 - a. Excavation Safety Plan as specified in Section 01 35 24 – Project Safety Requirements.
 - b. Article 6, Excavations, of the California Code of Regulations (CCR), Title 8 – Industrial Relations, Division 1, Chapter 4, Subchapter 4 - Construction Safety Orders, in addition to other applicable safety requirements.
2. No excavation work shall be performed until Contractor has received Engineer's written acknowledgement of the designation of Competent Persons.
3. A designated Competent Person, as specified in Section 01 35 24, with authority to inspect the work and supervise conformance with Article 6 of the aforementioned Construction Safety Orders, shall be on site at all times whenever any excavation work or work in or about an excavation is in progress.

C. Differing site conditions:

1. See GSA Conditions, Article 7.7.

1.4 UNIT PRICES

- A. Remove Surfacing and Base of the various depths listed in the bid schedule.
1. Measurement Method: By the square yard.
 2. Payment for Remove Surfacing and Base of the various depths listed in the bid schedule includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to milling, excavation, or removal of AC,AB and subgrade materials, including loading, hauling, disposing of excess paving material and paving fabric (if present), soils sampling (testing and analysis required for disposal at a licensed disposal facility), and supervision complete in place, and as specified in this section.
 3. If over-excavation beyond the specified depth listed on the bid schedule is necessary due to poor subgrade it will be paid under the “Subgrade Over-Excavation (revocable item)” bid item. Pavement subgrade preparation will be paid for under the “Roadway Pavement Subgrade Preparation” bid item.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 EXCAVATION

A. General:

1. All lines and grades will be established by the District, and the Contractor shall provide such assistance and materials as may be required. The Contractor shall carefully preserve all survey stakes and reference points so far as possible. Should any stakes or points be removed or destroyed during the installation, they may be reset at the Contractor's expense.
2. Notify Engineer a minimum of five working days prior to work when survey monuments will be disturbed or when the trench edge will be within 3' from the closest edge of the monument, so District can reference the monument. Disturbed monuments will be relocated by District. Cost for relocation shall be borne by the District. The cost for relocation of monuments removed or destroyed without the approval of the Engineer shall be borne by the Contractor. See GSA Conditions, Article 3.3.1.
3. Remove all materials encountered that would interfere with the completion of the work.
4. If excavated subgrade is unsuitable for paving the Contractor shall over-excavate per Section 3.1D below.
5. Blasting is not permitted.
6. Keep excavation dry throughout construction operations.
7. Excavated/removed materials shall be hauled off site immediately after removal.
8. Use proper tools and equipment to break pavement to the correct lines. Sawcut existing concrete or asphalt concrete pavement.
9. Remove and dispose of excess excavated material and excavated material not approved by the Engineer for use as fill or backfill, in accordance with the Waste Management Plan in Section 01 35 44 – Environmental Requirements.
10. Excavated surfaces shall be properly graded to provide good drainage.
11. Excavation shall be supported or excavated so that:
 - a. Adjoining ground shall be prevented from sliding or settlement.
 - b. Existing improvements of any kind shall be fully protected from damage.

c. Worker protection is provided as required by Cal/OSHA.

B. Stripping:

1. Topsoil and other materials unsuitable for use in the work shall be removed from excavation and fill areas as required to expose satisfactory material or foundation. Do not remove or damage any trees not specifically shown on the drawings to be removed.
2. Topsoil and other unsuitable materials shall be offhauled and disposed of outside District property.

C. Excavation – Trench

1. See Section 31 23 33 Trenching and Backfilling section for trenching requirements.

D. Over-excavation:

1. Ordered by Engineer: The Engineer may order over-excavation and backfilling to subgrade where foundation material for structures, pipe, or other work is considered to be unsatisfactory. Limits for over-excavation and backfill will be determined by the Engineer. The Contractor shall remove such unsatisfactory material and shall backfill the over-excavation with 3/4" max Class 2 aggregate base and geogrid (Tensar InterAx NX850, or approved equivalent). Over-excavation and backfill ordered by the Engineer will be paid for as extra work on a force account basis as provided in the General Conditions.
2. Caused by the Contractor: Potholes or local depressions in the subgrade within the limits of structures and all other over-excavation resulting from the Contractor's operations, and not ordered by the Engineer or shown on the drawings, shall be backfilled as specified in 1. above, but no additional payment will be made for such over-excavation and backfill.

3.2 UTILITIES

A. Location:

1. Contractor is responsible for locating all underground utilities and structures in advance of excavation.
 - a. Notify all known owners of underground utilities in the area of proposed work and Underground Service Alert, 800-642-2444 or 800-227-2600, at least two working days before the start of actual excavation.
2. Determine exact location of existing utilities.
 - a. Immediately notify the Engineer verbally and in writing of any utility location differences requiring changes in pipe alignment or elevation.

- b. Provide a list of utilities, their locations, their elevation shown on the drawings, and their elevation as determined by the Contractor in the field.

B. Excavation around utilities:

1. Excavation and other work under or adjacent to utilities shall not interfere with their safe operation and use.
2. Probe carefully to determine the exact location of utility, and hand excavate where necessary to avoid damages. Hand excavation is required within 24" on either side of the exterior surface of any underground utility (except nonpressurized sewers, drain lines, and storm drains) as that utility has been located by the utility owner for the Contractor except:
 - a. Power-driven or power-operated equipment may be used for the removal of pavement if there are no utilities in the pavement.
 - b. Power-driven or power-operated equipment may be used to any depth with agreement of the utility owner.
3. In the event of damage incurred during construction to such structures or property, Contractor shall immediately notify the owners and other authorities and shall arrange for immediate repairs.
4. Notify the local fire department every time damage to a gas utility results in a leak or suspected leak or when damage to any utility results in a threat to the public.

C. Extra work:

1. If a utility facility is not indicated on the ground/field with reasonable accuracy after the utility location has been completed and if the utility facility is within or encroaches upon the specified limits of excavation; then costs that are attributable to the utility facility not being indicated with reasonable accuracy will be paid as extra work.
2. Such costs may include all or a portion of:
 - a. Costs of modifying alignment and elevation of the project pipeline
 - b. Costs of locating, removing, or reconstructing the utility facility
 - c. Costs of repairing damage to the utility facility when damage is not due to failure to exercise reasonable care
 - d. Costs of equipment on the project that is idled by delays attributable to work described in a., b., and c. above

3. An underground utility facility is indicated with reasonable vertical accuracy if the indicated vertical centerline is within 24" of the actual vertical centerline when measured along the centerline of the project pipeline.
4. An underground utility facility is indicated with reasonable accuracy if the indicated horizontal centerline is within 36-inches of the actual horizontal centerline when measured along the centerline of the project pipeline

END OF SECTION

SECTION 31 23 33

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: trench, backfill, and compact for the installation of pipe as indicated on the drawings.
- B. Related sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 35 24 – Project Safety Requirements
 - 3. Section 01 35 44 – Environmental Requirements
 - 4. Section 31 11 00 – Clearing and Grubbing
 - 5. Section 32 12 16 – Asphalt Paving

1.2 QUALITY ASSURANCE

- A. The District will be contacted, as indicated in item 1 below, to take samples and perform aggregate base compaction tests to determine compliance with the specified compaction requirements. In case the District is not available, the Engineer will take the lead in taking samples and performing tests.
 - 1. District requests for tests on Class 2 aggregate base should be made either the day before or by 8:30 am on the day when testing is required. Call the materials testing lab (MTL) reservation phone line 510-287-1990 to schedule tests. Email or voicemail requests will not be accepted. If no answer, leave a message with on-site contact person name, phone number, location, job number, approximate planned field test number, date and time preferred. Lab staff will call back to confirm. MTL will make every effort to accommodate same day test requests made later in the day, but cannot guarantee fulfilling tests requests called in after 8:30 pm.
 - 2. Compaction requirements are specified as relative compaction and expressed as a percentage. Relative compaction is the ratio of the field in-place dry density to the laboratory maximum dry density.
 - 3. Laboratory maximum dry density will be determined in accordance with ASTM D1557.

1.3 FIELD IN-PLACE DENSITY AND FIELD IN-PLACE MOISTURE WILL BE DETERMINED IN ACCORDANCE WITH ASTM D6938. SUBMITTALS

- A. See Section 01 35 24 – Project Safety Requirements.
- B. Submit copy of Cal/OSHA excavation permit prior to excavation work.
- C. Submit potholing data, prior to submittal of pipe fabrication submittal, where changes in pipe alignment or elevation are required. See Article 3.2, Utilities.

1.4 SITE CONDITIONS

- A. Existing utilities:
 - 1. Not all locations of known underground utilities and structures are shown on the drawings as they are supposed to exist. Appurtenances and service laterals are not shown.
 - 2. Locations shown on the drawings may be based on information furnished by the utility owners at the time of design, or derived from visible surface facilities.
 - 3. If a utility facility is encountered which was not shown on the drawings or identified in the specifications and is in conflict with the work, immediately notify the utility owner and the Engineer in writing and arrange for necessary work.
- B. Excavation safety:
 - 1. All excavation work and all work in the vicinity of an excavation shall be in full conformance with Section 31 23 16, Part 3.1 - Excavation.
- C. Existing Soil Conditions:
 - 1. See Project Plans for core and bore summary.
- D. Differing site conditions:
 - 1. See GSA Conditions, Article 7.7.

PART 2 - PRODUCTS

2.1 BACKFILL MATERIALS

- A. No material shall be used for trench backfill which, because of excessive moisture or any other reason, cannot be compacted to the degree specified. Any such material shall be considered unsuitable, and if it is deposited in the trench, it shall be removed and replaced with suitable material.

- B. Imported backfill materials shall conform to the utility trench restoration standard detail included in the project plans.
- C. Select backfill is native material from the excavation that shall be free of organic, hazardous, corrosive or other unsuitable materials and shall not include rocks, boulders, or unbroken masses of soil larger than 3" in greatest dimension.
 - 1. Native soils are suitable for trench backfill material, unless they consist of highly expansive clays or silts (CH or MH soils). If highly expansive soils are encountered, they can be incorporated into final backfill materials by combining with lower plasticity materials, provided that proper processing procedures are followed (i.e. thorough mixing, breaking down of clay clods, proper moisture conditioning). Trench backfill materials should have a Plasticity Index no greater than 25 and a Liquid Limit no greater than 50.
- D. Excessively wet soils will need to be dried back to 0 to 3 percent above the optimum moisture content prior to use as backfill.

PART 3 - EXECUTION

3.1 EXCAVATION

A. General:

- 1. All lines and grades will be established by the District, and the Contractor shall provide such assistance and materials as may be required. The Contractor shall carefully preserve all survey stakes and reference points. Should any stakes or points be removed or destroyed during the installation, they may be reset at the Contractor's expense.
- 2. Notify Engineer a minimum of five working days prior to work when survey monuments will be disturbed or when the trench edge will be within 3' from the closest edge of the monument, so District can reference the monument. Disturbed monuments will be relocated by District. Cost for relocation shall be borne by the District. The cost for relocation of monuments removed or destroyed without the approval of the Engineer shall be borne by the Contractor. See Article 3.3.1 of the GSA Conditions.
- 3. Remove all materials of whatever nature encountered necessary to install the pipeline.
- 4. Blasting will not be permitted.
- 5. Use proper tools and equipment to break pavement to the correct lines. Sawcut existing concrete or asphalt concrete pavement.
- 6. Keep excavation dewatered throughout construction operations.
- 7. Temporarily store excavated materials to minimize obstruction to traffic.

8. Remove and dispose of excess excavated material and excavated material not approved by the Engineer for re-use as backfill, in accordance with Waste Management Plan. See Section 01 35 44 – Environmental Requirements.
9. Excavation shall be supported or excavated so that:
 - a. Adjoining ground shall be prevented from sliding or settlement.
 - b. Existing improvements of any kind shall be fully protected from damage.
 - c. Worker protection is provided as required by Cal/OSHA.

B. Trench Excavation:

1. Trench excavation shall follow the alignment of the pipe centerline and shall be in accordance with the drawings.
2. Excavation to a greater depth than shown on the drawings may be ordered by the Engineer if the native material at the bottom of the trench will not provide proper support for the pipe or if the excavation is in rock. Excavation (bell holes) where necessary in the sides and bottom of the trench at pipe joint locations shall be large enough to make joints and permit District inspection.
 - a. Extra excavation ordered by the Engineer will be paid for as extra work.
3. The Contractor shall use appropriate means, methods and/or techniques that control the width of trenches and roughness of trench walls.
4. If sloping sides are used:
 - a. The Contractor is responsible for all extra work or changed conditions resulting from sloping or widening the excavation.
5. Sloping sides of the trench excavation will not be permitted in public streets.
6. The Contractor is responsible for all extra work or changed conditions resulting from inadequate dewatering techniques which leads to trench side wall collapse.
7. Excavation (bell holes) where necessary in the sides and bottoms of the trench at pipe joint locations shall be large enough to make joints and permit District inspection.
8. Where pipeline leaks occur, remove all saturated material caused by the leak.
9. The trench shall be backfilled, compacted, and paved at the end of each day's work where excavation is in a public road or public right-of-way containing a road. An alternative that will permit safe public use of the road and complies

with Cal/OSHA standards may be used if advance approval is obtained by the Contractor from the agency having jurisdiction and the Engineer.

C. Excavation in sidewalk:

1. Sidewalk shall be removed and replaced where the trench lies within and approximately parallels a concrete sidewalk 4' or less in width.
2. Sidewalk shall be removed and replaced to nearest parallel groove or score outside trench where sidewalk is more than 4' in width.

D. Excavation required beyond trench limits:

1. See Paragraph B.2 above.

3.2 UTILITIES

A. Location:

1. Contractor is responsible for having all underground utilities and structures located in advance of excavation.
 - a. Notify all known owners of underground utilities in the area of proposed work and Underground Service Alert, 800-642-2444 811 at least two working days before the start of actual excavation.
 - b. Identify the area to be excavated as required by Government Code 4216.2.
2. Determine exact location of existing utilities shown on the project drawings, or identified per Paragraph 3.2.A.1, prior to submittal of pipe fabrication shop drawings.
 - a. Notify the Engineer a minimum of two working days prior to start of excavation of test holes to allow marking of pothole locations.
 - b. Immediately notify the Engineer verbally and in writing of any utility location differences requiring changes in pipe alignment or elevation.
 - c. Provide a list of utilities, their locations, their elevation shown on the drawings, and their elevation as determined by the Contractor in the field. Furnish the list prior to submittal of shop drawings and fabrication of pipe.

B. Excavation around utilities:

1. Excavation and other work under or adjacent to utilities shall not interfere with their safe operation and use.

2. Probe carefully to determine the exact location of utility, and hand excavate where necessary to avoid damage. Hand excavation is required within 24" on either side of the exterior surface of any underground utility (except nonpressurized sewers, drain lines, and storm drains) as that utility has been located by the utility owner for the Contractor except:
 - a. Power-driven or power-operated equipment may be used for the removal of pavement if there are no utilities in the pavement.
 - b. Power-driven or power-operated equipment may be used to any depth with agreement of the utility owner.
 3. In the event of damage incurred during construction to such structures or property, Contractor shall immediately notify the owners and other authorities, and shall arrange for immediate repairs.
 4. Notify the local fire department every time damage to a gas utility results in a leak or suspected leak or when damage to any utility results in a threat to the public.
- C. Tunneling under utilities:
1. Tunneling may be allowed for short distances with the approval of both the utility owner and the Engineer.
- D. Extra work:
1. If a utility facility is not indicated on the ground/field drawings with reasonable accuracy after the utility location has been completed and if the utility facility is within or encroaches upon the specified limits of excavation; then costs that are attributable to the utility facility not being indicated with reasonable accuracy will be paid as extra work.
 2. Such costs may include all or a portion of:
 - a. Costs of modifying alignment and elevation of the project pipeline
 - b. Costs of locating, removing, or reconstructing the utility facility
 - c. Costs of repairing damage to the utility facility when damage is not due to failure to exercise reasonable care
 - d. Costs of equipment on the project that is idled by delays attributable to work described in a., b., and c. above
 3. An underground utility facility is indicated with reasonable vertical accuracy if the indicated vertical centerline is within 24" of the actual vertical centerline when measured along the centerline of the project pipeline.

4. An underground utility facility is indicated with reasonable accuracy if the indicated horizontal centerline is within 36-inches of the actual horizontal centerline when measured along the centerline of the project pipeline

3.3 TRENCH BACKFILL

A. General:

1. Prior to backfilling, remove all loose material, wood, and debris from the trench.
2. Backfill pipeline trenches to the level of original ground surface or underside of the pavement base course.
3. Backfill material shall not be dropped directly on the pipe.
4. Shoring removal:
 - a. Carefully remove timbering, sheeting, shoring, and sheet piling using methods that will minimize caving.
 - b. Metal sheet piling, sheeting, and bracing may be left in place on approval of Engineer.
5. Low points along the pipe trench shall not be backfilled until all backfill at adjacent higher elevations has been completed. Water collecting at the low points shall be removed by pumping or other approved means to avoid softening of adjacent ground. Sump pumps shall be supplied to prevent accumulation of water in the trench.
6. If the trench has been excavated below the specified depth, that portion of the trench shall be backfilled with material approved by the Engineer and compacted before pipe installation.
7. Backfill with the specified material to the full width of the trench as excavated.

B. Pipe bedding and compaction:

1. Install Class I Backfill as shown on drawings.
 - a. Bedding support under pipe:
 - 1) Bring to a uniform grade to provide continuous support for the pipe sections as they are laid in final position.
 - 2) If more than 3 inches thick, compact in 8-inch maximum loose lifts with approved plate-type vibratory compactors.
 - b. Pipe bedding above grade line:

- 1) Bring up simultaneously on both sides of the pipe.
- 2) Maximum lift thickness, as placed before compaction, shall be 24 inches where compaction by saturating with water and vibrating is permitted and used.
- 3) Maximum lift thickness, as placed before compaction, shall be 8 inches where compaction by saturating with water and vibrating is not used.

c. Compaction:

- 1) Thoroughly tamp each lift, as indicated in the drawings, including area under haunches, with handheld tamping bars supplemented by mechanical tamping equipment, vibrating plates, and/or concrete vibrators. Ensure that voids are completely filled before placing each successive lift.
- 2) Compact by saturating with water and vibrating where permitted. Saturate by water jets or by other approved means while densification by vibration is in progress. Excessive or improper saturation or flooding will not be allowed. Consolidate mass with immersion type vibrators of sufficient length to extend to the bottom of each lift. Vibrate and water jet alternately on both sides of pipe. Do not remove vibrators from the mass until water jets are removed.
- 3) Thoroughly compact before additional fill is placed.
- 4) Do not dump backfill material directly on top of pipe. Use caution during placement and compaction of backfill to avoid damage to pipe and/or coatings.
- 5) Compaction methods and equipment are subject to the approval of the Engineer.

C. Backfill and compaction above pipe bedding:

1. Install Aggregate Base backfill material where excavation is in a paved public road unless another backfill material is permitted by the local agency permit. Install select backfill material in other locations.
2. Install Aggregate Base backfill material in lieu of select backfill when Engineer determines that excavated material does not meet the requirements for select backfill and orders the use of imported backfill.
 - a. Payment for furnishing the imported backfill and disposing of the replaced excavated material will be made as extra work. Quantities for payment will be limited to the trench widths noted on the Drawings.

3. Do not allow backfill to free fall into the trench or allow heavy, sharp pieces of material to be placed as backfill until at least 2 feet of backfill has been provided over the top of pipe.
4. Maximum lift as it is placed before compaction shall be 8 inches. Lifts to 12 inches may be allowed if specified compaction can be obtained without adverse effects on the pipe.
5. Install the following import materials when there is insufficient quantity of select native material:
 - a. Aggregate Base when the excavation is adjacent to public road
 - b. Class III Backfill for all other areas
6. Compact by impact, vibration, or a combination of these methods. Compaction methods and equipment are subject to the approval of the Engineer. Compaction by jetting, flooding or saturating with water and vibrating is not permitted.
7. Paved public or private roads:
 - a. Compact backfill that is more than 3 feet below the existing surface to at least 90 percent relative compaction.
 - b. Compact backfill in the upper 3 feet of the excavation to at least 95 percent relative compaction.
8. Adjacent to roadways: Compact backfill to at least 90 percent relative compaction.
9. Unimproved areas: Compact backfill to at least 90 percent relative compaction.
10. Only hand-operated motor driven mechanical compacting equipment shall be used over pipelines until the backfill has been compacted to 24 inches over the crown of the pipe.
11. At the time of compaction, the moisture content of backfill material shall be such that the required relative compaction will be obtained.
 - a. Condition material which contains insufficient moisture or excessive moisture until the moisture content is such that the required relative compaction will be obtained.

D. Backfill and compaction in lateral trenches:

1. Lateral trenches:

- a. Any trench extending from a water main at 60 degree to 90 degree angle to the centerline of a street.
- b. Backfill with Aggregate Base material and compact as for main trench unless required otherwise by local agency permit.

2. Where leaks occur:

- a. Remove all adjacent saturated material.
- b. Backfill with new materials and compact as for adjoining trenches.

E. Final Backfill

1. In unpaved areas, the final backfill layer shall be native materials (topsoil and vegetation) stripped and stockpiled per Section 31 11 00 – Clearing and Grubbing.

3.4 GRADING

- A. Top of the backfill in the areas with no additional planned improvements (such as paving or structures) shall be graded with a crown for positive drainage away from the backfill area.
- B. Areas outside of the trench limits shall also be graded for a positive drainage but grading shall not alter the existing drainage pattern.

3.5 CONTROL OF SEDIMENT

- A. See Section 01 35 44 – Environmental Requirements.

END OF SECTION

SECTION 32 01 16.71

COLD MILLING ASPHALT PAVING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cold milling existing asphalt pavement:
 - 1. Conventional Rehabilitation/Resurfacing: Mill asphalt concrete (AC) from entire area and to specified depth within the limit of work and transport off site for AC grindings recycling purposes, if requested by District.
- B. Disposal and stockpiling of grindings in accordance with approved Waste Disposal Plan.
- C. Wedge grind and conform grinds.
- D. Asphalt concrete tapers.

1.2 RELATED WORK

- A. Section 01 35 44 – Environmental Requirements
- B. Section 32 01 17.61 – Sealing Cracks in Asphalt Paving
- C. Section 32 12 16 – Asphalt Paving
- D. Section 32 17 23 – Pavement Markings
- E. Section 33 05 13.13 – Utility Grade Adjustment

1.2 UNIT PRICES

- A. Full Width Cold-Plane (Mill) of the various depths listed in the bid schedule
 - 1. Measurement Method: By the square yard.
 - 2. Payment for Full Width Cold-Plane (Mill) of the various depths listed in the bid schedule includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to milling asphalt concrete surfacing, transporting, and disposing of milled material (including striping, markers, and fabric if encountered), including furnishing the asphalt concrete for and constructing, maintaining, removing, transporting, and disposing of temporary asphalt concrete tapers complete in

place, and as specified in the “Cold Milling Asphalt Paving” Technical Specification section.

A. Wedge Grind (6' Wide) and Conform Grind (15' Wide)

1. Measurement Method: By the linear foot
2. Payment for “Wedge Grind (6' Wide)” and “Conform Grind (15' Wide)” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to milling asphalt concrete surfacing, transporting and disposing of milled material (including striping, markers, and fabric if encountered), including furnishing the asphalt concrete for and constructing, maintaining, removing, and disposing of temporary asphalt concrete tapers complete in place, and as specified in the “Cold Milling Asphalt Paving” Technical Specification section. The quantity to be paid for will be the actual linear feet of roadway surface that is milled, as measured in the field, irrespective of the number of passes required to obtain the depth and grades shown on the plans.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. The cold milling machine shall be equipped with a cutter head not less than 72 inches in width and shall be operated so as not to produce fumes or smoke. The cold milling machine shall be capable of milling the pavement without requiring the use of a heating device to soften the pavement during or prior to the milling operation.
- B. The Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles for clean-up work.

PART 3 - EXECUTION

3.1 COLD MILLING

- A. Existing asphalt concrete pavement shall be cold-milled at the locations and to the depths shown on the plans or as requested by the Engineer.
- B. The depth of the cut shall be as indicated on the typical cross sections or as requested by the Engineers. All conform locations shown on the plans are approximate and shall be verified in the field with the Engineer prior to the start of work. The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. Milling asphalt concrete pavement operations shall be performed without damage to the adjacent surfacing, AC dikes, or curbs and other improvements to remain in place.
- C. The possibility exists to expose an old weak pavement layer as a result of milling. Such exposed pavement may crumble and disintegrate under traffic that is allowed

back on the pavement before the new asphalt concrete pavement is placed. If these circumstances arise, the Contractor shall immediately notify the Engineer and re-route traffic, if possible, to minimize pavement disintegration and the creation of dust.

- D. The Contractor shall be responsible for all damage to cold milling machines caused by hitting any hidden objects during the milling operation. In addition, the Contractor shall be responsible for the cost of repairing any facility that is damaged by the cold milling machine.
- E. Milled widths of pavement shall be continuous except for intersections at cross streets where the milling shall be carried around the corners and through the conform lines, or as indicated on the project plans. Following milling operations, a drop-off of more than two (2) inches will not be allowed at any time between adjacent lanes open to public traffic.
- F. Milling shall be performed to ensure that there are no remaining slivers or 'scabs' of asphalt concrete remaining on the milled surface. At the conform locations the milled surface shall contain a milled texture of uniform depth and appearance.
- G. The material planed from the roadway surface and remnants or slivers of old asphalt concrete lift, including material deposited in existing gutters, driveways, around structures, or on the adjacent traveled way, shall be removed and disposed of outside the project site in accordance with local and state laws and regulations and the approved Waste Management Plan. Prior to asphalt concrete milling operations, the Engineer will notify the Contractor if and where a specified amount of the cold planed material shall be stockpiled on District's property. Removal and mobilization of this material shall be considered as included in this item of work and no additional compensation will be allowed. Removal operations of cold-milled material shall be concurrent with milling operations and follow within 250 feet of the milling machine, unless otherwise requested by the Engineer.
- H. The Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles for final clean-up work and shall keep the milled area cleaned and maintained at all times until the project location has been paved. Base repair and crack sealing operations shall not begin at any project location until all grinding operations on that street or project location have been completed. Refer to Section 32 01 17.61 Sealing Cracks in Asphalt Paving and Section 32 02 17 Flexible Paving Repair.
- I. Any milled surface for any given section of roadway shall not be left as an exposed milled surface longer than a duration of five (5) days from the time of completion of milling for that section of roadway. Therefore, any given section of roadway shall have a completed asphalt overlay as part of a mill and overlay street section (not including the final wearing course) applied not more than five (5) days following the completion of milling.

3.2 TAPERS

12/03/25

Project No. 10625-G

32 01 16.71 - 3

Cold Milling Asphalt Paving

- A. Temporary asphalt tapers shall be provided where transverse joints are milled in the pavement at conform lines. No drop-off shall remain between the existing pavement and the milled area when the pavement is opened to public traffic. Asphalt concrete for temporary tapers shall be placed to the level of the existing pavement and tapered on a slope of 1:30 (Vertical: Horizontal) or flatter to the level of the planed area.
- B. Asphalt concrete for temporary tapers shall be of commercial quality and may be spread and compacted by any method that will produce a smooth riding surface. Temporary asphalt concrete tapers shall be completely removed, including the removal of all loose material from the underlying surface, before placing the permanent surfacing. The removed material shall be disposed of outside the project site in accordance with local and state laws and regulations and the approved Waste Management Plan. Operations shall be scheduled so that not more than ten (10) days shall elapse between the time when transverse joints are milled in the pavement at the conform lines and the permanent surfacing is placed at the conform lines.

END OF SECTION

SECTION 32 01 17

FLEXIBLE PAVING REPAIR

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: repair of failed asphalt concrete pavement and corresponding base. All excavated materials regardless of its nature resulting of the work required by these specifications shall become the property of the Contractor and shall be disposed of in accordance with all applicable state and Federal regulations and the approved Waste Management Plan per Section 01 35 44. Contractor shall sample and test the excavated materials as required for disposal at a licensed disposal facility. The Contractor shall also notify USA and confirm the existence, location, and depth of underground utilities.
- B. Related sections:
 - 1. Section 01 18 05 – Project Utility Sources and Site Conditions
 - 2. Section 01 35 44 – Environmental Requirements
 - 3. Section 31 22 00 – Grading
 - 4. Section 31 23 16 – Excavation
 - 5. Section 32 12 16 – Asphalt Paving

1.2 SUBMITTALS

- A. Submit certificates from materials suppliers stating compliance with the requirements of this section including compaction curve of subgrade materials – one per street. Submit to the Engineer documentation of sampling and testing excavated material requiring special disposal.

1.3 COORDINATION

- A. At some locations, base repairs are specified to address damage due to tree roots. Contractor shall obtain approval from the Engineer prior to cutting, pruning, or removing any tree roots while performing these repairs.
- B. Notify Underground Service Alert (USA) at 800-642-2444 (or dial 811), as directed in Section 01 18 05 so that underground lines can be marked. Exercise care during excavation or demolition, particularly in locations with utilities that will remain in service. It shall be the Contractor's responsibility to confirm the existence, location and depth of underground utilities on or near base repair and subgrade over-excavation areas.

- C. Base repair areas have been marked on the pavement and approximate dimensions, areas, and locations, are provided on the plans. A 15% contingency was added to the quantity as marked on the pavement to account for increases over time since the initial field survey. The base repair areas to be constructed shall be determined and marked jointly in the field by the Engineer and Contractor after milling and prior to resurfacing work. The agreed upon locations and areas shall be recorded by the Contractor and submitted to the Engineer and this will constitute the final pay quantity. Contractor shall coordinate with the Engineer to mark base repair areas a minimum of one (1) week in advance of the base repair work.

1.4 UNIT PRICES

A. Full Depth Base Repair (4-inch Depth) and Full Depth Base Repair (6-inch Depth)

1. Measurement Method: By the square foot.
2. Payment for "Full Depth Base Repair (4-inch Depth)" and "Full Depth Base Repair (6-inch Depth)" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to repair of failed areas of pavement, including but not limited to excavation, removal and disposal of existing surfacing and base, compaction, asphaltic emulsion, fog seal, binder, and 1/2" HMA (Type A), complete in place, and as specified in the "Flexible Paving Repair" Technical Specification section.
3. Digout depths will be measured from the top of the milled surface after the street has been milled, for streets with pre-milling work. Digout depths will be measured from the existing surface for streets with no pre-milling work that are slated to receive surface sealing work.
4. Base repair areas are shown on the plans and are based on a pavement condition survey performed in June 2025. No adjustment of unit prices will be made for any increase or decrease in the quantities stated in the bid schedule for the various depth of Full Depth Base Repair listed on the bid schedule, regardless of the reason for the increase or decrease. The provisions in Section 4-1.05 "Changes And Extra Work," of the Standard Specifications shall not apply to "Full Depth Base Repair (4-inch Depth)" and "Full Depth Base Repair (6-inch Depth)".

B. Full Depth Base Repair Over-Excavation (Revocable Bid Item)

1. Measurement Method: By the cubic yard.
2. Payment for "Full Depth Base Repair Over-Excavation (Revocable Bid Item)" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to over-excavate where unsuitable subgrade is encountered, transportation, and placement of Type A, 1/2" Hot Mix Asphalt to equivalent depth of removed unsuitable material, moisture conditioning and compaction, complete in place,

and as specified in the “Flexible Paving Repair” Technical Specification section.

PART 2 - BASIS FOR VOLUME CALCULATIONS SHALL BE THE AREA TO BE OVER-EXCAVATED AND THE SPECIFIED DEPTH. THE QUANTITY IN CUBIC YARDS IN THE BID SCHEDULE IS BASED ON 25 PERCENT (25%) OF THE BASE REPAIR AREA WITH A DEPTH OF SIX (6) INCHES REQUIRING SUBGRADE OVER-EXCAVATION. THE DEPTH FOR VOLUME CALCULATION IS GIVEN BY THE ACTUAL FIELD-MEASURED DEPTH AND NO INCREASE WILL BE ALLOWED. THE PROVISIONS IN SECTION 4-1.05 “CHANGES AND EXTRA WORK,” OF THE STANDARD SPECIFICATIONS SHALL NOT APPLY TO “FULL DEPTH BASE REPAIR OVER-EXCAVATION (REVOCABLE BID ITEM)”.PRODUCTS

2.1 ASPHALT PRODUCTS

- A. Asphalt tack coat shall meet the grade requirements of SS-1, SS1h, CSS-1 or CSS-1h conforming to Section 94 of the 2018 Caltrans Standard Specifications.
- B. Asphalt binder shall be PG 64-10 per the 2018 Caltrans Standard Specifications.
- C. Asphalt concrete (AC) for flexible paving repairs shall be Type A, 1/2-inch maximum conforming to Section 39 of the 2018 Standard Specifications.

PART 3 - EXECUTION

3.1 EXCAVATION AND REMOVAL

- A. For mill and overlay work areas, pavement materials shall be removed to a total depth of 4” or 6” from the top of milled surface after the milling has been completed. Base repairs shall be constructed after the full road width pavement milling operation has been completed.
- B. For surface seal work areas, pavement materials shall be removed to a total depth of 4” or 6” from existing grade surface.
- C. If saw-cutting is used to repair failed areas it shall be performed with a diamond saw blade along the dimensions indicated, extending the entire depth of the existing asphalt concrete.
- D. If a cold milling machine is used, provide vertical edges on all sides of the base repair area prior to placement of HMA. Saw cut any grinder rolled edges, if needed, and remove the necessary AC to create the required vertical edges.
- E. Remove pavement to the depth specified or, if the existing asphalt concrete thickness is greater than the specified depth of the base repair, until soil/subgrade is exposed.

- F. The Contractor shall note the presence of 4-foot wide base repairs and shall provide the necessary equipment to perform this work to this width

3.2 COMPACTION

- A. Re-compact exposed soil/subgrade to 95% of maximum dry density (ASTM D1557).
- B. Subgrade areas that do not meet the compaction requirements shall be reworked and retested or over-excavated as described below. Prior to placing HMA, subgrade shall be proof rolled to verify compaction of subgrade is minimum 95% M.D.D. Care should be taken to not over compact/overwork subgrade resulting in yielding or pumping.
- C. The Engineer shall be notified immediately if 95% M.D.D. compaction cannot be obtained. Flexible paving repair that occurs where the subgrade has not been approved by the Engineer shall be removed at no cost to the District.

3.3 PAVING REQUIREMENTS

- A. Pavement repair work shall not commence unless the ambient temperature is above 55 degrees F for lift thickness less than 0.15' or above 45 degrees F for lift thickness greater than or equal to 0.15' and has not been below 35 degrees F during the previous twelve (12) hours. Newly placed asphalt shall not be opened to traffic until the surface temperature has cooled to 155 degrees or less.
- B. Tack coat (per Paragraph 2.1.A above) shall be applied to all pavement surfaces and between lifts. Prime or tack coats shall not be applied when the surface to be coated is wet or contains an excess of moisture. The temperature of asphalt concrete shall not be less than 250 degrees F during initial spreading.
- C. HMA for pavement repair shall be placed and compacted according to the base repair details shown on the plans. The final base repair lift shall not be less than one and one-half (1-1/2) inches in compacted thickness nor more than three (3) inches.
- D. Spreading and compacting of HMA shall conform to the applicable provisions of Section 39 of the 2023 Caltrans Standard Specifications.

3.4 PAVING TIMEFRAME

- A. Flexible paving repair shall be milled/excavated and backfilled with asphalt concrete per the material requirements above on the same day.

3.5 SUBGRADE OVER-EXCAVATION

- A. When encountered during excavation, remove unsatisfactory or unsuitable material to a depth of six (6) inches and shall backfill the over-excavation with HMA (Type A, ½-inch gradation) in lifts of up to three (3)-inches maximum and properly compacted and primed with SS-1h asphalt emulsion (tack coat).

- B. Prior to replacing the void with HMA, the Contractor shall moisture condition and compact the new sub-grade to ninety-five percent (95%) of maximum dry density (ASTM D1557).
- C. The finished repair shall be tight, level, and shall match the grade and profile of the existing grade prior to application of final pavement. The excavation shall be accomplished with proper equipment and in such a manner that the stability of subgrade is not destroyed, and underground utilities are not damaged.
- D. Surplus excavated soils shall be disposed of at a licensed disposal facility in accordance with the approved Waste Management Plan per Section 01 35 44. The Contractor shall follow the disposal requirements of the disposal facility and provide any necessary soils sampling, testing, analyzing, and reporting. Contractor shall sample and test the excavated materials as required for disposal at a licensed disposal facility.

3.6 TOLERANCE

- A. The acceptable vertical difference between the base repair and the surrounding road surface to remain shall not exceed plus or minus (+/-) one eighth of an inch (1/8"). Pavement repair areas not meeting this acceptable tolerance shall be repaired until the tolerance is met, at no additional cost to the District.

3.7 CLEANUP

- A. The material grindings from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way shall be immediately removed from the site of the work and disposed of, unless otherwise directed by the Engineer.
- B. All material removed by grinding, including pavement fabric (if present), shall be cleaned up and legally disposed of at a licensed disposal facility.

3.8 ACCEPTANCE AND QUALITY CONTROL

- A. See Section 32 12 16 for HMA acceptance and quality control.

END OF SECTION

SECTION 32 01 17.61

SEALING CRACKS IN ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Cleaning out and sealing of cracks in the pavement within areas of the project scope. Cracks ¼-inch to 1-inch width shall be sealed with asphalt rubber crack seal material (per Caltrans Section 37, Type 3 sealant). Cracks or “pop-outs” of existing asphalt that are greater than 1-inch in width shall be sealed with GAP-Mastic B. Gap-Mastic B is a type of hot applied polymer-modified asphalt mixed with aggregates and modifiers designed to fill wide cracks.
- B. Related sections:
 - 1. Section 31 11 00 – Clearing and Grubbing
 - 2. Section 32 01 16.71 – Cold Milling Asphalt Paving

1.2 SUBMITTALS

- A. Submit certificates from suppliers stating compliance of materials with the requirements of this section.
 - 1. Include batch numbers and dates in submittal, Engineer will inspect containers onsite.

1.3 UNIT PRICES

- A. Crack Sealing
 - 1. Measurement Method: By lump sum
 - 2. Payment for “Cracking Sealing” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to crack cleaning, squeegee and leveling, crack filling, and clean-up of type 3 crack seal and Gap-Mastic B, complete in place, and as specified in the “Sealing Cracks in Asphalt Paving” Technical Specification section
 - 3. Payments for the lump sum item shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

PART 2 - PRODUCTS

2.1 HOT-APPLIED SEALANT (CALTRANS TYPE 3 CRACK SEAL)

- A. Hot applied sealant (for cracks less than 1-inch in depth and width) shall consist of a single component, hot-applied, asphalt material specifically produced for effective pavement maintenance crack sealing. The sealant shall meet Caltrans Section 37 Type 3 Sealant, per the table below, and be placed in a flush fill manner:

Quality characteristic	Test Method	Type 3 Sealant Requirement
Softening point (min, °C)	ASTM D36	90
Cone penetration at 77 °F (max)	ASTM D5329	50
Resilience at 77 °F, unaged (%)	ASTM D5329	30-70
Flexibility (°C)	ASTM D3111	0
Tensile adhesion (min, %)	ASTM D5329	400
Specific gravity (max)	ASTM D70	1.25
Asphalt compatibility	ASTM D5329	Pass
Sieve test (% passing)	See note below	100

Note: For hot-applied crack treatment, dilute with toluene and sieve through a no. 8 sieve.

2.2 GAP-MASTIC B

- A. For cracks larger than 1 inch but less than 6-inches in width and a minimum of 1 inch deep the Contractor shall fill these with Gap-Mastic B per Maxwell Products, or approved equal.
- B. GAP-Mastic B product shall meet ASTM D8260, Type 2 specifications and the following requirements:

1. Binder

Cone Penetration : 77°F (25°C), 105G, 5S : ASTM D5329	70 dmm max
Softening Point : ASTM D36	200°F (93°C) min
Flexibility : 1 in (25mm) mandrel, 90 deg bend, 2s : ASTM D3111	Pass -15°F (-26°C)
Tensile Adhesion : 77°F (25°C) : ASTM D5329	400% min
Resilience : 77°F (25°C) : ASTM D5329	40% min

2. Aggregate

Sieve Analysis : No. 4 sieve, passing : manufacturer's certification	90% min
Sieve Analysis : No. 16 sieve, passing : manufacturer's certification	10% max

3. Blended Product

Density : 77°F (25°C) : ASTM D70	12.5 lbs/gal
Mastic Resilience : ASTM D8260	50% min
Effects of Rapid Deformation : 8 N-m, 0°F (-18°C), 3 specimens : ASTM D2794	Pass
Crack Bridging : 3 cycles, 0°F (-18°C) : ASTM C1305	Pass
Mastic Stability : 140°F (60°C) : ASTM D8260	40.0 mm max

PART 3 - EXECUTION

3.1 EXTENT

- A. Crack seal work shall be performed after asphalt pavement grinding and base repair operations have been completed, but prior to placing surface seal resurfacing or asphalt concrete paving. Traffic shall not be allowed on the material until it has cured or until it has been sanded to prevent tracking.

3.2 HOT-APPLIED SEALANT (CALTRANS TYPE 3 CRACK SEAL)

- A. Prior to crack sealing operations the Contractor shall clean the cracks of all organic material to at least 1/2" depth. All cracks up to 1-inch in depth and width shall be blown clean of all organic materials with a high-pressure air nozzle and/or a mechanical cleaning process to a full depth of the crack. Cracks to be filled shall be completely dry at the time of filling, and in no case shall crack sealing be performed within 24 hours of any precipitation. Sealant shall be applied when the pavement surface temperature exceeds 50°F. Application at lower temperatures may result in reduced adhesion due to possible presence of excess moisture.
- B. Type 3 crack sealant material shall be applied to all cracks less than 1 inch in depth and width so as to be flush with the adjacent pavement surface. Excess sealant shall be leveled to less than a 1/16-inch thickness with a squeegee or sealing shoe to produce a flat band which is 2 to 4 inches wide, centered over the crack. Do not overfill cracks, as excess filler will cause bumps in the overlay and may migrate through any future paving surface course.
- C. Contractor shall wait at least 24 hours after application of crack seal before paving or resurfacing to let the crack seal cure.

3.3 GAP-MASTIC B

- A. Cracks wider than 1 inch and less than 6-inches shall be blown clean of all organic materials with a high-pressure air nozzle and/or a mechanical cleaning process to at least 1 inch deep. These cracks shall be filled with Gap-Mastic B sealant material.

- B. Read and follow application instructions before use. Gap-Mastic B must be heated using indirect heating methods, either a double boiler or hot oil circulating kettle. Equipment must be capable of maintaining constant agitation to the material to keep aggregate suspended evenly. The maximum safe heating temperature shall be 400°F (204°C) and the recommended application temperature shall be 380°F (193°C).
- C. Contractor shall wait at least 24 hours after application of Gap-Mastic B before paving or resurfacing to let the crack sealant cure.
- D. The material shall be melted using a manufactured applicator specifically designed for melting, heating and application of modified polymerized asphalt sealants with aggregate. The kettle agitator must be capable of keeping aggregate evenly suspended in heated material.
- E. Place Gap-Mastic B material in the applicator, and melt by heating the transfer oils to temperatures of 450°F-525°F. Overnight heating elements available on some applicators may expedite material heat-up. Begin agitation when material has melted sufficiently for the agitator to turn, and continue heating until material temperatures meet the recommended application temperatures.
- F. Contractor shall prepare the pavement prior to application of material including cleaning the area of objectionable material and blowing the dirt to a minimum depth of 1-inch. All weeds should be removed, and if necessary, sterilized to prevent regrowth. The repair area should be cleaned using high-powered, oil-free compressed air or a heat lance. When using a heat lance, care should be taken to avoid overheating or burning the pavement.
- G. The pavement temperature shall be a minimum of 10°F for application. Application at lower temperatures may result in less adhesion due to the possible presence of excess moisture. If the pavement temperature is less than 40° F, a heat lance or other appropriate means shall be used to warm and dry the pavement prior to application.

END OF SECTION

SECTION 32 01 23

FULL DEPTH RECLAMATION WITH PORTLAND CEMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Top down Full-depth reclamation (FDR) consists of reconstructing the existing distressed pavement section by in-place recycling of the pavement materials and treating with Portland cement to enhance the structural properties of the recycled materials. This work shall consist of pulverizing existing roadway materials, and uniformly mixing with Portland cement and water. The mixture shall then be compacted, finished, and cured in such a manner that the in-place cement treated mixture forms a dense, uniform mass conforming to the lines, grades, and cross sections shown on the plans including removal of a portion of the new section per plans to accommodate the asphalt concrete overlay. Bulking of the subgrade resulting from the cement stabilization process should be considered.

1.2 RELATED REQUIREMENTS

- A. Section 31 11 00 – Clearing and Grubbing
- B. Section 31 22 00 – Grading
- C. Section 32 01 16.71 – Cold Milling Asphalt Paving
- D. Section 32 11 23 – Aggregate Base Courses
- E. Section 32 12 16 – Asphalt Paving
- F. Section 33 05 13.13 – Utility Grade Adjustment

1.3 DEFINITIONS

- A. Subgrade Elevations: Depth of paving section.

1.4 REFERENCE STANDARDS

- A. ASTM D 1633 - Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders
- B. ASTM D 559/D 559M-15 - Standard Test Methods for Wetting and Drying Compacted Soil-Cement Mixtures
- C. ASTM D 1557-12e1 - Standard Test Methods for Laboratory Compaction

Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.

- D. ASTM D 2487-11 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011. ASTM D2922-04 – Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth); 2004.
- E. ASTM D 6938-15 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2015.
- F. ASTM D 4318-10e1 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2010.

1.5 SUBMITTALS

A. Sequencing Plan – This plan shall detail the following FDR operations:

- 1. Different stages of work
- 2. Duration of each stage
- 3. Proposed methods

B. FDR-Cement Mix Design

- 1. Cement content of the soil shall be determined by the Contractor.
- 2. The Contractor shall sample materials on-site and develop a mix design to determine the total percentage of cement required.
- 3. The contractor must notify the Engineer at least 2 business days before sampling.
- 4. The contractor may submit multiple mix designs to optimize the cement content and adjust for varying underlying materials.
- 5. The mix design shall be submitted on a form generated specifically for FDR Cement.
- 6. Each mix design must be sealed and signed by an engineer and include
- 7. Area represented by the mix design by beginning and ending stations.
- 8. Gradation of the mixture before addition of cement.
- 9. Cement content in percent by weight of the dry mixture and in lb/sq yd surface application rate.

10. Supplementary aggregate in percent by weight of the dry mixture, if supplementary aggregate is specified.
 11. Moisture content of the material when mixing, relative to OMC.
 12. Test results and any worksheets, photographs, and graph.
 13. Mix designing requirements
 14. The mix design must include 7-day cured unconfined compressive strength tests on specimens with at least three (3) cement contents using the proposed cement at optimum moisture content. The cement must be one percent above the specified content, at the specified content, and one percent below the specified content by dry weight of the composite material. Manufacture three (3) specimens for each cement content and average the results for each. Plot the average 7-day compressive strengths on the ordinate versus the cement contents in percent on the abscissa on a graph. Indicate the cement contents from the line corresponding to the minimum and maximum 7-day compressive strengths from the specified range.
 15. Test specimens must be compacted under ASTM D 1557, Method A or B
- C. Test specimens must be cured by sealing each specimen with 2 layers of plastic at least 4-mil thick. The plastic must be tight around the specimen. Seal all seams with duct tape to prevent moisture loss. Sealed specimens must be placed in an oven for 7 days at 100 ± 5 degrees F. At the end of the cure period, specimens must be removed from the oven and air-cooled. Duct tape and plastic wrap must be removed before capping. Specimens must not be soaked before testing.
1. Sampling requirements
 2. Use materials from the specified mixing depth. If any portion of existing asphalt concrete pavement is to be removed before pulverizing, remove that portion of asphalt concrete pavement from the samples used in the mix design. If additional samples of subgrade material are needed, sampling locations can be excavated outside the edge of pavement to variable dimensions. Characterize and record sampling location features such as layer thicknesses and types, distresses, interlayers, thin or thick areas, digouts and adhesion to the base. Use the sampled material to determine the mix design represented by the sampling location, according to the proportions of the pavement structure shown.
 3. Obtain and test material from at least two sampling locations, per street, from the existing pavement structure by coring.
- D. Depth of treatment and Cement application rates
- E. Compaction Density Test Reports

F. Compressive Strength Test Results

G. FDR Equipment List

1.6 DELIVERY, STORAGE, AND HANDLING

A. Portland cement must be kept dry until used and be sufficiently dry to flow freely when handled. Cement shall be furnished in bulk and not exposed until applied to prepared grade.

1.7 QUALITY CONTROL

A. The first day of the FDR construction could be accepted as the test strip

B. Measure and record the actual cut depth at both ends of the pulverizing drum at least once every 300 feet along the cut length.

C. Lot size is defined as 3,000 sq yd

Quality Characteristics	Test Method	Minimum Sampling and Testing Frequency	Requirement	Sampling Location	NOTES
Water Sulphates (ppm, max)		1 per source	1000	Source	Only required for non-potable water sources
Water Chlorides (ppm, max)		1 per source	1000	Source	Only required for non-potable water sources
Gradation (% passing) Sieve Size 2 in 1 in	CT 202	Test Strip and 1 per Lot	100 85 - 100	Loose Mix Behind Mixer	
Moisture Content (%)	CT226	Test Strip and 2 per Day	Mix design \pm 2 percentage points	Loose Mix Behind Mixer	Sample immediately after mixing is complete ; If test fails, minimum test frequency is 1 per lot
Unconfined Compressive Strength (psi)	ASTM D 1633	Test Strip and 1 per Day	300 - 500 psi	Loose Mix Behind Mixer	Sample immediately after mixing is complete

Lab Max Wet Density (lb/cu ft)	CT 216	Test Strip and 1 per Day OR 1 per Street and 1 per Changes to the Material		Loose Mix Behind Mixer	Loose Mix Behind Mixer
Relative Compaction (% min) (wet density)	CT 231	10 Points per Test Strip and Lot	95	Compacted Mix	Verify the moisture content reading made under CT 231 with CT 226

1.8 UNIT PRICES

A. 10" Top-Down Full-Depth Reclamation and 12" Top-Down Full-Depth Reclamation

1. Measurement Method: By the square yard.
2. Payment for "10" Top-Down Full-Depth Reclamation" and "12" Top-Down Full-Depth Reclamation" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to doing all work required to reclaim and process the existing materials with portland cement and water to an the specified depths, cure the resultant mixture and traffic control during the curing process, perform the necessary grading, hauling and disposal of all excess material including the materials that bulk during the process, and protecting existing facilities in place, complete in place, and as specified in the "Full Depth Reclamation with Portland Cement" Technical Specification section.

B. Portland Cement for Full-Depth Reclamation

1. Measurement Method: By the ton.
2. Payment for "Portland Cement for Full-Depth Reclamation" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to provide and apply portland cement to the FDR mix, complete in place, and as specified in the "Full Depth Reclamation with Portland Cement" Technical Specification section.
3. Weight tags shall be furnished to the Engineer at the job site. For bidding purposes, Contractor shall use a Portland cement application rate of four-percent (4%) by weight of the proposed blend of recycled pulverized asphalt pavement and aggregate base course. Contractor shall also submit an add/deduct price per ton for Portland cement that may exceed or reduce the four-percent (4%) base application rate. The actual target cement application rate for construction shall be determined by laboratory testing.

C. Micro-Cracking Treated Base

1. Measurement Method: By the square yard.
2. Payment for “Micro-Cracking Treated Base” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to micro-cracking with the roller vibrating at maximum amplitude and traveling at approximately walking speed (approximately 2-3 mph) of the FDR section, and as specified in the “Full Depth Reclamation with Portland Cement” Technical Specification section.

PRODUCTS

1.9 MATERIALS

- A. Recycled On-Site Materials: Material to be treated with portland cement shall consist of milled asphalt concrete, existing aggregate base, and/or native material.
- B. Existing pavement material shall be pulverized so that 100 percent will pass a 2-inch (50-mm) sieve and a minimum of 85 percent will pass a 1-inch (25-mm) sieve.
 1. If underlying soil conditions are unstable due to high moisture content, Contractor shall notify the Engineer for additional direction.
- C. Portland Cement: All cement to be used or furnished shall conform to ASTM C150. The cement shall be protected from moisture until used and be sufficiently dry to flow freely when handled. Cement shall be furnished in bulk and not exposed until applied to prepared grade.
- D. Water: Water shall be free from oils, acids, organic matter or other substances deleterious to the cement treatment of materials. The water shall not contain more than 1000 parts per million of chlorides nor more than 1000 parts per million of sulfates as SO₄. Water shall be clean and potable and shall be added as needed during mixing, compacting, and finishing operations and during the curing period, as required.
- E. Cement Application Rate: For bidding purposes, contractor shall use a portland cement application rate of four percent (4%) by weight of the proposed blend of recycled pulverized asphalt pavement and aggregate base course. Contractor shall also submit an add/deduct price per ton for portland cement that may exceed or reduce the four percent (4%) base application rate. The actual target cement application rate for construction shall be determined by laboratory testing.
- F. FDR-Cement Mixture: A preconstruction laboratory mix design shall be submitted to the Engineer that identifies the proportions of recycled pulverized asphalt pavement and aggregate base course used and the resulting gradation, and the recommended target contents of water and cement as percentages by weight of the blend of recycled materials. The mix design shall also include results of compressive strength testing of

corresponding mixture specimens per ASTM D5102 after seven (7) days of curing, for which the minimum requirement shall be 300 psi. Maximum compressive strength after seven (7) days of curing shall be 500 psi.

EXECUTION

1.10 SEQUENCE OF WORK

- A. Pulverize the existing asphalt concrete pavement and mix with the underlying materials (subgrade)
- B. Distribute pulverized materials to achieve grades. Some material may need to be off hauled to make space for the final HMA layer
- C. Mix in the water and cement
- D. Fine grade and compact the mixture
- E. Curing
- F. Microcracking
- G. Apply asphaltic emulsion after curing is complete, and before HMA placement
- H. Prepare surface for HMA paving

1.11 SITE EXPLORATION

- 1. Potholing to confirm utilities are not in conflict with the FDR depths.

1.12 LABORATORY EVALUATION

- A. Initial mix design shall be developed based upon field sampling of materials, taking them to a lab, and preparing the expected field blend of asphalt concrete, aggregate base, and/or SG, as needed. Test samples made from cement at different application rates added to this blend (as part of the ASTM method) shall cure in the lab for 7 days. Following 7 days, these various different cement content specimens shall be tested for strength. The cement content that yields samples that meet Caltrans and this specification 7 day lab compressive strength (300 to 500 psi) shall be used for field blending. Contractor shall follow the following steps for initial mix design:
- B. Cement Application Rate – Application rate shall be determined by laboratory testing to achieve an application rate that yields the specified minimum and maximum compressive strengths.
- C. FDR-Cement Mixture – A compressive strength of a minimum 300 psi after seven (7) days of curing (ASTM D5102). Maximum compressive strength after seven (7) days of curing shall be 500 psi.

- D. Compaction – FDR-cement section shall be compacted to 95 percent of maximum density as determined by ASTM D1557.
- E. Contractor’s QC shall perform the compressive strength and compaction tests on the FDR. The QC representative shall be on-site during the FDR work.

1.13 EXAMINATION

- A. Verify that intended elevations for the work are as indicated and accommodate the asphalt concrete overlay.
- B. Identify required lines, levels, contours, and datum locations.
- C. See Section 31 22 00 Grading for additional requirements.
- D. Routine Inspection and Testing per Paragraph 3.7-vi.
- E. Traffic Loading per Paragraph 3.7-xv

1.14 EQUIPMENT

- A. The FDR section shall be constructed utilizing a combination of equipment that will produce results that meet all the requirements herein. The list of equipment shall be submitted and approved by the Engineer prior to use of said equipment.
- B. Cement Spreader – The cement spreader shall be equipped with such instrumentation and control equipment to control spread rates over variable travel speeds. The operator shall demonstrate that the instrumentation and control equipment is calibrated and capable of controlling the spread rates within specifications.
- C. Application of Water - FDR machine must have independent and interlocked systems for water and must include the following:
 - 1. Digital electronic controller system
 - 2. Pumping system
 - 3. Spray bar system
- D. Mixer – The mixing equipment shall be capable of mixing the full specified depth of cement treatment, leaving a relatively smooth plane at the bottom of the FDR section. Mixing equipment shall be equipped with a visible depth indicator showing the mixing depth, and odometer or footmeter to indicate travel speed, and a controllable water additive system for regulating water added to the mixture. Treated material shall not be mixed or spread while the atmospheric temperature is below 35 °F.
- E. Water Storage - Storage equipment for water must not leak and must be attached to the FDR machine with a tow bar and hose.

- F. Grading - Grading equipment must be self propelled and reversible. A Motor Grader with automatic grade controls for profile elevation and cross slope must be used.
- G. Compactors – Compacting equipment must be self-propelled and reversible. The frequency and amplitude of vibrating rollers must be adjustable and exceed a force of 15 tons in vibratory mode. When compacting treated sections greater than eight (8) inches, a vibratory padfoot or open-ring, segmented steel wheel compactor capable of compacting or equivalent approved by the Engineer of sufficient capacity to compact the full depth.

1.15 PROTECTION OF EXISTING UTILITIES

- A. Where existing underground utilities or utility services lie within the FDR section, the contractor shall verify, by potholing or other means acceptable to and approved by the Engineer, that there is sufficient cover over the utilities to provide clearance for the FDR mixing process without damage to the existing utility facilities. This verification shall be carried out where each utility crosses the boundary of the FDR section, and at a minimum of one location in between. This paragraph shall not relieve the Contractor of conforming to all utility protection requirements contained elsewhere in these Technical Specifications.
- B. The Contractor shall be responsible for the protection of existing pipelines, manholes, catch basins, valve boxes and other utility structures that are to remain within the FDR work area. Any such utility facilities that are damaged from roadway excavation work performed by the Contractor shall be either repaired or replaced to the satisfaction of the Engineer at no cost to the District, in accordance with Section 5-1.36, “Property and Facility Preservation,” of the Caltrans Standard Specifications.

1.16 CONSTRUCTION METHODS

- A. Preparation of Existing Roadway –The existing asphalt concrete (AC) surfacing and the underlying base material shall be pulverized to a depth that reaches the bottom of the FDR design section, based on finished grades shown on the plans. When the thickness of the existing AC and base section is less than the depth specified on the plans, the pulverized depth may be reduced per Engineer’s approval.
 - 1. FDR depth shall be measured from the milled/pulverized grade ensuring that existing asphalt pavement is recycled in the process.
 - 2. The pulverized materials shall be graded to conform to the final road grades and cross slopes shown on the plans prior to application of cement. Where existing grades need to be matched (e.g., driveways, cross streets) the pulverized materials shall be graded to allow for construction of the HMA pavement of the thickness as specified on the plans. Grading operations will require some movement of material along the grade and off-haul to conform to the existing road grades and cross slopes minus the depth specified for the HMA pavement to allow for the new asphalt concrete section to be installed. Asphalt ramps shall be used when there exists an offset in elevation between

the pavement surface and the gutter lip during all paving and FDR operations.

3. Site Preparation Procedures
4. Clearing foreign matter including vegetation.
 - a. Removing standing water.
 - b. Referencing the existing profile and cross slopes.
 - c. Referencing the locations of low spots and drainage patterns.
 - d. Referencing the location and elevation of the existing edge of pavement
 - e. Marking the proposed limits of FDR section by delineating the edge of pavement.
 - f. Submitting the measured length, width(s) and the calculated area of pavement that will receive FDR treatment to the engineer. No FDR activity shall begin prior to the approval of the area by the engineer. Marking the proposed longitudinal cut lines on the existing pavement as follows:
 - 1) Cut lines must coincide with points where the existing cross slope changes, approximately at the centerline and edge of traveled way
 - g. If excess material is to be stored adjacent to the shoulder, clear and dispose of the weeds, grass, and debris from the area.
 - h. Set up traffic control devices per the approved TCP.
 - i. Provide access to driveways over the pulverized material.
 - j. Do not mill the surface prior to pulverizing.

B. Pulverization

1. Do not start FDR activities if ground is wet. Start FDR activities only when no rain is forecasted for 8 consecutive days.
2. No pulverization should occur when the ground is frozen or when the air temperature is below 40° F.
3. Do not pulverize more material than can be graded and compacted in one day.
4. Each cut should overlap with the previous cut by at least 4 inches.
5. Mark where the center of the pulverizing drum stops. Start the following cut on this alignment at least 2 feet behind the mark.
6. When the material is below optimum moisture content, the Contractor shall add water. If the material is above the optimum moisture content, the Contractor may recommend an amendment for the Engineer's review and approval. The pulverized material shall be sealed and properly drained at the end of the day or if rain is expected to minimize moisture content issues.

C. No more of the existing roadway sections shall be pulverized or removed in any working day than can be relaid as specified above in that working day. Pulverized material shall be temporarily compacted at the end of each day with a smooth drum roller, to allow for traffic.

D. Portland Cement Application

1. Do not apply dry cement in windy conditions. Application methods shall minimize dust.
2. Time elapsed from the start of cement placement on the soil to the start of mixing shall not exceed 30 minutes.
3. The Portland cement shall be applied in one operation to the required width, grade and cross section. Cement shall be evenly spread at the designated rate and shall not vary more than 10 percent on any area. Only a calibrated spreader able to provide a uniform distribution of the cement throughout the treatment area shall spread cement. The cement shall be added in a dry state and every precaution shall be taken to prevent dusting.
4. The spreader truck shall demonstrate the ability to maintain a consistent spread rate over variable travel speeds. The Contractor shall demonstrate the consistency of the spread rate by conducting multiple pan tests.
5. The pan test consists of placing a 3 square foot pan on the grade in front of the spreader truck. After cement has been spread, the cement is weighed to determine the rate of spread in pounds per square foot. The pan check shall verify the cement application rate follows the initial mix design cement content established per Section 3.3 Laboratory Evaluation.
6. Truck tags will be used to verify amount of cement delivered to project.
7. No traffic other than the mixing equipment or other related construction equipment shall be allowed to pass over the exposed cement until after completion of mixing.
8. Cement shall not be spread or mixed/hydrated while the atmospheric temperature is below 35° F or below 1.67° C. At the Engineer's discretion, processing will be allowed if temperature is rising.

E. Mixing and Hydrating

1. Mixing shall begin immediately after cement application.
2. The depth of treatment is designated in the plans or as determined by the Engineer. In areas where mixer cannot access, such as around manholes or curbs, process the same day by pulling the material away from obstacles immediately after cement application. To ensure a uniformly treated section,

any material/soil around manholes, utility risers, valves and adjacent to curbs/gutters or in corners, must have that material/soil excavated and pulled out to the depth of treatment and that reaches the bottom of the FDR design section taking into consideration the regrading of the section by either lowering or raising the crown, based on the grades shown on the plans. Material/soil and cement shall be relayed to an area accessible to mixing equipment.

3. Cement treatment can be conducted in one lift provided the contractor can demonstrate that the spread rate, particle size, and compaction can be achieved. The mixer shall be capable of automatically adjusting itself to maintain a constant depth. On the initial mix, the water truck must have a solid connection to the mixer. The water shall be injected directly into the mixing chamber and shall produce a homogenous blend free from streaks or pockets of dry cement. Leakage of water from equipment will not be permitted. Care shall be exercised to avoid the addition of any excessive water.
 4. When mixed material, exclusive of one (1) inch or larger clods, is sprayed with phenolphthalein alcohol indicator solution, areas showing no color reaction will be considered evidence of inadequate mixing.
 5. Contractor is required to complete mixing and initial compaction of the FDR-cement section within 2 hours of initial hydration of cement.
 6. Before compacting, remove solids larger than 3 inches in any dimension by hand
- F. Routine Inspection and Testing – For every 500 square yards of FDR or as determined necessary by the Engineer, an inspection will be undertaken by the Engineer that includes sampling and testing to determine whether the quality of the FDR material and workmanship provided complies with the requirements set forth in these specifications. Samples of the cement treated FDR blend will be obtained, cured for three (3) days as appropriate to simulate field curing methods, and tested for compressive strength. Contractor shall obtain strength curves from the initial mix design testing per Section 3.3 Laboratory Evaluation in order to compare the in-field three day compressive strength tests to the lab strengths. If the strength is not keeping up with what is expected from the laboratory testing or varies markedly from one test to another it shall be flagged by the Contractor and/or the Engineer.

G. Final Grading

1. Surface compaction and finish grading shall proceed in such a manner as to produce, in not more than two (2) hours from initial compaction, a smooth, closely knit surface conforming to the crown, grade and line indicated and will be free of cracks, ridges or loose material.
2. Maintain moisture content on surface within allowable range during all grading procedures.

3. All excess material above the grade tolerance specified by the plans should be removed from the grade prior to final surface compaction of the FDR section. This excess material can be used in areas inaccessible to treatment equipment, provided the cement base material is used within the allotted time constraints.

H. Compaction

1. Do not allow more than 2 hours between final mixing and completion of compaction with vibratory drum rollers.
2. Maintain moisture above the optimum moisture content, but within allowable range as determined by the moisture/density relationship of the compaction curve. The FDR-cement section shall be compacted to 95 percent of the maximum density as determined by ASTM D1557.
3. The maximum compacted thickness of a single layer may be any thickness the contractor can demonstrate to the Engineer that the equipment and method of operation will provide the required compacted density throughout the treated layer.
4. The FDR material compaction as a single lift, which includes initial compaction and surface compaction, is a two-step process and should be completed per the following requirements:
5. Initial compaction
6. Contractor shall achieve the project's minimum compaction requirement during initial compaction operation. If needed by project conditions, lift thickness of four (4) to eight (8) inches shall be by means of a steel-tired or pneumatic-tired roller. When compacting treated sections greater than eight (8) inches, a vibratory padfoot or open-ring, segmented steel wheel compactor (or equivalent approved by the Engineer) capable of compacting (the full depth shall be used. Areas inaccessible to rollers shall be compacted to the required compaction by other means satisfactory to the Engineer.
7. Surface compaction
8. Surface compaction is defined as the upper three (3) inches of the FDR section. Surface compaction shall be by means of steel-tired or pneumatic- tired roller. Areas inaccessible to rollers shall be compacted to the required compaction requirement by other means satisfactory to the Engineer.

I. Finishing

1. Immediately after compaction, apply water and roll with pneumatic-tired rollers or steel drum roller with no vibration.
2. The finished surface must be free of ruts, bumps, indentations, segregation,

raveling, and any loose material.

3. As compaction nears completion, the surface of the FDR material shall be shaped to the specified lines, grades, and cross sections.
4. If necessary or as required by the engineer, the surface shall be lightly scarified or broom-dragged to remove imprints left by equipment or to prevent compaction planes.
5. the surface shall be kept moist by means of water spray devices that will not erode the surface.
6. All finishing operations shall be completed within 4 hours from start of mixing

J. Curing

1. After placement and compaction of the FDR-cement section is completed, it shall be protected against drying and heavy traffic for 3 days.
2. The Engineer may reduce the 3-day cure period, based on factors such as degree of traffic, temperature, and stability.
3. During the cure period, the roadway will be open at all times to LOCAL TRAFFIC ONLY. Heavy vehicles and delivery trucks shall not be allowed within this 3-day cure period. See section below for locations of required tapers.
4. Curing shall be moist (water fogging), bituminous seal, or other method approved by the Engineer.
5. If moist curing is used, exposed surfaces of the FDR section shall be kept continuously moist with a fog spray for three (3) days.
6. If a bituminous curing is used, it shall consist of liquid asphalt or emulsified asphalt meeting the requirements of Section 94 "Asphaltic Emulsions" of the Caltrans Standard Specifications.
7. During the curing period, cement treated streets shall not be used to transport construction equipment between project sites.
8. If used, bituminous curing seal shall be applied in sufficient quantity to provide a continuous membrane over the soil at a rate of between 0.45 L/m² and 0.90 L/m² (0.10 and 0.20 gallon per square yard) of surface with the exact rate determined by the Engineer. It shall be applied as soon as possible after the completion of final rolling. The surface shall be kept moist while the seal is applied. At the time the bituminous material is applied, the soil surface shall be dense, shall be free of all loose and extraneous material, and shall contain sufficient moisture to prevent excessive penetration of the bituminous material.

K. Micro-cracking

1. Micro-cracking shall be done shortly after compaction but before the FDR section fully cures. This is typically from 48-72 hours after curing.
2. The Contractor shall use the same roller (steel-tired or pneumatic- tired roller) employed for compaction and apply three (3) passes over the section with the roller vibrating at maximum amplitude and traveling at approximately walking speed (approximately 2-3 mph) to induce the micro-cracks while making sure that surface damage does not occur.
3. Although surface damage should not occur, the Contractor shall inspect the process for verification and alter the process to prevent surface damage.

L. Protection

1. Maintain the subgrade in a smooth, compacted condition until placement of aggregate or hot mix asphalt.
2. Maintain dust control on the FDR surface during the time its open for traffic by watering minimum 2 times daily, including holidays and weekends. If dry and windy conditions exist, increase watering to minimum 3 times daily
3. Any damage to the treated subgrade shall be repaired by immediately replacing with similar treated material within 24 hours after damage.
4. After compaction, only rubber-tired vehicles or paving equipment shall be permitted on the treated surface.

M. Repair – If the FDR-cement section is damaged, it shall be repaired by removing and replacing the entire depth of affected layers in the damaged area. Feathering will not be permitted for repair of low areas.

N. Tapers

1. Temporary asphalt tapers/conform shall be provided where transverse joints are left in the pavement. No drop-off shall remain between the existing pavement and the removed area when the pavement is opened to public traffic. Asphalt concrete for temporary tapers shall be placed to the level of the existing pavement and tapered on a longitudinal slope of 1:30 max (Vertical:Horizontal) or flatter to the level of the existing pavement.
2. At the end of each day during the FDR operations, ramp-ups to resident and commercial driveways shall be provided by the Contractor to permit ingress/egress after work hours. The Contractor shall use the asphalt concrete millings to provide the ramps to driveways at a maximum slope 1" V in 12" H.

O. Traffic Loading

1. Once the FDR section is finished, contractor may be allowed to place subsequent structural layers over the FDR section provided that the following criteria are met:
2. The FDR section is stable and non-yielding under a minimum 15 ton proof-roll.
3. The FDR section has no evidence of shrinkage cracking.
4. The FDR section criteria have been met, including the FDR section thickness, percentage of cement placed, compressive strength, and quantity or volume of FDR treatment confirmed.
5. Completed portions of FDR base can be opened immediately to low-speed construction equipment, provided moist curing operations are not impaired, and provided the FDR base is sufficiently stable to withstand marring or permanent deformation.
6. Portions of the FDR base that are traveled on by equipment used in constructing an adjoining section shall be protected in such a manner as to prevent equipment from marring or damaging completed work.

P. Engineer's Acceptance

1. If unconfined compressive strength is not met, the Contractor shall remove the section and replace with AC.

Q. Surfacing

1. HMA placement can start at any time after finishing and curing is completed as long as the soil-cement is sufficiently stable to support the required construction equipment without marring or permanent distortion of the surface.
2. Contractor shall place the asphalt overlay no later than 7 days after initial pulverization.
3. Immediately before placing HMA, apply asphaltic emulsion at a rate from 0.03 to 0.05 percent residual binder content.

END OF SECTION

SECTION 32 11 23
AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base shoulder.
- B. Aggregate base course underneath asphalt concrete pavement, concrete curbs, and flatwork.
- C. Aggregate base for backfill of over-excavated areas.

1.2 RELATED REQUIREMENTS

- A. Section 31 22 00 – Grading
- B. Section 31 23 16 – Excavation
- C. Section 32 12 16 – Asphalt Paving
- D. Section 32 12 16.81 – Asphalt Pavement and Subgrade Stabilization
- E. Section 32 16 00 – Curbs, Gutters, Sidewalks, and Driveways

1.3 REFERENCE STANDARDS

- A. ASTM C136-14 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM D1557-12e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m<sup>3- C. ASTM D2487-11 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- D. ASTM D4318-10e1- Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2010.
- E. ASTM D6938-15 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).</sup>

1.4 SUBMITTALS

- A. Samples: 50 lbs. sample of each type of aggregate; submit in air-tight containers to the EBMUD testing laboratory in accordance with Section 01 33 00 – Submittal Procedures.
- B. Materials Sources: Submit name of imported materials source.
- C. Aggregate Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- D. Compaction Density Test Reports.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When aggregate materials need to be stored on site, locate stockpiles where designated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

1.6 UNIT PRICES

- A. Class 2 AB Shoulder Backing (4-Wide)
 - 1. Measurement Method: By the square foot
 - 2. Payment for “Class 2 AB Shoulder Backing (4-Wide)” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to transporting, moisture conditioning and compaction, proof-rolling, grading, and doing all the work involved to construct aggregate base shoulder, complete in place, and as specified in the “Aggregate Base Courses” Technical Specification section.
- B. Class 2 AB (8-Inch Depth)
 - 1. Measurement Method: By the cubic yard
 - 2. Payment for “Class 2 AB (8-Inch Depth)” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited transporting, to moisture conditioning and compaction, proof-rolling, grading, and doing all the work involved to construct

aggregate base layer for HMA paving, complete in place, and as specified in the “Aggregate Base Courses” Technical Specification section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Class 2 Aggregate Base, 3/4 inch maximum, conforming to Section 26 of the 2023 Caltrans Standard Specifications.

2.2 SOURCE QUALITY CONTROL

- A. Where aggregate materials are specified using ASTM D2487-11 classification, test and analyze samples for compliance before delivery to site.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate has been inspected, gradients and elevations are correct, and subgrade is dry.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.3 INSTALLATION

- A. At shoulder:
 - 1. Place Class 2 Aggregate Base, 3/4 inch maximum to a total compacted thickness of 6 inches.
 - 2. Compact to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- B. Under concrete curb & gutter, sidewalk, valley gutter. or curb ramps:
 - 1. Place Class 2 Aggregate Base, 3/4 inch maximum to a total compacted thickness of 6 inches.

2. Compact to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- C. Under base for backfill of over-excavated areas:
1. Place Tensar NX850 geogrid or approved equal and Class 2 Aggregate Base, 3/4 inch maximum to a total compacted thickness of 6 inches. Repeat process if additional over-excavation is required.
 2. Compact to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- D. Place Aggregate Base and roller compact to specified density.
- E. Level and contour surfaces to slopes indicated.
- F. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- G. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- H. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Flatness: Maximum variation of 1/2 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/2 inch.

3.5 FIELD QUALITY CONTROL

- A. Compaction density testing will be performed by the District on compacted aggregate base course in accordance with ASTM D6938-15. Requests for tests on Class 2 aggregate base should be made either the day before or by 8:30 am on the day when testing is required. To schedule tests call the Materials Testing Lab (MTL) reservation phone line at 510-287-1990. If no answer, leave a message with on-site contact person name, phone number, location, job number, approximate planned field test number, date and time preferred. MTL staff will call back to confirm. MTL will make every effort to accommodate same day test requests, but cannot guarantee fulfilling test requests made.
- B. If the District's MTL is unavailable to perform the compaction testing, the Engineer will take the role of the District and perform the compaction test.
- C. Contractor's QC shall perform the compaction density testing.
- D. The Engineer will perform the QA for the aggregate base work.

- E. Results will be evaluated in relation to compaction curve determined by testing un-compacted material in accordance with ASTM D1557- 12e1 ("modified Proctor").
- F. If tests indicate work does not meet specified requirements, remove work, replace and retest at no additional cost to the District.
- G. Frequency of Tests: One test per 1,000 square feet if conventional reconstruction alternative is chosen. One test per 300 linear feet for curb construction. Proof roll compacted aggregate at surfaces that will be under concrete flatwork and paving.

END OF SECTION

SECTION 32 12 16
ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: furnish and install asphalt paving for all the access roads, facilities, and parking areas and asphalt concrete dike as shown on the drawings and as specified herein.

1.2 RELATED SECTIONS:

- A. Section 31 23 13 – Subgrade Preparation
- B. Section 31 23 16 – Excavation
- C. Section 32 01 16.71 – Cold Milling Asphalt Paving
- D. Section 32 01 17 – Flexible Paving Repair
- E. Section 32 01 17.61 – Sealing Cracks in Asphalt Paving
- F. Section 32 01 23 – Full Depth Reclamation with Portland Cement
- G. Section 32 11 23 – Aggregate Base Courses
- H. Section 32 12 16.81 – Asphalt Pavement and Subgrade Stabilization

1.3 QUALITY ASSURANCE

- A. Referenced Standards
- B. State of California Department of Transportation: Standard Specifications, 2023 Edition (Caltrans SS).
- C. No aggregate base or asphalt concrete shall be placed until the subgrade has been approved by the Engineer.

1.4 SUBMITTALS

- A. Submit 50 lb. samples of paving aggregate to the Engineer for approval.
- B. Call (510) 287-1990 between 8:00 a.m. and 10:00 a.m. to make an appointment, then deliver the samples to the EBMUD Materials Testing Laboratory, 1100 21st Street, Oakland.

- C. Samples shall be representative of materials to be used in the work and shall be taken from the mixing plant at least 20 days but not more than 60 days prior to paving operations.
- D. Submit additional samples as required by the Engineer.
- E. Submit asphalt concrete mix design to the Engineer for approval.
- F. Submit not less than 20 days before beginning mixing operations.
- G. Contractor shall submit QC Plan for the asphalt concrete paving.

1.5 JOB CONDITIONS

- A. Weather limitations:
 - 1. Do not apply prime and tack coats when base subgrade is wet or contains an excess of moisture which would prevent uniform distribution and required penetration.
 - 2. Construct asphalt concrete surface course only when air temperature is above 50 degrees F, when underlying base is dry, and when weather is not rainy nor forecast to occur during the work.
 - 3. Base course may be placed when air temperature is above 40 degrees F and rising.

1.6 UNIT PRICES

- A. CALTRANS Type "A" AC Dike
 - 1. Measurement Method: By linear foot of dike replaced.
 - 2. Payment for "CALTRANS Type "A" AC Dike" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to constructing HMA dike, asphalt binder, backfill, and preparation of the area, removal of soil material to construct the dike, complete in place, and as specified in the "Asphalt Concrete" Technical Specification section.
- B. Hot Mix Asphalt (Type A) of the various depths listed in the bid schedule
 - 1. Measurement Method: By the ton of asphalt placed.
 - 2. Payment for Hot Mix Asphalt (Type A) of the various depths listed in the bid schedule includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to constructing asphalt concrete, including mix design preparation, Quality Control Plan (QCP) production, production and testing cost for HMA verification, quality control testing, and core densities, deliveries, binder, and

tack coat, complete in place, and as specified in the “Asphalt Concrete” Technical Specification section

3. Material delivery tickets (tags) shall be submitted daily by the Contractor to the Engineer.

PART 2 - PRODUCTS

2.1 HEADER BOARDS

- A. Construction heart grade redwood, with redwood or steel form stakes and hot-dip galvanized nails.
- B. AGGREGATE BASE
- C. Refer to Section 32 11 23 for information on aggregate base.

2.2 PAVING MATERIALS

- A. Base primer:
 1. Liquid asphalt Type SC-70 conforming to CSS Section 93
- B. Tack coat:
 1. Asphaltic emulsion, Type SS-1 or Type SS-1h conforming to CSS Section 94
- C. Asphalt concrete:
 1. Aggregate: 1/2" Hot Mix Asphalt (HMA) Type A, conforming to CSS Section 39-2.02B(4)
 2. Paving asphalt: Grade PG 64-10, conforming to CSS Section 92
 3. Mix design: Comply with CSS Section 39-2.02B(2)

2.3 HOT MIX ASPHALT DIKE

- A. Shall be constructed according to Section 39-2.01B(11), “Miscellaneous Areas and Dikes”, of the Caltrans 2023 Standard Specifications.
 1. HMA shall be 1/2-inch Type A HMA aggregate gradation with a minimum asphalt binder content of 5.70%.
 2. Asphalt binder shall be PG-64-10 or PG64-16.

PART 3 - EXECUTION

3.1 PREPARATION FOR PAVING

- A. Scarify subgrades for road and parking areas to a depth of at least 6 inches, moisture condition as required, and compact to at least 95 percent relative compaction in accordance with Section 31 23 13.
 - 1. Restore the subgrade to conform to elevation and compaction requirements. Subgrade shall be to tolerance of plus, or minus 1/2 inch prior to placement of aggregate base.
- B. Install headers, concrete adjacent to paving, and underground piping in areas to be paved prior to placing asphalt concrete.
- C. Set valve pots before paving.
- D. Install aggregate base in conformance with CSS Section 26-1.03 and compact to 95 percent relative compaction in accordance with Section 32 11 23.
 - 1. The surface of the finished aggregate base at any point shall not vary more than 1/2 inch (measured with 10 foot straight edge) above or below the required grade.
- E. Apply soil sterilizer to areas to be paved at rate recommended by manufacturer. Apply in sufficient water to ensure penetration of the solution through the aggregate base. Apply just prior to asphalt application.

3.2 INSTALLATION OF PAVING

- A. Do not pave on muddy or frozen subgrade or when atmospheric temperature is below 55 degrees F for lift thickness less than 0.15' or below 45 degrees F for lift thickness greater than or equal to 0.15'.
- B. Completely coat with tack coat at the edges of vertical surfaces against which asphalt concrete is to be placed and between asphalt. Brushes and daubers shall not be used for coating application.
- C. Apply base primer at a rate of 1/4-gallon minimum per square yard and in accordance with CSS Section 39.
 - 1. Apply sufficient material to penetrate and seal, but not flood, the surface.
 - 2. Allow surfaces to dry until tack coat material is in proper condition of tackiness to receive asphalt concrete mixture.
- D. Spread and compact asphalt concrete materials in accordance with CSS Section 39. Paved surface shall be smooth and shed water at all points.

- E. Do not open new asphalt to traffic until the surface temperature is 155 degrees or less.
- F. Tolerance of finished grade shall be between 0 and +1/4-inch at any point. The surface shall drain at all points.

3.3 HOT MIX ASPHALT DIKE REPLACEMENT

- A. The specific locations of HMA dike will be verified by the Contractor and Engineer in the field.
- B. Dikes shall be shaped and compacted with an extrusion machine or other equipment capable of shaping and compacting the material to match the existing cross section.

3.4 ACCEPTANCE AND QUALITY CONTROL

- A. Inspection and testing will be performed as directed below or as included in each section:
 - 1. Each 750 tons, or part thereof, placed in a paving day will be considered as one sublots.
 - 2. In place density shall be between 92.0 percent and 96.0 percent of maximum theoretical unit weight using a nuclear gauge. Gauge compaction shall be performed in accordance with CTM 375.
 - a. The Engineer will collect samples and verify the mix, including the conformance with aggregate quality characteristic at the beginning of the project.
 - b. The Engineer will also test for air void content, Hveem stability and voids in mineral aggregate (VMA) at least once per day.
 - 3. Contractor quality control is optional. However, if the contractor fails to submit quality control result to the Engineer within 72 hours of HMA Placement, the Contractor waives all rights to dispute the Engineer's result.
 - 4. Test the samples and report test results, except for California Test 389 and AASHTO T 283 test results, within 5 business days of sampling. For California Test 389 and AASHTO T 283 test results, report test results within 15 days of sampling. If you proceed before receipt of the test results, the Engineer may consider the HMA placed to be represented by these test results.
 - 5. In the event when nuclear gauge compaction test results are failing, the Contractor can request coring to verify the results. Three cores will be sampled for each subplot and the average of the three cores for each subplot will determine the in-place density. The core locations will be determined using random sampling charts in CTM 375.

- a. Cores may be taken up to 5 calendar days after placement and may be 4 or 6 inches in diameter. The Engineer will provide results within 3 working days of receiving the cores.
 - b. Passing cores shall be paid for by the owner. Failing cores will be paid for by the Contractor. If the core testing procedures both passing and failing cores, the cost will be prorated between the Contractor and the owner.
6. The Engineer may withhold acceptance in the event of any failing test result until the Contractor has addressed the failing material to the Engineer's satisfaction.
- B. As directed by the Engineer, the District's Geotechnical Engineer will:
1. Be notified by the project Engineer of requests for field compaction tests either the day before or by 8:30 am on the day when the testing is required. If District's Geotechnical Engineer is not available to assist, the Engineer shall support the District with performance of work, soil conditions encountered and laboratory and field density testing.
 2. Be present at the site intermittently during work to observe performance of work and soil conditions encountered. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
 3. Perform laboratory and field density tests to evaluate compaction achieved. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
 4. Observe methods of compaction and report findings to the Engineer. When the District's Geotechnical Engineer is unavailable, the project Engineer shall fulfill this role.
- C. The Contractor shall;
1. Cooperate with the District's Geotechnical Engineer in all aspects of the work.
 2. Notify the Engineer and the District's Geotechnical Engineer at least 4 working days prior to required observation or testing.
 3. Be responsible for expense of all retesting of subgrade, aggregate base, or FDR section found to be inadequate at firsts testing, including fees for travel, personnel time, laboratory expenses, office work, supervision, and testing which may be incurred by reason of such retesting. The Engineer will deduct such expenses from monies due the contractor under the Contract.
- D. Earthwork shall NOT be performed without direct knowledge of the District's Geotechnical Engineer unless otherwise directed by the Engineer

END OF SECTION

SECTION 32 12 16.81

ASPHALT PAVEMENT AND SUBGRADE STABILIZATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: subgrade stabilization and repair of failed asphalt concrete pavement. All excavated materials regardless of its nature resulting from the work required by these specifications shall become the property of the Contractor and shall be disposed of in accordance with all applicable state and Federal regulations and the approved Waste Management Plan. Contractor shall sample and test the excavated materials as indicated in Section 01 35 44. The Contractor shall also notify USA and confirm the existence, location, and depth of underground utilities prior to commencement of this work.
- B. Related sections:
 - 1. Section 01 18 05 – Project Utility Sources and Site Conditions
 - 2. Section 31 05 19.19 – Geogrid for Earthwork
 - 3. Section 31 22 00 – Grading
 - 4. Section 31 23 13 – Subgrade Preparation
 - 5. Section 31 23 16 – Excavation
 - 6. Section 32 11 23 – Aggregate Base Courses
 - 7. Section 32 12 16 – Asphalt Paving

1.2 QUALITY ASSURANCE

- A. Contractor shall notify the Engineer of the source of materials and mixing plant at least 2 weeks in advance of paving operations in order that acceptance tests can be completed.
- B. Referenced Standards
 - 1. State of California Department of Transportation: Standard Specifications, 2023 Edition (Caltrans SS).
- C. No aggregate base, geogrid, or asphalt concrete shall be placed until the subgrade has been approved by the Engineer for paving.

1.3 SUBMITTALS

- A. Contractor shall submit certificates from materials suppliers stating compliance with the requirements of this Section including compaction curve of subgrade materials.
 - 1. Include batch numbers and dates in submittal, District will inspect containers onsite.
- B. Submit 50 lb. samples of aggregate to the Engineer for approval.
 - 1. Call (510) 287-1990 between 8:00 a.m. and 10:00 a.m. to make an appointment, then deliver the samples to the EBMUD Materials Testing Laboratory, 1100 21st Street, Oakland.
 - 2. Samples shall be representative of materials to be used in the work and shall be taken from the mixing plant at least 20 days but not more than 60 days prior to paving operations.
 - 3. Submit additional samples as required by the Engineer.
- C. Submit asphalt concrete mix design to the Engineer for approval.
- D. Submit not less than 20 days before beginning mixing operations.

1.4 JOB CONDITIONS

- A. Weather limitations:
 - 1. Do not apply prime and tack coats when base subgrade is wet or contains an excess of moisture which would prevent uniform distribution and required penetration.
 - 2. Do not pave on muddy or frozen subgrade or when atmospheric temperature is below 55 degrees F for lift thickness less than 0.15' or below 45 degrees F for lift thickness greater than or equal to 0.15'.
 - 3. Base course may be placed when air temperature is above 40 degrees F and rising.

1.5 COORDINATION

- A. Underground Services Alert (U.S.A.)
 - 1. The Contractor shall notify U.S.A. 800-642-2444 (or dial 811), as directed in Section 01 18 05 so that underground lines can be marked. Contractor shall exercise care during excavation or demolition, particularly in locations with utilities that will remain in service. It shall be the Contractor's responsibility to confirm the existence, location and depth of underground utilities on or near subgrade stabilization areas.

1.6 UNIT PRICES

A. Roadway Pavement Subgrade Stabilization

1. Measurement Method: By the square foot
2. Payment for "Roadway Pavement Subgrade Stabilization" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to delivery, data coring, Quality Control testing, moisture conditioning and compaction, proof-rolling, excavation, and grading, and doing all the work involved to stabilize the subgrade, install class 2 aggregate base, geogrid, asphalt concrete paving, tack coat, and binder, complete in place, and as specified in the "Asphalt Pavement and Subgrade Stabilization" Technical Specification section.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE

- A. Aggregate base shall conform to Section 32 11 23.

2.2 GEOGRID

- A. See Section 31 05 19.19 Geogrid for Earthwork

2.3 PAVING MATERIALS

A. Base primer:

1. Liquid asphalt Type SC-70 conforming to CSS Section 93

B. Paint binder or tack coat:

1. Asphaltic emulsion, Type SS-1 or Type SS-1h conforming to CSS Section 94

C. Asphalt concrete:

1. Aggregate: 1/2" Hot Mix Asphalt (HMA) Type A, CSS Section 39
2. Paving asphalt: Grade PG 64-10, conforming to CSS Section 92
3. Mix design: Conform to CSS Section 39

2.4 PAVEMENT MARKINGS

- A. Replacement of pavement markings and striping shall be thermoplastic, and pavement markers and shall conform to Section 32 17 23.

PART 3 - EXECUTION

3.1 INSTALLATION OF AGGREGATE BASE AND ASPHALT SURFACING

- A. Pavement materials and/or base shall be removed to a total depth of 18" from top of existing surface.
- B. Surplus excavated soils shall be disposed of at a licensed disposal facility. The contractor shall follow the disposal requirements of the Waste Management Plan described in Section 01 35 44 Environmental Requirements.
- C. If saw-cutting is used to repair failed areas it shall be performed with a diamond saw blade along the dimensions indicated, extending the entire depth of the existing asphalt concrete.
- D. Re-compact exposed soil/subgrade to 95% of maximum dry density (ASTM D1557).
- E. Subgrade areas that do not meet the compaction requirements shall be reworked and retested or over-excavated as described below. Prior to placing HMA, subgrade shall be proof rolled to verify compaction of subgrade is minimum 95% M.D.D. Care should be taken to not over compact/overwork subgrade resulting in yielding or pumping.
- F. After compaction of the subgrade is met, Contractor shall install a Tensar InterAx NX850 or approved equal geogrid layer along the limits of subgrade stabilization.
 - 1. Contractor shall place geogrid longitudinal (parallel to the direction of travel) and overlap geogrid 3-feet with the upslope geogrid placed above the lower slope grid (shingle effect) and connected with heavy gauge U-shaped staples driven into the subgrade every 5-feet along the overlap seam.
- G. The Contractor shall install on top of the geogrid a 6-inch layer of class 2 AB compacted to 95% M.D.D.
- H. Following the AB layer the Contractor shall install another layer of geogrid per Paragraph F above. Then another 6-inch layer of class 2 AB compacted to 95% M.D.D.
- I. Finally, asphalt concrete paving (6-inches thick) shall be placed and compacted according to the subgrade stabilization detail shown on the plans. Tack coat (per Paragraph 2.3B above) shall be applied to all pavement surfaces and between lifts. The final lift shall not be less than one and one-half (1-1/2) inches in compacted thickness nor more than three (3) inches.
- J. Conform to CSS Section 26 and applicable specifications for aggregate base installation. Pavement edges shall conform to existing, surface shall be smooth and shed water at all points.

- K. Conform to CSS Section 39 and applicable specifications for asphalt concrete installation.
- L. Do not open new asphalt to traffic until the surface temperature is 155 degrees or less.
- M. Incorporate pavement markings.
- N. Replace all street markings removed or destroyed.

3.2 ACCEPTANCE AND QUALITY CONTROL

- A. See Section 32 12 16 for HMA acceptance and quality control.

END OF SECTION

SECTION 32 12 36.01

RUBBERIZED CHIP SEAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: rubberized chip seal shall consist of an application of rubberized asphalt binder and hot screenings pre-coated with paving asphalt. Rubberized chip seal shall conform to the provisions specified for seal coat in Section 37-2, "Seal Coats," of the Caltrans Standard Specifications and these specifications.
- B. Related sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 31 11 00 – Clearing and Grubbing
 - 3. Section 32 01 17 – Flexible Paving Repair
 - 4. Section 32 01 17.61 – Sealing Cracks in Asphalt Paving
- C. Definitions
 - 1. Crumb rubber modifier: Combination of ground or granulated high natural scrap tire crumb rubber and scrap tire crumb rubber derived from waste tires described in Public Resources Code § 42703.
 - 2. Descending viscosity reading: Subsequent viscosity reading at least five (5%) percent lower than the previous viscosity reading.
 - 3. High natural crumb rubber: Material containing 40 to 48 percent natural rubber.
 - 4. Scrap tire crumb rubber: Any combination of vehicle tires or tire buffing.

1.2 SUBMITTALS

- A. At least 5 business days before use, submit the permit issued by the local air district for asphalt rubber binder field blending equipment and application equipment. If an air quality permit is not required by the local air district for producing asphalt rubber binder, submit verification from the local air district that an air quality permit is not required.
- B. For each delivery of asphalt rubber binder ingredients and asphalt rubber binder to the job site, submit a certificate of compliance and a copy of the specified test

results. Submit a certified volume or weight slip for each delivery of asphalt rubber binder ingredients and asphalt rubber binder.

- C. Submit a safety data sheet for each asphalt rubber binder ingredient and the asphalt rubber binder.
- D. At least 15 days before use, submit:
 - 1. Samples of each asphalt rubber binder ingredient:
 - a. 2 lbs of scrap tire crumb rubber
 - b. 2 lbs of high natural scrap tire crumb rubber
 - c. Two 1-quart cans of base asphalt binder
 - d. Two 1-quart cans of asphalt modifier
 - 2. Asphalt rubber binder formulation and data as follows:
 - a. For asphalt modifier, include:
 - 1) Source of asphalt modifier
 - 2) Type of asphalt modifier
 - 3) Percentage of asphalt modifier by weight of asphalt binder
 - 4) Percentage of combined asphalt binder and asphalt modifier by weight of asphalt rubber binder
 - 5) Test results for the specified quality characteristics
 - b. For crumb rubber modifier, include:
 - 1) Each source and type of scrap tire crumb rubber and high natural scrap tire crumb rubber
 - 2) Percentage of scrap tire crumb rubber and high natural scrap tire crumb rubber by total weight of asphalt rubber binder
 - 3) Test results for the specified quality characteristics
 - c. For asphalt rubber binder, include minimum reaction time and temperature
- E. Immediately after sampling, submit five 1-quart cans of asphalt rubber binder taken in the presence of the Engineer. Sample must be submitted in insulated shipping containers.

- F. Submit notification 15 minutes before each viscosity test or submit a schedule of testing times. Submit the log of asphalt rubber binder descending viscosity test results within 1 business day after sampling. Submit asphalt rubber binder quality control viscosity test results within 1 business day after sampling.

1.3 UNIT PRICES

A. Rubberized Chip Seal

- 1. Measurement Method: By the square yard.
- 2. Payment for “Rubberized Chip Seal” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to transporting, placing rubberized chip seal at the locations shown on the plans and sweeping until excess aggregate that has raveled from the surface has been removed, complete in place, and as specified in the “Rubberized Chip Seal” Technical Specification section.

PART 2 - PRODUCTS

2.1 ASPHALT RUBBER BINDER

- A. Asphalt rubber binder must be a combination of:
 - 1. Asphalt binder
 - 2. Asphalt modifier
 - 3. Crumb rubber modifier (CRM)
- B. The blending equipment must allow the determination of weight percentages of each asphalt rubber binder ingredient.
- C. Asphalt rubber binder must be 79 ± 1 percent by weight asphalt binder and 21 ± 1 percent by weight of crumb rubber modifier. The minimum percentage of crumb rubber modifier must be 20.0 percent and lower values may not be rounded up.
- D. Crumb rubber modifier must be 75 ± 2 percent by weight scrap tire crumb rubber and 25 ± 2 percent by weight high natural scrap tire crumb rubber.
- E. An asphalt modifier and asphalt binder must be blended at the production site. An asphalt modifier must be from 2.5 to 6.0 percent by weight of the asphalt binder in the asphalt rubber binder. The asphalt rubber binder supplier determines the exact percentage.
- F. If blended before adding CRM, the asphalt binder must be from 375 to 440 degrees F when an asphalt modifier is added and the mixture must circulate for at least 20 minutes. An asphalt binder, asphalt modifier, and CRM may be proportioned and combined simultaneously.

- G. The blend of an asphalt binder and an asphalt modifier must be combined with the CRM at the asphalt rubber binder production site. The asphalt binder and asphalt modifier blend must be from 375 to 440 degrees F when the CRM is added. Combined ingredients must be allowed to react at least 45 minutes at temperatures from 375 to 425 degrees F except the temperature must be at least 10 degrees F below the flash point of the asphalt rubber binder.
- H. After reacting, the asphalt rubber binder must comply with the requirements shown in the following table:

Asphalt Rubber Binder

Quality characteristic	Test method	Value	
		Min	Max
Cone penetration @ 25 °C, 1/10 mm	ASTM D 217	25	70
Resilience @ 25 °C, percent rebound	ASTM D 5329	18	50
Field softening point, °C	ASTM D 36	52	74
Viscosity @190 °C, Pa • s (x10 ⁻³)	ASTM D7741	1,500	4,000

Maintain asphalt rubber binder at a temperature from 375 to 415°F.

2.2 ASPHALT BINDER

- A. Asphalt binder for asphalt rubber binder chip seal (seal coat) must be PG 64-16 or PG 64-10 and conform to Section 92 of the Caltrans Standard Specifications.

2.3 ASPHALT MODIFIER

- A. Asphalt modifier must be a resinous, high flash point, and aromatic hydrocarbon. Asphalt modifier must have the values for the quality characteristics shown in the following table:

Asphalt Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Value
Viscosity, m ² /s (x 10 ⁻⁶) at 100 °C	ASTM D 445	X ± 3 ^a
Flash point, CL.O.C., °C	ASTM D 92	207 min
Molecular analysis:		
Asphaltenes, percent by mass	ASTM D 2007	0.1 max
Aromatics, percent by mass	ASTM D 2007	55 min

^a "X" denotes the proposed asphalt modifier viscosity from 19 to 36. A change in "X" requires a new asphalt rubber binder submittal.

2.4 CRUMB RUBBER MODIFIER

- A. Crumb rubber modifier must be ground or granulated at ambient temperature.
- B. Scrap tire crumb rubber and high natural crumb rubber must be delivered to the asphalt rubber binder production site in separate bags.

- C. Steel and fiber must be separated. If steel and fiber are cryogenically separated, it must occur before grinding and granulating. Cryogenically-produced crumb rubber modifier particles must be large enough to be ground or granulated.
- D. Crumb rubber modifier must be dry, free-flowing particles that do not stick together. A maximum of three percent (3%) calcium carbonate or talc by weight of crumb rubber modifier may be added. Crumb rubber modifier must not cause foaming when combined with the asphalt binder and asphalt modifier.
- E. The CRM must comply with the requirements shown in the following table:

CRM for Asphalt Rubber Binder

Quality characteristic	Test Method	Requirement
Wire in CRM (max, %)	California Test 385	0.01
Fabric in CRM (max, %)	California Test 385	0.05
CRM particle length (max, in)	--	3/16
CRM specific gravity	California Test 208	1.1-1.2
Natural rubber content in high natural CRM (%)	ASTM D297	40.0-48.0D

- F. When tested under ASTM D 297, crumb rubber modifier must comply with the requirements shown in the following table:

Crumb Rubber Modifier

Quality characteristic	Scrap tire crumb rubber (percent)		High natural rubber (percent)	
	Min	Max	Min	Max
Acetone extract	6.0	16.0	4.0	16.0
Rubber hydrocarbon	42.0	65.0	50.0	--
Natural rubber content	22.0	39.0	40.0	48.0
Carbon black content	28.0	38.0	--	--
Ash content	--	8.0	--	--

- G. Scrap tire crumb rubber must have the gradation shown in the following table:

Sieve size	Gradation limit (%)
No. 8	100
No. 10	98-100
No. 16	45-75
No. 30	2-20
No. 50	0-6
No. 100	0-2
No. 200	0

H. High natural rubber gradation must have the gradation shown in the following table:

Sieve size	Gradation limit (%)
No. 10	100
No. 16	95-100
No. 30	35-85
No. 50	10-30
No. 100	0-4
No. 200	0-1

I. Screenings: Before precoating with asphalt binder when tested under California Test 202 the screenings must be 3/8" and have the gradation and properties shown below.

**ASPHALT RUBBER BINDER CHIP
SEAL AGGREGATE GRADATION**

<u>Sieve Sizes</u>	<u>Percent Passing</u>
3/4"	100
1/2"	95-100
3/8"	70-85
#4	0-15
#16	0-5
#200	0-1 *

*Wet sieve requirement

TESTING REQUIREMENTS

<u>Test</u>	<u>CA Test Method</u>	<u>Requirements</u>
Loss in Los Angeles Rattler (after 100 revolutions)	211	10% max
Loss in Los Angeles Rattler (after 500 revolutions)	211	40% max
Film Stripping	302	25% max
Cleanness Value	227	80 min
Durability	229	52 min

PART 3 - EXECUTION

3.1 EQUIPMENT

A. Equipment for rubber chip seal must include and comply with the following:

1. Screenings haul trucks. Haul trucks must have:

- a. Tailgates that discharge screenings
 - b. Devices to lock onto the rear screenings spreader hitch
 - c. Dump beds that will not push down on the spreader when fully raised
 - d. Dump beds that will not spill screenings on the roadway when transferred to the spreader hopper
 - e. Tarpaulins to cover pre-coated screenings when haul distance exceeds 30 minutes or ambient temperature is less than 65 °F.
2. Self-propelled screenings spreader. The spreader must have:
 - a. Screenings hopper in the rear
 - b. Belt conveyors that carry the screenings to the front
 - c. Spreading hopper capable of providing a uniform screening spread rate over the entire width of the traffic lane in one application.
 3. Self-propelled power vacuum assisted brooms. Do not use gutter brooms or steel-tined brooms. Brooms must be capable of removing loose screenings adjacent to barriers that prevent screenings from being swept off the roadway, including curbs, gutters, dikes, berms, and railings.
 4. Pneumatic-tired rollers. Pneumatic-tired rollers must be an oscillating type at least 4 feet wide. Each roller must be self-propelled and reversible. Pneumatic tires must be of equal size, diameter, type, and ply. The roller must carry at least 3,000 lbs. of load on each wheel and each tire must have an air pressure of 100 ± 5 psi.

B. Asphalt Rubber Equipment

1. Equipment for asphalt rubber application must include and comply with the following:
 - a. Tank to heat and maintain the temperature of blended asphalt binder and asphalt modifier before adding crumb rubber modifier. The tank must have a thermostatic heat control device and a temperature reading device accurate to within 5 °F. The heat control device must be the recording type.
 - b. Mechanical mixer for complete, homogeneous blending of asphalt binder, asphalt modifier, and crumb rubber modifier. Asphalt binder and asphalt modifier must be introduced into the mixer through meters. The blending system must vary the rate of delivery for asphalt binder and asphalt modifier proportionate to crumb rubber modifier delivery. The mixer must not allow the temperature of asphalt binder and asphalt modifier to

vary more than 25 °F. Each ingredient feed must be equipped with a rate-of-feed indicator for determining the amount delivered during production. The meters used to proportion each liquid ingredient must be equipped with rate-of-flow indicators with resettable totalizers so that the total amount can be determined. Feed liquid and dry ingredients directly into the mixer at a uniform and controlled rate. Reduce the quantity of ingredients in the mixer if dead areas occur. The mixer must have a safe sampling device that delivers completed asphalt rubber binder in the quantity needed for testing.

- c. Storage tank for asphalt rubber binder. The storage tank must have a heating system to maintain the temperature and an internal mixing device to prevent separation.
- d. Self-propelled distributor truck. The truck must have the following features:
 - 1) Heating unit
 - 2) Internal mixing unit
 - 3) Pumps that spray asphalt rubber binder within 0.05 gal/sq yd of the specified rate
 - 4) Fully circulating spray bar that applies asphalt rubber binder uniformly
 - 5) Tachometer
 - 6) Pressure gages
 - 7) Volume measuring devices
 - 8) Thermometer
 - 9) Observation platform on the rear of the truck for an observer on the platform to see the nozzles and unplug them if needed.

3.2 SURFACE PREPARATION

- A. Pavement must be completely dry and clean prior to the application of asphalt rubber chip seal.
- B. Special care shall be taken to clean the pavement before the chip seal application. Immediately prior to the application of the chip seal, the surface to receive the chip seal shall be cleaned by vacuum assisted power brooming or another approved method to remove all vegetation, loose particles of paving, all dirt, and all other extraneous material. Vegetation shall be removed from cracks in pavement and at the interface of pavement and gutter prior to sweeping. The Contractor shall blow

the cracks clean of loose materials, away from pavement or previously cleaned cracks, with a high-pressure air nozzle (90 psi or greater and free of oil). Pavements impregnated with grease, oil, or fuel shall be thoroughly scrubbed with water and an approved detergent and then flushed and swept clean. Wash water shall be vacuumed up and disposed of and shall not be permitted to enter the storm drain system. Contractor shall be responsible for sweeping the streets until sufficiently cleaned to the satisfaction of the Engineer. Streets shall be swept from face of curb to face of curb. Pavement missed by or inaccessible to power brooms shall be swept manually or by other methods approved by the Engineer.

- C. All existing temporary and permanent pavement markers and temporary delineation shall be removed in accordance with Section 15, "Existing Facilities," of the Caltrans Standard Specifications.
- D. Immediately before commencing the seal operations, all surface metal utility covers (including survey monuments) shall be protected by thoroughly covering the surface with an appropriate adhesive and paper or plastic. No adhesive material shall be permitted to cover, seal or fill the joint between the frame and cover of the structure. Covers are to be uncovered and cleaned of chip seal material by the end of the same workday.

3.3 PRECOAT SCREENINGS

- A. Screenings must be preheated from 260 to 325 degrees F. Coat with PG 64-16 binder. Coat screenings at a central mixing plant. The asphalt must be from 0.5 to 1.0 percent by weight of dry screenings. The plant must be authorized under California Test Method 109. Do not stockpile preheated or pre-coated screenings. Do not begin site clearing until receipt of notification to proceed from the Engineer.

3.4 APPLICATION OF ASPHALT RUBBER BINDER

- A. Apply the asphalt rubber binder when the ambient temperature is from 60 to 105 degrees F and the pavement surface temperature is at least 55 degrees F.
- B. Do not apply the asphalt rubber binder unless enough aggregate is available at the job site to cover the asphalt rubber binder within 2 minutes. Intersections, turn lanes, gore points, and irregular areas must be covered within 15 minutes.
- C. Do not apply asphalt rubber binder when pavement is damp or during high wind conditions. If authorized, you may adjust the distributor bar height and distribution speed and use shielding equipment during high wind conditions.
- D. When applied, the temperature of the asphalt rubber binder must be from 385 to 415 degrees F. Apply the asphalt rubber binder at a rate from 0.55 to 0.65 gal/sq yd. You may reduce the application rate by 0.050 gal/sq yd in the wheel paths.
- E. Place rubberized chip seal (RCS) no closer than 0.5 feet and no farther than 1 foot from all utility covers (e.g. manhole covers, grates, valve covers, and monument

boxes, etc.) Do not place RCS closer than 1 foot from the lip of the curb and gutter, or at the limits of the RCS treatment area, unless otherwise directed by the Engineer.

3.5 SPREADING SCREENINGS

- A. Prevent vehicles from driving on asphalt rubber binder before spreading screenings. Broom excess screenings at joints before spreading adjacent screenings. Operate the spreader at speeds slow enough to prevent screenings from rolling over after dropping. If the spreader is not moving, screenings must not drop. If you stop spreading and screenings drop, remove the excess screenings before resuming activities. During transit, cover pre-coated screenings for asphalt rubber seal coat with tarpaulins if the ambient air temperature is below 65 degrees F or the haul time exceeds thirty (30) minutes. At the time of application, screenings for asphalt rubber seal coat must be from 225 to 325 degrees F.
- B. Spread screenings at a rate from 28 to 40 pounds per square yard . Select the rate that yields uniform and complete single rock coverage. Avoid placing screenings such that two or more thicknesses of rock are present. Do not spread aggregate more than 200 feet ahead of the completed initial rolling.

3.6 ROLLING AND SWEEPING OPERATIONS

- A. Chip seal shall be finished and screenings compacted in accordance with Section 37-2.04C(5) of the Caltrans Standard Specifications, with the following modifications:
 - 1. A minimum of three (3) pneumatic tired rollers conforming to the requirements specified in Section 37-2.01C(2) "Equipment", of the Caltrans Standard Specifications shall be used.
 - 2. Operate rollers at a maximum speed of five (5) mph. Do not permit the aggregate to be displaced by pickup or sticking of material to the tire or drum surfaces. Roll the surface to uniformity and thoroughly bond the aggregate over the full width. Complete rolling within one (1) hour after asphalt is applied to the surface.
 - 3. Where the asphalt-rubber distributor truck creates a joint by stopping at some point along the length of the roadway, the screenings spreader shall stop short of this joint, leaving a small strip of uncovered asphalt rubber. This is to prevent an overlapping double thickness joint from being created once work resumes. All reasonable precautions shall be taken to avoid skips and overlaps at joints. Any defect shall be corrected at the Contractor's expense by use of a shovel and/or broom prior to continuing operations.
 - 4. The seal coat shall be applied in such a manner that the joint between the new and existing surface is neat and uniform in appearance, true to the line shown on the plans, and as established by the Engineer. The cut-off of asphalt rubber binder shall be made on building paper or similar material spread over the surface.

5. Initial rolling of the asphalt-rubber chip seal shall consist of a minimum of one (1) complete coverage with three pneumatic-tired rollers working in tandem and shall begin immediately behind the screenings spreader. The distance between the rollers and the screenings spreader shall not exceed 200 feet at any time during the spreading of screenings operations.
6. A minimum of three (3) additional complete coverages with the three pneumatic-tire rollers shall be made after the initial coverage on the asphalt-rubber chip seal.
7. In addition to the three pneumatic-tired rollers one (1) 8–10-ton steel wheel roller in static mode shall be used on the final pass as the finish roller. If aggregate crushing is observed, stop rolling.
8. Limit traffic speeds to fifteen (15) mph for twenty-four (24) hours after rolling operations have ceased; use of pilot cars may be necessary for the roadways that are typically driven on at higher rate of speed.
9. Contractor shall maintain existing grade of the facilities as specified in the Contract Drawing.

3.7 FINAL SWEEPING

- A. A minimum of three (3) vacuum sweepers shall be used that are capable of cleaning the existing pavement and removing loose screenings without dislodging screenings set in the asphalt-rubber chip seal. Gutter brooms or steel-tined brooms shall not be used.
- B. Sweeping shall be completed prior to allowing uncontrolled traffic on the road surface. On the day of the actual chip seal operations, three (3) vacuum sweepers shall be used on those streets being chip sealed that day. Two (2) sweepers shall be used to remove excess screenings from the road surface, and one (1) sweeper shall sweep the morning after chip seal operations and be used to clean the surrounding streets and road surfaces outside of the project area to avoid tracking loose material. During sweeping the day of the chip seal, water shall not be used in the removal of loose material.
- C. The Contractor must remove all loose chips from the street surface per this specification. A broom sweeper may not be able to pick up excess chips on cul-de-sacs. The Contractor is responsible for removing these chips through the use of a vacuum sweeper or other acceptable means as approved by the Engineer.
- D. Two (2) additional sweepings shall be performed. The first sweeping shall be done two (2) days after placement of the chip seal and the final sweeping shall occur seven (7) calendar days after placement of the chip seal and prior to placing the slurry seal. The Contractor shall spray water on these subsequent sweepings for dust removal. Excess screenings shall be removed from the job site by the Contractor and disposed of. At the end of each day's sweeping operations the Contractor shall remove any and all loose materials from sidewalks, landscaped areas and adjacent

properties manually or by other means acceptable to the Engineer. Do not displace embedded material. Do not vacuum sweep the surface when the air temperature is above 90 degrees F.

3.8 TEST STRIP

- A. The Contractor shall construct three (3) test strips for evaluation by the Engineer at the commencement of the project where this work is specified. The test strips shall be 50 feet to 100 feet long by the width of the truck and shall consist of the application courses specified. The test strips shall be constructed in the early morning and shall cure and be open to traffic within ten (10) minutes of application. The three (3) test strips will be performed with varied asphalt aggregate spread rates, as specified by the Engineer, to best select the application rates to be used for the operation.
- B. The Engineer will evaluate the completed test strip immediately after traffic is allowed on the completed test strip to determine if the mix design and placement procedure are acceptable. If the materials as placed are determined by the Engineer to be unacceptable, no additional work will be permitted until the Contractor's proposed remediation has been approved by the Engineer. The cost of materials and placement of the test strips, which have been rejected, shall be borne by the Contractor and will not be considered as part of the contract work.
- C. For roadways to be treated with rubberized chip seal, where the topography, roadway conditions, or road type changes, a new set of test strips shall be performed to ensure that the spread rates and rolling patterns are still applicable.

END OF SECTION

SECTION 32 12 36.02

POLYMER MODIFIED TYPE II SLURRY SEAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Polymer Modified Type II Slurry Seal shall be installed in the areas designated in the plans and shall be in accordance with Section 37-3 “Slurry Seal and Micro-Surfacings” of the Caltrans Standard Specifications and as modified by these specifications.
- B. Related sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 31 11 00 – Clearing and Grubbing
 - 3. Section 32 01 17 – Flexible Paving Repair
 - 4. Section 32 01 17.61 - Sealing Cracks in Asphalt Paving
 - 5. Section 32 12 36.01 - Rubberized Chip Seal

1.2 SUBMITTALS

- A. Supplier and Type/Grade of asphaltic emulsion
- B. Type of modifier polymer for polymer modified asphaltic emulsion
- C. Copy of the specified test results for asphaltic emulsion and for polymer modified asphaltic emulsion
- D. At least 15 days before starting placement of a slurry seal or micro-surfacing, submit a laboratory report of test results and the proposed mix design from an AASHTO accredited laboratory for asphalt emulsions and pavement preservation. The laboratory must sign the laboratory report and mix design.

1.3 UNIT PRICES

- A. Polymer Modified Type II Slurry Seal
 - 1. Measurement Method: By the square yard.
 - 2. Payment for “Polymer Modified Type II Slurry Seal” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to placing

type II slurry seal at the locations shown on the plans and sweeping until excess aggregate that has raveled from the surface has been removed, complete in place, and as specified in the “Rubberized Chip Seal” Technical Specification section.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Materials required to place Polymer Modified Type II Slurry Seal shall conform to Section 37-3 “Slurry Seal and Micro-Surfacings” of the Caltrans Standard Specifications.

2.2 POLYMER LATEX EMULSIFIED ASPHALT SLURRY SEAL

- A. Polymer Latex emulsified asphalt shall be a quick traffic, quick cure (QT-QC) type, shall be homogeneous and show no separation after thorough mixing, shall break and set on the aggregate within five (5) minutes and be ready for cross-traffic within sixty minutes.
- B. Slurry shall not be placed unless it will be ready for vehicular traffic by 4:00 pm the day of the application. The latex asphalt emulsion shall conform to the requirements listed below.

Polymer Latex Asphalt Emulsion Requirements:

<u>TEST ON EMULSION</u>	<u>METHOD OF TEST</u>	<u>REQUIREMENTS</u>
Viscosity, SSF, @ 77° F., sec	AASHTO T 59	15 - 90
pH	ASTM E70	2 +- 1
Storage stability test, 1 day (max, %)	AASHTO T 59	1
Sieve test (max, %)	AASHTO T 59	0.30
Particle charge	AASHTO T 59	Positive
Distillation Residue (min, %)	AASHTO T 59	60
<u>TESTS ON RESIDUE FROM DISTILLATION TEST</u>		
Penetration, 77° F., 100g, 5s	AASHTO T 49	40 - 90
Torsional Recovery (min, %)	California Test 332	18
Ductility, 77° F. (min, mm)	AASHTO T 51	400
Fraass-Breaking Point (°C.)	DIN 52012	-18

2.3 AGGREGATE

- A. Aggregate or a combination of aggregates shall be produced by crushing rock. All materials shall be free from vegetable matter and other deleterious substances, oversized particles, and caked lumps. The use of gray or white-colored aggregate shall not be allowed. All rock shall be dark aggregate from Table Mountain Quarry, or approved equivalent. The percentage composition by weight of the aggregate shall conform to the following grading:

PERCENTAGE PASSING

<u>SIEVE SIZES</u>	<u>TYPE II</u>
3/8"	100
No. 4	94 – 100
No. 8	65 – 90
No. 16	40 – 70
No. 30	25 – 50
No. 200	5 – 15
Residual asphalt content, % dry aggregate	7.5 - 13.5
Approximate application rate (pound/sq. yd. aggregate)	15 – 18
Emulsion content % dry aggregate	14.5 - 16.0

B. The aggregate shall also conform to the following quality requirement:

<u>TEST ON EMULSION</u>	<u>METHOD OF TEST</u>	<u>REQUIREMENT</u>
Sand Equivalent	California Method 217, or ASTM D2419	55 Min. (Type II)

2.4 MINERAL FILLER

A. The mineral filler shall be either Portland cement or other approved mineral fillers, if required. Portland cement shall be commercially available Type I-II and shall be free of lumps and clods.

2.5 WATER

A. Water shall be free of harmful, soluble salts and shall be of such quality that the asphalt shall not separate from the emulsion before the emulsion mix is in place in the work.

2.6 CARBOXYLATED POLYMER LATEX

A. Poly-chloroprene-methacrylic acid latex with polyvinyl alcohol shall be added to the water/soap phase prior to the mill manufacture of the emulsified asphalt by the emulsion producer. The amount of latex shall be between 3.5 and 4.5 percent of the asphalt residual content. Samples shall be provided and shall conform to the following requirements:

<u>TEST</u>	<u>REQUIREMENT</u>
Total solids, min, %	47
Average particle size um (micron)	0.3
pH at 25° C.	7
Brookfield viscosity at 25° C.	350 - 500
Mechanical stability, min.	650

2.7 PROPORTIONING

- A. Latex Emulsified Asphalt - Latex Emulsified Asphalt - Latex emulsified asphalt shall be added at a rate from 16 +/- 1 percent by weight of dry aggregate or as needed to meet specification. The exact rate to be determined by a job mix design submitted by the Contractor.

Latex emulsion mix shall be proportioned by the operation of a single start-stop switch or lever that automatically sequences the introduction of aggregate, latex emulsion asphalt, mineral filler, admixture, and water to the pugmill.

Calibrated sight flow meters shall be provided to measure both the addition of water and liquid admixtures to the pugmill. Mineral filler shall be added to the aggregate at the rate of 1.0 to 2.5 percent by weight of the dry aggregate, or as by the mix design.

- B. Job Mix Design - A job mix design shall be performed by an approved testing laboratory. The job mix design shall include testing of the aggregate, latex emulsified asphalt, filler, water and additive properly proportioned to attain maximum stability at minimum emulsion content.

Marshall Stability tests shall be performed in accordance with modified ASTM procedures. Marshall Stabilities shall not be less than 1,500 pounds and the flow shall be between six (6) and sixteen (16) units.

PART 3 - EXECUTION

3.1 WEATHER REQUIREMENTS

- A. The Contractor shall check the weather forecast to ensure expected environmental conditions are according to the Caltrans Standard Specifications. The slurry seal shall not be placed if either the pavement or the air temperature is below 60°F (13°C) and falling, but may be applied when both the air and pavement temperature is at least 55°F (7°C) or above and rising and is expected to stay above 55°F (7°C) for the rest of the work day. The mixture shall not be applied if high relative humidity prolongs the curing beyond a reasonable time (i.e. 4 hours). If curing does not occur after 4 hours and slurry seal is not black in color, slurry seal shall be removed and replaced at no cost to the District. In addition, slurry seal placement shall not start if rain is imminent or freezing temperatures are anticipated within 24 hours.

3.2 SURFACE PREPARATION

- A. Before the slurry seal is applied, all existing pavement surfaces shall be swept free of all debris and loose debris using power sweepers. The Contractor shall remove all existing weeds and plant materials in all the street sections that will receive slurry seal surfacing. Removal of weeds and plant materials shall be done without using chemical weed killers in a manner that is acceptable to the Engineer.

- B. All existing pavement markers, paint and thermoplastic traffic striping and markings shall be removed and disposed of by the Contractor prior to slurry seal work. Said removal shall not occur sooner than two days prior to the day the slurry sealing is scheduled. Temporary markers (slurry tabs) shall be placed to delineate removed paint and thermoplastic as required by the Engineer. Slurry tabs must be cleaned immediately after slurry is placed.
- C. As required elsewhere in these Specifications, to the finished surfaces of all base repair areas the Contractor shall place a tack coat of asphalt emulsion at a residual rate at 0.03 gallons per square yard minimum prior to the application of the slurry seal. The tack coat shall be allowed to cure sufficiently before application of slurry seal

3.3 APPLICATION OF SLURRY SEAL

- A. No lumping, balling or unmixed aggregate will be permitted. No segregation of the emulsion and fines from the coarse aggregate will be permitted. If coarse aggregate settles to the bottom of the mix, the slurry mix shall be removed from the pavement. No excessive breaking of emulsion shall be allowed in the spreader box which would adversely affect the placed slurry. No streaks caused by oversize aggregates will be left on the finished pavement, and ridges, bumps, and wash boarding in the finished product shall not be allowed. The mixture shall be uniform and homogenous after spreading on the existing surface and shall not show separation of the emulsion and aggregate after setting.
- B. The Engineer will monitor the application rate throughout the project. This rate shall be such that the finished slurry surface completely fills the texture of the existing pavement and creates a smooth finished surface.
- C. Weight tags shall be furnished to the Engineer for all materials delivered to the site including aggregates, and emulsified asphalt for slurry retardant. Slurry mix shall be applied so that the joint between the asphalt and concrete gutter is filled but not overlapping. Any application spillage beyond this joint shall be removed or cleaned up by the Contractor to the satisfaction of the Engineer. Gutter spills and any tracking of slurry seal onto concrete improvements shall be cleaned immediately.
- D. All lines of termination of slurry sealing shall be neat and straight. The Contractor shall use building paper, roofing felt, or an approved equivalent at all limits of work and when stopping/starting slurry application at a transverse joint and at all limits of work. All transverse joints will be located in the field by the Engineer. Longitudinal joints shall be at the crown of the street or at the edge of the traveled lanes. No excessive buildup or unsightly appearance shall be permitted on longitudinal and transverse joints. Longitudinal joint overlap shall be no more than three (3) inches.

3.4 ROLLING AND SWEEPING OPERATIONS

- A. At least one (1) week after the slurry seal has cured and is open to traffic, any dislodging of the aggregate from the slurry seal across the width of the road shall be swept up by the Contractor.

- B. No parking signs shall be placed again so the entire width of the road is swept. Sweeping and closing streets to parking and placing notifications to residents shall be repeated two (2) weeks after the slurry seal has cured. Failure to provide adequate sweeping shall result in the District performing said work at the Contractor's sole expense, which shall be deducted from any monies due to the Contractor. Sweeping by District forces shall not relieve the Contractor of any liability arising from its failure to comply with these requirements.

3.5 TEMPORARY STRIPING

- A. Temporary lane line markers (slurry tabs) shall be installed as required by the Engineer and as required to maintain the new slurry surface. The lane markers shall be in place before two adjacent lanes are opened to public traffic.
- B. Temporary pavement markings shall be installed the workday after the slurry operations and shall delineate all centerlines, two-way left turn lanes, left turn pockets, right turn pockets, limit lines, and crosswalks.
- C. These shall be removed upon placement of permanent delineation.

END OF SECTION

SECTION 32 16 00

CURBS, GUTTERS, SIDEWALKS, AND DRIVEWAYS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This Section includes exterior cement concrete pavement for the following.
 - 1. Curbs
 - 2. Curb and Gutter
 - 3. Sidewalk
 - 4. Curb Ramps
 - 5. Driveways
 - 6. Valley Gutters

1.2 RELATED SECTIONS

- A. Section 31 11 00 – Clearing and Grubbing
- B. Section 31 22 00 – Grading
- C. Section 31 23 13 – Subgrade Preparation
- D. Section 32 11 23 – Aggregate Base Courses
- E. Section 32 12 16 – Asphalt Paving

1.3 REFERENCE STANDARDS

- A. The term “Caltrans Standard Specifications” refers to the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (CALTRANS), latest edition. In case of conflict between the Caltrans Standard Specifications and these specifications, these specifications shall govern.
 - 1. Any provisions for measurement and payment specified within the Caltrans Standard Specifications shall be disregarded and the provisions of this contract shall govern.
- B. American Association of State Highway Transportation Officials (AASHTO) specifications.

- C. American Concrete Institute (ACI): ACI 301 – Specifications for structural concrete for buildings.
- D. American Society for Testing and Materials (ASTM): ASTM A185 – Welded Steel wire fabric for concrete reinforcement.
- E. ASTM D1751: Performed expansion joint fillers for concrete paving and structural construction.
- F. ASTM A615: Deformed and plain billet-steel for concrete reinforcement.
- G. ASTM C2600: Air entraining admixtures for concrete.
- H. ASTM C309: Liquid membrane forming compounds for curing concrete.

1.4 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.5 SUBMITTALS

- A. The Contractor shall make all submittals in accordance with requirements in Division 01.
- B. Product Data: For each type of manufactured material and product indicated, including reinforcement, and forming accessories, color admixtures, expansion joint systems, non-color and color curing agent, form release agent, and other, if requested by the Engineer.
- C. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
- D. Samples
 - 1. Expansion Joint Filler Material: Submit one 12-inch length.
- E. Laboratory test reports for evaluation of concrete materials and mix design tests.
- F. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements.
 - 1. Cementitious materials and aggregates.
 - 2. Steel reinforcement, keyways, and reinforcement accessories.

3. Admixtures.
4. Curing compounds.
5. Bonding agent or adhesive.
6. Joint fillers.

G. Maintenance Data: Shall clearly describe type of cleaner and cleaning methods required to maintain completed concrete pavement.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C94 requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C1077 and ASTM E329 to conduct the testing indicated, as documented according to ASTM E548.
- C. ACI Publications: Comply with ACI 301, "Specifications for Structural Concrete", unless modified by the requirements of the Contract Documents.

1.7 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

1.8 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 01.

1.9 SCHEDULING

- A. Schedule work under the provisions of Division 01.

1.10 UNIT PRICES

- A. Minor Concrete (S1-6 Curb and Gutter) and Minor Concrete (Type M1-6 Curb)
 1. Measurement Method: By linear foot.
- B. Minor Concrete (Sidewalk) and Minor Concrete (Valley Gutter)
 1. Measurement Method: By square foot.
- C. Concrete Curb Ramp
 1. Measurement Method: Per actual count of each curb ramp replaced.

- D. Payment for “Minor Concrete (S1-6 Curb and Gutter)”, “Minor Concrete (Type M1-6 Curb)”, “Minor Concrete (Sidewalk)”, “Minor Concrete (Valley Gutter)”, and “Concrete Curb Ramp” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to sawcutting of existing concrete along existing score lines, sawcutting of existing adjacent asphalt concrete and placement of a 12-inch HMA plug, removal and disposal of existing materials, excavation, subgrade preparation, compaction, grading, placing class II aggregate base, conform, disposal of surplus materials, installation and removal of formwork, construction of concrete improvements, flowline test, inlet protection, adjustment within concrete improvement limits of utility boxes, valve boxes, monument boxes, detector handhole boxes (in asphalt concrete area removed for formwork and conforms), and manholes to match finished grade, finishing, application of curing compound, restoration of surrounding improvements including planting, irrigation repairs, asphalt joint sealing, etc., ADA compliant slopes, detectable warning surface, landings at curb ramps, retaining curbs for curb ramps, vehicular and ADA pedestrian accommodations, clean-up and incidentals to complete work according to the plans, complete in place, and as specified in the “Curbs, Gutters, Sidewalks, and Driveways” Technical Specification section.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Wood, plywood, metal-framed plywood, or other acceptable panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
1. Use flexible or curved forms for curves of 100 feet or less radius.
- B. Form Release Agent: Provide commercial formulation form-release agent with a maximum of 350 g/L volatile organic compounds (VOCs) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Bars and Tie Bars: ASTM A615, grade 60, deformed steel.
- B. Plain, Cold-Drawn Steel Wire: ASTM A82.
- C. Deformed-Steel Welded Wire Reinforcement: ASTM A497.
1. Furnish in flat sheets, not rolls.
- D. Fabricated Bar Mats: Welded or clip-assembled steel bar mats, ASTM A184. Use ASTM A65, grade 60 steel bars, unless otherwise indicated.
- E. Joint Dowel Bars: Plain steel bars, ASTM A615, grade 60. Cut bars true to length with ends square and free of burrs.

- F. Hook Bolts: ASTM A307, grade A bolts, internally and externally threaded. Design hook bolt joint assembly to hold coupling against pavement form and in position during concrete placing operations, and to permit removal without damage to concrete or hook bolt.
- G. Tie Wire: 16 gage annealed type.
- H. Supports for Reinforcement: Chairs, spacers, dowel bar supports and other devices for spacing, supporting, and fastening reinforcing bars, welded wire fabric, and dowels in place. Use wire bar type supports complying with Concrete Reinforcing Steel Institute specifications.
 - 1. Use supports with sand plates or horizontal runners where base material will not support chair legs.

2.3 CONCRETE MATERIALS

- A. General: Use the same brand and type of cementitious material from the same manufacturer throughout the Project.
- B. Conforming to Section 90-2 Minor Concrete of the Caltrans Standard Specifications.
- C. Materials:
 - 1. Portland cement concrete shall conform to the provisions of Section 73 of the Caltrans Standard Specifications.
 - 2. Cementitious material shall conform to the provisions of Section 90-1.02B of the Caltrans Standard Specifications.
 - 3. Aggregate shall conform to the provisions of Section 90-1.02C of the Caltrans Standard Specifications.
 - a. Fine Aggregate: ASTM C33, clean washed angular sand, complying with Caltrans Standard Specifications Section 90-1.02C(3).
 - b. Coarse Aggregate: ASTM C33, clean crushed rock complying with the table in Caltrans Standard Specifications Section 90-1.02C(4)(b) for 1-inch x No. 4 nominal size.
 - 4. Water shall conform to the provisions of Section 90-1.02D of the Caltrans Standard Specifications.
 - a. Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials.
 - b. Slump must not exceed 4-inch as the material is placed.

5. Admixtures shall only be included with prior approval of the Engineer.

2.4 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain no more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures.
- B. Form Release Agent: Non-staining material.
- C. Chemical Admixtures: ASTM C494, colored and water-reducing and/or retarding compatible, Type A or Type D, as required.
- D. Curing Compounds for Concrete Paving: Clear, ASTM C309, non-staining.
- E. Air-Entraining Admixtures: If used, average air content of three successive tests must not exceed 4% and each test value must be no more than 5.5% when tested under California Test 504.

2.5 CONCRETE MIX

- A. Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the trial batch method.
 - 1. Do not use District's field quality-control testing agency as the independent testing agency.
- C. Proportion mixes for curbs, gutters, sidewalks, PCC pavement, and driveways to provide concrete with the following properties.
 - a. Compressive Strength (28 Days): 3,000 pounds per square (psi) inch with Type II or Type V Portland Cement (2,500 psi minimum in 48 hrs for driveways and valley gutters).
 - b. 4-inch maximum slump
 - c. Maximum Water-Cementitious Materials Ratio: 0.40.
 - d. 1 lb. lampblack per cubic yard
- D. Aggregate: 3/4-inch nominal maximum aggregate size according to ACI 318-14
- E. Aggregate for exterior exposed concrete shall be uniformly graded 3/4" coarse aggregate per ASTM C33.

1. Aggregate base exceeding a workable moisture content will be rejected by the Engineer and shall be immediately removed from the project site by the Contractor. At least 6 inches of aggregate base shall be placed under concrete curb & gutter, curb ramps, valley gutters, sidewalk, and other concrete improvements unless shown otherwise on the Project Plans.
- F. Cementitious Materials: 7.1 sack mix with 25% fly ash. See ACI 318 Table 26.4.2.2(b) for limits of cementitious materials for concrete assigned to exposure Class F3.
- G. The target air content shall be 5% with an actual value of 5% +/- 0.5%.

2.6 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94 and ASTM C 1116.
1. When the air temperature is between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 1.5 hours to 75 minutes; when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

2.7 ACCESSORIES

- A. Joint Sealer: Per Caltrans Standard Specifications, Section 51.
- B. Expansion Joint Materials: ASTM D 1751, performed; 1/2-inch thick max., unless otherwise specified.
- C. Tactile Warning Domes: Shall be precast concrete truncated dome tiles, color to be selected by the Engineer. Armor-Tile ADA tile or approved equal.

PART 3 - EXECUTION

3.1 SCHEDULING

- A. Coordination with ongoing neighborhood activities:
1. During non-working hours, and particularly over weekends and holidays, safe access/egress must be provided for the residences and businesses. Work shall be scheduled such that operations can be completed, or temporarily suspended, and safe passage can be restored, by the end of each workday.
 2. Construct new sidewalks, curb ramps, or driveway approaches on one side of the street at a time to leave the sidewalk on the other side accessible by pedestrians.
 3. Driveway approaches must be safely passable by automobiles, without damage to the new concrete, by the end of the last workday of each week.

4. If Contractor cannot satisfy these requirements without incurring extra costs, such as premium pay for workers or additional charges from the batch plant, these additional costs shall be entirely borne by the Contractor and no additional compensation shall be paid by the District.

B. Inspections:

1. All inspections must be scheduled with the Engineer no less than 48 hours in advance of the time needed.
2. The Engineer must approve subgrade prior to placement of Class 2 AB.
3. The Engineer shall be present to verify compaction of AB, placement of forms, reinforcement, and dowels into adjacent existing concrete, prior to placement of concrete.

3.2 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

3.3 PROTECTION OF EXISTING FACILITIES

- A. Protect existing facilities from damage, and discoloration from concrete splash. Adjacent concrete facilities shall be covered during concrete placement to prevent concrete splash and excess concrete from staining the adjacent concrete. After initial placement, strike off and finishing, the protection shall be removed, and the adjacent concrete cleaned.
- B. Vertical existing facilities such as light poles, walls, etc. shall be protected with plastic extending a minimum of three feet above the concrete surface. After initial placement, strike off and finishing, the protection shall be removed, and the vertical surfaces cleaned.

3.4 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.
- B. After the subgrade is prepared and moisture conditioned, the Contractor shall compact the subgrade to 95% of maximum dry density (ASTM D1557) at zero to three percent over optimum moisture content.
- C. The Contractor shall continuously maintain the sub-grade in a uniform condition at the moisture content obtained during subgrade compaction until the concrete is placed.

3.5 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for paving to required lines, grades, and elevations. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form release agent as required ensuring separation from concrete without damage.

3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire fabric in lengths if practicable. Lap adjoining pieces at least 1 full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Install fabricated bar mats in lengths if practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities or replace units as required before placement. Set mats for a minimum 2-inch overlap to adjacent mats.
- F. Expansion Joint Dowel Bars: spaced horizontally a minimum of 12-inches on-center center in slab and parallel to edge of paving and each other. Dowels are to be not less than 6-inches from the edge of pavement.

3.7 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to the centerline, unless indicated otherwise.
 - 1. When joining existing paving, place transverse joints to align with previously placed joints, unless indicated otherwise.
 - 2. New sidewalk, curb or gutter shall be connected to adjacent existing concrete using 12-inch-long by 1/2-inch-diameter steel dowels (#4 rebar is acceptable) in tight fitting holes drilled into the existing concrete (approximately 6 inches into adjacent sidewalk, curb and gutter, or 4" into the back of curb).

- B. Construction Joints: Set construction joints at side and end terminations of paving, back of curbs and at locations where paving operations are stopped for more than 0.5 hour, unless paving terminates at expansion joints.
1. Continue reinforcement across construction joints unless indicated otherwise. Do not continue reinforcement through sides of strip paving adjacent to curbs unless indicated.
 2. Use epoxy bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Isolation Joints: Form isolation joints of pre-formed joint filler strips abutting concrete curbs, retaining and freestanding walls, ramps, stairs, catch basins, manholes, inlets, structures, building walls, walks, other fixed objects.
1. Install dowel bars and support assemblies at all expansion joints. Lubricate one-half of dowel length with heavy grease.
 2. Locate expansion joints in curbs, curbs and gutters and concrete bands 20 feet on center to align with expansion joints in adjacent concrete paving.
 3. Extend joint fillers full width and depth of joint.
 4. Terminate joint filler not less than 0.5 inch below finished surface where joint sealant is indicated. Place top of joint filler flush with finished concrete surface when no joint sealant is indicated.
 5. Furnish joint fillers in one piece. Where more than 1 length is required, lace or clip joint filler sections together.
 6. Protect top edge of joint filler during concrete placement with a metal, plastic, or other temporary pre-formed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Sawn Joints: construct after the concrete has hardened sufficiently that it will not be damaged by the sawing, but before shrinkage cracking can occur. The initial sawcut shall be 0.125 inch to 0.25- inch in width.
1. At building walls, site walls, sign bases, and curbs, finish sawn cut with hand-held grinder or equal to extend cut or joint to face of vertical surface.
- E. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-third of the concrete thickness, as follows to match jointing of existing adjacent concrete pavement:
1. Locate score joints in pavement as detailed.

2. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
 3. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
 4. Locate score joints in curbs, curbs and gutters and concrete bands every 10 feet and align with score joints in adjacent concrete paving.
- F. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 0.5-inch radius. Repeat tooling of edges after applying surface finish. Eliminate tool marks on concrete surfaces.

3.8 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Permit installation of other work.
- B. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.
- C. Comply with requirements and with ACI 304R for measuring, mixing, transporting, and placing concrete.
- D. Do not add water to concrete during delivery or at Project site.
- E. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Screed paved surfaces with a straightedge and strike off.

- I. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Any light pole, fire hydrant, or vertical pole footings exposed from lowering adjacent concrete grades related to placement of ramp shall be neatly formed and finished and not leave a rough unfinished surface.
- K. Curbs and Gutter: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to the required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not approved, remove, and replace with formed concrete.
- L. Cold-Weather Placement: Comply with provisions of ACI 306R and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When the air temperature has fallen to or is expected to fall below 40 degrees F uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F and not more than 80 degrees F at point of placement.
 - 2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.
 - 3. Do not place concrete if rain is forecasted for less than 12 hours after the pour; concrete damaged by rain shall be removed and replaced at the Contractor's expense, including any other work that needs to be redone as a consequence of this replacement.
- M. Hot-Weather Placement: Place concrete complying with ACI 305R and as specified when hot weather conditions exist.
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 degrees F. Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
 - 3. Fog spray forms, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.9 CONCRETE FINISHING

- A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.
- B. Before final finishing is completed and before the concrete has taken its initial set, the edges shall be carefully finished with the radius shown on the plans or a radius to match the existing construction.
- C. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared, and the concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Paving: medium textured broom finish. Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
 - 2. Bands: smooth form board with smooth trowel surface. After concrete has adequately cured strip formwork and apply smooth trowel texture on the top and exposed faces of the curb and band.

3.10 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with the recommendations of ACI 306R for cold weather protection and ACI 305R for hot weather protection during curing.
- B. Protect surrounding areas, landscaping, and adjacent horizontal and vertical surfaces.
- C. The Contractor shall also protect the concrete against traffic and vandalism. If the concrete is damaged or vandalized, the Contractor shall make the necessary repairs at its own expense. The repair procedure for damaged or vandalized concrete shall be approved in advance by the Engineer.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Compound: Apply compound for non-colored cement concrete uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.11 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows.

1. Elevation: 0.25 inch.
2. Thickness: Plus 0.375 inch, minus 0.25 inch.
3. Surface: Gap below 10 feet long, unlevelled straightedge not to exceed 0.25 inch.
4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch.
5. Vertical Alignment of Tie Bars and Dowels: 0.25 inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 0.5 inch.
7. Alignment of Dowel-Bar End Relative to line Perpendicular to Pavement Edge: Length of dowel 0.5 inch per 18 inches.
8. Joint Spacing: 0.5 inch.
9. Score Joint Depth: Plus 0.25 inch, no minus.
10. Joint Width: Plus 0.125 inch, no minus.

3.12 FIELD QUALITY CONTROL TESTING

- A. Testing Agency: The Engineer will engage a qualified testing and inspection agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Section.
- B. Testing Services: Testing shall be performed according to the following requirements.
 1. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.
 2. Slump: ASTM C143; 1 test at point of placement for each compressive-strength test but no less than 1 test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
 3. Air Content: ASTM C231, pressure method; 1 test for each compressive-strength test but no less than 1 test for each day's pour of each type of air-entrained concrete.
 4. Concrete Temperature: ASTM C1064; 1 test hourly when air temperature is 40 degrees F and below and when 80 degrees F and above, and 1 test for each set of compressive strength specimens.
 5. Compression Test Specimens: ASTM C31/C31M; 1 set of 4 standard cylinders for each compressive-strength test, unless directed otherwise. Cylinders shall be

molded and stored for laboratory cured test specimens unless field-cured test specimens are required.

6. Compressive-Strength Tests: ASTM C39; 1 set for each day's pour of each concrete class exceeding 5 cu. yd. but less than 25 cu. yd., plus 1 set for each additional 50 cu. yd. Test 1 specimen at 7 days, test 2 specimens at 28 days, and retain 1 specimen in reserve for later testing if required.
- C. When frequency of testing provides fewer than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
1. When strength of field-cured cylinders is less than 85 percent of companion laboratory cured cylinders, evaluate current operations, and provide corrective procedures for protecting and curing the in-place concrete.
 2. Strength level of concrete will be considered satisfactory if averages of sets of 3 consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 pounds per square inch.
- D. Test results will be reported in writing to the Engineer, concrete manufacturer, and Contractor within 24 hours of testing.
1. Reports of compressive strength tests shall contain the following.
 - a. Project identification name and number.
 - b. Date of concrete placement.
 - c. Name of concrete testing agency.
 - d. Concrete type and class.
 - e. Location of concrete batch in paving.
 - f. Design compressive strength at 28 days.
 - g. Concrete mix proportions and materials.
 - h. Compressive breaking strength, and type of break for both 7-day and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- F. Additional Tests: The testing agency will make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements

have not been met, as requested by the Engineer. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as requested by the Engineer.

3.13 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective, or does not meet the requirements of this Section.
 - 1. Defective Concrete is:
 - a. Concrete not meeting specified 28-day strength.
 - b. Durability and Appearance: Concrete containing rock pockets, voids, spalls, cracks, exposed reinforcing, or other defects.
 - c. Alignment: Incorrectly formed concrete, out of plumb or level.
 - d. Deleterious Materials: Concrete containing embedded wood or other debris.
 - e. Unauthorized Patching: Concrete with patched voids that were not filled under Engineer's direction.
 - f. Concrete that is damaged or vandalized before it has hardened will not be accepted by the District, and it must be replaced by the Contractor at its own expense, including any other work that needs to be redone as a consequence of this replacement. The Contractor is fully responsible for protecting the work until it has hardened.
- B. Drill test cores if requested by the Engineer when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete from damage. Contractor shall wait at least seven (7) days after concrete is placed to perform any paving work so the concrete can develop its strength. Concrete cylinder testing shall be performed to determine what the compressive strength is at 7 days. If the 7 day compressive strength is at least 75% of the specified compressive strength paving operations can begin adjacent to these concrete improvements. .
- D. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- E. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before the date scheduled for final inspections.

END OF SECTION

SECTION 32 17 23
PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Roadway lane markings and striping (thermoplastic).
- B. Roadway pavement markings (thermoplastic).
- C. Roadway pavement markers.
- D. Concrete wheel stop.

1.2 RELATED SECTIONS

- A. Section 32 12 16 – Asphalt Paving
- B. Section 32 12 36.02 – Polymer Modified Type II Slurry Seal

1.3 REFERENCE STANDARDS

- A. FS TT-B-1325 Beads (Glass Spheres); Retro-Reflective, Revision C, 2000.
- B. FHWA MUTCD Manual on Uniform Traffic Control Devices for Street and Highways; U.S. Department of Transportation, Federal Highway Administration; current edition at <http://mutcd.fhwa.dot.gov>.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Manufacturer's certified test reports.
- B. Certificates: Submit for each batch of thermoplastic paint and crushed glass beads stating compliance with specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver glass beads in containers suitable for handling and strong enough to prevent loss during shipment accompanied by batch certificate.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with local, state and Federal regulations and Section 01 35 44 – Environmental Requirements.

1.6 PROJECT CONDITIONS

- A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.7 EXTRA MATERIALS

- A. Supply two (2) containers of each color.

1.8 UNIT PRICES

- A. Thermoplastic Traffic Stripes of the various details listed in the bid schedule.
 - 1. Measurement Method: By the linear foot.
 - 2. Payment for Thermoplastic Traffic Stripes of the various details listed in the bid schedule includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to painting traffic stripes, (regardless of the number, width, and patterns of individual stripes involved in each traffic stripe), including establishing alignment for stripes and layout work, and cat-tracking, complete in place, and as specified in the "Pavement Markings" Technical Specification section.
- B. Thermoplastic Pavement Markings (Arrows, Symbols, and Words; White or Yellow)
 - 1. Measurement Method: By the square foot.
 - 2. Payment for "Thermoplastic Pavement Markings (Arrows, Symbols, and Words; White or Yellow)" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to painting thermoplastic pavement markings including establishing alignment for stripes and layout work, and cat-tracking, complete in place, and as specified in the "Pavement Markings" Technical Specification section.

C. Parking Bumper

1. Measurement Method: Per actual count of each parking bumper installed.
2. Payment for "Parking Bumper" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to installing parking bumpers at the locations shown in the plans, including doweling, complete in place, and as specified in the "Pavement Markings" Technical Specification section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Thermoplastic Materials: Shall conform to Section 84-2.02A of the Caltrans Standard Specifications.
- B. Paint Materials: Shall conform to Section 84-2.02B of the Caltrans Standard Specifications.
- C. Temporary Marking Tape:
 1. Preformed, reflective, pressure sensitive adhesive tape in color(s) required
 2. Contractor is responsible for selection of material of sufficient durability as to perform satisfactorily during period for which its use is required.
- D. Glass beads must comply with Caltrans Standard Specification 8010-004.
- E. Concrete wheel stop (6-foot long) from Oldcastle Infrastructure, or approved equivalent.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify the Engineer of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Allow new pavement surfaces to cure for a period of not less than 7 days before application of marking new materials.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

- C. Clean surfaces thoroughly prior to installation.
- D. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
- E. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.
- F. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by water blasting or by other methods as required to remove all contaminants without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer.
- G. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process. At least 24 hours prior to remarking existing markings, the existing markings must be removed such that 90% of the existing markings are removed with low (3,500-10,000 psi) water blaster. After water blasting, the surface shall be cleaned of all residue or debris either with sweeping or blowing with compressed air or both.
- H. Prior to the initial application of markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the type of marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer's surface preparation and application requirements must be submitted and approved by the Engineer prior to the initial application of markings.
- I. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.
- J. Temporary Pavement Markings
 - 1. When required or requested by the Engineer, apply temporary markings of the color(s), width(s), and length(s) as indicated or requested.
 - 2. After temporary marking has served its purpose, remove temporary marking by carefully controlled sandblasting, approved grinding equipment, or other approved method so that surface to which the marking was applied will not be damaged.

3. At Contractor's option, temporary marking tape may be used in lieu of temporary painted marking; remove unsatisfactory tape and replace with painted markings at no additional cost to the District.

3.3 INSTALLATION

- A. Install permanent pavement markings not less than 7 days but no more than 14 days after pavement resurfacing. Prior to installing permanent pavement markings, final locations shall be reviewed and approved by the District.
- B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.
- C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.
- D. Comply with CA MUTCD manual (<http://mutcd.fhwa.dot.gov>) for details not shown.
- E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.
- F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on the drawings true, sharp edges and ends.
- G. Apply paint in one coat only.
 1. Wet Film Thickness: 0.015 inch, minimum.
 2. Length Tolerance: Plus or minus 3 inches.
 3. Width Tolerance: Plus or minus 1/8 inch.
- H. Roadway Traffic Lanes: Use suitable mobile mechanical equipment that provides constant agitation of paint and travels at controlled speeds.
- I. Conduct operations in such a manner that necessary traffic can move without hindrance.
- J. Place warning signs at the beginning of the wet line, and at points well in advance of the marking equipment for alerting approaching traffic from both directions. Place small flags or other similarly effective small objects near freshly applied markings at frequent intervals to reduce crossing by traffic.
- K. If paint does not dry within expected time, discontinue paint operations until cause of slow drying is determined and corrected.

- L. Skip Markings: Synchronize one or more paint "guns" to automatically begin and cut off paint flow; make length of intervals as indicated.
- M. Use hand application by pneumatic spray for application of paint in areas where a mobile paint applicator cannot be used.
- N. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

3.4 DRYING, PROTECTION, AND REPLACEMENT

- A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.
- B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.
- C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.
- D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.
- E. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.
- F. Replace removed markings at no additional cost to the District.

END OF SECTION

SECTION 33 05 13.13

UTILITY GRADE ADJUSTMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Adjusting existing utility facilities to grade.

1.2 RELATED SECTIONS

- A. Section 32 01 16.71 – Cold Milling Asphalt Paving
- B. Section 32 12 16 – Asphalt Paving
- C. Section 32 16 00 – Curbs, Gutters, Sidewalks, and Driveways

1.3 REFERENCE STANDARDS

- A. Caltrans Standard Specifications, Section 15.

1.4 SUBMITTALS

- A. Manufacturer's cut sheets for valve boxes, pull-boxes, cleanouts, and manhole rings and covers.

1.5 UNIT PRICES

- A. Adjust Utility Facilities of the various types listed on the bid schedule
 - 1. Measurement Method: Per actual count of each utility facility adjusted to grade.
 - 2. Payment for Adjust Utility Facilities of the various types listed on the bid schedule includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to referencing, lowering, installing temporary covers and surfacing over, adjusting to finish grade existing facilities and covers, complete in place, and as specified in the "Utility Grade Adjustment" Technical Specification section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Sanitary sewer, electrical, telecom, survey monument, or sanitary sewer cleanout rim and cover

1. Existing rim and cover; if broken replace with new.

2. Grade rings

B. Water Valve Box

1. Precast concrete with cast iron ring and cover embossed with "WATER" on the top surface.

2. Rated for H20 loading.

3. Installed so that no loads are transferred to the valve, valve body, or pipe.

C. Water Meter Box

1. Precast concrete box and cover embossed with "WATER METER" on the top surface.

2. Rated for H20 loading.

3. Installed so that no loads are transferred to the meter body or pipe.

D. Survey Monument

1. Precast concrete with cast iron ring and cover embossed with "MONUMENT" on the top surface.

2. Rated for H20 loading.

E. Sewer Cleanout

1. Precast concrete with cast iron ring and cover embossed with "SEWER" on the top surface.

2. Rated for H20 loading.

PART 3 - EXECUTION

3.1 FACILITY ADJUSTMENT PROCESS

A. The work performed in connection with adjusting various existing facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Caltrans Specifications and these Specifications.

B. Existing utility surface features are summarized on the plans, by project section. Locate and field verify the location of all existing utilities and utility features prior to the start of construction activities and protecting all facilities during construction. All damage caused by the Contractor to existing facilities must be repaired within 24 hours at the sole expense of the Contractor.

- C. Notify and coordinate the work of identifying and marking utility facilities with the respective utility owner. Coordinate with all affected utility owners as directed in Section 01 18 05 so all existing underground facilities can be located and marked. Supply the Engineer with copies of all confirmation numbers or associated documentation.
- D. Within areas designated for asphalt pavement milling or removal, full-depth reclamation, and overlay, all existing facilities (e.g. utility manhole frame and covers, cleanouts, boxes, water valve boxes, survey monument boxes and other utility facilities) shall be adjusted / raised to final grade in conformance with the requirements described in the Project Plans.
- E. The Engineer shall be notified by the Contractor of the schedule prior to the commencement of work. Before removing manhole frames and covers, cleanouts, boxes, valve boxes, detector handholes, groundwater monitoring well boxes and monument boxes, reference the location of and inventory the facilities to be adjusted. Record the exact location and type of facility by labeling the assembly with numbers at the location visible for verification. The labeling shall include facility site, collar, and lid to ensure proper match of hardware when facility adjustment is complete at the conclusion of project. Any hardware damaged by the Contractor's operations shall be replaced at the Contractor's sole expense.
- F. Submit the facility reference information and inventory list to the Engineer upon completion of facility adjustment activities. Keep a copy of the facility location reference information and inventory list on the project work site at all times for emergency shutoff purposes. Maintain the list at an approved location, such that the list is accessible 24 hours per day for the duration of the project.
- G. Frames and covers shall be removed, transported and stored without damage. Any items damaged during the removal, transportation and storage shall be replaced at the Contractor's expense. Pre-existing damage must be brought to the Engineer's attention prior to commencement of any work. The covers shall be raised by excavating the frame and cover in a neat line with a dimension not greater than necessary to loosen and adjust the frame with the cover and the concrete collar.
- H. Adjustments shall be accomplished by removing the existing concrete collar around the frame, installing concrete adjusting rings (or others, as needed, for water meters), raising the frame and cover, and construction of a new concrete collar. The concrete collar shall be constructed so that the top of the collar is no greater than three inches and no less than two inches below the existing pavement grade surrounding the facility. The void between the top of the concrete collar and the finish grade of the pavement around the collar shall be paved to finish grade with asphalt concrete. Paving shall be as specified elsewhere in these Specifications.
- I. All existing valve and monument boxes shall be removed and replaced at the time of construction. Water and gas valves must be accessible immediately after paving and water and gas valve covers must be raised within 48 hours of paving. All roads where

structures were raised to grade shall be paved within 24 hours or the Contractor shall be required to furnish temporary paving.

- J. Adjustment of survey monument casings by the use of extension rings will not be allowed. Casings to be adjusted shall be removed and replaced with new covers and frames. The covers shall be non-rocking, and designed for a wheel load of 15,000 pounds.
- K. Monument boxes shall be adjusted to the new grade without disturbing the existing monument. If the existing monument is damaged or disturbed by the Contractor's operations, the Contractor shall bear the cost and responsibility for obtaining the services of a registered Land Surveyor or Civil Engineer to tie out the existing monument, remark, and reset the monument. The Contractor shall be responsible for filing the appropriate Corner Records and shall provide a copy of all recorded documentation to the Engineer prior to project acceptance.
- L. Existing survey monuments shall be preserved, referenced or replaced pursuant to the requirements of State of California Streets and Highways Code Sections 732.5, 1492.5, and 1810.5 and Business and Professions Code Section 8771.
- M. The Contractor shall not disturb permanent survey monuments or benchmarks without the consent of the Engineer. The Contractor shall bear the expense of replacing any monuments or benchmarks that may be disturbed without permission. Replacement shall be done only with the direction of and in the presence of the Engineer .
- N. Should the Contractor during the course of construction encounter a survey monument or benchmark not shown on the plans, the Contractor shall promptly notify the Engineer so that the monument or benchmarks may be referenced accordingly.

END OF SECTION

SECTION 33 42 11

STORMWATER GRAVITY PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Storm drainage piping, fittings, and accessories.
- B. Precast drain inlets, fitting, and accessories.

1.2 RELATED SECTIONS

- A. Section 31 22 00 – Grading
- B. Section 31 23 33 – Trenching and Backfilling

1.3 REFERENCE STANDARDS

- A. Pipe material and fittings shall be high density polyethylene (HDPE) conforming with minimum cell classification 435400C or 435400 per the requirements of ASTM F2306 Standard Specification.
- B. ASTM D2321-20 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

1.4 SUBMITTALS

- A. Product Data: Provide data indicating pipe and pipe accessories.
- B. Manufacturer's Installation Instructions: Indicate special procedures required to install products specified.
- C. Precast drain inlet manufacturer's cut sheets.
- D. Project Record Documents: Record location of pipe runs, connections, drain inlets, and invert elevations.
- E. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE AND CONTROL

- A. Perform work in accordance with these specifications.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store pipe and fittings in shipping containers with labeling in place.
- B. Pipes, fittings, and appurtenances shall be new, free of defects and meet or better industry standards.

1.7 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 01.

1.8 SCHEDULING

- A. Schedule work under the provisions of Division 01.

1.9 UNIT PRICES

A. 24" HDPE Storm Drain Pipe By Open Trench

- 1. Measurement Method: By linear foot of storm drain pipe replaced.
- 2. Payment for "24" HDPE Storm Drain Pipe By Open Trench" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to trenching, verifying storm drain location and inverts, utility location and coordination, dewatering, excavation, preparation of subgrade, backfill, compaction, bedding, cutting off ends of pipes flush with junction structure and manhole structure faces, disposal of all resulting excavated and excess material, and as specified in the "Stormwater Gravity" Technical Specification section. A CCTV video log shall be prepared of the entire storm drain pipe that has been replaced and submitted to the Engineer.

B. Contra Costa County Type "G" Inlet

- 1. Measurement Method: Per actual count of each inlet replaced.
- 2. Payment for "Contra Costa County Type "G" Inlet" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in but not limited to dowels, adjustment rings, verifying storm drain location and inverts, utility location and coordination, excavation, sawcut and removal, preparation of subgrade, compaction, bedding, removing pipe sections where new structure is to be constructed, and disposal of all resulting excavated and excess material, backfill, and compaction, and removal and disposal of adjacent existing facilities, and as specified in the "Stormwater Gravity" Technical Specification section.

PART 2 - PRODUCTS

2.1 STORM SEWER PIPE MATERIALS

- A. Storm Drain Pipe: Dual-wall watertight HDPE series 35 pipe, nominal diameter as indicated on Contract Drawings, notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.

2.2 DRAIN INLET

- A. Pre-cast drain inlet Type "G" per Contra Costa County curb inlet S1-6 (6" curb) as manufactured by Jensen Precast or approved equivalent.
- B. Watertight pipe connections.

2.3 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in Section 31 23 33 Trenching and Backfilling
- B. Cover: As specified in Section 31 23 33 Trenching and Backfilling

2.4 ACCESSORIES

- A. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.
- B. Marking Tape and Location Wire: Magnetic detectable conductor, clear plastic covering, imprinted with "STORM SEWER SERVICE" in large letters.
- C. Drain Rock: 3/4-inch crushed rock.

PART 3 - EXECUTION

3.1 TRENCHING

- A. See related sections for additional requirements.
 - 1. Section 31 23 33 Trenching and Backfilling
- B. Hand trim excavation for accurate placement of pipe to elevations indicated.
- C. Backfill around sides and top of pipe with bedding material, tamp in place and compact, then complete backfilling.

3.2 PIPE INSTALLATION

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on Contract Drawings or per the Engineer's direction.

- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions.
 - 1. Seal installations watertight.
- C. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.
- D. Install marking tape 6 inches above top of pipe; coordinate with 31 23 33 Trenching and Backfilling

3.3 DRAIN INLET INSTALLATION

- A. Form bottom of excavation. Clean and smooth to correct elevation. Bottom of excavation shall be 12 inches below invert of drain inlet.
- B. Place 12 inches of drain rock.
- C. Install precast drain inlet per manufacturer's instructions.
- D. Place 3/4-inch drain rock at outside of drain inlet to 6 inches above drain inlet invert.
- E. Form and place precast concrete drain inlet with provisions for drain pipes.
- F. Establish elevations and pipe inverts for inlets and outlets as indicated.
- G. Provide watertight connections at pipe connections.

3.4 FIELD QUALITY CONTROL

- A. The Contractor shall:
 - 1. Cooperate with the Engineer in all aspects of the work.
 - 2. Notify the Engineer at least four (4) working days prior to required observation or testing.
 - 3. Be responsible for expense of all retesting or other controlled material found to be inadequate at first testing, including fees for travel, personnel time, laboratory expenses, office work, supervision, and testing which may be incurred by reason of such retesting. The District will deduct such expenses from monies due the contractor under the contract.

3.5 PROTECTION

- A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION

APPENDIX A

FORMS AND SCHEDULES

<u>ITEM</u>	<u>TITLE</u>	<u>PAGE</u>
1	Submittal Transmittal.....	A-1
2	Submittal Log.....	A-2
3	RFI Form.....	A-3
4	RFI Response Form.....	A-4
5	Value Engineering Change Proposal.....	A-5
6	Contract Change Request Form.....	A-7
7	Contract Change Order Form.....	A-8
7	Deficiency Notice.....	A-9
8	Release Form.....	A-10
9	California Department of Industrial Relations "Public Works Payroll Reporting Form" (Sample)	A-11
10	Escrow Agreements for Security Deposits in Lieu of Retention.....	A-13
11	Daily Extra Work Report (Form M-037).....	A-17
12	Subcontractor Payment Report (Form P-047).....	A-18
13	Concrete Data Sheet.....	A-20
14	Guidelines for Green Construction Practices.....	A-21



REQUEST FOR INFORMATION (RFI)

Re: _____	RFI # _____
-----------	-------------

DATE: _____

Subject: _____

Drawing No(s): _____

Detail _____

Spec. Section(s)/Paragraph(s) _____

INFORMATION REQUIRED:

INFORMATION REQUESTED BY:

Contractor's Project Manager

Attachments _____

Sheet 1/ _____

File Series _____

DIST.: CM _____ RE _____ INSP _____ LLS _____



RFI RESPONSE

Re:	RFI #
-----	-------

DATE:

Subject:
Drawing No(s).
Detail

Spec. Section(s)/Paragraph(s)

Response

Signed:

EBMUD Construction Manager

Attachments

Sheet 1/

File Series

cc: DIST.: CM____, RE____, INSP.____, LS____

VALUE ENGINEERING CHANGE PROPOSAL

SPECIFICATION NO. _____

DATE _____

PROJECT TITLE _____

CONTRACTOR _____ VECP NO. _____

1. **DESCRIPTION OF EXISTING CONTRACT REQUIREMENT:**

2. **DESCRIPTION OF PROPOSED CHANGE:**

3. **DISCUSSION OF DIFFERENCES BETWEEN EXISTING REQUIREMENTS AND PROPOSED CHANGE:** Give advantages and disadvantages of each, justify any changes to function or characteristics, and give effect of the change on performance of the item.

07/10/07

4. **ANALYSIS:** Identify and describe each part of the existing requirement which must be changed to implement this VECP, and recommend how to make such change.

5. **LIFE-CYCLE COST EFFECTS:** State the estimated effect of the proposed change on cost of operating and maintenance throughout the life-cycle of the item.

6. **DEADLINE DATE FOR IMPLEMENTATION OF THIS VECP:** State the latest time for acceptance of this VECP by the District in order to obtain maximum cost reduction during remainder of contract.

7. **TIME OF COMPLETION:** State the effect on contract time of completion if this VECP is accepted.

8. **COST ANALYSIS:**
 - a. Cost of performing the work in accordance with existing requirement. Attach detailed breakdown \$_____
 - b. Cost of performing the work in accordance with proposed VECP. Attach detailed breakdown. \$_____
 - c. Gross Savings to the Contractor. \$_____
 - d. Implementation Costs.
 - (1) Contractors Development and Implementation Cost. Attach detailed breakdown. \$_____
 - (2) Estimated District Cost. \$_____

9. **ESTIMATED VALUE ENGINEERING SAVINGS** \$_____

10. **ESTIMATED NET SAVINGS TO CONTRACTOR** \$_____
(c. minus d. above)

07/10/07

CHANGE ORDER REQUEST

(Project Name) _____

COR# _____

(PMI YR 1)

DESCRIPTION _____

Issued by _____

Date _____

COR JUSTIFICATION (If Contractor initiated only, to be completed by Contractor):

DESCRIPTION OF WORK TO BE PERFORMED

Contractor shall provide all labor, materials, equipment and other items necessary to install/complete the following work, to include all direct and indirect impacts. All work to be in compliance with contract documents.

IMPACTS

The following include all direct and indirect impacts due to the work specified heretofore.

Contract Time _____ Calendar Days

Cost \$ _____

By _____
Contractor

Date _____

Attachments: Cost Breakdown _____

CPM Subnetwork _____

NOTE: CONTRACTOR IS NOT AUTHORIZED TO PROCEED WITH THIS CHANGE.

DIST.CM _____ RE _____ LLS _____ FILE _____



CONTRACT CHANGE ORDER

EFFECTIVE ONLY WHEN SIGNED BY THE DISTRICT
THIS CHANGE ORDER IS A PRODUCT OF NEGOTIATION

Project:		CO No.	
Subject:		Date	
SPECIFICATION NO.	PURCHASE ORDER NO.	POETA CODING	COR/PCO No.

CHANGE ORDER DETAILS

1. DESCRIPTION OF WORK TO BE DONE OR CHANGE TO BE MADE:

2. PAYMENT TO BE MADE OR CREDIT TO BE TAKEN:

3. TIME EXTENSION GRANTED AND MILESTONES ADJUSTED:

4. REFERENCES:

Note: For the valuable consideration itemized in this change order, the contractor releases EBMUD from all claims whether known or not, for delay, disruption, acceleration, re-sequencing, overhead, or other impacts, arising out of or resulting from the work or change described in this change order.

APPROVED BY:

_____ Date: _____

_____ Date: _____

_____ Date: _____

_____ Date: _____

CHANGE AMOUNT:

CONTRACTOR	<i>You are hereby directed to make the above-described changes from the plans and specifications, or to do the above-described work not included in the plans and specifications on your contract.</i>
-------------------	--

ACCEPTED BY

CONTRACTOR'S SIGNATURE	PRINTED NAME	TITLE	DATE
------------------------	--------------	-------	------

R E L E A S E

FOR AND IN CONSIDERATION of the sum of _____
_____ (\$ _____), (Contractor Name)
_____ on behalf of itself and its subcontractors, material
suppliers, officers, directors, shareholders, employees, representatives, partners, subsidiaries, affiliates,
agents, insurers, sureties, successors and assigns (collectively "Contractor") hereby releases and discharges
the East Bay Municipal Utility District and its officers, directors, employees, representatives, agents, insurers,
sureties, successors and assigns from any and all claims, demands, actions, causes of action and obligations,
including but not limited to all claims for direct expense, indirect expense and schedule impact of whatever
nature, known or unknown, existing, claimed to exist or which can hereafter ever arise out of or result out of
or result from or in connection with any event, transaction or occurrence which has occurred with respect to
the _____
project under Specification _____ from the beginning of time to and including the date of execution of
this release, excepting only the following claims:

- [List claims or state "none"]

To the extent of the release provided for herein, Contractor waives any and all rights or benefits it may have
under the terms of Section 1542 of the California Civil Code which provides as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in
his or her favor at the time of executing the release, which if known by him or her must have
materially affected his or her settlement with the debtor."

IN WITNESS WHEREOF, said Contractor has executed this Release this ____ day of _____, 20__.

(SEAL)

Contractor

By: _____

Title: _____

10/17/10



California
Department of
Industrial Relations

PUBLIC WORKS PAYROLL REPORTING FORM

Page _____ of _____

NAME OF CONTRACTOR: OR SUBCONTRACTOR:	CONTRACTOR'S LICENSE NO.:	ADDRESS:
	SPECIALITY LICENSE NO.:	

PAYROLL NO.:	FOR WEEK ENDING:	SELF-INSURED CERTIFICATE NO.:	PROJECT OR CONTRACT NO.:
		WORKERS' COMPENSATION POLICY NO.:	PROJECT AND LOCATION:

(1) NAME, ADDRESS AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) NO. OF WITH- HOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	(4) DAY							(5) TOTAL HOURS	(6) HOURLY RATE OF PAY	(7) GROSS AMOUNT EARNED		(8) DEDUCTIONS, CONTRIBUTIONS AND PAYMENTS								(9) NET WGS PAID FOR WEEK		CHECK NO.					
			M	T	W	TH	F	S	S																				
			DATE									HOURS WORKED EACH DAY		THIS PROJECT	ALL PROJECTS	FED. TAX	FICA (SOC. SEC.)	STATE TAX	SDI	VAC/ HOLIDAY	HEALTH & WELF.	PENSION	TRAIING.	FUND ADMIN	DUES	TRAV/ SUBS.	SAVINGS	OTHER*	TOTAL DEDUC- TIONS
A-			S																										
			O																										
			S																										
			O																										
			S																										
			O																										

SAMPLE FORM
(Reduced)

S = STRAIGHT TIME
O = OVERTIME
SDI = STATE DISABILITY INSURANCE

*OTHER - Any other deductions, contributions and/or payments whether or not included or required by prevailing wage determinations must be separately listed. Use extra sheet(s) if necessary

CERTIFICATION **MUST** be completed
(See reverse side)

NOTICE TO PUBLIC ENTITY

For Privacy Considerations

Fold back along dotted line prior to copying for release to general public (private persons).

(Paper Size then 8-1/2 x 11 inches)

I, _____, the undersigned, am the
(Name – print)

_____ with the authority to act for and on behalf of
(Position in business)

_____, certify under penalty of perjury
(Name of business and/or contractor)

that the records or copies thereof submitted and consisting of _____
(Description, number of pages)

are the originals or true, full, and correct copies of the originals which depict the payroll record(s)
of the actual disbursements by way of cash, check, or whatever form to the individual or
individuals named.

Date: _____

Signature: _____

A public entity may require a stricter and/or more extensive form of certification.

**SAMPLE FORM
(Reduced)**

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between **East Bay Municipal Utility District** whose address is **375 Eleventh Street, Oakland, California 94607** hereinafter called **“Owner”**; and _____ whose address is _____ hereinafter called **“Contractor”**; and _____ whose address is _____ hereinafter called **“Escrow Agent.”**

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

- (1) Pursuant to Section 22300 of the Public Contract Code of the State of California, the Contractor has the option to deposit securities with the Escrow Agent as a substitute for retention earnings required to be withheld by the Owner pursuant to the construction contract entered into between the Owner and Contractor for _____ in the amount of _____ dated _____ (hereinafter referred to as the **“Contract”**). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for the contract earnings, the Escrow Agent shall notify the Owner within ten days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the contract between the Owner and Contractor. Securities shall be held in the name of the East Bay Municipal Utility District, and shall designate the Contractor as the beneficial owner.
- (2) The Owner shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the contract provision, provided that the Escrow Agent holds securities in the form and amount specified above.
- (3) When the Owner makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.
- (4) The Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. These expenses and payment terms shall be determined by the Owner, Contractor and Escrow Agent.

05/22/25

ESCROW AGREEMENT FOR SECURITY
DEPOSITS IN LIEU OF RETENTION

(5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

(6) The Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to the Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that the Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

(8) Upon receipt of written notification from the Owner certifying that the contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the contract, the Escrow Agent shall release to the Contractor all securities and interest on deposit less escrow fees and charges of the escrow account. The escrow shall be closed immediately upon disbursements of all monies and securities on deposit and payments of fees and charges.

(9) The Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this agreement and the Owner and Contractor shall hold the Escrow Agent harmless from the Escrow Agent's release, and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of the Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

05/22/25

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

On behalf of the OWNER:

East Bay Municipal Utility District

Treasury Manager
Title

Robert L. Hannay
Name

Signature

Address:

**375 Eleventh Street
Oakland, CA 94607**

Telephone: **(510) 287-0248**

On behalf of the CONTRACTOR:

Company Name

Title

Name

Signature

Address:

Telephone: ()

On behalf of the ESCROW AGENT:

Company Name

Title

Name

Signature

Address:

Telephone: ()

05/22/25

ESCROW AGREEMENT FOR SECURITY
DEPOSITS IN LIEU OF RETENTION

At the time the escrow account is opened, the **OWNER** and **CONTRACTOR** shall deliver to the **ESCROW AGENT** a fully executed counterpart of this Agreement. IN WITNESS THEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

OWNER:

CONTRACTOR:

East Bay Municipal Utility District

Company Name

Robert L. Hannay

Name

Name

Treasury Manager

Title

Title

Signature

Signature

05/22/25



CHANGE ORDER
 REQUEST NO.: _____
 SPEC. NO.: _____
 DATE PERFORMED: _____

DAILY EXTRA WORK REPORT

Description of Work _____

NAME	TRADE/CLASSIFICATION	HOURS
LABOR:		
NOTES: • Labor costs will be paid as outlined in Paragraph 7.3.1 of the General Conditions. • Equipment costs will be paid as outlined in Paragraph 7.3.3 of the General Conditions.		
EQUIPMENT:	• Manufacturer, Model, Capacity, Attachments, Weights, Axles, etc.	Hours
• Material costs will be paid as outlined in Paragraph 7.3.2 of the General Conditions. • Subcontractor work will be paid for as outlined in Paragraph 7.3.4.3 of the General Conditions.		
MATERIALS AND/OR WORK BY SUBCONTRACTORS		Hours
The above record is complete and correct. <input type="checkbox"/> For verification of time and materials only		
_____		_____
Contractor's Representative		Date
_____		_____
EBMUD Representative		Date

These Columns for OFFICE USE ONLY	
BASIC HOURLY RATE Inc. Wage Supplement	EXTENDED AMOUNTS
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
SUBTOTAL	\$0.000
27% Taxes & Ins.	\$0.000
SUBTOTAL	\$0.000
20% Markup	\$0.000
TOTAL LABOR COST A	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
SUBTOTAL	\$0.000
15% Markup	\$0.000
TOTAL EQUIP. COST B	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
	\$0.000
SUBTOTAL	\$0.000
_____ Sales Tax (%)	\$0.000
SUBTOTAL	\$0.000
15% Markup	\$0.000
TOTAL MAT'L COST C	\$0.000
➔ TOTAL A - B - C	\$0.000

INSTRUCTIONS

The numbers on the left refer to the corresponding number on the sample form to the right. Submit the Excel file **electronically** to the Contract Equity (CE) Office. For questions, please call the CE Office at (510) 287-0152. **COMPLETE ALL FIELDS.** Each file contains 25 Subcontractor Payment sheets.

- 1 Enter Project Name (For Construction Projects, **DO NOT** include specification number).
- 2 For Construction Projects **ONLY** - Enter Specification Number.
- 3 Enter Contract Agreement Date.
- 4 Enter Notice To Proceed Date.
- 5 Enter Project Completion Date.
- 6 Enter the Original Board Approved Contract Amount.
- 7 Enter Revised Contract Amount.
- 8 Enter Date Form P-047 Was Completed.
- 9 Enter Prime Contractor/Consultant's Business Name.
- 10 Leave Blank - For District Use Only.
- 11 Enter Prime's Contact/Project Manager Name.
- 12 - 16 Enter Prime's Street Address, City, State, Zip Code, and Phone Number.
- 17 Enter Description of Prime's Work to be Performed.
- 18 White Women, EMM - Ethnic Minority Men, and EMW - Ethnic Minority Women).
- 19 Enter Prime's Original Dollar Amount. 22
- 20 Enter Prime's Revised Dollar Amount. 23
- 21 Enter Prime's Total Payments-to-Date. 24

SUBCONTRACTOR PAYMENT REPORT (P-047)														
This information reference data from the Contract Equity Program Summary (P-035)														
Project Name: <u>1</u>										Project Completion Date: <u>5</u>				
Construction Spec. No.: <u>2</u>										Original Contract Amount: <u>6</u>				
Agreement Date: <u>3</u>										Revised Contract Amount: <u>7</u>				
Notice To Proceed Date: <u>4</u>										Submission Date: <u>8</u>				
BUSINESS NAME	VENDOR ID NUMBER	CONTACT NAME	STREET ADDRESS	CITY	STATE	ZIP CODE	BUSINESS PHONE NO.	WORK PERFORMED	WM WW EMM EMW	ORIGINAL DOLLAR AMOUNT	REVISED DOLLAR AMOUNT*	TOTAL PAYMENTS TO DATE	PROJECTED TOTAL PAYMENTS	
PRIME:	9	10	11	12	13	14	15	16	17	18	19	20	21	22
SUB:	23													
PAGE 1 SUB-TOTALS & PERCENTAGES														
*If revised \$ amount is less than original \$ amount by 10% or more, include statement justifying reason(s) for change.										White Men (WM)	\$0	\$0	\$0	\$0
										WM %	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
										White Women (WW)	\$0	\$0	\$0	\$0
										WW%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
										Ethnic Minority (EM)	\$0	\$0	\$0	\$0
										EM%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

- 22 Enter Prime's Projected Total Payments.
- 23 Repeat Steps 9 - 22 for Each Subcontractor/subconsultant.
- 24 Reason(s) for Change in Subcontractor/subconsultant's Dollar Amount, If Applicable.

Subcontractor Payment Report Summary automatically rolls up the information from each Subcontractor Payment Report (P-047) spreadsheet. **DO NOT CHANGE THE FORMULAS ON THESE PAGES.**

GUIDELINE FOR GREEN CONSTRUCTION PRACTICES

1.1 SUMMARY

- A. It is the District's policy to provide reliable high quality drinking water and wastewater service through sustainable operations, maintenance, planning, design, and construction activities that avoid, minimize, or mitigate adverse effects on the environment and the public.
 - 1. This Guideline is only a suggestion and the Contractor, Subcontractors, and suppliers have choices as to how the work is performed. The information contained will help all parties choose, whenever possible, construction methods and activities that comply with the District's sustainability policy.
- B. Information Includes:
 - 1. Environmental "Green" building practices related to energy efficiency, indoor air quality, and resource efficiency, including the following special requirements.
 - a. Maximize recycled content in materials, products, and systems.
 - b. Maximize use of wood from certified sustainably harvested sources.
 - c. Maximize use of reusable and recyclable packaging.
 - d. Maximize use of durable products.
 - e. Maximize use of products with low embodied energy (production, manufacturing, and transportation).
 - f. Maximize use of products that are easy to maintain, repair, and that can be cleaned using non-toxic substances.
- C. Related Sections:
 - 1. Section 01 35 44 – Environmental Requirements

1.2 ENVIRONMENTAL GOALS

- A. General:
 - 1. The District strives to incorporate sustainability and green building practices in its designs.
 - 2. Construction Documents are not intended to limit alternative means of achieving environmental goals.

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3. Suggestions from Contractor, subcontractors, suppliers, and manufacturers for implementing goals are encouraged. A team approach is encouraged.

B. Environmental Goals:

1. Refer to specific Specification sections for more detailed construction requirements related to specific materials and systems.
2. Energy Efficiency (Operations Through Project Life): Materials and systems are intended to maximize energy efficiency for operation of Project throughout service life (Final Completion to ultimate disposition – reuse, recycling, or demolition).
3. Resource Efficiency (Project Construction): Materials and systems are to maximize environmentally-benign construction techniques, including construction waste recycling, reusable delivery packaging, and reusability of selected materials.

C. Efficient Use of Resources:

1. Re-use existing building materials to extent feasible and as permitted in Construction Documents.
2. Use construction practices that achieve most efficient use of resources and materials.
3. Provide materials that utilize recycled content to maximum degree possible without being detrimental to product performance or indoor air quality.
 - a. Durable Materials:
 - 1) Use durable materials. Select materials that can be re-used or may be recycled.
 - b. Resource Efficient Materials:
 - 1) Use resource efficient materials; consider energy use over life cycle of material including harvesting, mining, manufacturing, transport, installation, use, operations, recycling and disposal.
 - c. Pollution-Generating Materials:
 - 1) Avoid materials that emit greenhouse gases.
 - 2) Avoid materials that require energy intensive extraction, manufacturing, processing, transport, installation, maintenance, or removal.

04/02/24

- 3) Avoid materials that contain ozone-depleting chemicals (e.g., CFCs or HCFCs) and that emit potentially harmful volatile organic compounds (VOCs).
- 4) Employ construction practices that minimize dust production and combustion by-products.
- 5) Avoid materials that can leach harmful chemicals into ground water; do not allow potentially harmful chemicals to enter sewers or storm drains.
- 6) Protect soil against erosion and topsoil depletion.
- 7) Minimize noise generation during construction; screen mechanical equipment to block noise.
- 8) Select materials that can be reused or recycled and materials with significant percentage of recycled content; conform with or exceed specific project recycled content percentages for individual materials; avoid materials difficult to recycle.
- 9) Protect natural habitats; restore natural habitats where feasible within scope of Project.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Environmental Issues: Take special care to prevent accumulation of moisture on materials and within packaging during delivery, storage, and handling to prevent development of mold and mildew on packaging and on products.
- B. Packaging: Use packaging that is reusable or recyclable, where practical, and as described below.
 1. Deliver materials in recyclable or in reusable packaging such as cardboard, wood, paper, or reusable blankets, which will be reclaimed by supplier or manufacturer for recycling.
 2. Minimize packaging materials to maximum extent possible while still ensuring protection of materials during delivery, storage, and handling.
 3. Reusable Blankets: Deliver and store materials in reusable blankets and mats that are reclaimed by manufacturers or suppliers for reuse where program exists or where program can be developed for such reuse.
 4. Pallets: Where pallets are used, suppliers shall be responsible to ensure pallets are removed from site for reuse or for recycling.
 5. Corrugated Cardboard and Paper: Where paper products are used, either recycle or reuse as part of construction waste management recycling stream, or

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recycle for use by manufacturer or supplier where program is available for such recycling.

6. Sealants, Paint, Primers, Adhesives, and Coating Containers: Return to supplier or manufacturer for reuse where such program is available.

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APPENDIX B
DISTRICT-APPROVED DISPOSAL FACILITIES

List of District-Approved Treatment and/or Disposal Sites for Various Waste Types as of April 2023

Note: All of the following transfer, treatment and/or disposal sites have been audited by the District and found to be acceptable, as of the time of the audit, for disposal of waste generated in the course of District projects. Since changes in facility ownership, operation, financial health, and waste acceptance policies may occur at any time among transfer, treatment and disposal facilities, the District makes no guarantee that the facilities listed below will be available or acceptable at the time of disposal. All disposal arrangements need to be pre-approved by the District through the Material Disposal Plan submittal required in Section 01 35 44 of this specification, as well as with the disposal facility through their waste acceptance process. All waste generated in the course of District projects must be treated or disposed of at one of the facilities on this list. If a facility from this list is selected that transfers the waste to another facility for treatment and/or disposal, the District will require evidence that the waste is treated and/or disposed of at one of the approved facilities on this list.

Facility Name	Facility Location	Type of Waste Accepted	
		General	Detailed
Acme Landfill	Martinez, CA	Class II, non-hazardous waste (I and III cells are CLOSED)	Construction-demolition (CD) debris, green waste, scrap metal, wood waste, appliances, other (clean fill, concrete, ceramic tile, asphalt, sheet rock, furniture)
AERC Recycling Solutions (Currently part of Clean Earth, Inc.)	Hayward, CA	Operated under Standardized Hazardous Waste Facility Permit (Series A) with DTSC	Universal waste and e-waste collection and recycling.
Altamont Landfill & Resource Recovery Facility	Livermore, CA	Class II & III non-hazardous waste landfill	Municipal waste, construction debris, industrial waste, contaminated soils, liquid waste, sludges, treated auto shredder waste (TASW) metal, treated wood, green waste, friable and non-friable asbestos
Aqua Clear Farms	Rio Vista, CA	Class II, drilling mud only	Primarily drilling mud and cuttings from oil and gas exploration; typically 20-30% solids, 58-79% water and 1-2% hydrocarbons
California Asbestos Monofill	Copperopolis, CA	inert asbestos-containing waste only	Asbestos and inert waste tires
Chemical Waste Management, Inc. - Kettleman	Kettleman City, CA	Class 1, RCRA and Non-RCRA hazardous waste landfill	Accepts everything but compressed gases, radioactive waste, infectious material, explosives. NOTE: batteries, mercury, acids, acids requiring neutralization, fuels, oil recycling and wastes requiring incineration are transferred offsite for treatment/disposal at secondary facilities. If used, must ensure secondary facility has been audited by District
Clean Harbors (aka Safety Kleen, formerly Laidlaw) - Buttonwillow	Buttonwillow, CA	Class 1, RCRA and Non-RCRA hazardous waste treatment / landfill	All RCRA haz waste (except flammables, PCBs > 50 ppm, med waste, explosives, and rad waste > 20,000 pCi); hazardous bulk solid and liquid wastes
Clean Harbors Environ. Services, Inc. (Formerly Laidlaw)	5756 Alba St., Los Angeles, CA	RCRA and Non-RCRA hazardous waste treatment	Inorganic acids and bases, industrial wastewater, household haz waste, ethylene glycol, waste oils, batteries, incinerator ash, halogenated solvents, fluorescent and mercury lamps, mercury materials, PCBs, labpacks, asbestos

Facility Name	Facility Location	Type of Waste Accepted	
		General	Detailed
Safety-Kleen of California (Clean Harbors, formerly Evergreen Oil, Inc.)	Newark, CA	Class 1, RCRA Part B hazardous waste treatment	used oil, used oil filters, used anti-freeze, RCRA fuel and contaminated petroleum products, and RCRA/non-RCRA oily wastewater
Clean Harbors Environmental Services (formerly Solvent Service, Inc., SSI)	1021 Berryessa Road, San Jose, CA 95133	RCRA and Non-RCRA hazardous waste	Solvents, fuels, oils certain paints, corrosive liquids and solids organic and inorganic wastewaters, bulk and drummed solids, lab packs and RCRA solids (D004-D011, F006, D018-D043). T&S main facility handles container & bulk liquids for transfer - consolidation. Additional rail spur transfer facility is permitted.
Clean Harbors Wilmington LLC (aka Teris LLC - ENSCO West)	Wilmington, CA	RCRA and Non-RCRA hazardous waste	Oil recycling, storage and transfer facility for containerized liquid and solid hazardous waste; wastewaters treated at Clean Harbor's San Jose and/or other CH disposal facilities; incinerable wastes shipped to their Aragonite, UT, Kimball, NE, or El Dorado, AR; landfills sent to their Buttonwillow, CA
Crosby & Overton	Long Beach, CA Oakland, CA transfer station	RCRA Part B and Non-RCRA hazardous waste	Bulk liquids for on-site treatment: non-hazardous hydrocarbon-contaminated water, non-RCRA oily water and RCRA-D001 and/or D-18 (oil waters with gasoline). Drummed liquids & solids (roll-offs & triwalls): non-hazardous, non RCRA & RCRA, lab packs and household hazardous waste.
Depressurized Tech. (DTI)	Morgan Hill, CA	Class I, aerosol cans only (RCRA, non-RCRA, and non-haz)	Aerosol cans recovery & recycling (hazardous/non-hazardous; empty/full/partially full)
D/K Dixon	Dixon, CA	Non-RCRA	Used oil, oily water, used antifreeze
Dunbarton Quarry	Fremont, CA	Nonhazardous soil and fill disposal reclamation site	Dunbarton Quarry is operated and maintained by Pacific States Environmental Contractors, Inc. This facility is not open to the public and only accepts fill that is properly sampled/tested and within the acceptance criteria of Dunbarton Quarry. Each project must go through an environmental review prior to acceptance.
ECDC Environmental, L.C.	East Carbon, UT	Class V, non-RCRA hazardous waste	non-RCRA hazardous waste contaminated soils, non-regulated PCB wastes, municipal solid waste, commercial and industrial solid waste, construction/demolition waste; special waste allowed by Utah (e.g. California hazardous waste)
Evoqua Water Technologies (formerly Norris Environmental, U.S. Filter Recovery, Siemens Water Technologies)	Vernon, CA	Class I, RCRA hazardous waste treatment	RCRA solid and liquid waste treatment: acids, caustics, cyanide, chromate, trace organic compounds, hydrocarbons/oils
Forward Landfill, Inc.	Manteca, CA	Class II and III; non-hazardous waste	Non-hazardous waste, PCBs, and oily waste, friable and non-friable asbestos; trench spoils, drilling muds, sewage sludge, construction debris, oily soils
Jess Ranch	15850 Jess Ranch Rd., Tracy, CA95377	Clean fill and biosolids	Clean fill but only after testing including processed organic materials (food waste, green waste, wood waste). Other feedstock may include: organics, contaminated paper, natural fiber products and other inert materials (gypsum, clean C&D, untreated wood waste), biosolids organics composting facility

Facility Name	Facility Location	Type of Waste Accepted	
		General	Detailed
John Smith Road Landfill	2650 John Smith Road, Hollister, CA	Municipal solid waste and household hazardous waste	Residential waste, asphalt, concrete, tires, wood waste, and household hazardous wastes accepted. This landfill no longer accepts biosolids.
Keller Canyon Landfill Company (Republic Services)	901 Baily Rd. Pittsburg, CA	California Class II and III landfill that meets Federal Subtitle D requirements	Municipal solid waste, selected contaminated soils, shredder waste, commercial and industrial waste, filter cake/dewatered sludge, agricultural waste, construction/demolition debris, sewage sludge, spent catalyst fines, cannery waste, clean soils, off-spec products
Kleen Industrial Services/ Kleen Blast	Hayward, CA	New and recycled paint blast	New copper slag for paint blasting. Used slag can be returned to Kleen Blast and recycled if passes the TCLP test and is not RCRA hazardous waste. Used blast must be evaluated by the District's Regulatory Compliance Office BEFORE it is given to this vendor.
La Vista Quarry	28814 Mission Blvd., Hayward, CA	Class III, Construction Debris	Asphalt & concrete (<3' long), concrete with rebar (<3" from concrete), clean rock and gravel, asphalt roof tiles, broken toilets for recycling and with hardware removed.
Lighting Resources, LLC	1522 East Victory St, #4, Phoenix, AZ	Universal waste recycling	Commercial recycling facility for waste fluorescent lamps, ballasts, batteries, electronic waste and mercury devices.
Newby Island Sanitary Landfill	Milpitas, CA	Class III, non-hazardous waste	Municipal solid wastes, industrial waste, construction/demolition waste, contaminated soils, clean soils, water treatment sludge, and wastewater sludge, grit, and screenings. No liquids, asbestos, or untreated infectious materials.
Phibro-Tech, Inc.	Santa Fe Springs, CA	RCRA hazardous waste treatment and recycler/recovery	Metals, ammonia, copper metal, acids (etchants), inorganic acidic and alkaline material recovery
Philip Services Corp, dba 21st Century EMI	Fernely, NV	RCRA TSDF recycler	Alkaline batteries for shredding and recycling, inorganic liquid wastes (acids and bases), lab packs containing total organic carbon at or less than 10% per drum. Also a transfer facility to organic wastes.
Potrero Hills Landfill	Suisun City, CA	Class III, Municipal Solid Waste Landfill	Municipal solid waste, agriculture and industrial waste, construction/demolition waste, composts green waste, electronic and 'white goods' recycling. We send our waste polymer sump rinsate to this facility.
Rabanco (Roosevelt Regional Landfill), Allied Waste Services, a Republic Services Company	Roosevelt, WA	Class III, non-hazardous waste	Municipal solid waste, construction debris, industrial waste, friable and non-friable asbestos, incinerator ash, contaminated waste. No liquids accepted.
Recology - Hay Road Landfill	Vacaville, CA do not use site in Gilroy, CA 95020	Class II, Municipal Solid Waste Landfill	Municipal solid waste, agriculture and industrial waste, construction/demolition waste, sewage sludge and resell treated biosolids; recycling program of green, food, and wood wastes for composting, reuse of concrete and asphalt, and transfer station for e-waste, tires, and metals. Also accepts NON-hazardous waste contaminated soils, friable and non-friable asbestos, and other designated special wastes.

Facility Name	Facility Location	Type of Waste Accepted	
		General	Detailed
Redwood Landfill	Novato, CA	Class III, non-hazardous waste	Municipal solid waste, construction debris, petroleum-contaminated soil, grit and grease, dredge and fill material, non-friable asbestos, incinerator ash, treated wood, storm drain cleanings, holding tank pumpings, agricultural wastes, triple-rinsed pesticide containers, sewage sludge. No liquids accepted.
Rho-Chem, LLC. (subsidiary of Philip Services Corp)	Inglewood, LA County, CA	RCRA storage and treatment	Class I - RCRA and Non-RCRA - spent solid and liquid recycler
RMC Pacific	Pleasanton, CA	Clean fill and concrete recycling	A good source of clean fill to purchase. If bringing unneeded construction material such as concrete debris, construction debris and/or asphalt debris, do NOT deposit this material at the Granite and Central Concrete sites located within the RMC site. Deposit this material onto the RMC site only
Rock Creek Landfill (Calaveras Co. owned)	Milton, CA	Class II, non-hazardous waste	Municipal garbage, construction /demolition debris, petroleum-contaminated soil <1000 ppm, sludge, ash, tires, green waste, treated wood; accepts wastes generated in Calaveras County and parts of Alpine County (whose access to local dump is cut off during winter) only
Safety Kleen	Denton, TX	Class I, RCRA and Non-RCRA hazardous waste	Hazardous waste recycling, metals recovery, and bulk storage liquid and solid hazardous waste.
Safety-Kleen, Sacramento	Sacramento, CA	RCRA and Non-RCRA hazardous waste	Paint, dry cleaning solvents, antifreeze, mineral spirits, immersion cleaning solvents, oil filters, photochemical solutions steel wool cartridges and silverflake for recycling and transferring to other treatment facilities.
Salesco Systems USA	Phoenix, AZ	RCRA and non-RCRA solid and liquid mercury and PCB waste from electrical components	Mercury wastes including liquid mercury, mercury compounds and solutions, and mercury contaminated soil; all types of lamps (sodium and mercury vapor, fluorescent, neon); activated carbon contaminated with mercury; PPE contaminated with mercury; PCB wastes from ballasts, transformers and other electrical equipment
Simco Rd. Regional Landfill, owned/operated by Idaho Waste Systems, Inc.	Boise, ID	Class III, RCRA Subtitle D, Non-haz municipal fill, solid waste	Municipal solid waste, sewage sledge, C&D waste, contaminated soil, asbestos, non-haz special wastes, liquids
US Ecology, Inc.	Beatty, NV	Class I, RCRA and Non-RCRA hazardous waste	RCRA (D, F, D, P and U authorized waste codes), solid chemical wastes, drummed and bulk solid wastes, PCB-contaminated materials at TSCA levels (liquid and solids), filter concentrate and cake and corrosive liquids
Vasco Road Landfill, LLC (Republic Services)	Livermore, CA	Class II and III non-hazardous waste	Municipal solid wastes, construction & demolition debris INCLUDING dry wall and non-friable asbestos containing materials, clean (naturally uncontaminated) soil, sewage & wastewater treatment sludge & grit, industrial sludges & filters from cleaning processes (foundry slag and sand), petroleum & lead contaminated soils and drilling muds (Class II and III), green waste for recycling (bio-solids, scrap metal, asphalt/concrete crushing).
Veolia Environmental Services (ES) Technical Solutions (Formerly AETS)	Richmond, CA	Oil recycling, containerized RCRA and non-RCRA hazardous waste for transfer	RCRA and non-RCRA haz wastes, household haz waste for transfer to secondary facility for treatment and/or packaging - disposal. Accepts: wastewater, contaminated soils, inorganics, organics, paint sludges, pesticides, reactives, halogenated and nonhalogenated solvents, heavy metals, acids, caustics, and oils. NOTE: if this facility is used, ensure final disposal facility is approved for EBMUD use

Facility Name	Facility Location	Type of Waste Accepted	
		General	Detailed
Vulcan Materials Co.	Pleasanton, CA	Class III, Land reclamation & aggregates recycling	Low moisture content, non-water soluble, non-decomposable, non-hazardous inert wastes. Construction & demolition wastes and excavated earth. Clean fill (no contaminants or organic material). Recycled asphalt, cinder blocks, bricks, concrete, clean rock/gravel. No liquids.
West Winton Ave. Landfill (aka Russell City Dump, All City Dump, KOFY site, AC Flood Control Dist disposal site).	Hayward, CA	Class III (Limited Operation)	Accepts clean soil with bits of asphalt. No concrete
World Oil Recycling	Compton, CA	Operated under a Hazardous Waste Facility Permit by DTSC	Used oil recycling facility. Also accepts oily wastewater, oily solids, waste fuels, contaminated petroleum products, oil filters, used antifreeze, and paints.

Do not use Lakeland Processing Company, Santa Fe Springs, CA

American Recovery filed for Bankruptcy in 2006 they have since closed and have been removed from the list.

\\w-fp-ab-2.win.ebmud\data\workgroups\omd\rco\ECS\Haz Waste\Disposal Facility Audits>List of Acceptable TSDF Facilities to Append to Specs.xls



EXHIBIT I
CERTIFICATION OF BIDDER EXPERIENCE AND QUALIFICATIONS

RFP For Pavement Management Implementation Year 1
RFP #WDPD-0225

The undersigned Bidder hereby certifies that, throughout the duration of the Contract, it shall hold and maintain a valid license under the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California, authorizing it to perform the work contemplated in this Request for Proposal (RFP). The Bidder further certifies that it is dully skilled, experienced, and regularly engaged in the general class and type of work required under this RFP. The Bidder represents that it possesses the necessary competence, knowledge, and qualifications to successfully perform the services described herein.

The undersigned Bidder certifies that it has a minimum of five (5) years of recent experience in the successful completion of projects of comparable size and scope to those specified in this RFP. The undersigned further affirms that all statements and representations regarding the Bidder's qualifications and experience are true, complete, and accurate.

The undersigned hereby states that all representations regarding the Bidder's Experience and Qualifications are correct and true.

Signed this _____ day of _____, 20_____

Contractor: _____

(Print or Type Contractor's Legal Name)

Signature: _____

Name: _____

Title: _____

Contractor License No.: _____

Expiration Date: _____

Address: _____

Telephone Number: _____

Email Address: _____



EXHIBIT J

CERTIFICATION OF EXPERIENCE AND QUALIFICATIONS TO PERFORM FULL DEPTH RECLAMATION

**RFP For Pavement Management Implementation Year 1
RFP #WDPD-0225**

The Contractor proposing to perform Full-Depth Reclamation (FDR) activities for this project, whether Bidder or Subcontractor, shall complete, sign, and submit this certification at time of bid.

The undersigned business entity certifies that it shall be throughout the period of the Contract, licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California, to do the type of work contemplated in this RFP. The business entity further certifies that it is skilled and regularly engaged in performing FDR construction operations similar in nature to the type of work called for in this RFP.

The business entity represents that it is competent, knowledgeable, and qualified to perform the FDR work described in the contract documents.

STATEMENT OF EXPERIENCE

The business entity has been engaged in the contracting business, under the present business name or prior business name, for _____ years and has experience performing FDR work of a nature similar to the work described in this RFP over a period of _____ years.

List two (2) construction contracts completed by the business entity, under the present business name or prior business name, within the past five (5) years demonstrating experience performing FDR work of a nature similar to this project.

1. Business name under which project was contracted:

Project Name: _____

Project Location: _____

Owner: _____

Contract Total Value: \$ _____

Contract Time: ____ Calendar Days or ____ Working Days

Owner's Representative: _____

Owner's Telephone No. & Email: _____

Date of Substantial Completion: _____

Type and quantity of work performed: (check all that apply)

- Subgrade stabilization (lime treatment)
- Subgrade stabilization (in-situ cement treatment)
- Full depth reclamation (cement treated) - ____SY @ ____FT maximum depth
- Full depth reclamation (other than cement treated) - ____SY @ ____ FT maximum depth
 - Chemical additive used: _____
 - Aggregate additive used: _____

Project conditions: (check all that apply)

- Work performed within city street right of way (residential streets)
- Work performed within city street right of way (multi-lane arterials)
- Work performed within State highway right of way
- Work performed outside city, county, or state street or highway right of way
 - o Describe location: _____
- Unstable subgrade conditions (bay mud or compressible soils)

Additional Information (Optional): _____

2. Business name under which project was contracted:

Project Name: _____

Project Location: _____

Owner: _____

Contract Total Value: \$ _____

Contract Time: ____ Calendar Days or ____ Working Days

Owner's Representative: _____

Owner's Telephone No. & Email: _____

Date of Substantial Completion: _____

Type and quantity of work performed: (check all that apply)

- Subgrade stabilization (lime treatment)
- Subgrade stabilization (in-situ cement treatment)
- Full depth reclamation (cement treated) - ____SY @ ____FT maximum depth
- Full depth reclamation (other than cement treated) - ____SY @ ____ FT maximum depth
 - o Chemical additive used: _____
 - o Aggregate additive used: _____

Project conditions: (check all that apply)

- Work performed within city street right of way (residential streets)
- Work performed within city street right of way (multi-lane arterials)
- Work performed within State highway right of way
- Work performed outside city, county, or state street or highway right of way
 - o Describe location: _____
- Unstable subgrade conditions (bay mud or compressible soils)

Additional Information (Optional): _____

The undersigned hereby states that all representations regarding the business entity's Experience and Qualifications are correct and true.

Signed this _____ day of _____, 20_____

Contractor: _____

(Print or Type Contractor's Legal Name)

Signature: _____

Name: _____

Title: _____

Contractor License No.: _____

Expiration Date: _____

Address: _____

Telephone Number: _____

Email Address: _____



EXHIBIT K
DECLARATION OF ELIGIBILITY TO WORK ON PUBLIC WORKS PROJECTS



DECLARATION OF ELIGIBILITY TO WORK ON PUBLIC WORKS PROJECTS

The undersigned hereby certifies under penalty of perjury under the laws of the State of California that in connection with bidding on:

The bidder is eligible to bid on public works projects in the State of California;

The bidder is not barred from bidding on or being awarded a contract for public works pursuant to California Labor Code Sections 1725.5, 1777.1 or 1777.7;

The bidder has obtained from each and every sub-contractor it intends to employ on this project, a statement of eligibility to work on public works projects in the State of California indicating that the subcontractor is not barred from performing work on a public works project pursuant to California Labor Code Sections 1725.5, 1777.1 or 1777.7;

If at any time during the course of performing work for East Bay Municipal Utility District, the contractor (formerly known as the bidder) becomes, or any of its sub-contractors become, ineligible to work on public works projects in the State of California, the contractor will immediately notify East Bay Municipal Utility District of this fact in writing.

Firm: _____

By: _____ Date: _____
(Signature of Bidder)

Title: _____

Signed at: _____ County, State of: _____



EXHIBIT L
DECLARATION OF NONCOLLUSION



DECLARATION OF NONCOLLUSION

The undersigned declares, under penalty of perjury under the laws of the State of California, that the bid submitted to the East Bay Municipal Utility District for

is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

Firm: _____

By: _____ Date: _____
(Signature of Bidder)

Title: _____

Signed at: _____ County, State of: _____