City of Oakley
ADDENDUM NO. 1 to contract documents for
CIP 205 – Downtown Gateway Plaza and Infrastructure Improvement Project

BID OPENING DATE: October 20, 2022 2:00 PM

Notice is hereby given that the following clarifications and revisions are made to the above referenced contract documents:

Updates to the Plans & Specifications:

Plans:
T-1, X-1, X-2, DM-1 to DM-3, S-1 to S-3, GD-1, GD-2, CD-2, CD-9, CD-13, PD-1 to PD-3, E-2, L0.1, L0.2, L1.1 to L1.3, L2.3, L3.2, L3.5, L3.8 and ST-1 to ST-4.

Specifications:
Part 1:
- Revised number of working days and amount for liquidated damages
- Updated bid list

Part 2:
- Updated reference to 2018 Caltrans Standard Specifications and April 2022 Revised Standard Specifications

Part 3:
- Various changes, highlighted in yellow
- Added new Sections 10-1.33 "Slurry Seal (Type II with Black Rock), 10-1.34 "Crack Seal", and 10-1.35 "Painting"

All bidders shall acknowledge receipt and acceptance of Addendum No. 1 by signing in the space provided at the end of this Addendum and submitting the signed addendum with their proposal.

Kevin Rohani
Public Works Director/City Engineer
October 13, 2022

_____
Contractor Signature

_____
Date

_____
Company Name

withdraw his/her bid for a period of NINETY (90) calendar days after the date set for the opening thereof, and the same shall be subject to acceptance by the City during this period.

The City Council reserves the right to reject any or all bids, waive any irregularities in any bids and its determination as to which bid is the lowest responsible bid and is for the best interest of the City shall be final. The City Council shall have NINETY (90) calendar days from and after the opening of the bids within which to make its determination.

The Contractor receiving the award of the contract shall begin work within **TEN (10)** Working days after receipt of the Notice to Proceed and shall diligently prosecute the same to completion within the time restrictions as listed in the technical specifications and all work shall be completed by the time allotted in the technical specifications.

The Contractor shall have **TWO HUNDRED TWENTY (220) Working Days** to complete this project. Working days will be counted starting from the date of the Notice-to-Proceed as day one. The amount of the liquidated damages to be paid by the Contractor to the City for failure to complete the work by the Completion Date (as extended, if applicable) is **FIVE HUNDRED DOLLARS (500.00)** for each calendar day any work remains incomplete beyond the time fixed above for completion. Such amount is the actual cash value agreed upon as the loss to City resulting from Contractor's default.

At the time the Contractor's bid proposal is submitted, the Contractor shall possess a valid Class A California General Contractor's License. The Contractor shall also possess a valid City of Oakley Business License at the time the contract is awarded.

The City of Oakley, hereby notifies all bidders that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin, sex, religion, age or disability. **The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR, Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may results in the termination of this contract, or such other remedy as recipient deems appropriate.**

Prevailing Rate of Wages: The State general prevailing wage rates determined by the Director of Industrial Relations are considered a part of this contract. Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at City of Oakley address and available from the California Department of Industrial Relations' Internet web site at: http://www.dir.ca.gov. In payment of labor, the Contractor shall comply with the provisions of Labor Code Sections 1770 to 1781.

For any moneys earned by the Contractor and withheld by the City to ensure the performance of the contract, the Contractor may, at the Contractor's request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Article 8, (commencing with Section 10263), Chapter 1, Part 2, Division 2 of the Public Contract Code of the State of California.

Plans and Contract Documents for bidding this project may be obtained from the **Public Works & Engineering Department located at 3231 Main Street, Oakley, CA 94561**, weekdays, excluding holidays, between the hours of 8:00 a.m. and 6:00 p.m. A Non-refundable fee for full size plans and contract documents are **$50.00 per set.** Please include Federal Express number with mail-in requests for plans and specifications. If mailing is desired, without a

A. UNIT PRICE SCHEDULE

The undersigned, Pursuant to and in compliance with your Notice to Contractors and the Contract Documents relating to the **DOWNTOWN GATEWAY PLAZA ROADWAY AND PARKING LOT PROJECT, CIP 205**, including Addenda No. 1_____, _____, _____, as Bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes and agrees if this proposal is accepted that he will contract with the City of Oakley in the form of the scope of the contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefore the following item prices, to wit:

BID ITEMS

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
1	Mobilization (10%)	1	LS		
2	Traffic Control System and Construction Area Signs	1	LS		
3	Storm Water Pollution Prevention Plan (SWPPP)	1	LS		
4	Storm Water Pollution Control Implementation	1	LS		
5	Remove Tree	11	EA		
6	Remove Concrete Pavement and Base Material	2,525	SF		
7	Remove Barricade	1	EA		
8	Remove Temporary Railing (Type K)	3	EA		
9	Remove Curb and Gutter	15	LF		
10	Remove AC Dike	800	LF		
11	Remove Fence	440	LF		
12	Remove Wood Beam	80	LF		
13	Remove Wood Retaining Wall	50	LF		
14	Remove Wooden Light Pole and Equipment	1	LS		
15	Remove Wood Post	7	EA		
16	Remove Rock Slope Protection	845	CY		
17	Roadway Excavation	150	CY		
18	Common Excavation	2,010	CY		
19	Engineered Fill	1,000	CY		

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
20	HMA (Type A)	2,120	TON		
21	RHMA-G	455	TON		
22	2” AC Grind	245	SY		
23	Aggregate Base CL-2	2,640	CY		
24	City Standard Sidewalk	11,535	SF		
25	Decorative Concrete Sidewalk	6,475	SF		
26	City Standard Driveway	365	SF		
27	City Standard Curb & Gutter	2,940	LF		
28	City Standard 6” Vertical Curb	1,060	LF		
29	City Standard 8” Vertical Curb	135	LF		
30	City Standard Concrete Valley Gutter	1,545	SF		
31	Curb Ramp (Caltrans Case A)	4	EA		
32	Curb Ramp (Caltrans Case C)	2	EA		
33	Curb Ramp (Caltrans Case F)	2	EA		
34	Detectable Warning Surface	165	SF		
35	Concrete Lateral Brace	40	LF		
36	Deepened Curb and Gutter	545	LF		
37	Deepened Curb	90	LF		
38	Retaining Curb	1105	LF		
39	Reinforced Concrete Retaining Wall	2710	SF		
40	Reinforced Concrete Bus Pad	1,840	SF		
41	6’ Black Coated Chain Link Fence	410	LF		
42	6’ Chain Link Fence	110	LF		
43	Wooden Fence	55	LF		
44	Rock Slope Protection	280	CY		
45	Trash Enclosure	1	LS		
46	Remove Concrete Flared End Section	1	EA		
47	City Standard Type I Inlet	5	EA		
48	City Standard Type III Inlet	12	EA		

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
49	Modified Type II Inlet with Side Opening	1	EA		
50	Bubbler Up Box	2	EA		
51	City Standard Manhole	8	EA		
52	24" HDPE SD Pipe	1,000	LF		
53	15" HDPE SD Pipe	125	LF		
54	12" HDPE SD Pipe	570	LF		
55	Curb Drain	60	LF		
56	Sanitary Sewer for Trash Enclosure	1	LS		
57	1 / 2” Water Service (DWD-Revocable)	1	EA		
58	Accent Brick Paver	5	SF		
59	Relocating Existing Trees	4	EA		
60	Landscape Planting	1	LS		
61	Landscape Irrigation	1	LS		
62	Bench	6	EA		
63	Bike Rack	3	EA		
64	Drinking Foundation with Flo-Sump	1	EA		
65	Tree Well with Euro Pave	200	SF		
66	Vertical Story Board	1	EA		
67	Relocated Boulders	7	EA		
68	Trash and Recycling Receptacle	2	EA		
69	Directory	2	EA		
70	Concrete Mowband	35	LF		
71	Signing and Striping	1	LS		
72	Electrical Work	1	LS		
73	Electric Vehicle Charge Stations	1	LS		
74	Scheer Electrical Work	1	LS		
75	Rectangular Rapid Flashing Beacon (RRFB) System	1	LS		
76	Bioretention Areas	1	LS		

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
77	Crack Sealing and Slurry Seal	6020	SY		
78	Decorative Hand Railing	440	LF		

City shall have the right to remove Bid Item 57 from the contract scope of work and have those items of work performed by Diablo Water District's (DWD) contractor. City's contractor shall coordinate and provided for DWD's contractor to perform traffic control and perform the work indicated in Bid Item 57 that may have been removed. City's contractor shall provide ten (10) consecutive calendar days working period, for DWD's contractor to perform the work in Bid Item 57, if the bid item work is performed by DWD's contractor. In the event DWD's contractor performs the work in Bid Item 57, DWD's contractor shall be responsible for the AC patch paving around the valve cans. City's contractor shall not be entitled to any additional time extension or compensation, including overhead or profit, in the event any of Bid Item 57 are removed from the project scope and the amounts entered in the Bid Schedule for the remainder of the work shall remain unchanged. City shall notify City's contractor if it will be removing any of the items from the scope of work within ten (10) working days after the Notice of Award.

Total Bid (Items 1-78) $_____
(Numbers)

_____Dollars
(Written)

The DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT requires bids to include prices for items that may be added to or deducted from the scope of the work in the contract for which the bid is being submitted.

Pursuant to the Public Contract Code § 20103.8c the lowest bid shall be "the lowest total of the bid prices on the base contract and those additive or deductive items that when taken in order from a specifically identified list of those items in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the local agency before the first bid is opened." In this case, the funding amount publically disclosed is the Engineer's Estimate, which totals $7,400,000.

Section 1
DEFINITIONS AND TERMS

1-1.01 DEFINITIONS

Wherever in these Specifications and other Contract Documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

A. *Contract Documents*. The Notice to Contractors, Information for Bidders, Bid Form, Designation of Subcontractors, Agreement, Bidder's Bond, Performance Bond, Labor and Material person's Bond, Progress Schedule, General Conditions, Equal Employment Opportunity Conditions if applicable, Technical Provisions, Plans, Specifications, and such provisions of the 2018 Standard Specifications and Revised Standard Specifications of the State of California, Department of Transportation, and Amendments are hereby incorporated by reference. The contract documents are not subject to negotiation as to their form or contents.

B. *Contractors*. The person, firm, partnership, or corporation to whom this Contract is awarded by Owner and who is subject to the terms thereof.

C. *Director of Public Works & Engineering*. The Director of Public Works & Engineering of the City of Oakley and the representative of the Director Public Works & Engineering, duly authorized and appointed by the Director of Public Works & Engineering.

D. *Engineer*. The City Engineer of the City of Oakley, and the representative of the City Engineer duly authorized and appointed by the City Engineer. In the event Owner has hired any person or corporation as an independent Contractor to act in lieu of the City Engineer, the term "Engineer" shall be deemed to include such person or corporation.

E. *Governing Body of the Owner.* The City Council of the City of Oakley.

F. *Inspector.* The Inspector employed by Owner to perform inspection during construction of the work, under the direction of the Director of Public Works & Engineering.

G. *Owner*. The City of Oakley, a municipal corporation in the State of California.

H. *Plans*. The Official Plans, working drawings or exact reproductions thereof, approved by the Governing Body of the Owner which show the location, character, dimensions and details of the work on the Project and the work to be done. The Plans are to be considered as a part of the Contract Documents, complementary to the Specifications.

I. *Project*. The entire public improvement proposed by Owner to be constructed in whole or in part, pursuant to this Contract.

J. *Specifications.* The directions, provisions, and requirements contained herein, or contained in any Specifications referred to herein, pertaining to the method and manner of performing the work on the Project, or to the quantities, or the quality of materials to be furnished under the Contract.

K. *Subcontractor.* A person, firm, partnership, or corporation having a direct contract with Contractor and not with Owner, for the performing of work or labor or the rendering of service

to Contractor for the work.

L. *Surety*. Any persons, firm, partnership, or corporation that executes as Surety on Contractor's Performance Bond or Contractor's Labor and Materialperson's Bond or Bidder's Bond.

M. *Work*. Work to be performed on the Project under this Contract, including work normally done at the site of the Project plus labor and materials.

1-1.02 SPECIFICATIONS

Wherever in these Specifications the term "Standard Specifications" is used, it shall mean the 2018 State of California, Department of Transportation, Standard Specifications and April 2022 Revised Standard Specifications or the California Public Contract Code.

Any item not covered in these Specifications shall be performed in accordance with the appropriate section of the Standard Specifications. Whenever in the Standard Specifications the following terms are used, they shall be understood to mean and refer to the following:

A. *Department of Public Works or Department of Transportation*. The City of Oakley, Department of Public Works & Engineering.

B. *Director of Public Works & Engineering*. The City of Oakley, Director of Public Works & Engineering.

C. *Engineer*. The Engineer is defined as the Director of Public Works & Engineering, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

D. *Laboratory.* The designated laboratory authorized by the City of Oakley to test materials and work involved in the Contract.

E. *State*. The City of Oakley.

1-1.03 GENERAL

All work shall be done in conformance with the applicable provisions of the Standard Specifications except as modified herein. Payment for work, equipment and materials not specifically covered herein shall be included in the payment for related items of work. No additional payment will be made for work, equipment or materials not covered in these plans and specifications, but necessary to insure a completed project as specified. Any plan or method of work suggested by the Owner or the Engineer to Contractor but not specified or required, if adopted or followed by Contractor in whole or in part, shall be used at the risk and responsibility of Contractor; and the Owner and the Engineer shall assume no responsibility therefor and in no way be held liable for any defects in the work which may result from or be caused by use of such plans or method of work.

If a discrepancy exists between any of the Contract Documents, the governing ranking of Contract parts in descending order is:

A. Permits from other Agencies as may be required by law

B. Change Orders and/or Supplemental Agreements; whichever occurs last.

OAKLEY

CALIFORNIA

TECHNICAL SPECIFICATIONS

FOR

DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT CIP No. 205

Part III

Addendum No. 1 – October 13th, 2022

For Further Information Contact

Department of Public Works & Engineering
Engineering Division
3231 Main Street
Oakley, CA 94561
(925) 625-7037

DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CIP PROJECT NO. 205

These Technical Specifications were prepared under the direction of the following:

Marcelo H. Cosentino, P.E.

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Section 10
TECHNICAL PROVISIONS

10-1.01 GENERAL

Description of Work

The work to be done, in general, consists of mobilization and demobilization; traffic control and construction signage; removal and replacement of traffic striping, marking, and markers; removal of curbs and gutters, removal of sidewalks and retaining curbs, clearing and grubbing, tree removal and relocation, roadway excavation including removal of pavement and base material, removal of subbases, native material fill, construction of new concrete curb and gutter, sidewalk, parking islands, curb ramps, a reinforced concrete retaining wall and bus stop; rubberized hot mix asphalt (RHMA), hot-mix asphalt (HMA) pavement and base; crack sealing, slurry sealing, stamped asphalt crosswalks, storm drain improvements; driveways, bioretention areas with deepened curbs, installation of new street lighting service, street lighting; electric vehicle charge stations; trash enclosure; installation of new irrigation services, planting and irrigation, site furnishings, signing and striping and other work as shown on the Contract Plans, as specified in the Contract Documents, and as directed by the City Engineer.

The Contractor is required to inspect the site of the proposed work in order to satisfy himself, by personal examination, the location of the proposed work and the actual conditions of and at the site of the work. The Contractor is also required to have all sub-contractors personally inspect the site.

All work shall be done in conformance to the applicable provisions of the Standard Specifications except as modified herein. Payment for work, equipment and materials not specifically covered herein shall be included in the payment for related items of work. No additional payment will be made for work, equipment or materials not covered in these Technical Specifications, but necessary to insure a completed project as specified.

Any plan or method of work suggested by the City representative to the Contractor but not specified or required, if adopted or followed by the Contractor in whole or in part, may be used at the risk and responsibility of the Contractor; and the City representative shall assume no responsibility therefor and in no way be held liable for any defects in the work which may result from or be caused by use of such plans or method of work.

Order of Work

Order of Work shall conform to the provisions in Section 8-1.02, “Schedule,” of the Standard Specifications and these Technical Provisions.

The City shall approve the order of work prior to the Contractor beginning construction.

The Contractor shall submit a construction schedule to the City representative for review and approval prior to the pre-construction meeting for the project. In preparing the construction schedule, the Contractor shall review, coordinate and allocate sufficient time frames to accommodate any permitting or material lead-time activities.

Twenty-Four (24)-Hour Contact Number

The Contractor shall assign a project superintendent who has the complete authority to make decisions on behalf of the Contractor. The Contractor shall provide to the City a twenty-four (24)-

hour contact number for the project superintendent. This number shall not direct calls to a recorder or other message taking service. Should the project superintendent not respond when called, the City representative shall make decisions as necessary and the resultant cost of such decisions shall be borne by the Contractor.

Cooperation

Attention is directed to Section 5-1.20, "Coordination with Other Entities," and Section 5-1.36C, "Nonhighway Facilities," of the Standard Specifications.

The following projects have been identified within or adjacent to the Project limits:
- CIP 205 Downtown Train Platform station and Parking Lot Phase 1
- Site development at 3350 Main Street

The following utility relocations have been identified within or adjacent to the Project limits:
- PG&E joint trench installation and new services
- Diablo Water District water main installation and new services
- Ironhouse Sanitary District sewer main installation and new services

Haul Routes

The Contractor and all subcontractors shall only use haul routes approved prior to the start of construction by the City representative.

Permits

The Contractor shall comply with Section 5-1.20B, "Permits, Licenses, Agreements and Certifications," of the Standard Specifications and these Technical Provisions.

Submittals

The materials proposed by the Contractor to be used on this contract shall be submitted for approval by the City representative, prior to the pre-construction conference. The Contractor shall submit a copy of each submittal in PDF format to the Project Manager and City Inspector for approval by the City.

Submittals and support information shall be separated and clearly labeled when submitted to the City for approval. The list supplied is intended to be comprehensive, but no claim for its completeness is implied and submittal of the complete list will not relieve the Contractor of supplying all the information needed or of complying with any of the other requirements of the specifications. Revised lists may be issued and items may be added to the list supplied.

The Manufacturer's specifications shall be supplied along with submittal list for all applicable products on the list. Certificates of Compliance shall be submitted in accordance with Section 6-2.03C, "Certificates of Compliance," of the Standard Specifications, including the individual material specification of these Technical Provisions.

The City reserves the right to reject any item that does not fulfill the requirements of these Technical Specifications and the Standard Specifications.

Submittals shall contain:

1. A current submittal log, including approval status, with every submission.
2. The dates of submissions and the dates of any previous submissions, including identification of revision or re-submittals.
3. The Project Title and Number.
4. Contractor identification, names of subcontractors, suppliers and manufacturers.

5. Specification Section Number(s) and Bid Item(s) that pertain to the submittal.
6. Applicable standards, such as ASTM, Federal or State Specification numbers. Certified test results indicating performance of materials/products with regard to Specification requirements.
7. A 2" x 3" space for the City representative stamps. The Contractor's stamp shall be required and shall be initialed or signed, certifying the review of submittals and verification of products, field construction criteria, and coordination of the information within the submittal and the specifications.

The Contractor shall be required to review and approve all submittals and provide them stamped and signed as evidence thereof, prior to submitting to the City for review. Submittals that are not stamped and signed by the Contractor will be rejected. Submittals shall be numbered consecutively.

The preparation of plans, drawings and necessary documents, as required by the following submittal lists, shall be considered as part of the requirements of other items of work and no additional compensation shall be allowed therefor.

The City representative reserves the right to reject any item that does not fulfill the requirements of these Technical Specifications and the Standard Specifications.

The Contractor shall submit the following to the City representative the following at least two (2) working days before the pre-construction conference:

1. Construction Schedule
2. Traffic Control Plan
3. Materials Submittals
4. SWPPP
5. Notice to Residents
6. Product information for Storm Drain pipe inlets, grates, manholes and covers
7. A list of all permits and licenses the contractor has obtained indicating the agency that issued the permit, or if the permit has not been obtained, the expected date of receipt of the permit.
8. Contractor contact information for supervisor and foreman, including the emergency twenty-four (24) contact number.

All submittals listed above must be received and processed by the City prior to the issuance of the Notice to Proceed. Any exceptions or rejected submittals will be remedied and resubmitted for the City representative's review prior to the issuance of the Notice to Proceed.

Project Appearance

The Contractor shall maintain a neat and orderly appearance to the work site at all times. Debris developed during construction shall be disposed concurrently with its generation. Stockpiling of debris or construction materials shall not be allowed unless otherwise approved by the City representative.

Streets immediately adjacent to the construction area shall be swept daily and immediately following all grinding, sandblasting, rock-wheeling, grading, trucking operations and other construction activity that leaves dirt or debris in roadway. The Contractor shall sweep the street with a power pick-up broom immediately prior to the paving operations. The Contractor shall keep a power sweeper on the job at all times and it shall be used to keep the streets free of loose or tracked material from the Contractor's operations. Should the Contractor fail to perform these duties, the City representative, at the City representative's sole discretion, may elect to have the

City, or contract forces, perform the duties, deducting the expenses incurred from any monies that are due, or to become due, to the Contractor. By exercising this option, the Contractor is in no way relieved of the responsibility to perform these duties.

Construction Staking

Primary horizontal and Vertical control has been established by the City. In general, these will consist of the primary horizontal and vertical control points indicated in the Contract Drawings. Work points will be established by the Contractor for all Work related to the project.

Additional construction staking requirements are listed in Part II, 4-1.05 CONSTRUCTION STAKING.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for "GENERAL" including Professional Land Surveyor costs includes, but is not limited to, all labor, materials, tools, equipment, and incidentals required for doing all the work required to conform to the provisions of this section shall be considered as included in the prices paid for the various items of work involved and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.02 MOBILIZATION

Mobilization shall conform to the provisions of Section 9-1.16D “Mobilization,” of the Standard Specifications as well as these Technical Specifications.

Mobilization shall consist of preparatory work and operations, including, but not limited to, equipment shipping and delivery, equipment setup, materials shipping and delivery, those necessary for the movement of personnel, equipment, supplies, utility coordination and permitting site restoration and demobilization, and incidentals to the project sites; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to and during work on the various contract items on the project site.

MEASUREMENT AND PAYMENT

MOBILIZATION shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for MOBILIZATION shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment and incidentals required for doing all the work involved for mobilization as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Mobilization shall be paid out incrementally, matching the percent of work completed to date with each invoice. Additionally, no payment will be made for work, equipment, or materials not covered in these Plans and Specifications, but necessary to insure a completed project as specified.

10-1.03 TRAFFIC CONTROL & CONSTRUCTION AREA SIGNS

GENERAL
Attention is directed to Sections 7-1.03, "Public Convenience," and Section 12, "Temporary Traffic Control," of the Standard Specifications and to the provisions in "Public Safety" of these special provisions as well as these Technical Specifications. The provision in this Section will not relieve the Contractor from his/her responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Standard Specifications.

The Contractor shall fulfill the requirements of this section, twenty-four (24) hours per day, seven (7) days a week, including holidays, from the time the Notice to Proceed is issued until the project is formally accepted.

Traffic control shall be coordinated for the minimum inconvenience and maximum safety of the public during the construction period. The Contractor shall bear full responsibility for maintaining traffic control during the construction period including cost for flagging.

The Contractor shall furnish all traffic control equipment, signs, flagmen and barricades necessary to complete the Project.

Flagging
Where work reduces street width, the Contractor shall provide flaggers to guide traffic. Flaggers and all personnel working near traffic shall wear CAL OSHA-approved safety clothing and equipment. Flaggers shall guide traffic with an appropriate stop/slow sign.

Section 12-1.04, "Payment," of the Standard Specifications is revised to provide that all flaggers and guards shall be furnished by the Contractor at his expense. The Contractor shall furnish, erect, maintain, and remove all necessary signs and devices during the length of this contract.

Property Access
Property access shall be maintained to all residents at all times unless otherwise approved by the City. Upon approval by the City, access to certain properties may be temporarily closed if the resident and/or property owner agrees to the closure.

Traffic Control Plan and Pedestrian Control Plan
The Contractor shall submit an engineered traffic control plan to the City representative a minimum of two (2) weeks prior to the start of work and a minimum of two (2) days before the pre-construction conference. The traffic and pedestrian control plan shall be reviewed and accepted by the City representative prior to any work commencing on the project. All traffic control plans shall be prepared in accordance with the State of California Department of Transportation, "Manual of Traffic Controls for Maintenance and Construction Work Zones 2012," or latest adopted version.

Individual Traffic Control Plans shall be required for each construction activity or proposed detour that will result in a diversion or disruption of the existing traffic flow. The Contractor shall submit the plans to the City representative a minimum of five (5) days prior to the start of work.
Notification shall be **hand-delivered** a minimum of seventy-two (72) hours prior to the beginning of any work affecting traffic. Copies of submittals shall be given to the City's Public Works Director for review and approval.

Portable Changeable Message Signs

Contractor shall provide Portable Changeable Message Signs to notify the traveling public of the work, road closures and durations. Portable Changeable Message Signs shall comply with Section 12-3.32 “Portable Changeable Message Signs” of the Standard Specifications and RS1 of the Caltrans Standard Plans. Portable Changeable Message Signs shall be in place a minimum of 3 calendar days prior to start of construction to notify the traveling public of the closures and durations. Contractor shall submit message to the City for approval forty-eight (48) hours prior to placing the sign.

MEASUREMENT AND PAYMENT

TRAFFIC CONTROL SYSTEM AND CONSTRUCTION AREA SIGNS shall be at the cost indicated in the bid schedule. The contract lump sum price paid for the TRAFFIC CONTROL SYSTEM AND CONSTRUCTION AREA SIGNS shall include, but is not limited to, full compensation for furnishing all labor, material, tools, equipment, incidentals, flagging, placing and maintaining construction area signs, traffic signs, warning lights, temporary paint striping, and portable changeable message signs required for doing all the work as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.04 CLEARING AND GRUBBING

GENERAL

The work consists of removing objectionable material from within the working area and material sites within the right-of-way, and other specified areas.

All such work shall conform to Section 17-2, “Clearing and Grubbing,” of the Standard Specifications and these Technical Specifications.

CONSTRUCTION

General
Clear and grub construction areas on the job site where facilities are shown to be constructed, per Subsection 17-2.03A “General,” of the Standard Specifications. Clear and grub before performing earthwork in an area.

Clearing
The work shall conform to Subsection 17-2.03B, “Clearing,” of the Standard Specifications.

Grubbing
The work shall conform to Subsection 17-2.03C, “Grubbing,” of the Standard Specifications.

Disposal of Materials
In lieu of the requirements of paragraph two of Subsection 17-2.03D, “Disposal of Materials,” of the Standard Specifications, the Contractor shall coordinate with the Engineer prior to spreading any material from clearing and grubbing activities in the public right-of-way or within the City’s property.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for clearing and grubbing, includes, but is not limited to, all labor, materials, tools, equipment and incidentals required to conform to the provisions of this section shall be considered as included in the prices paid for COMMON EXCAVATION and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.05 WATER POLLUTION CONTROL

GENERAL

Water Pollution Control shall conform to the provisions in Section 13, "Water Pollution Control," of the Standard Specifications and these Technical Specifications. All operations shall be in compliance with the provisions of the Clean Water Act, Regional Water Quality Control Board, and the City of Oakley Storm Water Ordinance and policies with regard to protection of the storm water system from any pollutants. The Contractor is required to secure all necessary permits.

The Permits require the implementation of a Storm Water Pollution Prevention Plan (SWPPP). A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared by the Contractor and submitted to the Engineer for approval prior to the commencement of construction. Any modifications or revisions to the SWPPP shall be the responsibility of the Contractor.

The Contractor shall know and fully comply with applicable provisions of the Permits and all modifications thereto, the SWPPP, and Federal, State, and local regulations and requirements that govern the Contractor's operations and storm water and non-storm water discharges from both the project site and areas of disturbance outside the project limits during construction. Attention is directed to Section 7 “Legal Relations and Responsibility to the Public” of the Standard Specifications and the Construction General Permit Order 2009-0009-DWQ.

The Permits shall apply to storm water and certain permitted non-storm water discharges from areas outside the project site which are directly related to construction activities for this contract including, but not limited to staging areas, storage yards and access roads. The Contractor shall comply with the Permits and the SWPPP for those areas and shall implement, inspect and maintain the required water pollution control practices. The Engineer shall be allowed full access to these areas during construction to assure Contractor's proper implementation of water pollution control practices.

The Contractor shall be responsible for penalties assessed or levied on the Contractor or the City as a result of the Contractor's failure to comply with the provisions in this section "Water Pollution Control" including, but not limited to, compliance with the applicable provisions of the Permits, the SWPPP, and Federal, State and local regulations and requirements as set forth therein.

Penalties as used in this section, "Water Pollution Control," shall include fines, penalties and damages, whether proposed, assessed, or levied against the City or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act, by governmental agencies or as a result of citizen suits. Penalties shall also include payments made or costs incurred in settlement for alleged violations of the Permits, the Manuals, or applicable laws, regulations, or requirements. Costs incurred could include sums spent instead of penalties, in mitigation or to remediate or correct violations.

Notwithstanding any other remedies authorized by law, the City may retain money due the Contractor under the contract, in an amount determined by the City, up to and including the entire amount of Penalties proposed, assessed, or levied as a result of the Contractor's violation of the Permits, the Manuals, or Federal or State law, regulations or requirements. Funds may be retained by the City until final disposition has been made as to the Penalties. The Contractor shall remain liable for the full amount of Penalties until such time as they are finally resolved with the entity seeking the Penalties.

Retention of funds for failure to conform to the provisions in this section, "Water Pollution Control," shall be in addition to the other retention amounts required by the contract. The amounts retained for the Contractor's failure to conform to provisions in this section will be released for payment on the next monthly estimate for partial payment following the date when the SWPPP has been implemented and maintained, and when water pollution has been adequately controlled, as determined by the Engineer.

When a regulatory agency identifies a failure to comply with the Permits and modifications thereto, the SWPPP, or other Federal, State or local requirements, the City may retain money due the Contractor, subject to the following:

1) The City will give the Contractor 30 days notice of the City's intention to retain funds from partial payments which may become due to the Contractor prior to acceptance of the contract. Retention of funds from payments made after acceptance of the contract may be made without prior notice to the Contractor.
2) No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 9-1.16, "Progress Payments," of the Standard Specifications.

   During the first estimate period that the Contractor fails to conform to the provisions in this section, "Water Pollution Control," the City may retain an amount equal to 25 percent of the estimated value of the contract work performed.

   The Contractor shall notify the Engineer immediately upon request from the regulatory agencies to enter, inspect, sample, monitor, or otherwise access the project site or the Contractor's records pertaining to water pollution control work. The Contractor and the City shall provide copies of correspondence, notices of violation, enforcement actions or proposed fines by regulatory agencies to the requesting regulatory agency.

STORM WATER POLLUTION PREVENTION PLAN MODIFICATIONS AND AMENDMENTS

The Contractor shall designate a Water Pollution Control Manager. The Water Pollution Control Manager shall be responsible for required modifications or amendments of the SWPPP and shall be responsible for the implementation and adequate functioning of the various water pollution control practices employed. The Water Pollution Control Manager shall serve as the primary contact for issues related to the SWPPP or its implementation. The Contractor shall submit to the Engineer a statement of qualifications, describing the training, previous work history and expertise of the individual selected by the Contractor to serve as Water Pollution Control Manager. The Water Pollution Control Manager shall have a minimum of 24 hours of formal storm water management training or certification as a Certified Professional in Erosion and Sediment Control (CPESC) or Qualified SWPPP Practitioner (QSP). The Engineer will reject the Contractor's submission of a Water Pollution Control Manager if the submitted qualifications are deemed to be inadequate.

The Contractor shall keep one copy of the approved SWPPP and approved amendments at the project site. The SWPPP shall be made available upon request by a representative of the Regional Water Quality Control Board, State Water Resources Control Board, United States Environmental Protection Agency, or the local storm water management agency. Requests by the public shall be directed to the Engineer.

No adjustment in compensation will be made for ordered changes to correct SWPPP work resulting from the Contractor's own operations or from the Contractor's negligence.

If requested by the Contractor and approved by the Engineer, changes to the water pollution

control practices listed in the bid form, including addition of new water pollution control practices, will be allowed. Changes shall be included in the approved amendment of the SWPPP.

SWPPP IMPLEMENTATION

Unless otherwise specified, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting, maintaining, removing, and disposing of the water pollution control practices specified in the SWPPP and in the amendments. Unless otherwise directed by the Engineer, the Contractor's responsibility for SWPPP implementation shall continue throughout temporary suspensions of work ordered in conformance with the provisions in Section 8-1.06, "Suspensions," of the Standard Specifications.

Requirements for installation, construction, inspection, maintenance, removal, and disposal of water pollution control practices shall conform to the requirements in the SWPPP and these special provisions.

If the Contractor or the Engineer identifies a deficiency in the implementation of the approved SWPPP or amendments, the deficiency shall be corrected immediately unless requested by the Contractor and approved by the Engineer in writing, but shall be corrected prior to the onset of precipitation. If the Contractor fails to correct the identified deficiency by the date agreed or prior to the onset of precipitation, the project shall be in nonconformance with this section. Attention is directed to Section 5-1.03, "Engineer's Authority," of the Standard Specifications, and to the retention of funds described in this section for possible nonconformance penalties.

If the Contractor fails to conform to the provisions of this section, the Engineer may order the suspension of construction operations until the project complies with the requirements of this section.

Contractor shall coordinate with the Engineer for final stabilization of unpaved areas within 3460 Main Street parking lot. Unpaved areas shall be stabilized prior to filing Notice of Termination (NOT) for the Project. Contractor shall be responsible for all costs associated with the final stabilization of unpaved areas.

MEASUREMENT AND PAYMENT

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for the STORM WATER POLLUTION PREVENTION PLAN (SWPPP) shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals for doing all the work involved in developing, preparing, obtaining approval of, revising, and amending the SWPPP, as shown on the Plans, in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

STORM WATER POLLUTION CONTROL IMPLEMENTATION shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for STORM WATER POLLUTION CONTROL IMPLEMENTATION shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and for doing all the work involved in installing, constructing, maintaining, removing, and disposing of water pollution control practices, including non-storm water management and waste management materials, pollution water, and pollution control practices, as shown on the Plans, as specified in the Standard Specifications,

these Technical Specifications and the Special Provisions, and as directed by the Engineer.

Cost for coordination and implementation of final stabilization of unpaved areas in the parking lot at 3460 Main Street shall be included in the various other items of work involved, and no other payment shall be allowed therefor.

Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.06 TEMPORARY DRAINAGE INLET PROTECTION

GENERAL

Temporary storm drain inlet protection shall be constructed, installed, maintained, and removed at the locations shown in the Water Pollution Control Plan, shall conform to the provisions in Section 13-6.03C “Temporary Drainage Inlet Protection," of the Standard Specifications, in conformance the WPCP, BMPs, and these Special Provisions, and as directed by the Engineer. Attention is directed to "Water Pollution Control" of these Special Provisions.

Temporary Storm Drain Inlet Protection
Temporary Storm Drain Inlet Protection shall consist of Temporary Drainage Inlet Filters and Temporary Storm Drain Inlet Protection. Temporary Drainage Inlet Filters shall be installed and maintained throughout the project and Temporary Storm Drain Inlet Protection shall be installed and maintained during the defined rainy season.

Temporary Storm Drain Inlet Protection shall conform to the specifications and details of Detail SE-10, “Strom Drain Inlet Protection” of the Construction Best Management Practices (BMP’s) in the WPCP.

Temporary Drainage Inlet Filters
The Contractor shall furnish, install, maintain and remove drainage inlet filters suitable for installation on existing drain inlets for removal of sedimentation and debris from water flow into the drainage inlet at the locations shown on the plans and as directed by the Engineer.

Temporary Drainage Inlet Filters shall be installed at all storm drain inlets within or adjacent to the project limits.

Temporary drainage inlet filter shall be obtained from a commercial manufacturer, as approved by the Engineer.

The filter shall include a high-density polymeric support structure with an ultimate strength of 7,000 lb/ft2, junction strength of 5,300 lb/ft2.

The support structure and filter media shall be supported with a metal mounting support frame.

Each drain shall include a removable bag filter constructed of 8.0 oz non-woven filter fabric. The bag filter shall be fitted with grommets for mounting to the metal support frame. Grommets shall be located no more than 6 inches apart along the entire top of the filter bag. A metal retention bar shall be installed holding the filter bag firm against the metal support structure to prevent bypass flows.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for temporary storm drain inlet protection, includes, but is not limited to, all labor, equipment, and materials required to conform to the provisions of this section shall be considered as included in the prices paid for the STORM WATER POLLUTION CONTROL IMPLEMENTATION and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.07 EXISTING FACILITIES

GENERAL

Existing Facilities shall conform to Section 5-1.36, “Property and Facility Preservation,” Section 5-1.36C, “Nonhighway Facilities,” and Section 15, “Existing Facilities,” of the Standard Specifications and these Technical Specifications.

Protect Existing Facilities To Remain

The Contractor shall work around and protect all existing improvements to remain, including but not limited to existing utilities, monumentation, storm drainage facilities, street lights and conduit, concrete and asphalt concrete pavement, pavement markings, landscaping and appurtenances that are within or adjacent to the construction areas. The Contractor shall notify Underground Service Alert (USA) (1-800-277-2600) prior to beginning any work. Notification shall be in full compliance with USA requirements.

The Contractor, prior to beginning any work on or adjacent to the utility, shall verify the location of all utilities. The Contractor shall protect existing facilities to stay in place, including existing electroliers, when placing construction signs.

The Contractor shall immediately repair or remove and replace any item damaged by his/her operations at his/her sole expense and to the satisfaction of the City representative. The Contractor shall immediately notify the appropriate owner of the improvement or facility and the City representative of any damage as a result of his/her operations to existing improvements or facilities. If the improvement belongs to a private residence and the property owner or occupant is not at home, such notification shall be attached to the front door of the property.

Contractor shall take necessary precautions to protect trees to remain. Existing trees, landscaping, irrigation and other facilities, which are not shown on the plans to be removed or replaced and are disturbed or damaged by the Contractor shall be repaired and restored in-kind to existing condition within 24 hours. Cost for repairs and restoration of damaged items caused by the Contractor shall be at the Contractor’s expense.

Location of Existing Facilities

The Contractor shall verify the horizontal and vertical location of all existing utilities, including but not limited to street light conduit, all laterals, all manholes (including but not limited to storm, electrical, telecom/fiber-optic, gas, interconnect, detector loops, traffic signal conduit, electrical, sanitary, telephone and water valves), all pullboxes (including traffic signal, interconnect, electrical, water and gas valve boxes), all monuments and monument boxes, and all other miscellaneous boxes and facilities prior to demolition or sawcutting.

Remove and Dispose of Concrete and Base

Concrete pavements, including all surface courses, base courses, and subgrade, where shown on the plans, shall be removed and disposed of to the limits indicated on the plans. Pavements shall be cut straight, clean and square with a power saw or other tools and equipment suitable for the work.

Remove and Dispose Curb and Gutter, Curb and Dikes

Curb and Gutter, curb and dikes of various types, including all reinforcement and base courses, where shown on the plans, shall be removed and disposed of to the limits indicated on the plans. Curbs shall be cut straight, clean and square with a power saw or other tools and equipment suitable for the work.

Remove Tree
Under no circumstances shall the Contractor remove existing trees that are indicated not to be removed.

Tree removal may not damage existing trees or vegetation to remain; consult with Engineer regarding and conflicts.

Tree removal must be performed in accordance with Standard Specification Section 17-2, Clearing and Grubbing, and these technical specifications.

Remove Barricade
Barricade, including attached signs, where shown on the plans, shall be removed and disposed.

Remove Temporary Railing (Type K)
Temporary railing, including attached signs, where shown on the plans, shall be removed, and become the property of the Contractor.

Remove Fence
Fence, of various types, including posts and foundations, where shown on the plans, shall be removed and disposed. Remove fence to the nearest fence post.

Remove Wood Beams
Wood beams, where shown on the plans, shall be removed and disposed.

Remove Wood Retaining Wall
Wooden retaining wall, including all posts and foundations, where shown on the plans, shall be removed and disposed.

Remove Wooden Light Pole and Equipment
Wooden light pole and equipment, including foundations, cameras, boxes, cabinets and conduits, where shown on the plans, shall be removed and disposed.

Remove Wood Post
Wood post, including foundation, where shown on the plans, shall be removed and disposed.

Remove Rock Slope Protection
Rock slope protection, where shown on the plans, shall be removed and become the property of the contractor.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for “Existing Facilities,” includes, but is not limited to, all labor, equipment, and materials required to conform to the provisions of this section shall be considered as included in the prices paid for the various items of work involved and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE TREE shall be at the cost indicated in the Bid Schedule. The contract prices paid per unit for REMOVE TREE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing trees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE BARRICADE shall be at the cost indicated in the Bid Schedule. The contract prices paid per unit for REMOVE BARRICADE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing and disposing barricades, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE TEMPORARY RAILING (TYPE K) shall be at the cost indicated in the Bid Schedule. The contract prices paid per unit for REMOVE TEMPORARY RAILING (TYPE K) shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing, salvaging and delivering temporary railing (Type K), as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE CURB AND GUTTER shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for REMOVE CURB AND GUTTER shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing curb and gutter, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE AC DIKE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for REMOVE AC DIKE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing AC dike, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE FENCE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for REMOVE FENCE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing fences, fence posts and foundations, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE WOOD BEAM shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for REMOVE WOOD BEAM shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the

work involved in removing wood beams, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE WOOD RETAINING WALL shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for REMOVE WOOD RETAINING WALL shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing wood retaining wall, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE WOODEN LIGHT POLE AND EQUIPMENT shall be at the cost indicated in the Bid Schedule. The contract lump sum prices paid for REMOVE WOODEN LIGHT POLE AND EQUIPMENT shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing wood pole and equipment, including but not limited to pole, foundation, cameras, conduits, cabinets and boxes, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE WOOD POST shall be at the cost indicated in the Bid Schedule. The contract prices paid per unit for REMOVE WOOD POST shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing wood posts, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE CONCRETE PAVEMENT AND BASE MATERIAL shall be at the cost indicated in the Bid Schedule. The contract prices paid per square foot for REMOVE CONCRETE PAVEMENT AND BASE MATERIALS shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing concrete and base, including excavation and backfill, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE ROCK SLOPE PROTECTION shall be at the cost indicated in the Bid Schedule. The contract price paid per cubic yard for REMOVE ROCK SLOPE PROTECTION includes, but is not limited to, full compensation for furnishing all labor, material, tools, equipment, and incidentals required to removing rock slope protection on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.08 REMOVE TRAFFIC STRIPING AND MARKINGS AND PREPARE LEAD COMPLIANCE PLAN

GENERAL

Traffic stripe and pavement markings shall be removed at the locations shown on the plans and as directed by the Engineer.

Waste from removal of yellow thermoplastic and yellow painted traffic stripe contains lead chromate in average concentrations greater than or equal to 350 ppm and less than 1000 ppm Total Lead. Yellow thermoplastic and yellow paint traffic stripe exist along the length of the project. Residue produced when yellow thermoplastic and yellow paint are removed may contain heavy metals in concentrations that exceed thresholds established by the California Health and Safety Code and may produce toxic fumes when heated.

The removed yellow thermoplastic and yellow paint shall be disposed of at a Class 1 disposal facility or a Class 2 disposal facility permitted by the Regional Water Quality Control Board in conformance with the requirements of the disposal facility operator within 5 days after accumulating 220 pounds of residue and dust. The Contractor shall make necessary arrangements with the operator of the disposal facility to test the yellow thermoplastic and yellow paint residue as required by the facility and these special provisions. Testing shall include, at a minimum, (1) Total Lead and Chromium by EPA Method 7000 series and (2) Soluble Lead and Chromium by California Waste Extraction Test. From the first 887 gallons of waste or portion thereof, if less than 887 gallons of waste are produced a minimum of four randomly selected samples shall be taken and analyzed. From each additional 222 gallons of waste or portion thereof, if less than 222 gallons are produced a minimum of one additional random sample shall be taken and analyzed. The Contractor shall submit the name and location of the disposal facility and analytical laboratory along with the testing requirements to the Engineer not less than 2 days prior to the start of removal of yellow thermoplastic and yellow painted traffic stripe. The analytical laboratory shall be certified by the Department of Health Services Environmental Laboratory Accreditation Program. Test results shall be provided to the Engineer for review prior to signing a waste profile as requested by the disposal facility, prior to issuing an EPA identification number and prior to allowing removal of the waste from the site.

The Contractor shall prepare a project specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling removed yellow thermoplastic and yellow paint residue. Attention is directed to Title 8, California Code of Regulations, Section 1532.1, “Lead,” for specific Cal-OSHA requirements when working with lead.

The Lead Compliance Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The Plan shall be submitted to the Engineer at least 7 days prior to beginning removal of yellow thermoplastic and yellow paint.

Prior to removing yellow thermoplastic and yellow painted traffic stripe and pavement marking, personnel who have no prior training, including State personnel, shall complete a safety training program provided by the Contractor that meets the requirements of Title 8, California Code of Regulations, Section 1532.1, “Lead,” and the Contractor’s Lead Compliance Program.

Personal protective equipment, training, and washing facilities required by the Contractor’s Lead Compliance Plan shall be supplied to State personnel by the Contractor. The number of City

personnel will be 2.

Where grinding or other methods approved by the Engineer are used to remove yellow thermoplastic and yellow painted traffic stripe, the removed residue, including dust, shall be contained and collected immediately. Sweeping equipment shall not be used. Collection shall be by a high efficiency particulate air filter (HEPA) equipped vacuum attachment operated concurrently with the removal operations or other equally effective methods approved by the Engineer. The Contractor shall submit a written work plan for the removal, storage, and disposal of yellow thermoplastic and yellow painted traffic stripe and pavement marking to the Engineer for approval not less than 7 days prior to the start of the removal operations. Removal operations shall not be started until the Engineer has approved the work plan.

The removed yellow thermoplastic and yellow painted traffic stripe residue shall be stored and labeled in covered containers. Labels shall conform to the provisions of Title 22, California Code of Regulations, Sections 66262.31 and 66262.32. Labels shall be marked with date when the waste is generated, the words "Hazardous Waste", composition and physical state of the waste (for example, asphalt grindings with thermoplastic or paint), the word "Toxic", the name and address of the Engineer, the Engineer's telephone number, contract number, and Contractor or subcontractor. The containers shall be a type approved by the United States Department of Transportation for the transportation and temporary storage of the removed residue. The containers shall be handled so that no spillage will occur. The containers shall be stored in a secured enclosure at a location within the project limits until disposal, as approved by the Engineer.

If the yellow thermoplastic and yellow painted traffic stripe residue is transported to a Class 1 disposal facility, a manifest shall be used, and the transporter shall be registered with the California Department of Toxic Substance Control. The Engineer will obtain the United States Environmental Protection Agency Identification Number and sign all manifests as the generator within 2 working days of receiving sample test results and approving the test methods.

The Contractor shall assume that the yellow paint removed is not regulated under the Federal Resource Conservation and Recovery Act (RCRA). Additional disposal costs for removal residue regulated under RCRA, as determined by test results required by the disposal facility, will be paid for as extra work as provided in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

Nothing in these special provisions shall relieve the Contractor of the Contractor's responsibilities as specified in Section 7-1.04, "Public Safety," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Removal of traffic striping and markings and preparation of lead compliance plan shall be included in the contract lump sum price paid for SIGNING AND STRIPING indicated in the Bid Schedule. The contract lump sum price paid shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing and disposing of existing traffic striping, markings, markers and underlying adhesive, and preparing the Lead Compliance Plan, including paying the Certified Industrial Hygienist, materials testing, and for providing personnel protective equipment, training, air monitoring, and medical surveillance as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.09 HOT MIX ASPHALT (HMA)

GENERAL

Summary
Comply with Section 39-2, “Standard Construction Process” for Hot Mix Asphalt, of the 2010 Caltrans Standard Specifications prior to July 2016, except as modified herein for producing and placing hot mix asphalt (HMA) for trenching, temporary asphalt concrete pavement, and roadway paving using the modified Standard Process.

Submittals
Submit JMF information on Form CEM-3511 and Form CEM-3512. Submit Form CEM-3513 or CEM-3514 for mixes that have been verified within last 12 months. For unverified mixes, coordinate mix verification with City Soils Engineer. Submit Quality Control Plan that confirms to the Caltrans Quality Control Plan Review Checklist for Hot Mix Asphalt. Allow 20 calendar days for review. Contractor shall supply a certificate of compliance at time of each asphalt placement.

MATERIALS

Comply with Section 39-1, “General,” for Hot Mix Asphalt, of the 2010 Caltrans Standard Specifications prior to July 2016, except as modified herein.

Mix Types
Mix type shall be Type A, unless modified by the Engineer.

Asphalt Binder
Asphalt binder shall be PG 64-10 and shall conform to Subsection 92-1.02(B), “Performance Grade Asphalt Binders,” of the Standard Specifications.

Aggregate
Aggregate shall comply with ½” gradation for surface courses and overlays. Aggregate shall comply with ¾” gradation for base courses.

CONSTRUCTION

Surface Preparation
The work shall consist of preparing the existing trench and roadway prior to the commencement of paving. Such work shall include removing debris, controlling nuisance water, sweeping, watering, and removing loose and broken hot mix asphalt pavement and foreign material as specified in the Standard Specifications and these Technical Provisions, and as directed by the Engineer.

Sampling
The Engineer may sample the hot mix asphalt from truck beds at the plant, from the hopper of the spreading machine, or from the completed mat at the discretion of the Engineer. The Contractor shall facilitate the sampling process.

Quality Control
Contractor shall conduct quality control for all paving work and submit quality control test results to the Engineer within 3 days of paving. A quality control must be submitted and approved by the Engineer before the testing takes place.

Delivery Tickets

Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection.

Engineer's Acceptance

Modify 39-2.03A Testing as follows:

Change footnote e(1) to read as follows: 1. Use one location per trench if the trench area is less than 200 square feet. Use three locations for areas between 200 and 1200 sf. Use three tests per 1200 sf thereafter.
Compaction shall be between 92.0% and 97.0%.

Add the following footnotes:

k. Engineer shall perform testing in accordance with CT 375 for acceptance, except maximum specific gravity (CT 309) shall replace TMD testing. Contractor shall perform independent quality control testing continuously during paving using nuclear or non-nuclear methods.

l. Failing tests shall be verified by coring if requested by the Contractor. The Contractor will take cores at locations randomly determined by the Engineer and give them to the engineer for testing. A minimum of 1 core per 250 tons or 3 cores per street, whichever is greater, shall be taken. For streets where 3 cores are obtained representing less than 750 tons, each core shall represent 1/3 of the total tonnage placed on the individual street.

Passing cores shall be paid for by the owner. Failing cores shall be paid for by the Contractor. If the core density testing produces both passing and failing cores, the cost will be prorated between the owner and Contractor.

The table for deductions indicated in the referenced revised Caltrans Section 39 shall apply to individual cores. The following table provides the reduced pay factor for each failing core representing 250 tons of HMA:

Reduced Payment Factors for Percent of Maximum Theoretical Density

HMA Type A and B Percent of Maximum Theoretical Density	Reduced Payment Factor	HMA Type A and B Percent of Maximum Theoretical Density	Reduced Payment Factor
92.0	0.0000	97.0	0.0000
91.9	0.0125	97.1	0.0125
91.8	0.0250	97.2	0.0250
91.7	0.0375	97.3	0.0375
91.6	0.0500	97.4	0.0500
91.5	0.0625	97.5	0.0625
91.4	0.0750	97.6	0.0750
91.3	0.0875	97.7	0.0875
91.2	0.1000	97.8	0.1000
91.1	0.1125	97.9	0.1125
91.0	0.1250	98.0	0.1250
90.9	0.1375	98.1	0.1375
90.8	0.1500	98.2	0.1500
90.7	0.1625	98.3	0.1625
90.6	0.1750	98.4	0.1750
90.5	0.1875	98.5	0.1875
90.4	0.2000	98.6	0.2000
90.3	0.2125	98.7	0.2125
90.2	0.2250	98.8	0.2250
90.1	0.2375	98.9	0.2375
90.0	0.2500	99.0	0.2500
< 90.0	Remove and Replace	> 99.0	Remove and Replace

The Contractor shall have hand-compaction equipment immediately available for compacting all areas inaccessible to rollers. Hand-compaction shall be performed concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, further placement of hot mix asphalt shall be suspended until hand-compaction is caught up. Hand-compaction includes vibraplates and hand tampers. Hand torches shall be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas shall match the surface texture of the machine placed mat. Any coarse or segregated areas shall be corrected immediately upon discovery. Failure to immediately address these areas shall cause suspension of hot mix asphalt placement until the areas are satisfactorily addressed, unless otherwise allowed by the Engineer.

Temporary Transitions

The Contractor shall construct temporary pavement transitions at all transverse paving joints greater than 1 inch prior to allowing traffic onto the paved surface. Temporary pavement transitions shall have a maximum slope of 20:1 or as approved by the Engineer and be constructed on Kraft paper or other suitable bond breaker such that upon removal of the temporary pavement transition, a clean notch remains. The temporary transitions may be constructed of either cold mix or hot mix.

The Contractor shall continuously maintain the temporary pavement until final paving. Each temporary transition shall be inspected by the Contractor and repaired as necessary to comply with these provisions at the end of each day including weekends and holidays.

Failure to comply with these provisions will result in a liquidated damage of $250 per day per transition and/or the cost of City crews making the repairs if necessary to correct for public safety.

MEASUREMENT AND PAYMENT

Section 39-6, “Payment,” of the Standard Specifications of the 2010 Caltrans Standard Specifications prior to July 2016 shall not apply.

HMA (TYPE A) shall be at the cost indicated in the Bid Schedule. The contract prices paid per ton for HMA (TYPE A) shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing HMA, complete in place, including saw cutting, pavement, spreading, compacting, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

The Contractor shall include in the unit price for HMA (TYPE A) all costs relating to submitting the JMF including all testing costs for JMF verification and quality control testing. The unit price includes the cost of providing the Contractor’s Quality Control Plan. The Contractor shall pay all the cost of coring if requested to verify density by cores. The Engineer will pay cost of testing cores.

10-1.10 RUBBERIZED HOT MIX ASPHALT (RHMA)

GENERAL

Summary
This work includes producing and placing rubberized hot mix asphalt (gap graded) (RHMA-G) using the Standard process.

Comply with Section 39-2, "Standard Construction Process" for Hot Mix Asphalt, of the 2010 Caltrans Standard Specifications prior to July 2016, except as modified herein.

Submittals
Submit JMF information on Form CEM-3511 and Form CEM-3512. Submit Form CEM-3513 or CEM-3514 for mixes that have been verified within last 12 months. For unverified mixes, coordinate mix verification with City Soils Engineer. Submit Quality Control Plan that confirms to the Caltrans Quality Control Plan Review Checklist for Hot Mix Asphalt. Allow 20 calendar days for review. Contractor shall supply a certificate of compliance at time of each asphalt placement.

MATERIALS

All hot mix asphalt materials shall be as specified in Section 39-1 of the 2010 Caltrans Standard Specifications prior to July 2016; these Technical Provisions; and the plans and typical sections. The aggregate shall be **3/8-inch** RHMA-G and shall conform to the following gradation and production tolerances:

3/8-inch RHMA-G		
Sieve sizes	**Target value limits**	**Allowable tolerance**
½"	100	---
3/8"	78 – 92	TV ± 6
No. 4	28 – 42	TV ± 7
No. 8	15 – 25	TV ± 6
No. 30	5 – 15	TV ± 5
No. 200	2.0 – 7.0	TV ± 2

In addition to complying with all aggregate quality requirements for RHMA-G in Section 39-2 , "Standard Construction Process" for Hot Mix Asphalt, of the 2010 Caltrans Standard Specifications prior to July 2016, the following aggregate quality requirements shall apply:

Quality characteristic	**Test method**	**Requirement**
Coarse durability	California Test 229	65 minimum
Fine durability	California Test 229	50 minimum
Percent flat and elongated particles (3:1 ratio)	California Test 235	25 maximum

Asphalt Binder
The asphalt binder mixed with asphalt modifier and crumb rubber modifier shall be PG 64-16 and shall conform to Subsection 92-1.02(B), "Grades," of the 2010 Caltrans Standard Specifications, prior to July 2016.

Mix Properties
The RHMA-G mix design shall target 3.5% air voids and shall comply with all RHMA-G requirements in Section 39, "Hot Mix Asphalt," of the Standard Specifications.

Delivery Tickets
Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection.

Construction
The paving shall be performed in such a way as to not leave any transverse paving joints at the end of each day's operation.

Surface Preparation
The work shall consist of preparing the existing street surfaces prior to the commencement of paving. Such work shall include removing raised pavement markers, removing thermoplastic traffic markings and legends, controlling nuisance water, sweeping, watering, and removing loose and broken hot mix asphalt pavement and foreign material as specified in the Standard Specifications and these Construction Specifications, and as directed by the Engineer.

Cold Joints
All cold joints, both longitudinal and transverse, shall be heated with a torch immediately prior to paving. Cold joints include previous passes placed more than three hours prior. All cold joints shall be tack coated.

Layout
The contractor shall layout and mark the location of the edges of the paving passes of the surface course to match the new layout of the lane lines. The layout shall be made at least 24 hours prior to paving. The layout shall be approved by the Engineer prior to paving.

If the striping is to remain unchanged, the edges of the paving passes shall conform to existing lane edges.

In all cases where practical, each lane shall be paved in a single pass. In tapered transition areas, the shoulder areas shall be paved first, then the through lane shall be hotlapped immediately after the shoulder paving.

For paving which incorporates new quarterpoints or gradebreaks due to keycuts or other conditions, the contractor shall provide equipment capable of adjusting to the new surface profile at the appropriate locations. The profile adjustments shall be within twelve inches of the actual quarterpoint or gradebreak.

The contractor shall take sufficient measurements during laydown to assure that the full design rubberized hot mix asphalt layer depth is provided at each quarterpoint, gradebreak, and transition. Failure to provide the design depth at these areas will result in rejection of the work. Correction of this rejected work will include milling out the new hot mix asphalt from the road edge to the centerline or nearest inside lane line and repaving. The minimum length of the milled and corrected area shall be fifty feet.

Tolerances
The finished rubberized hot mix asphalt surface shall be flush with, to ¼ inch (0.20 feet or 6 mm) above, the gutter lips. The finished pavement surface shall not be lower than the gutter lips.

The average pavement thickness shall be equal to the specified thickness for the project. For total pavement thicknesses of less than four inches, the minimum allowable thickness will be ¼ inch less than that specified. For total pavement thicknesses of four inches or more, the minimum allowable thickness will be ½ inch less than that specified.

Engineer's Acceptance

Modify 39-2.03A Testing as follows:

Change footnote e(1) to read as follows: 1. Use one location per trench if the trench area is less than 200 square feet. Use three locations for areas between 200 and 1200 sf. Use three tests per 1200 sf thereafter.

Compaction shall be between 92.0% and 97.0%.

Add the following footnotes:

k. Engineer shall perform testing in accordance with CT 375 for acceptance, except maximum specific gravity (CT 309) shall replace TMD testing. Contractor shall perform independent quality control testing continuously during paving using nuclear or non-nuclear methods.

l. Failing tests shall be verified by coring if requested by the Contractor. The Contractor will take cores at locations randomly determined by the Engineer and give them to the engineer for testing. A minimum of 1 core per 250 tons or 3 cores per street, whichever is greater, shall be taken. For streets where 3 cores are obtained representing less than 750 tons, each core shall represent 1/3 of the total tonnage placed on the individual street.

Passing cores shall be paid for by the owner. Failing cores shall be paid for by the Contractor. If the core density testing produces both passing and failing cores, the cost will be prorated between the owner and Contractor.

The table for deductions indicated in the referenced revised Caltrans Section 39 shall apply to individual cores. The following table provides the reduced pay factor for each failing core representing 250 tons of RHMA:

Reduced Payment Factors for Percent of Maximum Theoretical Density

RHMA-G Percent of Maximum Theoretical Density	Reduced Payment Factor	RHMA-G Percent of Maximum Theoretical Density	Reduced Payment Factor
92.0	0.0000	97.0	0.0000
91.9	0.0125	97.1	0.0125
91.8	0.0250	97.2	0.0250
91.7	0.0375	97.3	0.0375
91.6	0.0500	97.4	0.0500
91.5	0.0625	97.5	0.0625
91.4	0.0750	97.6	0.0750
91.3	0.0875	97.7	0.0875
91.2	0.1000	97.8	0.1000
91.1	0.1125	97.9	0.1125
91.0	0.1250	98.0	0.1250
90.9	0.1375	98.1	0.1375
90.8	0.1500	98.2	0.1500
90.7	0.1625	98.3	0.1625
90.6	0.1750	98.4	0.1750
90.5	0.1875	98.5	0.1875
90.4	0.2000	98.6	0.2000
90.3	0.2125	98.7	0.2125
90.2	0.2250	98.8	0.2250
90.1	0.2375	98.9	0.2375
90.0	0.2500	99.0	0.2500
< 90.0	Remove and Replace	> 99.0	Remove and Replace

The Contractor shall have hand-compaction equipment immediately available for compacting all areas inaccessible to rollers. Hand-compaction shall be performed concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, further placement of hot mix asphalt shall be suspended until hand-compaction is caught up. Hand-compaction includes vibraplates and hand tampers. Hand torches shall be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas shall match the surface texture of the machine placed mat. Any coarse or segregated areas shall be corrected immediately upon discovery. Failure to immediately address these areas shall cause suspension of hot mix asphalt placement until the areas are satisfactorily addressed, unless otherwise allowed by the Engineer.

Temporary Transitions

The Contractor shall construct temporary pavement transitions at all paving joints greater than 1 inch prior to allowing traffic onto the paved surface. This includes both longitudinal and transverse paving joints for both leveling and surface courses. Temporary pavement transitions shall have a maximum slope of 20:1 or as approved by the engineer and be constructed on Kraft paper or other suitable bond breaker such that upon removal of the temporary pavement transition, a clean vertical face remains. The temporary transitions may be constructed of either cold mix or hot mix. A tack coat is required on the transition area prior to final paving.

The Contractor shall continuously maintain the temporary pavement until final paving. Each temporary transition shall be inspected by the Contractor and repaired as necessary to comply with these provisions at the end of each day including weekends and holidays.

Failure to comply with these provisions will result in a liquidated damage of $250 per day per transition and/or the cost of City crews making the repairs if necessary to correct for public safety.

Quality Control
Contractor shall conduct quality control for all paving work and submit quality control test results to the Engineer within 3 days of paving. A quality control must be submitted and approved by the Engineer before the testing takes place.

MEASUREMENT AND PAYMENT

Section 39-6, “Payment,” of the Standard Specifications of the 2010 Caltrans Standard Specifications prior to July 2016 shall not apply.

RHMA-G shall be at the unit cost indicated in the Bid Schedule. The contract prices paid per ton for RHMA-G include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in constructing RHMA-G, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.
Contract shall include in the unit price all costs relating to submitting the JMF including all testing costs for JMF verification and quality control testing. The unit price includes the cost of providing the Contractor’s Quality Control Plan. The Contractor shall pay all the cost of coring if requested to verify density by cores. Engineer will pay cost of testing cores.

10-1.11 ASPHALT TACK COAT

GENERAL
The work to be performed shall consist of furnishing and applying tack coat in conjunction with hot mix asphalt overlays and other hot mix asphalt paving work.

MATERIALS

The tack coat shall be emulsified asphalt of grade SS1 conforming to Section 94, "Asphaltic Emulsions", of the Standard Specifications.

Application
The tack coat shall not be applied until the preparation of the existing surface has been completed, and then only so far in advance of placing the hot mix asphalt as permitted by the Engineer. Preparation of the surface shall be performed as described in these Special Provisions. No tack coat shall be left exposed overnight. Immediately in advance of placing the hot mix asphalt, additional tack coat shall be applied as directed by the Engineer to areas where previously applied tack coat has been destroyed or otherwise rendered ineffective, and no additional compensation will be allowed for such work.

Existing concrete curb faces shall be protected against discoloration from the asphalt. Residue of the material shall be removed from curb faces by sandblasting to the extent required by the Engineer.

Tack coat shall be applied as specified in Section 39-2.01C(3)(f), "Tack Coat", of the Standard Specifications and these Special Provisions. The Engineer will determine if the pavement is sufficiently dry for the application of the tack coat. Further, tack coat shall not be applied when the temperature of the surface to be tacked is below 40 degrees Fahrenheit in the shade.

Tack coat shall be applied to all vertical edges to be paved against including curb faces and gutter lips. The Contractor shall protect concrete surfaces that are not to be paved against from tack coat spray or splash. Any tack coat more than one inch above the paving surface shall be removed by power washing or other means.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for asphalt tack coat, includes, but is not limited to, all labor, materials, tools, equipment, and incidentals required to conform to the provisions of this section shall be considered as included in the prices paid for HMA (TYPE A) and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.12 COLD PLANING

GENERAL

Cold planing shall include all work necessary to remove existing asphalt and/or concrete pavement to a determined depth in order to achieve the final grades shown on the plans.

EQUIPMENT

The machine used for planing shall have performed satisfactorily on similar work and shall meet the following requirements:

The planing machine shall be specifically designed and built for the planing of bituminous pavements without the addition of heat. It shall have the ability to plane Portland cement concrete patches in the bituminous pavement, or Portland cement concrete pavements. The cutting drum shall be a minimum of sixty inches wide and shall be equipped with carbide tipped cutting teeth placed in a variable-lacing pattern to produce the desired finish.

The machine shall be capable of being operated at speeds of zero to forty feet per minute, it shall be self-propelled, and have the capability of spraying water at the cutting drum to minimize dust. The machine shall be operated in such a way so that no fumes or smoke will be produced. The machine shall be capable of removing the paving material next to curbs or gutters and be designed such that the operator thereof can at all times observe the planing operation without leaving the controls. The machine shall be adjustable for slope and depth and shall be equipped with sonic sensing devices for controlling depth.

CONSTRUCTION

Cold planing may require removal of existing asphalt pavement above gutter lips, in addition to the required depth below the gutter lip, due to prior overlays. Pavement to be cold planed may contain pavement fabric.

Pavement Removal

Prior to cold planing, on streets to have a uniform depth of the existing surface removed, all utility covers shall be lowered such that the cutting teeth of the planing machine passes over the adjusted lid without causing damage to the lid or frame. Contractor will be responsible for maintaining any temporary asphalt fill material over these facilities until the final paving surface is installed. The Contractor shall clearly mark or reference lowered sanitary sewer and water valves in case emergency access is required by the agency responsible for operation of the sewer and water system.

All pavement areas called out for removal and replacement shall be cold planed to the full width of the roadway. Pavement against curb faces shall be removed to the full depth designated for that particular section of roadway. If pavement against curb faces cannot be removed by the planing machine, the Contractor shall use other means to remove this material.

Tolerances

The pavement surface after cold planing shall be uniformly rough. The grade shall not deviate from a suitable straight edge more than ¼ inch at any point. When multiple passes are required to create the cold planed surface, the maximum variation from a string-line or straight edge shall be ¼ inch high to ½ inch low. High points out of tolerance shall be re-planed to fall within tolerance. Low areas shall be filled with hot mix asphalt as specified herein to meet tolerances.

The cost of such correction of low areas shall be entirely the Contractor's.

Removal and Disposal of Material

During the cold planing operation, the Contractor shall sweep the roadway with a vacuum pickup sweeper and remove all loosened material from the project site until completion of the removal work. All material removed shall be considered the property of the Contractor and shall be removed and disposed of at the Contractor's expense.

In addition to removing the cold planed hot mix asphalt, the Contractor shall remove any slurry seal or hot mix asphalt which is adhered to the top of the adjacent gutter, cross gutter, or spandrel.

Air Pollution Control

The Contractor shall take all necessary measures to avoid the dispersion of dust. Attention is directed to Sections 10-5, "Dust Control," and 14-9.02, "Air Pollution Control," of the Standard Specifications.

Correction of Tear Out Areas

If tear-out to the underlying layers occurs during the cold planing operation, the Contractor shall adjust his operation to minimize tear-out. Corrections shall include changing operation speed and replacing cutting teeth. Changes in cold planing depth shall only be made with approval of the Engineer.

Areas torn out by lack of diligence on the Contractor's part shall be corrected by placement of hot mix asphalt conforming to the requirements of these special conditions. Areas torn out due to pre-existing adhesion problems in the existing hot mix asphalt shall be corrected at the City's expense as directed by the Engineer.

MEASUREMENT AND PAYMENT

2" AC GRIND shall be at the unit cost indicated in the Bid Schedule. The contract prices paid per square yard for 2" AC GRIND of the various types shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in grinding asphalt concrete, complete in place, including lowering and raising of utility covers, air pollution control, disposal of removed asphalt concrete material, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.13 PORTLAND CEMENT CONCRETE

GENERAL

Existing and new concrete facilities including curbs, curbs and gutters, sidewalks, curb ramps, driveways, a retaining wall, and bus pads shall be removed and replaced or constructed at the locations indicated on the plans or as directed by the Engineer.

Concrete curbs, sidewalks, gutters, driveways, curb ramps and detectable warning surfaces shall comply with Section 73, "Concrete Curbs and Sidewalks" of the Standard Specifications.

Retaining wall shall comply with Section 51, " Concrete Structures," of the Standard Specifications.

Earthwork shall comply with Section 10-1.17, "Earthwork."

Samples
Sample panel: Before ordering materials for decorative, stamped, or colored concrete, provide (3) sample panels, minimum of 4'x4' using specified materials for City's Engineer to review and approval. Each panel shall show specified color, pattern, edging, and joint treatments.

Submittals
Submit mix designs for City Engineer's approval.

Submit retaining wall reinforcement shop drawings for City Engineer's approval.

Submit certificate of compliance for each shipment of retaining wall reinforcement.

Submit anti-graffiti coating manufacturer's application and removal instructions as specified in Section 78-4.06, "Anti-Graffiti Coating," of the Standard Specifications.

MATERIALS

Portland Cement Concrete (PCC)
PCC for concrete pavement shall comply with Sections 40, "Concrete Pavement," and 90-1, "General," of the Standard Specifications.

Reinforcement shall comply with Section 52, "Reinforcement," of the Standard Specifications.

Minor Concrete for curbs, curb and gutter, sidewalks, and commercial and private driveways shall comply with Section 90-2, "Minor Concrete" of the Standard Specifications, except as modified herein.

Standard Concrete:
Lampblack shall comply with City of Oakley Standard Details.

Decorative Concrete:
Color for concrete shall be Standard Gray and concrete finish shall be medium broom, as shown on the Plans.

Structural Concrete:
Structural concrete for the retaining wall including wall footing shall comply with Section 51,

"Concrete Structures," and Section 90-1, "General," of the Standard Specifications.

Concrete Mix Design

The Contractor shall furnish a concrete mix design for the Engineer at least ten working days prior to the start of the work, based on the following guidelines:

General concrete facilities including curb, gutter, deepened curb, retaining curbs, sidewalk, medians, curb ramps, and concrete foundation for Vertical Story Board shall meet the following requirements:

Compressive Strength:	2500 psi @ 28 days
Maximum Slump:	5 inches

Driveways and driveway approaches shall meet the following requirements:

Compressive Strength:	2000 psi @ 3 days, 4000 psi @ 28 days
Maximum Slump:	4 inches

Bus pads shall be Class "A" PCC and meet the following requirements:

Flexural Strength:	650 psi @ 28 days

Structural concrete for retaining wall including wall footing shall meet the following requirements:

Compressive Strength:	3600 psi @ 28 days

The Contractor shall be responsible for all costs associated with the required mix design.

Quality Assurance Field Testing

Field testing shall include testing for concrete slump as per ASTM C-143 and compressive strength (C39). Such testing shall be at a frequency determined by the Engineer and shall be performed by the Owner's laboratory at the Owner's expense. The Contractor shall furnish the concrete necessary for casting test cylinders.

Detectable Warning Surface

The contractor shall furnish and install detectable warning surface material on curb ramps and walk ways in conformance with the Standard Specifications and the Caltrans Standard Plans. On all new concrete construction, detectable warning surface shall be 'wet-set' system embedded into new concrete. Surface applied or 'mat' systems for detectable warning surface material only allowed if prior approval is made by the City's Engineer.

Plastic Barrier

Flexible membrane sheeting, polyvinyl chloride conforming to ASTM D1593 or ASTM D3083, minimum 30 mils thick.

Adhesive: Synthetic rubber base cement, manufactured for use with polyvinyl chloride or synthetic rubber membrane materials for cold application.

Tape: tape for sealing of laps and joints shall be a pressure-sensitive neoprene or vinyl-chloride rubber adhesive tape as recommended by the manufacturer of sheet liner materials or a heavy-duty cloth masking tape, minimum 3 inches wide.

CONSTRUCTION

Contractor shall supply a certificate of compliance at time of each concrete placement.

All work shall conform to the provisions of Section 90, "Concrete," of the Standard Specifications. All curb ramps shall comply with Title 24 and current UBC requirements.

Construction of reinforced concrete retaining wall shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications.

The existing concrete shall be sawcut full depth prior to removal. Any concrete broken due to the Contractor's failure to comply with these requirements shall be removed and replaced at the Contractor's expense.

The line and grade of the replaced facilities shall conform to the existing facilities. In most instances, this will consist of a straight line between existing facilities. Replace sidewalk and curb and gutter to next score mark.

Lay plastic barrier where indicated. Lap edges not less than 4 inches and ends not less than 6 inches, with all laps sealed continuously with adhesive and tape. Repair punctures and tears in plastic sheets that occur during subsequent construction operations.

The Contractor shall water test all new curbs and gutters, cross gutters, and other drainage facilities in the presence of the City's Inspector.

Tolerances

The maximum variation from design elevation shall not exceed +/- 0.02'. In some instances, particularly in critical drainage areas, tolerances may be reduced to zero. Concrete facilities shall be installed to maintain or provide positive drainage. Questions regarding applicable tolerances shall be directed to the Engineer 48 hours in advance of the work.

When shown on the drawings, the concrete shall be set at the design elevations. When existing facilities are to be removed and replaced, they shall conform to the existing elevations and grades. Generally, this will be at a straight line between the start and end points of the removal.

Placing and Finishing

The concrete shall be deposited on a moist grade in such a manner as to require as little re-handling as possible. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances.

Strikeoff, Consolidation, and Finishing

In general, adding water to the surface of the concrete to assist in finishing operations shall not be permitted.

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.

Concrete shall be thoroughly consolidated against and along the faces of all forms and adjacent concrete. After the forms are removed, excess concrete below the form surface shall be removed to be flush with the form face.

All new concrete shall match existing facilities in texture, color, and appearance.

Concrete Protection
The Contractor shall always have materials available to protect the surface of the fresh concrete against rain. These materials shall consist of burlap, curing paper, or plastic sheeting. If plastic sheeting is used, it shall not be allowed to contact finished concrete surfaces.

The Contractor shall also protect the concrete against traffic and vandalism. If the concrete is damaged or vandalized, the Contractor shall remove and replace these sections at its own expense.

Curing
Concrete shall be cured by protecting it against loss of moisture, rapid temperature change, and mechanical injury for at least three days after placement. White or clear liquid membrane compound shall be used. After finishing operations have been completed, the entire surface of the newly placed concrete shall be covered by the curing medium. The edges of the concrete exposed by the removal of forms shall be protected immediately to provide these surfaces with continuous curing treatment.

The concrete shall be allowed to cure for seventy-two hours prior to placing adjacent asphalt concrete.

Joints
Joints of various types shall be as specified in the City of Oakley Standard Plans unless otherwise noted.

Retaining wall joints shall conform to details shown on the Plans, Caltrans Standard Plans, and as specified in Section 51-2, “Joints,” of the Standard Specifications.

Finishes
Finish concrete per Plans and City of Oakley Standard Plans and as specified in as specified in these Technical Specifications. The contractor shall ensure that finished product is ADA compliant and free of trip hazards.

1. Preparation work, including finish grading, setting of forms and screeds, and furnishing and installing of reinforcing wire (or bar) shall be done by the general contractor.
2. The contractor shall: a) provide materials, concrete, color hardener, wax, sealer, and special forming tools; b) place concrete; c) apply color hardener; d) apply patented forming tools; e) apply color wax curing membrane; f) apply final surface treatment.

Finish concrete retaining wall in accordance with Section 51-1.03F, “Finishing Concrete,” of the Standard Specifications.

Anti-Graffiti Coating
Where shown on the Plans, provide anti-graffiti coating in accordance with Section 78-4.06, “Anti-Graffiti Coating,” of the Standard Specifications.

Cleanup and Backfill
After the concrete is placed, cured, and the forms have been removed, the Contractor shall clean the site of all concrete and forming debris.

The aggregate base shall be replaced to match the existing base and compacted to 95% relative compaction. The pavement shall be restored in accordance with Section 10-1.12, “Cold Planing”

of these Special Provisions. A minimum of two lifts shall be used, none of which shall exceed 3", and the top lift shall be a minimum of 1-1/2" thick. The total thickness of the restored pavement shall match that of the existing pavement.

After curing has been completed and the forms have been removed from the new curb and gutter or sidewalk, the void between the new concrete and the existing parkway shall be filled with clean native material and the entire parkway left in a clean and orderly condition.

For concrete removed but not replaced, the resulting void after excavation shall be backfilled with clean native material.

Curb Ramps

Curb ramps shall be constructed in general conformance with the Standard Specifications and the Caltrans Standard Plans. Curb ramp construction will typically include removal and replacement of sidewalk, curb and gutter adjacent to new ramp, and installation of detectable warning surface (truncated domes). Truncated dome material shall be Safety Yellow in color.

At those locations where box lids fall within the area of the detectable warning surface the Contractor shall present solution(s) for installation of truncated domes on the lid surface such that a continuous field of domes is maintained as specified in the Standard Specifications. The City will review proposed solutions and approve those method(s) which are found to be suitable prior to implementation by the Contractor.

The contractor's duties as part of curb ramp construction shall include coordinating with utility company representatives for those locations where existing utility boxes fall within the limits of new ramp and/or sidewalk construction. Coordination efforts should be made early on in the Contract for those items which may require a long lead-in time or may involve significant interaction with utility company personnel.

Limits of removal and replacement work shall be determined by the Contractor at each curb ramp location.

MEASUREMENT AND PAYMENT

Measurement and payment for removing miscellaneous concrete and constructing miscellaneous concrete shall be paid on a unit cost basis as identified in the Bid Schedule.

The vertical height of REINFORCED CONCRETE RETAINING WALL for determining area for payment is the elevation difference from top of wall to top of footing.

CITY STANDARD SIDEWALK shall be at the cost indicated in the Bid Schedule. The contract prices paid per square foot for CITY STANDARD SIDEWALK of various alignments, colors and finishes shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing City standard sidewalk of various alignments, colors and finishes, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

DECORATIVE CONCRETE SIDEWALK shall be at the cost indicated in the Bid Schedule. The

contract prices paid per square foot for DECORATIVE CONCRETE SIDEWALK of various alignments, colors and finishes shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing decorative concrete sidewalk of various alignments, colors and finishes, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD DRIVEWAY shall be at the cost indicated in the Bid Schedule. The contract prices paid per square foot for CITY STANDARD DRIVEWAY shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing City standard driveway, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, and grading conform complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD CURB AND GUTTER shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CITY STANDARD 6” CURB AND GUTTER shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing curb and gutter, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD 6” VERTICAL CURB shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CITY STANDARD 6” VERTICAL CURB shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing vertical curb, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD 8” VERTICAL CURB shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CITY STANDARD 8” VERTICAL CURB shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing vertical curb, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD CONCRETE VALLEY GUTTER shall be at the cost indicated in the Bid Schedule. The contract prices paid per square foot for CITY STANDARD CONCRETE VALLEY

GUTTER shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing valley gutter, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CURB RAMP (CALTRANS CASE A) shall be at the cost indicated in the Bid Schedule. The contract price paid per unit cost for CURB RAMP (CALTRANS CASE A) shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing curb ramp (Caltrans Case A), including excavation and backfill, formwork, expansion joints, detectable warning surface, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CURB RAMP (CALTRANS CASE C) shall be at the cost indicated in the Bid Schedule. The contract price paid per unit cost for CURB RAMP (CALTRANS CASE C) shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing curb ramp (Caltrans Case C), including excavation and backfill, formwork, expansion joints, detectable warning surface, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CURB RAMP (CALTRANS CASE F) shall be at the cost indicated in the Bid Schedule. The contract price paid per unit cost for CURB RAMP (CALTRANS CASE F) shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing curb ramp (Caltrans Case F), including excavation and backfill, formwork, expansion joints, detectable warning, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

DETECTABLE WARNING SURFACE shall be at the cost indicated in the Bid Schedule. The contract price paid per square foot for DETECTABLE WARNING SURFACE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in placing detectable warning surface when not part of a curb ramp, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CONCRETE LATERAL BRACE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CONCRETE LATERAL BRACE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing concrete lateral brace, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as

shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

DEEPENED CURB & GUTTER shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for DEEPENED CURB & GUTTER shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing deepened curb and gutter, including excavation and backfill, formwork, expansion joints, 30 mil plastic barrier, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

DEEPENED CURB shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for DEEPENED CURB shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing deepened curb, including excavation and backfill, formwork, expansion joints, 30 mil plastic barrier, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

RETAINING CURB shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for RETAINING CURB shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing retaining curb, including excavation and backfill, formwork, expansion joints, 30 mil plastic barrier, fill, base material and reinforcement, end taper, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REINFORCED CONCRETE RETAINING WALL shall be at the cost indicated in the Bid Schedule. The contract price paid per square foot for REINFORCED CONCRETE RETAINING WALL shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing reinforced concrete retaining wall, including excavation and backfill, formwork, expansion joints, wall drainage system, base material, reinforcement, and anti-graffiti coating, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REINFORCED CONCRETE BUS PAD shall be at the cost indicated in the Bid Schedule. The contract prices paid per square foot for the construction of REINFORCED CONCRETE BUS PAD shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing PCC bus pad, including, excavation and backfill, formwork, expansion joints, fill, base material, monolithic curb and reinforcement, complete in place, as shown on the Plans, as specified in the Standard

Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CONCRETE MOWBAND shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CONCRETE MOWBAND shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing concrete mowband, including excavation and backfill, formwork, expansion joints, fill, base material and reinforcement, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.14 AGGREGATE BASE

GENERAL

This work shall consist of furnishing, grading, and compacting aggregate base under asphalt roadway, concrete sidewalk and new structures, and where called for in the plans and these Special Provisions.

MATERIALS

Aggregate base shall conform to Subsection 26-1.02A, "General" and 26-1.02B, “Class 2 Aggregate Base”, of the Standard Specifications. The grading shall be as indicated on the plans, or as directed by the Engineer. At the option of the Contractor, Recycled Aggregate Base (Class II) material may also be used for Class 2 Aggregate Base.

CONSTRUCTION

Grading shall comply with the requirements of Section 19, “Earthwork”, of the Standard Specifications.

The Contractor shall protect any items, facilities, or improvements, as necessary, in order to avoid causing damage.

The existing subgrade material below the new aggregate base shall be ripped, scarified, moisture conditioned to optimum moisture content, and compacted to a minimum of 95 percent relative compaction.

Construction of the new aggregate base shall conform to Section 26, “Aggregate Bases,” of the Standard Specifications. The constructed thickness of the aggregate base layer shall be not less than the design thickness minus ½ inch.

MEASUREMENT AND PAYMENT

AGGREGATE BASE (CL-2) shall be at the cost indicated in the Bid Schedule. The contract price paid per cubic yard for AGGREGATE BASE (CL-2) shall include, but is not limited to, full compensation for all labor, equipment, and materials required as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.15 ROCK SLOPE PROTECTION

GENERAL

Rock slope protection shall comply with Section 72, "Slope Protection" of the Standard Specifications.

MATERIALS

Rock shall comply with Section 72-2, "Rock Slope Protection" of the Standard Specifications.

MEASUREMENT AND PAYMENT

ROCK SLOPE PROTECTION shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for ROCK SLOPE PROTECTION shall include, but is not limited to, full compensation for furnishing all labor, material, tools, equipment, and appurtenances for to furnish and install the rock slope protection, including fabric, excavation and backfilling, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.16 WHEEL STOP

GENERAL

This work shall consist of furnishing and installing concrete wheel stops where called for in the plans and these Technical Specifications.

MATERIALS

Furnish wheel stops per plans and these Technical Specifications. Wheel stops shall be pre-cast and doweled into pavement. Contractor to submit product data for approval.

CONSTRUCTION

Wheel Stop
Install wheel stop per manufacturer plans and specifications.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with these Technical Specifications. Full compensation for furnishing and installing wheel stops, including, but is not limited to, all labor, materials, tools, equipment and incidentals required to conform to the provision of this section shall be considered as included in the price paid for SIGNING AND STRIPING and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.17 EARTHWORK

GENERAL

This work shall consist of excavation and embankment from existing ground to subgrade, for roadways, driveways, sidewalks, parking lot, planting areas and any other site improvements called for on the Plans. Additionally, this work shall consist of excavation, subgrade preparation, backfill and installation of wall drainage system at the reinforced concrete retaining wall.

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these technical specifications.

Definitions

Roadway Excavation – Removal of existing asphalt pavement, base material, and subgrade/native material encountered in existing paved areas above proposed subgrade elevations. Roadway excavation includes:

1. Excavating and stockpiling the selected material
2. Removing the stockpiled material and placing it in its final position
3. Removing surcharge material

Common Excavation - Removal of existing material encountered in existing unpaved areas above proposed subgrade elevations. Common excavation includes:

1. Excavating and stockpiling the selected material
2. Removing loose and stockpiled material and placing it in its final position
3. Removing surcharge material

Structure Excavation – Structure excavation includes the following:

1. Excavating foundations for structures, including retaining walls and other facilities.
2. Control and removal of water.
3. Installation and removal of facilities required to complete the work unless specified or allowed to remain in place.

Fill/Engineered Fill – Imported soil or material placed to backfill excavations and to raise the subgrade or natural grade of the site.

Structure Backfill – Imported soil or material placed to backfill excavations at foundations for structures.

Optimum Moisture Content - The water content at which a soil can be compacted to a maximum dry unit weight by a given comp active effort.

Relative Compaction - The ratio, expressed as a percentage, of the in-place dry density of material as compacted in the field to the maximum dry density of the same material as determined by laboratory test ASTM D1557.

Relative Density - Mass per unit volume as specified in ASTM D4253 and ASTM D4254, as applicable to the soil and test method employed.

Unsuitable Material - Excavated material or material below the natural ground surface in backfill areas or below subgrade elevation within Project limits, which is unsuitable for its planned use. Unsuitable material is further defined as material determined to be:

1. Of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at optimum moisture content; or

2. Too wet to be properly compacted and circumstances prevent suitable drying prior to incorporation into the Work; or

3. Otherwise unsuitable for the planned use.

The presence of excessive moisture in a material is not, by itself, sufficient cause for determining that the material is unsuitable. The Engineer will determine if a soil material is unsuitable.

Subgrade - Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.

MATERIALS

General
Material used for fill construction shall be an inert, inorganic soil, free from deleterious substances, and of such quality that it will compact thoroughly without the presence of voids when watered and rolled. Inorganic soil is defined as soil containing less than two percent by weight of organic material when tested in accordance with ASTM D2974. Excavated on-site material will be considered suitable for fill construction if it is free from organic matter and other deleterious substances and conforms to the requirements for Engineered Fill. On-site material that does not meet these requirements shall be considered unsuitable.

Excavated material that is suitable for fill construction shall be conditioned for reuse and properly stockpiled for later filling and backfilling operations. Conditioning shall consist of spreading material in layers not to exceed 8 inches and raking free of debris and rubble. Rocks exceeding 6 inches in largest dimension, unsuitable material and deleterious material shall be removed from the site and disposed of as specified herein under Disposal of Surplus Material.

Where conditions require the importing of fill or backfill material, the material shall be an inert soil or soil-rock material free of organic matter and meeting or exceeding the minimum requirements specified herein for Engineered Fill.

All material to be used for filling, backfilling, and embankment construction requires written approval of the Engineer.

Where loose soil conditions occur, materials shall be excavated and recompacted to achieve a minimum of 90% relative compaction prior to placing new or imported material.

Engineered Fill
Well-to moderately well-graded soils consisting of predominantly sands with or without gravel, as excavated, screened or blended, having the following mechanical properties and gradation:

1. Gradation (ASTM D422)

Sieve Opening	Percent Passing by Weight
6-inch Square	100
3/4 –inch Square	70 min

2. Liquid Limit (ASTM D4318): non-plastic

3. Plasticity Limit (ASTM D4318): non-plastic

Structure Backfill
Structure Backfill shall comply with Section 19-3.02C, "Structure Backfill," of the Standard Specifications.

Pervious Backfill Material
Pervious backfill material shall comply with Section 19-3.02D, "Pervious Backfill Material," of the Standard Specifications.

A weep hole and geocomposite drain alternate may be used and shall comply with Section 68-7, "Geocomposite Drain Systems."

Filter Fabric
Filter fabric shall comply with Section 96-1.02B, "Filter Fabric," of the Standard Specifications. Filter fabric shall be Class A.

CONSTRUCTION

Existing Utilities
Verify the location and depth of all existing utilities and services before performing any excavation work.

Abandoned sewers, piping, and other utilities encountered in the progress of the excavating shall be removed and the ends plugged.

Active utility lines encountered, which are not indicated in the Contract Documents, shall be reported immediately to the Engineer and utility owners involved. The Engineer and utility owners shall be permitted free access to determine the measures deemed necessary to repair, relocate, or remove the utility.

Erosion and Dust Control
Comply with requirements of 10-1.05, Water Pollution Control, and 10-1.06, Temporary Drainage Inlet Protection. Exposed soil and stockpiles must be fully saturated or covered at all times to minimize sediment erosion during demolition, excavation and construction activities.

Contractor shall provide 8' chain link fence with screen around perimeter of the existing building at 3478 Main Street and 3530 Main Street, Oakley, CA 94561.

Stockpiling of Fill and Backfill Material:
Excavate and separately stockpile suitable fill and backfill material, as indicated, during the

progress of the excavation work. Save sufficient suitable excavated material, if available, for later filling and backfilling construction.

Store materials from required excavations that are suitable for fill, and backfill as excavated, in stockpiles segregated by type.

Establish excavated material stockpiles on site only in locations where they will not interfere with the progress of the work. Offsite stockpiling, if necessary, shall be the responsibility of the Contractor.

Disposal of Surplus and Unsuitable Material
Unsuitable and surplus material shall become the property of the Contractor and shall be removed from the site and disposed of in a legal manner. Location of disposal site and length of haul shall be the Contractor's responsibility. Contractor shall be responsible for soil testing to determine material acceptance by the disposal site.

Maintenance of Excavations and Slopes
Where shoring is not used, Excavate and remove material outside the limits of the excavation which is unstable and constitutes potential slides, as determined by the Contractor and verified by the Engineer, and or material which comes into excavations for any reason.

Maintain slopes and embankments until substantial completion and acceptance of the work. Promptly repair slides, slipouts, washouts, settlements, and subsidences that occur for any reason, and refinish the slope or embankment to the indicated lines and grades.

Excavation
Perform excavation and fill as indicated and required for roadbed, sidewalk and planting areas.

The bottoms of excavations shall be level, firm, undisturbed earth, clean and free from loose material, debris, and foreign matter.

Excavate to the lines and grades indicated or as necessary in order to complete the Work.

Limits of excavations shall allow for adequate working space for personnel and equipment, and as required for safety of personnel.

Dewater excavation as directed by Engineer. Construct berms around excavations as required to prevent surface water and runoff from entering the excavation.

Remove unstable bottom material. Remove large stones, debris, and compressible soils from excavation bottoms to a minimum depth of 12 inches. Remove loose and unsound material.

Except as otherwise indicated, preserve the material below and beyond the lines of excavations. Where an excavation is carried below the indicated grade, backfill to the indicated grade as herein specified.

Excavations for convenience of the Contractor shall be approved by the Engineer.

Place excavated material at a sufficient distance from edge of excavation so as not to cause cave-ins or bank slides, but in no case closer than 3 feet from the edge of excavations.

Excavated earth material that is suitable for fill, backfill, or embankment shall be conditioned for

re-use and properly stockpiled for later filling and backfilling operations as herein specified. Test, screen, and mix as necessary to meet specified requirements.

Subgrade Preparation
Perform all cutting, blading, and shaping as required to cut and shape the subgrade to the grades and elevations indicated.

Subgrade preparation includes fine grading, reworking as necessary, and preparation of cut or fill upon which the equipment foundations, pipe, base, and pavement will be placed. Remove unsuitable subgrade material, such as weak or compressible soils.

Scarify and mix entire surface of subgrade to a depth of at least 12 inches. Moisture- condition scarified sub grade to 3 percent above optimum moisture content. If subgrade stabilization material is required, incorporate it into the subgrade at this time.

After the material has been thoroughly mixed and moisture-conditioned, accurately construct and fine grade the sub grade to indicated line, grade, and contour with high and low spots eliminated. Compact for full width to the specified density. Remove soft spots developed during working, fill with approved material, and re-compact.

Compact each layer of subgrade material to not less than 90 percent relative compaction as determined by ASTM D1557. Finish sub grade to straightedge or template within specified tolerances with the finished surface bladed to a uniform, dense, smooth texture.

Portions of the site contain loose fill material. This loose material may require over excavation, additional stabilization, preparation and compaction prior to commencing further earthwork operations. Refer to the Limited Geotechnical Investigation Report, dated June 2021, prepared by Geocon.

Structure Excavation, Backfill and Subgrade Preparation at Retaining Wall
Soils beneath the retaining wall footing, within a 1 horizontal to1 vertical plane projected down and out from the footing bottoms shall be over-excavated to expose competent native dune sands, as determined by the project Geotechnical Engineer at the time of excavation. The resultant over-excavation bottoms should then be scarified to a depth of approximately 8 to 12 inches, moisture conditioned to near optimum moisture content, and recompacted to at least 90% relative compaction. Fill materials shall then be placed, moisture conditioned, and compacted in lifts to attain design subgrade elevation.

Proposed fill slopes shall be graded such that properly compacted fill materials are provided at the slope face, which may require overbuilding the slopes and trimming back to finished grade with a blade, an excavator with a flat blade bucket or similar equipment.

Structural backfill should be placed in layers no thicker than will allow for adequate bonding and compaction (typically 8 to 12 inches). Structure backfill shall be placed, moisture conditioned to near optimum and compacted to at least 95% relative compaction. All clearing operations and earthwork (including over-excavation, scarifying, and re-compaction) shall be observed and all fills tested for recommended compaction and moisture content by representatives of the Project Geotechnical Engineer.

Fill for Modifying Grade
Compacted fill for modifying original grade to indicated elevation shall be constructed by approved

methods. Fill material shall be spread in uniform lifts not exceeding 8 inches in uncompacted thickness. Fill material that does not contain sufficient moisture to compact properly shall be sprinkled with water; if it contains excess moisture it shall be aerated or permitted to dry to the proper water content. Fill material and water shall then be thoroughly mixed before being compacted. Each layer of spread fill material shall be compacted to the specified density.

Control of fill shall consist of field inspection and testing to determine that each layer has been compacted to the required density and to ensure that optimum moisture is being obtained. Any layer or portion of a layer that does not attain the compaction required shall be scarified and re-compacted until the required compaction is obtained.

Spreading and compacting shall be performed as required to produce the required density and a uniform surface smooth and true to grade.

Compaction
Compact each layer of fill and backfill material to not less than 95 percent relative compaction as determined by ASTM D1557 unless otherwise noted.

Finish Grading
Finish grade all areas to elevations and grades indicated. In areas to receive topsoil and landscape planting, coordinate with requirements of section 10-1.22, Landscape Planting.

Quality Control
The Contractor shall perform inspection and any required field tests to determine compliance with specified requirements for materials, density, and compaction of the earthwork.

MEASUREMENT AND PAYMENT

Quantities will be computed based on the neat lines or pay lines, section profiles, contours, and dimensions indicated on the Plans.

The upper limit for payment of common excavations in unpaved areas shall be the ground surface as it existed prior to the start of construction operations.

The upper limit for payment of roadway excavations in paved areas shall be the ground line at the time the excavation is made.

The upper limit for payment of backfill shall be the finished grade indicated.

The lower limits for computing pay quantities of excavation and backfill shall be a plane at existing ground or the bottom of the completed roadbed, sidewalk and planting area, whichever is lower.

ROADWAY EXCAVATION shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for ROADWAY EXCAVATION shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved with roadway excavation, including sawcutting, grinding, removal and disposal of asphalt concrete pavement, base material, and subgrade/native material to the lines and grades shown on the Plans and which conflict with the work, dewatering, shoring and underpinning, rehandling of stockpiled material, erosion and dust control measures, subgrade preparation, excavation support and protection, disposal of unsuitable material, testing and off-

hauling of material and surplus material, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

COMMON EXCAVATION shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for COMMON EXCAVATION shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with common excavation, including clearing and grubbing, dewatering, shoring and underpinning, rehandling of stockpiled material, erosion and dust control measures, subgrade preparation, excavation support and protection, disposal of unsuitable material, testing and off-hauling of material and surplus material as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

ENGINEERED FILL shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for ENGINEERED FILL shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with imported engineered fill, including compaction, spreading, material testing, subgrade preparation, rehandling of stockpiled material, drain ditches, and slope rounding, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

All earthwork involved in the constructing reinforced concrete retaining wall shall be performed as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Full compensation for earthwork and wall drainage system, including, but is not limited to, all labor, materials, tools, equipment and incidentals required to conform to the provision of this section shall be considered as included in the price paid for REINFORCED CONCRETE RETAINING WALL and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.18 STORM DRAIN IMPROVEMENTS

GENERAL

Installation of the storm drain facilities including, inlets (of various types), storm drain manholes, trench excavation and backfilling, and connecting to the existing storm drain manholes and inlets shall be done in accordance with the City of Oakley Standard Plans and Caltrans Standard Plans, and as shown on the Project Plans. Work shall also include permits and the removal and legal disposal of the existing laterals and pipe, potholing of existing utilities as specified herein and video inspections as described in this Section.

MATERIAL

Storm drain materials shall comply with the City of Oakley Standard Details and the Standard Specifications.

Reinforcement must comply with Section 52, “Reinforcement,” of the Standard Specifications.

Miscellaneous iron and steel must comply with Section 75, “Miscellaneous Metal,” of the Standard Specifications.

All steel items shall be galvanized. All cast iron items must be painted or dipped in commercial quality, asphalt paint furnished by you. Galvanization must be performed after fabrication.

Frames and covers must be match-marked in pairs before delivery to the work and the covers must fit into their frames without rocking. The faces and seats of manhole covers must be machine finished.

Concrete shall comply with Section 90, “Concrete,” of the Standard Specifications.

Excavation and backfill material shall comply with City of Oakley Standard Details and Standard Specifications.

Grout used for joints and connections must be watertight.

CONSTRUCTION

General
Construct storm drain system per City of Oakley Standard Details and the Standard Specifications.

Potholing
The Contractor shall conduct exploratory excavations by potholing to verify or to discover the actual locations and the size of existing underground utilities and improvements. Potholing shall be done at each proposed location of signal poles to occur at least fourteen (14) calendar days in advance of any excavation or construction in that area, to avoid possible delay in the progress of the Work.

The Contractor’s proposed method of potholing and schedule for potholing shall be submitted to the Engineer for approval, at least one week prior to the commencement of operation. Any utilities

damaged during potholing shall be immediately reported to the Engineer and repairs made immediately in accordance with the requirements of this Contract.

Video Inspection
The Contractor shall conduct video inspection of all newly constructed storm drain lines after base rock has been installed and compacted, and prior to paving. The Contractor shall notify the Engineer a minimum of 2 working days in advance of the date for inspection. The Engineer or their authorized representative shall be given the opportunity to be present during the inspection. Upon receipt of the completed video inspection files and written logs, the Engineer shall be allowed 10 working days to review the video records and logs before giving written notice of acceptance and/or deficient of the lines to the Contractor.

Any damage to facilities or obstruction to service caused by the video inspection shall be corrected immediately by the Contactor at no cost to the City.

The video inspection of all lines shall be recorded in a digital color format that does not require the use of specialized equipment and/or programs not already in use by the City's Public Works and Engineering Department.

The Contractor shall keep a copy of the written logs on site that clearly show the exact location, in relation to the starting manhole/inlet of each following item discovered during the video inspection; infiltration points, cracks, open/pulled joints, roots, broken or collapsed sections, debris, location of dips, and any other discernible features. Measurement for location of defect shall be at ground level by means of a metering device.

Abandoning and capping storm drain lines
Storm drain lines shown to be abandoned shall be abandoned, capped and backfilled to the satisfaction of the Engineer.

MEASUREMENT AND PAYMENT

REMOVE CONCRETE FLARED END SECTION shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for REMOVE CONCRETE FLARED END SECTION shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with removing concrete flared end section, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD TYPE I INLET shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for CITY STANDARD TYPE I INLET shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with placing new inlet, including excavation, backfill, reinforcing, metal grate and frame, apron, storm drain marker, pavement restoration to finish grade, and testing as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD TYPE III INLET shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for CITY STANDARD TYPE III INLET shall include, but is not limited to,

full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with placing new inlet, including excavation, backfill, reinforcing, metal grate and frame, apron, storm drain marker, pavement restoration to finish grade, and testing as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

MODIFIED TYPE II INLET WITH SIDE OPENING shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for MODIFIED TYPE II INLET WITH SIDE OPENING shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with placing new inlet, including excavation, backfill, reinforcing, metal grate and frame, apron, storm drain marker, pavement restoration to finish grade, and testing as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

BUBBLER UP BOX shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for BUBBLER UP BOX shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with placing new bubbler inlet, including excavation, backfill, reinforcing, metal grate and frame, apron, storm drain marker, pavement restoration to finish grade, and testing as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CITY STANDARD MANHOLE shall be at the cost indicated in the Bid Schedule. The contract unit prices paid per-each for CITY STANDARD MANHOLE shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with placing new inlet, including excavation, backfill, reinforcing, metal grate and frame, apron, storm drain marker, pavement restoration to finish grade, and testing as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

24” HDPE SD PIPE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for 24” HDPE SD pipe shall include, but is not limited to, furnishing all labor, materials, tools, equipment and incidentals required for doing all the work involved with placing new 24” HDPE storm drain pipe, including trenching excavation, backfill, video inspection, permits and pavement restoration to finish grade, caps and tees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

15” HDPE SD PIPE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for 15” HDPE SD pipe shall include, but not is limited to, furnishing all labor,

materials, tools, equipment and incidentals required for doing all the work involved with placing new 15” HDPE storm drain pipe, including trenching excavation, backfill, video inspection, permits and pavement restoration to finish grade, caps and tees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

12” HDPE SD PIPE shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for 12” HDPE SD pipe shall include, but not is limited to, furnishing all labor, materials, tools, equipment and incidentals required for doing all the work involved with placing new 12” HDPE storm drain pipe, including trenching excavation, backfill, video inspection, permits and pavement restoration to finish grade, caps and tees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

CURB DRAIN shall be at the cost indicated in the Bid Schedule. The contract prices paid per linear foot for CURB DRAIN pipe shall include, but not is limited to, furnishing all labor, materials, tools, equipment and incidentals required for doing all the work involved with placing new curb drain, including trenching excavation, backfill, permits and pavement restoration to finish grade, caps and tees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.19 TRAFFIC STRIPING, MARKINGS, RAISED PAVEMENT MARKERS, DELINEATORS, AND SIGNS.

GENERAL

Thermoplastic traffic stripes and painted traffic stripes (traffic lines), and pavement markings shall conform to the provisions in Sections 84-1, “General,” and 84-2, “Traffic Stripes and Pavement Markings” of the Standard Specifications and these Special Provisions. Pavement markers shall conform to Section 81-3 “Pavement Markers” of the Standard Specifications and these Technical Specifications.

Delineators shall conform to Section 81-2, “Delineators”, and Road Signs shall conform to Section 82-2 “Sign Panels” and Section 82-3 “Roadside Signs” of the Standard Specifications and these special provisions.

MATERIALS

Thermoplastic
Thermoplastic shall comply with Section 84-2, "Traffic Stripes and Pavement Markings" of the Standard Specifications

CONSTRUCTION

All construction shall conform to the respective provisions of the Standard Specifications, manufacturer’s installation requirements, and the Technical Specifications.

Existing Striping and Markings
In areas adjacent to the reconstructed surfacing where existing striping must be changed to conform to a revised striping pattern, conflicting striping shall be removed by sand blasting, grinding, or other methods as specified in the Standard Specifications or by the Engineer.

In areas to be cape or slurry sealed, the contractor shall remove all existing thermoplastic striping by sand blasting, grinding, or other methods as specified in the Standard Specifications or by the Engineer.

The Contractor shall provide temporary striping (paint or reflectors), excluding the final 10 feet, to the satisfaction of the City Engineer to temporarily replace all striping which has been damaged or obliterated by or during the work. This shall include striping replacement completely across the street even in the event that the Contractor’s work may not extend that far. Both lines of each crosswalk shall be completely repainted even if only a portion of a line has been obliterated. The City Engineer may make striping revisions prior to final placement.

Temporary tab markers shall be the same color as the traffic stripe that they are replacing, shall measure 2” tall by 3-1/2” wide, and have a reflective lens across the width of the marker.

When the Contractor’s work removes or reduces the visual appearance of a lane or centerline, the Contractor shall replace all striping between the adjacent intersections in both directions. Where a median exists, this work will be required only in the roadway where the work has occurred, unless a detour which altered the pavement markings occurred in the other roadway. In such cases, the striping will be replaced in both directions.

Layout for Temporary and Permanent Striping

The alignment and layout of traffic stripes shall conform to Subsection 84-2.03, "Construction", of the Standard Specifications.

The Contractor shall be responsible for compiling an existing striping and marking plan including but not limited to stop bars, legends, parking stall stripes, crosswalks and other traffic delineation markings within the project prior to removing, obliterating, covering any existing striping, or starting work on the affected street. **This plan must be submitted to the Engineer and approved prior to commencing any striping and marking operations on the affected street.** All alignments and layout measurements, and other work necessary to locate and replace traffic stripes and pavement markings shall be performed by the Contractor. The City will not provide any assistance, information, or materials to the Contractor. It will be entirely the responsibility of the Contractor to perform all necessary pre-construction and construction layout work, obtain all necessary measurements and information, and prepare all plans for performing the striping and marking work as specified. All traffic control systems necessary for performing striping and marking, as directed by the Engineer, shall be the responsibility of the Contractor.

The Contractor shall physically tie down the location of the beginning and ending of each paint or thermoplastic marking type in the adjacent curb top. The marking location shall not exceed 50 square inches each. Any locations exceeding this limit shall be removed by the Contractor prior to acceptance of the work. The Contractor shall contact the City Engineer for review of tie downs.

The Contractor shall be responsible for accurately referencing out and replacing the lines and positions of all traffic lines, directional lines, arrows, and other markings in accordance with the plans and City standard markings by cat tracking with painted marks. This shall occur no later than 2 hours behind the final surface course paving operation.

Cat tracking shall consist of stretching a rope on a straight line between control points on tangent alignment and on a true arc through control points on curved alignment and placing spots of paint along the rope. Temporary tab markers shall be placed not more than 12' apart on curves nor more than 24' apart on straight segments.

Prior to application of temporary and permanent striping and markers, the Contractor shall call for review and approval of the proposed striping by the City's Traffic Engineer or agent. The City shall have the right to make changes in the location and alignment of line stripes. Striping and traffic markings shall not be applied until after approval is granted by the Traffic Engineer. The Contractor shall allow a minimum of 3 working days for review of the layout by the City.

Schedule

Raised pavement markers (RPM's) shall be placed as specified in Subsection 81-3.03, "Construction", of the Standard Specifications. When utilizing hot melt bituminous adhesive, RPM's shall be placed after the surface has been open to traffic for at least 7 days. When utilizing epoxy adhesive, RPM's shall be placed after the surface has been open to traffic for at least 14 days. Regardless of which adhesive is utilized, the RPM's shall not be placed more than 21 days after paving or surfacing.

Permanent traffic striping and markings including legends and arrows shall be placed no sooner than 14 days and no later than 21 days after paving or surfacing, unless otherwise directed by the Engineer.

Temporary yellow marking tape denoting school crosswalks shall be placed the same day that the pavement surfacing is placed.

Failure to comply with these requirements shall result in a liquidated damage of $1,000 per day for each street that has not received permanent installation of the required raised pavement markers, traffic striping, and markings.

Pavement Stencils
The Contractor shall use stencils which conform to Standard Specifications and Caltrans Standard Plans.

Retroreflective and Raised Pavement Markers
Installation of both retroreflective and raised pavement markers shall conform to the provisions of Section 81 of the Standard Specifications. Pavement markers shall be placed in the same pattern and locations as they were previously, except as shown on the plans or modified herein.

Pavement Delineation – Thermoplastic
Pavement temperature shall be measured at the beginning of the shift on each working day and this information shall be provided to the Traffic Engineer.

No primer or thermoplastic shall be installed within 48 hours from the last measurable rain report as provided by the City.

Delivery Tickets
Each delivery ticket shall include information on the material type and the mix design number. Material delivered to the project without such annotations shall be subject to rejection.

Pavement Markers
Pavement markers shall be placed to the line established by the Contractor and approved by the Engineer, which will consist of temporary painted line or new or existing stripes one for each line of markers.

Bituminous Adhesive
At the option of the Contractor, a hot melt bituminous adhesive may be used to cement the markers to the pavement instead of the Rapid Set Type or Standard Set Type epoxy adhesive specified in 85-1.02E, “Epoxy Adhesive,” of the Standard Specifications. Bituminous adhesive material shall conform to the following:

Specification	**ASTM**	**Requirement**
Flash Point, COC, ºF	D 92	550 Min.
Softening Point, ºF	D 36	200 Min.
Brookfield Thermosel Viscosity, Centipoise, No. 27 Spindle, 20 RPM,400ºF	D 4402	3,000-6,000
Penetration dmm, 100g, 55 seconds, 77ºF	D 5	10 - 20
Filler Cement, percent by weight (Insoluble in1,1,1 Trichloroethane)	D 2371	65 - 75

Filler material used in bituminous adhesive shall be Type PC, Grade III, calcium carbonate

conforming to ASTM D1199, and shall conform to the following gradation:

Sieve Size	Percent Passing
No. 100	100
No. 200	95
No. 325	75

Bituminous adhesive shall be heated indirectly in an applicator with continuous agitation or recirculation. Bituminous adhesive shall not be heated above the maximum safe heating temperature recommended by the manufacturer and shall not be applied at temperatures greater than 425ºF. nor less than 375ºF.

Immediately after application of the adhesive, pavement markers shall be placed in position and pressure applied until firm contact is made with the pavement.

Placement of pavement markers using bituminous adhesive shall conform to the requirements of the third, fourth, ninth and tenth paragraphs in said Subsection 81-1.03A of the Standard Specifications, except as follows:

1. Markers shall not be placed when the pavement or air temperature is 50ºF or less.
2. Blast cleaning shall be required.

When bituminous adhesive is used for pavement marker placement, traffic control during placement operations shall conform to the requirements of “Traffic Control System” of these Special Provisions.

MEASUREMENT AND PAYMENT

Payment for traffic striping layout and placement of temporary tabs will be included in the unit price bid for SIGNING AND STRIPING and no additional compensation will be allowed therefore.

SIGNING AND STRIPING shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for SIGNING AND STRIPING shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with placing thermoplastic or painted pavement stripes and markings, including pavement markers, characters, arrows, raised pavement markers, reflective pavement markers, Class 1 delineators, in completing work as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

Measurement and payment for road signs shall be included in the lump sum price paid for SIGNING AND STRIPING as identified in the Bid Schedule and includes all costs associated for furnishing, installation, relocation, and salvage of road signs including all labor, materials, tools, equipment and incidentals for completing the work as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.20 FENCES

GENERAL

This work shall consist of furnishing and installing chain link fence, of various types, where called for in the plans and these Technical Specifications.

MATERIALS

All materials shall comply with Section 80, “Fences,” of the Standard Specifications.

CONSTRUCTION

All work shall comply with Section 80, “Fences,” of the Standard Specifications.

MEASUREMENT AND PAYMENT

6’ CHAIN LINK FENCE shall be at the price indicated in the Bid Schedule. The contract price paid per linear foot for CHAIN LINK FENCE shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing the chain link fence, including excavation and backfill, fence posts and foundations, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

6’ BLACK COATED CHAIN LINK FENCE shall be at the price indicated in the Bid Schedule. The contract price paid per linear foot for CHAIN LINK FENCE shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing the chain link fence, including excavation and backfill, fence posts and foundations, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

WOODEN FENCE shall be at the price indicated in the Bid Schedule. The contract price paid per linear foot for WOODEN FENCE shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing the chain link fence, including excavation and backfill, fence posts and foundations, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.21 BRICK PAVERS

GENERAL

SCOPE OF WORK

Work specified in this section includes furnishing all labor, materials, and equipment, performing all operations in connection with the brick paver work as indicated on the drawings and specified herein.

Brick paver installer: job references from projects of a similar size and complexity. Provide owner/client/general contractor names, postal address, phone, fax, and e-mail address.
Project conditions: install pavers only under conditions stipulated in manufacturer's instructions.

QUALITY ASSURANCE

When reference is made to Standard Specifications in these specifications, it shall mean the "Standard Specifications, State of California, Division of Highways," July 2018 Edition or current edition.

Installer Qualifications:

1. Utilize an installer who has successfully completed brick paver, veneer and cap installation within the last 3 years similar in design, material and extent indicated on this project, and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

Brick pavers installation criteria:

1. Brick pavers shall match existing brick paver bands along the sidewalk of Main Street for the size, range of colors and ratio of colors. The existing brick paver band shall be used as the control sample for the new brick paver band installation.

   Do not change source of brands for brick paver, veneer and cap units, setting materials or sand grout during progress of work.

Reference Standards:

Brick pavers shall meet ASTM requirements Specification for Brick Pavers.

SUBMITTALS

Mortar: Basalite Amerimix Type M

MATERIALS

BRICK PAVERS

Brick pavers – Per plans.

Grout Joint : Amerimix Type M, Color: 389 by Basalite or approved equal.

Concrete sub-base:

1. Portland Cement: ASTM C150, Type 1, natural color, unless otherwise noted.

2. Aggregate: Provide ASTM C33 normal weight aggregates, 3/4" maximum size, clean, uncoated crushed stone or gravel coarse aggregate free of materials which cause staining or rust spots; fine aggregate shall be clean natural sand.

3. Water: Clean, fresh, and potable

4. Aggregate Base: Class II Aggregate Base, clean and uncoated.

CONSTRUCTION

Do not use paving stones with chips, cracks, voids, discolorations or other defects which might be visible or cause staining in finished work.

Brick Pavers, Veneer and Cap shall be clean and free of foreign substances before installation. Layout pavers to minimize cutting. Paving work shall be plumb, level and true to line and grade.

Brick Pavers, Veneer and Cap shall be installed to properly coincide and align with adjacent work and elevations. Do not exceed 1.60 mm (1/16-inch) offset unit-to-unit offset from flush, and a tolerance of 3 mm (1/8-inch) in .61 m (2-foot 0-inches) and 6 mm (1/4-inch) in 3.05 m (10-foot 0-inches) from level or slope as indicated, for finished surface of paving. Use lines to hold pattern lines true. All cutting shall be done with a masonry saw.

CLEAN-UP

Remove all debris, pallets, broken stones, excess sand, etc. from job site. Wash down completed installation and provide a clean, finished workman-like installation.
REPAIR AND PROTECTION

Remove and replace brick pavers, veneer and cap which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.
Provide final protection and maintain conditions in a manner acceptable to the Engineer which ensures unit paver, veneer and cap work being without damage or deterioration at time of substantial completion.

MEASUREMENT AND PAYMENT

Measurement for ACCENT BRICK PAVERS shall be “square foot”.
The contract price paid per square foot for ACCENT BRICK PAVERS shall include but is not limited to full compensation for furnishing all labor, materials, mortar bed, joint, sub-case and preparation, tools, equipment, and incidentals for doing all the work involved in constructing ACCENT BRICK PAVERS, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

10-1.22 TRANSPLANTING

GENERAL

SECTION INCLUDES

The scope of work outlined in this Section includes the following items: Furnish all labor, equipment and materials necessary including topsoil, fertilizer, organic materials, boxes, storage and irrigation equipment incidental to the boxing of the plant material.

RELATED REQUIREMENTS

Personnel: All planting and lawn work shall be performed by personnel familiar with transplanting procedures under the supervision of a qualified foreman.

Plants shall be subject to inspection and approval of the District's Representative during transplant for conformity to specifications. Wherever the terms "approve", "approval" or "approved" are used herein they mean approval of the District's Representative in writing.

SUBMITTALS

Submit one (1) quart sample each of mulch and organic amendment.

Provide analysis from an approved testing laboratory for:
organic amendment.

QUALITY CONTROL AND ASSURANCE

The Engineer reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by the Engineer. Rejected materials shall be immediately removed from the site at Contractor's expense.

Tree planting shall be performed by the tree moving company specialized in relocation of transplanting trees under the direction of the arborist of the tree moving company.
Brightview Tree Care Service, San Jose
Mighty Tree Movers, Gilroy
or equal.

DELIVERY, STORAGE, AND HANDLING

Delivery:

1. Deliver standard products to site in original, unopened containers, bearing manufacturers guaranteed chemical analysis, name, trademark, and conformance to state law.

2. Protect plant materials during transport to prevent damage to rootball or desiccation of leaves. Rootball shall be excavated at 24" larger than canopy. Rootball to be trimmed if no large roots over 1" in diameter are encountered.

Storage:

1. Contractor shall maintain the plant material in a dedicated area while digging.

Timing:

1. Under no circumstances shall any work be performed if the temperature exceeds 90 degrees or is below 40 degrees.

Do not store materials or equipment, under the branches of any existing plant to remain.

MATERIALS

SOIL AMENDMENTS

Topsoil: Provide topsoil as required to complete landscape work. Topsoil to be furnished shall be fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. It shall be uniformly textured and free of all objectionable foreign materials, oil, or chemicals, which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium adsorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 milliohms per centimeter. Obtain topsoil from naturally well- drained sites where topsoil occurs in a depth of not less than 4 inches; do not obtain from bogs or marshes. Topsoil shall be tested by an approved soils laboratory for compatibility with existing on-site soils and fertility. Contractor shall submit soil laboratory's analysis and amendment recommendations.

Organic Amendment:

1. OMRI compost: Six cubic yards per 1,000 square feet.

TOP MULCH

3" Natural chipped Wood Mulch.

BOXES:

Boxes shall match the tree canopy size of each tree to be transplanted. Construct with durable materials with sufficient capacity to allow for transport and moving with a forklift or material handler.

Boxes shall be free draining to prevent over saturated soil.

IRRIGATION EQUIPMENT

PVC pressure main line pipe and fittings:

1. Pressure main line piping: 2" and smaller: 1120-Schedule 40 PVC plastic pipe.
2. Pipe shall be made from an NSF-approved Type 1, Grade 1, PVC compound conforming to ASTM D1785. All pipe shall meet requirements as set forth in ASTM D2441, with an appropriate standard dimension (S.D.R.). (Solvent-weld pipe.)
3. All PVC pipe shall bear the following markings:
    a. Manufacturer's name
    b. Nominal pipe size
    c. Schedule or class
    d. Pressure rating in PSI
    e. NSF

f. Date of extrusion

4. All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable I.P.D. schedule and NSF seal of approval.

PVC non-pressure lateral line piping and fittings:

1. Non-pressure lateral line piping shall be PVC 1120 Class 200 with solvent-weld joints.
2. Pipe shall be made from NSF approved, Type 1, Grade 1 PVC compound conforming ASTM D1784. All pipe shall meet requirements set forth in ASTM D2441 with an appropriate standard dimension ratio.
3. Except as heretofore specified all requirements for non-pressure lateral line pipe and fittings shall be the same as for solvent-weld pressure main line pipe and fittings as specified.

Sleeving and Conduit: Material shall be polyvinyl chloride (PVC) Schedule 40, type 1120 with solvent weld connections.

Galvanized steel pipe shall be Schedule 40; ASTM (A120) and steel fittings shall be Schedule 40 hot dipped, double banded malleable steel.

PVC Schedule 80 nipples shall be used with molded threads. Machined threaded nipples will not be allowed
Controller shall be secured in a vandal proof enclosure and battery powered

Valves shall be by Toro.

Control wire shall be copper wire as scheduled by valve manufacturer or larger and shall be UL-approved for direct burial in ground. Common ground wire shall have white insulating jacket. All other control wire shall have jacket of color other than white.

Miscellaneous installation materials:

1. Solvent weld joints shall be of make and type approved by manufacturer (s) of pipe and fittings. Solvent cement shall be a proper consistency throughout use. Mixing thinner with solvent will not be allowed.
2. Pipe joint compound shall be non-hardening, non- toxic materials designed specifically for use on threaded connections in water carrying pipe.
3. Wire connections shall be Spears DS-400 Seal Packs

Control or Valve Boxes:

1. Provide 14 x 19 inch plastic rectangular control valve box for each electrical control valve.
2. For gate valves and quick coupling valves: Use 9 inch plastic round box. Add extensions for gate valves as required.

CONSTRUCTION

EXAMINATION

Inspect trees for injury, insect infestations.

ID and tag all specimens for type and color.

TRANSPLANTING

All specimens will be dug, boxed, moved and irrigated on the same day.

The specimens are proposed to be transplanted while dormant in early spring or late winter weather permitting. The lower the temperature the better and transplanting should not be done at temperatures in excess of 90°.

SOIL BACKFILL

Soil Mix for Backfill of boxed plant material: The following ingredients shall be tumbled to achieve a homogeneous mix:

1. Organic amendment 1 cubic yard
2. Topsoil 3 cubic yards

STAKING

Stake plant material as required to prevent toppling and damage from the wind.

PRUNING

Pruning shall be performed as required to maintain a natural appearance, promote healthy and vigorous growth, and eliminate diseased or damaged growth.

Major pruning of trees to compensate for root loss or for aesthetic reasons shall be done only with approval of the Landscape Architect

All pruning shall be made flush to lateral branches, buds, or trunk. "Stubbing" will not be permitted.

Damage: All cuts over 1" resulting from pruning shall be inspected for insect infestation or disease.

TEMPORARY IRRIGATION

Irrigation and of soil moisture will be the two most critical factors in determining the success of the transplanting effort.

Irrigation shall be provided by a temporary automatic drip or bubbler system that is valved separately from other systems to allow for control of the timing and volume of irrigation. The irrigation system should be placed on the soil surface at the limit of each root ball, then covered with mulch. Four (4) adjustable bubblers are recommended, with one in each direction. Absolutely no trenching in the root ball should be necessary. Each plant shall be valved separately to allow for independent watering times between all boxed plant material.

1. Irrigation system shall be installed in accordance with all applicable local and state codes and ordinances by a licensed landscape contractor.
2. Follow manufacturer's direction except as shown or specified.
3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities which are caused by his operations or neglect. Check existing utilities drawings for existing utility locations.
4. The landscape contractor shall verify water pressure and available gallonage. If deficiencies are noted that will hinder the system's performance, notify the Landscape Architect for directions to correct deficiencies.

TEMPORARY IRRIGATION INSTALLATION

Trenching

1. Dig trench straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout shown on drawings
2. Provide for a minimum of 12 inches cover for all pressurized main lines.
3. Provide for a minimum cover of 12 inches for all control wiring.
4. For all non-pressure lines to plant boxes stake above ground piping with rebar horse shoe 4 feet on center, or as required to provide durable installation

Backfill

1. Do not backfill trenches until all required tests are performed. Carefully backfill trenches with specified excavated materials for backfilling, consisting of earth, loam, sandy clay, sand, or other acceptable materials, free from large clods of earth or stones. Backfill shall be mechanically compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill shall conform to adjacent grades without dips, sunken areas, humps or other surface irregularities.
2. Surround pipe with sand in rocky terrain with a 4" bed and 4" cover.

Pipe and Fitting Installation and Connections:

1. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.
2. Install all assemblies specified herein in accordance with details shown on drawings.
3. Thoroughly clean PVC pipe and fittings of dirt, dust and moisture before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer
4. On PVC to metal connections, the contractor shall work the metal connections first. Use Teflon tape, or equal, on all threaded PVC to PVC, and on all threaded PVC to metal joints.

Line clearance:

All lines shall have a minimum clearance of 6 inches from each other and from lines of other utilities. Parallel lines shall not be installed directly over one another.

Remove Control Valves:

Install in close proximity to boxed plant material. When grouped together, allow at least 12 inches between valves. Install each remote control valve in a separate valve box. Locate boxes in groundcover areas whenever possible, and a minimum of 12 inches from paving or curbs.

Control Wiring:

1. Make connections between existing automatic controls and electrical control valves with direct burial copper wire. Common wires shall be white. Install in accordance with valve manufacturer's specifications and wire charts.
2. Wiring shall occupy the same trench and shall be installed along the same route as pressure supply or lateral lines wherever possible. When not possible, house wiring in PVC conduit as described in "Sleeving and Conduit" section.

Flushing of System:

1. After all new pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, open control valves and use a full head of water to flush out the system.

2. Install bubblers or drip emitters only after flushing of system has been accomplished.

Field Quality Control

1. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray and runoff
2. If it is determined that adjustments in the irrigation equipment will provide proper and more adequate coverage, the contractor shall make such adjustments prior to installation.
3. Upon completion of each phase of work, test and adjust entire system to meet site requirements.
4. Operate each system in its entirety at time of final review. Any items deemed not acceptable shall be reworked to the satisfaction of the Landscape Architect.
5. Provide 2 11x17 copies of Irrigation system as built showing location and routing of mainline and connections.

MAINTANCE AND STORAGE

The Contractor shall be responsible for the preservation of all trees to be transplanted. Contractor shall maintain the trees in a suitable environment during the term of construction.

Temporary irrigation systems, hand watering, truck watering or other means shall be required to provide water to plant material during the duration of work. All costs related to such work shall be borne by the contractor at no additional cost to the contract.

Any irrigation which is impacted, damaged or destroyed during the storage period shall be fully replaced with new equipment by the contractor at no additional cost to the contract.

CLEANING

Keep all areas of work clean neat at all times upon completion of boxing.

All pavements shall be washed off, and site shall be left in an absolutely clean condition. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all times.

WARRANTY

Box and maintain trees in a healthy condition, In the condition of failure, the replacement trees shall be 72” box minimum.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications.

The contract lump sum price paid per for RELOCATING EXISTING TREES shall include but is not limited to full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in RELOCATING EXISTING TREES, including Platanus Trees and Crape Myrtle, soil amendment, mulch, staking, irrigation, containers, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

10-1.23 LANDSCAPE PLANTING

GENERAL

RELATED DOCUMENTS
The General and Supplementary Conditions and General Requirements apply to the work herein specified.

DESCRIPTION

Work to be Included:
1. Furnish and place topsoil, stormwater soil, import soil, mulch, fertilizer, organic materials, and all other materials incidental to planting work.
2. Furnish all plant materials (trees, shrubs, seed, ground covers, and plant labels).
3. Furnish all labor, equipment and materials necessary for the installation of plant materials according to these Specifications and the Plans

Related Work Described Elsewhere:
1. Section 10-1.24 landscape Irrigation: Irrigation system shall be installed, automated, and operative before beginning planting operation.
2. Section 10-1.18 Storm Drain Improvements: Contractor shall fully acquaint himself with the existing conditions particularly in reference to underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by him at no cost to the City.
3. Section 10-1.17 Earthwork: Close coordination shall be maintained with those Contractors performing rough grading operations and installing utilities and pavement to insure proper timing of the work.
4. Section 10-1.30 Bioretention Areas

REQUIREMENTS OF REGULATORY AGENCIES
Perform work in accordance with all applicable laws, codes, and regulations required by the City of Oakley and any other authorities having jurisdiction over such work. Provide for all inspections and permits required by Federal, State, and local authorities in furnishing, transporting, and installing materials.

Certificates of inspection required by law for transportation shall accompany invoice for each shipment of plants. File copies of certificates with Engineer after acceptance of material. Inspection by Federal or State Governments at place of growth does not preclude rejection of plants at project site.

QUALITY ASSURANCE
Personnel: All planting work shall be performed by personnel familiar with lawn and planting procedures under the supervision of a qualified foreman with 5 years of landscape installation experiences on projects of equal size and scope.

Installing contractor shall have successfully completed within the last 3 years at least 3 planting applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

Codes and Standards: Nursery stock shall meet the standards of the current edition of the "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock" as to grading and quality. They shall be true to type and name in accordance with

"Standardized Plant Names", Second Edition.

Substitutions: Substitutions of plant materials will not be permitted unless authorized in writing by Engineer. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. Such proof shall be substantiated and submitted in writing to Engineer. A maximum of 10 days after award of contract the Contractor shall submit a list of available plants with a list of all nurseries and plant brokers contacted These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials. Contractor shall secure all materials within 15 days after award of contract in order to guarantee plant availability.

The Engineer reserves the right to require the Contractor to replace at the Contractor's cost any plants which the Contractor has installed without the Engineer's approval.

Plants shall be subject to inspection and approval of the Engineer at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Wherever the terms "approve", "approval" or "approved" are used herein they mean approval of the Engineer in writing. Plants which are contract grown shall meet or exceed all nursery standards for health and size. Plants which do not meet standards shall be rejected and the Contractor shall provide nursery grown stock as required at no additional cost to the contract.

Plant Certification: All plants must meet specifications of Federal, State, and County laws requiring inspection for plant disease and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice and order for stock.

SUBMITTALS

Comply with Section 8-1.03 Submittals.

Furnish 6 copies of manufacturers' literature for the following items:

1. Fertilizer
2. Mulch
3. Certificates of Inspection
4. Root Barrier
5. Tree Stakes
6. Rubber Tree Ties
7. Plant supplier list
8. Delivery tags for all soil amendment, soils compost, and mulch which are delivered to the site

Provide analysis from an approved testing laboratory for:

1. Imported topsoil
2. Organic Compost
3. Provide soil analysis report from an approved testing laboratory per Section 10-1.23.

Submit one (1) quart sample each of all soils, mulches and organic compost.

Foreman’s Qualification Statement

All submittal data shall be forwarded in a single package to the Engineer within 60 days of award of the contract.

Contractor shall select and tag all plant material within 10 days of award of contract. Plant material which is not available, or not possible to contract grow shall be noted to the Engineer within 14 days of award of contract so substitutions may be selected. Contractor shall source material from out of state or thru a plant broker if not locally available. Contractor shall submit lists of all nurseries and plant brokers contacted for availability.

SAMPLES AND TESTS

Engineer reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Engineer. Rejected materials shall be immediately removed from the site at Contractor's expense. Landscape soils which do not meet the recommendations of the original soils tests, shall be re-amended as required at no additional cost to the contract. Cost of testing of materials not meeting specifications shall be paid by Contractor.

SELECTION AND TAGGING OF PLANT MATERIAL

Plants shall be subject to inspection and approval by Engineer at place of growth if the Engineer so chooses, and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material at place of growth to Engineer. Written request shall state the place of growth and quantity of plants to be inspected. Engineer reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

JOB CONDITIONS

Delivery:

Deliver standard products to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade mark and conformance to state law.

Deliver plants with identification labels.

1. Labels should state correct name and size.
2. Use durable, water-proof labels with water resistant ink that will remain legible for at least 60 days.

Protect plant materials during transport to prevent damage to rootball or desiccation of leaves. Remove unacceptable plant materials immediately from job site.

Contractor shall endeavor to coordinate delivery with installation schedule so that plant material is installed on the same day.

Storage:

Contractor shall maintain the plant material properly between delivery and planting. This includes protection from animals and vandals, proper watering, and feeding if necessary.

Shade plants shall be stored in the shade, and sun plants shall be stored in the sun.

Timing: Under no circumstances shall any work be performed if the temperature exceeds 90 degrees or is below 40 degrees. No planting shall be done with the soil saturated with water.

PROTECTION OF EXISTING PLANTS TO REMAIN

Do not store materials or equipment, permit burning, or operate or park equipment under the branches of any existing plant to remain except as actually required for construction in those areas.

Provide barricades, fences or other barriers as necessary at the drip line to protect existing plants to remain from damage during construction.

Notify Engineer in any case where Contractor feels grading or other construction called for by Contract Documents may damage existing plants to remain.

If existing plants to remain are damaged during construction, Contractor shall replace such plants of the same species and size as those damaged at no cost to the contract. Determination of extent of damage and value of damaged plant shall rest solely with Engineer.

MATERIALS

SOIL AMENDMENTS

The organic amendments, imported soils, and fertilizer rates and quantities listed in 10-1.23 are to be used for bid basis only. Contractor shall arrange and pay for testing by an accredited soils laboratory approved by Engineer. Test the existing site soil after demolition and rough grading operations are completed. Take samples from multiple site locations to be selected by Engineer.

Mark location of each sample on field set plan for reference and label each sample. Adjust the quantities of soil amendments and fertilizer per soil lab written report recommendation. After review and written approval by the Engineer, amend the soils according to said laboratory's recommendations. The approved soils laboratory recommendations shall be considered a part of this specification.

The base bid shall include cost of all testing site soils and organic amendments noted in this spec section. Adjustments to project costs resulting from the soil report recommendation shall be submitted as a modification to the base bid.

Within 10 days of award of contract, the landscape Contractor shall submit 4 preliminary soils tests for review of percolation rates, PH, Boron, salinity, and all other standard nutrients. The Engineer reserves the right to adjust plant material specified if the site soil is deemed detrimental to those specified.

Topsoil: Provide topsoil as required to complete landscape work. Topsoil to be furnished shall be fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. If herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with Engineer prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil, or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium adsorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter.

Obtain topsoil from naturally well- drained sites where topsoil occurs in a depth of not less than 4 inches; do not obtain from bogs or marshes. Topsoil from the project stockpile which meets the

requirements is acceptable.

Imported Topsoil: Topsoil shall be tested by an approved soils laboratory for compatibility with existing on-site soils and fertility. Contractor shall submit soil laboratory's analysis and amendment recommendations. Imported topsoil shall be subject to inspection by Engineer at the project site. Remove rejected topsoil immediately at Contractor's expense. The imported topsoil shall be blended on site with the following ratio:

1 part of compost blended with 2 parts of imported soil.

Compost:

Compost: Feedstock shall be no longer recognizable. Compost shall contain fairly uniform particle size, no weed sprouts. Submit a nutrient analysis and testing data from a third party or soil lab, such as the STA Seal of Testing Assurance by the US Composting Council. Compost shall be Super Humus Compost, available from BFI Organics: 408-945-2836, or approved equal. Compost shall be purchased from local, organic materials such as plant or wood waste.
Compost shall meet the following criteria:

1. Particle size: 100% passing a 1" screen or smaller
2. Salt Concentration: Must be reported; may vary but < 4.0 mmhos/cm preferred. Soil should be test. <2.5 mmhos/cm preferred for soil/compost blend.
3. Feedstock Materials shall be specified and include at one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
4. Nutrient Content: provide analysis detailing nutrient content including N-P-K; Ca; Mg; S; and Bo. Nitrogen content 1% or above preferred.
5. Trace Contaminants Metals (Lead, Mercury, etc.). Product must meet US EPA, 40 CFR 503 regulations.
6. pH: pH shall be between 5.5 and 8.
7. Visible Contaminants: compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 0.1 % by weight or volume.
8. Moisture Content shall be between 35% - 55% of dry solids.
9. Organic Matter Content: 50% - 60% by dry wt. preferred, 30-70% acceptable.
10. Carbon and Nitrogen Ratio: C:N < 20:1
11. Stability/Maturity: shall have a dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable.
12. Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.

Fertilizer: Synthetic, quick-release fertilizers shall not be permitted. Fertilizers prohibited by OMRI are prohibited in the project. Organic fertilizers as recommended by the soils report. Manufacturer: Growpower or approved equal.

Pesticides: Prohibit the use of pesticides that are prohibited by Organic Materials Research Institute in its generic materials list.

Micorrhizae: MycoApply Soluble MAXX (fine powder/drench) by MycoApply or approved equal.

RECYCLED TOP MULCH

Wood mulch shall be recycled mahogany decorative mulch as manufactured by Recology or approved substitute. Wood mulch shall be 3/8 inch to 2 inches diameter and color subject to City approval. Mulch shall not include more than 5% fines. All planting areas shall receive a 3 inch layer wood mulch after all trees, shrubs, and groundcovers have been planted and after pre-emergent has been applied. Exclude mulch in turf and hydroseed areas. Mulch plant pits only in these areas.

GROUNDCOVERS, TREES, AND SHRUBS

All plant materials shall be nursery grown in accordance with the best known horticulture practices and under climatic conditions similar to those in the locality of the project. Container stock shall have grown in the containers in which delivered for at least six (6) months, but not over two years. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Engineer.

Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and stunted growth due to lack of water, lack of food, diseases, or other causes. Plants shall be in conformity with the sizes shown on the drawings.

Trees: Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged, and uncut. All old abrasions and cuts are acceptable only if completely callused over.
Quantities: Quantities necessary to complete the work as shown on the drawings shall be furnished.

Root Systems: All shrubs and trees shall have a normal root system. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.

WATER SOURCE

Irrigation Water source shall be part of contract. Contractor shall provide transport of additional supply if required.

ROOT GUARDS

Deep Root Model UB 24-2 shall be used on all trees 6’ or closer to pavement, utilities, curbs, etc. Deep Root (415) 344-1464. As shown on plan.

TREE STAKES

Per plan.

TREE TIES

Per plan.

CONSTRUCTION

SURFACE CONDITIONS

Inspections by the Landscape Contractor:

1. Prior to all work in this section, verify grades and carefully inspect the installed work of all other trades. Verify that all such work is complete to the point where the installation may properly commence.
2. In the event of discrepancy, immediately notify the Engineer. Do not proceed with this installation in areas of discrepancies until all such discrepancies have been fully resolved.
3. Inspect trees, shrubs and ground cover plants for injury, insect infestations, and proper pruning.
4. General contractor shall coordinate rough grading of site to ensure the Landscape Contractor receive all planting areas graded to ±0.10 ft. of finish grades shown on the Drawings. Allow for depth of imported soils, soil amendments, and mulch in determining the difference between finished subgrade in groundcover and shrub beds. Verify that subgrades are not compacted. Do not proceed until detrimental conditions are corrected. Contractors shall take precaution during the excavation of all planting areas to not undermine or damage all adjacent pavements, footings and their associated subgrades.

SOIL PREPARATION

The Contractor shall prepare the site for landscaping. In the areas designated for landscaping on the plans, he shall, prior to placing imported material, replacing existing topsoil, amending soils, or doing any planting, clear the areas of weeds, roots, debris, rocks, and underground obstructions, and construction debris to a depth acceptable for planting. Scarify the subgrade to a 12" minimum depth prior to spreading topsoil.

The Contractor shall alleviate compacted soils before planting, for all landscaped areas that cannot be protected during construction.

1. Scarification: Scarify all planting areas prior to fine grading in order to ensure relative compaction of 85% or less. Any planting areas which become compacted in excess of 85% due to construction activities shall be thoroughly cross-ripped to the maximum depth feasible to alleviate that condition, taking care to avoid all existing drainage and subsurface utility lines. See plans.

Cultivation and Placement of Amendment:

1. In areas to be planted with shrubs cultivate to a depth of 12".
2. In groundcover and lawn areas, cultivate soil to a depth of 8".
3. Incorporate 6.25 cubic yards per 1000 square feet of organic compost. Prior to planting incorporate to a depth of 6" the following fertilizers:
4. Per 1000 square feet of shrubs and groundcovers areas:
5. 150 lbs Pure n Natural fertilizer
6. 1 lb per 200 gallons of potable water, drench at rate of 24 oz per gallon size plant material or 2.5 gallons per caliper inch per manufacturer
7. Per 1000 square feet of lawn areas:
8. 150 lbs Pure n Natural fertilizer
9. 0.5 lb of Myco Apply Endo (granular) per manufacturer
10. Areas within the driplines of existing trees shall be hand cultivated.

Soil Mix for Backfill of Shrubs and Trees: The following ingredients shall be tumbled to achieve a homogeneous mix:

Compost	1 cubic yard
Imported Soil/Topsoil	2 cubic yards
Fertilizer	30 lbs

Finish Grading:

1. Finely finish surfaces by raking smoothly and evenly. Remove all exposed, extraneous matter one inch or larger in size to facilitate natural runoff. Drag to smooth surface.
2. Finish grades will slope to drain, without water pockets or irregularities (humps or hollows). Finish grades will meet all existing controls and shall be 1 ½ inches below adjacent top of paving, curbs, sidewalks and planters, unless otherwise noted on plans. Grades will be of uniform slope between points of fixed elevation. Establish vertical curves or rounding at abrupt changes in slope.
3. All finish grades will be approved by the engineer prior to commencing the planning operations.

Soil mix for Stormwater Treatment Areas: Scarify subgrade 12" min. Soil mix shall be boot compacted in 6" lifts and graded to drain per the drawings. See civil drawings.

SHRUBS AND TREES

Preparation:

1. Stake out location for plants and outline of planting beds on ground and obtain the approval of Engineer before digging.
2. The Contractor shall protect all utilities, vegetation, and structures during work.
3. Trees shall be located a minimum of 3' from walls, overheads, walks, headers, and other trees within the project. If conflicts arise between size of areas and plans, Contractor shall contact Engineer for resolution. Failure to make such conflicts known to the Engineer will result in Contractor's liability to relocate the materials.

Excavation:

1. All plant pits shall be dug with vertical walls. The sides and bottoms of all planting pits shall be thoroughly scarified.
2. Holes for one (1) gallon size plants: Twelve (12) inches wider than the can and six (6) inches minimum deeper.
3. Holes for (5) gallon size plants: eighteen (18) inches wider than the can or root ball, and eight (8) inches deeper than can or root ball.
4. Holes for fifteen (15) gallon size plants or larger: Twenty-four (24) inches wider than the can or root ball, and twelve (12) inches deeper than the can or root ball.

Plants in Containers:

1. Plants shall be removed carefully from their containers after the containers have been cut on two sides minimum; fifteen-gallon containers shall be opened in three places. In the case of boxed plant specimens, the wood shall be removed at the sides and at the bottom of the box.

2. After removing plant material from its container, stimulate root growth by making four or five vertical cuts 1" deep around the circumference of the root ball.
3. Do not lift or handle plants by the top, stems, or trunk at any time. All plants shall be lifted in such a manner that the root ball is supported from the underside.
4. The Contractor shall check all plants for adequate root systems. If the root system is defective, he shall remove deficient plants from the site and replace them with new ones.

Planting:

1. Center plant in pit or trench over tamped mound.
2. Face for best effect.
3. Set plant plumb and hold rigidly in position.
4. All plants shall be set in the ground so that the root ball will be flush with the finish grade. All plants that settle below the finish grade within 30 days of acceptance of the work shall be replanted in the proper position. In case a total section of planting area settles, the Contractor shall lift the plants, import additional soil mix, regrade, and replant, at no additional cost to the Contract.
5. Use soil mix only for backfill. Backfill pit with soil mix in 9" layers and water each layer thoroughly to settle soil. The filled pit shall be flush with surrounding grade when complete.
6. When the plant pit has been approximately one half filled, place planting tablets according to the manufacturer's schedule.
7. Apply post-planting organic fertilizer, per soils report.
8. In shrub mass areas, mulch area between plant pits with 3" layer of recycled mahogany decorative mulch as manufactured by Recology or approved substitute.
9. Planting operation for plants in raised concrete planters is same as above except that finish grade of soil mix shall be 1 1/2" below top of planter walls. Planters may be backfilled with excess topsoil up to the depth specified for plant pits above which backfill shall be soil mix.
10. Planting operations for plants in precast planters is the same as stated in paragraph 9 above. Fill entire planter with soil mix. Place planters as shown on planting plans.

GROUNDCOVER AREAS

Planting:

1. Space plants equally and uniformly at spacings indicated on the Drawings, which are the maximum and in a triangular pattern.
2. Plant pits shall be sufficiently large so that the root can be freely suspended in the pit. After backfilling the pit, firm the soil so that there will be no air space around the roots.
3. Apply post-planting organic fertilizer, per soils report.
4. Mulch all ground cover areas with 3" layer of Pro-Chip manufactured by BFI Organics or equivalent recycled wood chip mulch.

MYCORRHIZAE

For zones where mycorrhizae is not uniformly blended into the soils, provide drench to all plants material per manufacturer application rates.
TREE STAKING and rootball guying

Stake trees as indicated on the Drawings.

Tying: Find the proper support height by holding the trunk in one hand and pulling the top to one side and releasing it. The lowest height, at which the trunk will return to the upright position when the top is released, is the height at which to attach tree ties.

Rootball Guying: Guy trees per manufacturer's specifications and details. Trees shall be guyed if deemed necessary by City.

PRUNING

Tree and Shrub: Pruning shall be performed as required to maintain a natural appearance, promote healthy and vigorous growth, and eliminate diseased or damaged growth.

Trees shall be pruned to thin crown and avoid wind damage, eliminate narrow V-shaped branch forks that lack strength, eliminate sucker growth, and maintain a radial branching pattern to avoid crossing branches.

Under no circumstances will stripping of lower branches ("raising-up") of young trees be permitted. Lower branches shall be retained in a "tipped back" or pinched condition with as much foliage as possible to promote caliper trunk growth (tapered trunk).

Major pruning of trees to compensate for root loss or for aesthetic reasons shall be done only with approval of the Landscape Architect.
Shrubs shall not be clipped into balled or boxed forms, unless such is required by the design and directed by the Landscape Architect.

All pruning shall be made flush to lateral branches, buds, or trunk. "Stubbing" will not be permitted.

Damage: All cuts over 1" resulting from pruning or wind breakage shall be inspected periodically for insect infestation or disease.

CLEAN UP

Keep all areas of work clean and neat at all times. Upon completion of planting, all cans, boxes, and other debris that is a part of the planting operation shall be removed from the site.

All pavements shall be washed off, and site shall be left in an absolutely clean condition. All planting areas shall be cultivated and weed free before final inspection. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all times.

INSPECTIONS

Notification: The Contractor shall notify Engineer a minimum of 72 hours before requiring a visit by Engineer or his duly appointed representative to the site.

Check Points: The following shall be considered check points and the Contractor shall only proceed with the work after Engineer has visited the site and determined that the work is proceeding satisfactorily.

1. Completion of placement of soil mix and fine grading.
2. When plant material is placed in the configuration shown on the Drawings before planting.
3. A check visit shall be made to begin the maintenance period. At this time the Contractor

shall have completed all phases of the Plans and Specifications. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before the acceptance of the work.

4. A conference including the Engineer shall be held at the completion of the work, provided that all deficiencies brought out in the check visit which began the maintenance period have been corrected by this time. The Contractor shall continue to maintain the project at his own expense until all deficiencies have been corrected, at which time the Contractor shall request the Engineer to visit the site and approve the project as complete. The Engineer will accept the landscape project in writing. The date of the acceptance letter shall be the first day of the guarantee period.

Should it be determined at the Final Inspection or Final Acceptance visit that any punchlist item is incomplete, any further review of the site will be terminated until all items are guaranteed, in writing, to be complete by the Contractor. The cost of additional site visits by the Engineer to verify completion of work shall be paid for by the Contractor.

MAINTENANCE

Contractor shall furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 180 days.

Maintenance shall include fertilization, watering, insect and disease control (IPM), and weed control using IPM, weekly trash removal, mulching, restaking trees, tightening of guys, resetting plants to proper grades or upright position, and restoration of watering basins.

Maintenance period shall not start until all elements of construction, planting, and irrigation for the entire project are complete. Project will not be segmented into maintenance phases, unless specifically authorized in writing by Engineer.

The Contractor shall request an inspection to begin the plant maintenance period after all planting and related work has been completed in accordance with the Contract documents. A prime requirement is that all groundcover and lawn areas be planted. If such criterion is met to the satisfaction of Engineer, a field notification will be issued to the Contractor to establish the effective beginning date of the period.

The Contractor's maintenance period will be extended if the provisions required within the plans and specifications are not filled.

Watering:

1. All plants shall be kept watered as often as it is necessary to keep them in optimum, vigorous growth. Watering shall be done preferably during the early morning hours. Check soil moisture levels with a soil probe before watering and adjust watering schedule to match weather conditions.
2. Water shall be controlled so that there will be no excessive run-off, ponding, or overwatering. Check and adjust irrigation system on a weekly basis.
3. Root Growth: Periodically the Contractor shall check the progress of the root growth within the back fill area. As the root growth increases beyond the root ball, the frequency of watering shall be reduced so that the roots are encouraged to grow to a lower soil depth. Watering then shall be less frequent, but applications shall be very slow and the Contractor shall assure himself that water does penetrate to the depth of the former plant pit.
4. Replace broken equipment immediately with equal or superior materials.

Spraying:

1. Utilize IPM practices for plant care.
2. All shrubs and trees shall be inspected at least twice a month during the growing period to determine the need for spraying to control insect damage, fungus development or any other disease that might be attacking the plants. Preventative spraying shall be done only with the approval of Engineer.
3. Operators of spray equipment shall take all reasonable precautions to protect themselves, other people and buildings from spray. The Contractor shall have all permits and licenses required for such an operation. Where applicable, dormant spray shall be applied to shrubs and trees during the winter period.
4. All equipment shall be properly washed before and after use.
5. No spraying shall take place during windy or gusty days.

Staking and Guying: Stakes and guys shall be inspected a minimum of two times a month to assure that the wires and ties are tight and no damage has occurred to the tree trunk or branches.

Weed Control:

1. Weeds shall be kept under control, preferably either by hand or by IPM methods.
2. All equipment used for herbicides, if utilized, shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
3. The bases of all plants shall be kept completely free of weeds. Periodically, the base of the trees and shrubs shall be cultivated in order to allow better penetration of water, but such cultivation shall be carefully done in order not to destroy surface roots.

Fertilization: Contractor shall provide eight additional soils tests prior to the end of the 90 day maintenance period for final fertilization requirements. Contractor shall fertilize all areas as recommended by soils test. Top dress all areas at 45 day intervals from time of planting with organic fertilizer or compost tea as recommended by soils report. 20lbs fertilizer per 1000 s.f..

Litter: The Contractor shall remove promptly after pruning, trimming, and weeding or other work required under the contract, all debris generated by his performance of the work. Immediately after working in the areas of public walks, driveways or paved areas, they shall be vacuumed clean with suitable equipment. All areas covered by this contract shall be kept free of the following items: bottles, cans, paper cardboard or metallic items. Common debris and litter shall be disposed of in an appropriate manner.

Pruning: Prune as necessary to remove injured twigs and branches, dead wood, and suckers. Soil shall not be worked when wet, generally between October and April for on-going maintenance.

GUARANTEE AND REPLACEMENT

Guarantee period shall be extended for a period of one year from the date of written acceptance and once a warranty walk has been completed with Engineer. The Contractor shall schedule a one year walk with Engineer for review of all plant material. Failure to schedule a one year maintenance walk will not relieve the Contractor of the guarantee.

All plants shall be guaranteed to be alive and healthy as determined by Engineer at the end of

the guarantee period.

Plant materials supplied by City shall be under similar warranty against defective workmanship during the planting operations. Plant material exhibiting conditions which are determined by Engineer as being unacceptable, due to workmanship by the Contractor, shall be replaced at no additional cost to the Contract.

The Contractor shall replace, in accordance with the Drawings and Specifications throughout the guarantee period, any plants that die, or in opinion of the Landscape Architect, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications.

LANDSCAPE PLANTING shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid per for LANDSCAPE PLANTING shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in installing landscape planting, including 36”-box trees, 24”-box trees, 15-gallon trees, 5-gallon shrubs, 1-gallon shrubs, tree staking, tree ties, topsoil, import topsoil, compost, soil amendment, organic fertilizers, fine grading, mulch, root barriers, 180-day plant establishment complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

10-1.24 LANDSCAPE IRRIGATION

GENERAL

RELATED DOCUMENTS

The General and Supplementary Conditions and General Requirements apply to the work herein specified.

DESCRIPTION

Work to be Included:

1. Furnish all labor, materials, supplies, tools, and transportation and perform all operations in connection with and reasonably incidental to the complete installation of the automatic irrigation systems as shown on the Drawings.

Related Work Described Elsewhere:

1. Section 10-1.22 Planting: Work of this Section is contingent on completion of the Landscape Planting section.
2. Section 10-1.19 Storm Drainage Utilities: Contractor shall fully acquaint himself with the existing conditions particularly in reference to underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by him at no cost to the City.
3. Section 10-1.18 Earthwork: Close coordination shall be maintained with those Contractors performing rough grading operations and installing utilities and pavement to insure proper timing of the work.
4. Section10-1.24 Lighting and Electrical Systems: Contractor shall coordinate with electrical contractor to provide electrical power to the controller.

REQUIREMENTS OF REGULATORY AGENCIES

OSHA Compliance:

1. All articles and services covered by this Specification shall meet or exceed the safety standards established under the Federal Occupational Safety and Health Act of 1970, together with all amendments in effect as of the date of this Specification.
2. The subcontractor shall erect and maintain barricades, guards, warning signs, and lights as necessary or required by OSHA regulations for the protection of the public or workmen.

Regulatory requirements: In addition to complying with all pertinent codes and regulations, comply with the latest rules of NEC and the Electrical Safety Orders of the State of California, Division of Industrial Safety, for all electrical work and materials. The materials and methods to be used in constructing the irrigation system shall conform to the applicable provisions of the UPC.

QUALITY ASSURANCE

When the Specifications call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provision of the Specifications shall take precedence over the requirements of the said rules and regulations.

The subcontractor shall furnish without any extra charge any additional material and labor when required by the compliance with these rules and regulations, though the work be not mentioned in these particular Specifications or shown on the Drawings.

Any existing buildings, equipment, piping, pipe covering sewers, sidewalks, landscaping, etc., damaged by the subcontractor during the course of his work shall be replaced or repaired by the subcontractor in a manner satisfactory to the Owner's Agent and at subcontractor's own expense, and before the final payment is made. The subcontractor shall be responsible for damage caused by leaks in the piping systems being installed by him. He shall repair, at his own expense, all damage so caused, in a manner satisfactory to the Owner's Agent.

The subcontractor, personally or through an authorized and competent representative, shall supervise the work constantly, and shall as far as possible keep the same foreman and workmen on the job from commencement to completion. The workmanship of the entire job must in every way be first class, and only experienced and competent workmen will be allowed on the job.

The subcontractor shall pay for all permits, licenses, and fees required.

Pre-construction conference: Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials, and systems used to perform the work. The conference shall be scheduled not less than 10 days prior to commencement of work. All parties required to be in attendance shall be notified no later than 7 days prior to date of conference.

SUBMITTALS

Comply with Section 10-1.01 Submittals

Materials List and Substitutions: Within 15 days after award of contract and prior to installation, submit six copies of materials list and manufacturers' literature. Include manufacturer, model number, and description of all materials and equipment. Include sealants, cements, lubricants and other proprietary items. No substitution will be permitted without prior written approval by the Architect.

Record Drawings:

1. The subcontractor shall maintain in good order, in the field office, one complete set of bond prints of all irrigation drawings which form a part of the Contract, showing all water lines, sprinklers, valves, controllers and stub-outs. Any work not installed as indicated on the Drawings, shall be recorded and dimensioned accurately from the building walls on these prints. All as-built markups shall be indicated in red.
2. All underground stub-outs for future connections and valves shall be located and dimensioned accurately from building walls on these record drawings.
3. Upon completion of the work, obtain reproducible prints from Architect and neatly correct the prints to show the as-built conditions.

Controller Charts:

1. Record Drawings shall be accepted by Architect before controller charts are prepared.
2. Provide one controller chart for each controller supplied.
3. Charts shall be the maximum size that the controller door will allow, showing areas covered by each controller. Chart shall be an electrostatic copy and a different color shall be used to indicate area of coverage for each station. Enlarge valve

sequence to be readable when drawing is reduced.
4. After being completed and accepted, seal by plastic laminating. Laminating sheets shall be a minimum of 10 mil thick.

Operations and maintenance manuals:
1. Deliver to owner at least 10 days prior to completion of construction, 2 complete sets of the following data. Data shall be on 8 1/2 inch by 11 inch sheets, in a 3-ring binder.
   a. Index sheet stating Contractor's address and telephone number and list of equipment with name and addresses of local manufacturer's representatives.
   b. Catalog and parts sheets on all material and equipment installed under this Section.
   c. Complete operating and maintenance instructions for all equipment.
   d. Complete and dated manufacturer's warranties for all materials used.
2. Irrigation Maintenance Schedule to include, but not be limited to, routine inspection, adjustment, and repair of the irrigation system and its components.

LAYOUT OF WORK

The irrigation contractor shall stake out the irrigation system as shown on the Drawings. Stakes shall be approved by Landscape Architect before construction is started. Any changes, deletions or additions shall be determined at this check.

INSTRUCTION

After the system has been installed and approved, subcontractor shall instruct the Owner's representative in complete operation and maintenance of the irrigation system.

WARRANTY

Provide 1 year guarantee for Work of this Section in accordance with this Section.

Provide supplemental guarantee, on Contractor's letterhead:
1. Warrant that irrigation system has been installed according to Drawings and Specifications, and that system will be free of defects in products and installation for 1 year from Substantial Completion. Manufacturer's warranties shall only supplement special warranty.
2. Agree to repair or replace defective Work, or adjacent work which is damaged by such defects, with the exception of ordinary wear and tear, abuse or neglect. This includes damage to site improvements caused by settlement of improperly compacted trench backfill.
3. Owner reserves the right to make temporary repairs as required.

MATERIALS

PIPE AND FITTINGS

Main lines (constant pressure shall be 1120 Schedule 40 polyvinyl chloride (PVC) solvent weld pipe, Type 1, and shall conform to ASTM D1785. Use Schedule 40 and Schedule 80 PVC solvent weld fittings.

Lateral lines (non pressure) shall be 1120Schedule 40 polyvinyl chloride (PVC) plastic pipe Type 1, and shall conform to ASTM D1785. Use Schedule 40 PVC solvent weld fittings.

Metal Pipe:

1. Brass pipe shall be red brass conforming to ASTM B43. Use threaded brass fittings.
2. Provide dielectric fittings where dissimilar metals come into contact.

Fittings: Solvent Weld socket fittings: Schedule 40, Type 1, Grade 1, PVC and shall conform to ASTM D2466. Schedule 80, Type 1, Grade 1 PVC and shall conform to ASTM D2467. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type recommended by pipe manufacturer.

Connections between main lines and remote control valves shall be of Schedule 80 PVC (threaded both ends) nipples and fittings.

Risers shall be as follows: Schedule 80 PVC threaded nipples and Schedule 80 PVC ells as shown on the construction details.

Detectable marking tape shall be 3 inch wide and consist of a minimum 5.0 mil overall thickness. The tape shall have a 20 gauge solid aluminum foil core, encapsulated within 2.55 mil polyethylene backing. Tape color shall be purple for recycled water or blue for potable water.

QUICK COUPLING VALVES

Quick Coupling valves shall be brass construction, 1-inch connection, two-piece body, locking purple vinyl top, single slot and lug. Provide one 1-inch single lug key and 1-inch hose swivel for every 5-6 quick couplers.

Quick Coupling valves shall be restrained with a 1”x 3/16”x30” angle iron attached securely to the base of the valve with stainless steel clamps.

ISOLATION VALVES

Gate valves 2½ inch and smaller shall be 304 stainless steel construction with screw-in bonnet, non-rising stem, operating wheel and threaded connections. Install where shown on drawings.

Ball valves shall be Schedule 80 PVC full port design with double unions. PVC ball valves to be installed upstream of each remote control valve.

REMOTE CONTROL VALVES

Remote control valves shall be globe pattern constructed of heavy duty glass-filled nylon and stainless steel with internal and external bleed. Operating pressure shall be 20 to 220 psi and flow range shall be .1-300 gpm. All internal parts shall be removable from the top.

Install pressure regulating module on remote control valves as shown on drawings. Pressure regulating module shall be by same manufacturer as remote control valve.

Each valve shall have a plastic tag denoting its controller and station number.

Remote control valves shall be installed with the appropriate decoder as listed on the drawings.

CONTROLLERS

Controller is existing as listed on the Drawings.

CONTROL WIRE

Twisted pair, solid-core, color-coded red/blue with each conductor in a polyethylene jacket suitable for direct burial. Use only manufacturer recommended wire.

All connections in the two-wire path shall be made with 3M DBR/Y-6 waterproof, strain-relieving direct burial connectors.

Grounding: Decoders and surge protectors shall be grounded per manufacturer instructions and ASIC grounding guidelines.

DECODERS

Decoders shall be by the same manufacturer as controller.

Install decoders per manufacturer's instructions.

VALVE BOXES

High density polyethylene construction with UV inhibitors. Lid shall be black in color and have stainless steel bolt-down mechanism. Boxes, lids, and bolts shall be from the same manufacturer. Plastic valve boxes shall be by Carson.

The lid shall be marked in one inch (1") high heat branded numbers and letters as follows:

1. Remote Control Valves – "X1" (X = controller, 1 = station number.)
2. Flow Meter - "FS"
3. Master Valve – "MV"
4. Gate Valve – "GV"
5. Quick Coupling Valve – "QC"
6. Splice Box or Pull Box – "SP"
7. Pull Box – "PB"

Valve box sizes are noted on drawing details.

SPRINKLER HEADS AND BUBBLERS

Bubblers shall be as listed on the Drawings and shall be pressure compensating.

BACKFLOW PREVENTION DEVICE

Backflow prevention device shall be the reduced pressure type with gate valves, check valves, test cocks, reduced pressure chamber, and air vent.

Backflow preventer enclosure shall be cold rolled steel with green powder coating, 1/8 inch wall thickness, with stainless steel hardware. Enclosure shall be removable from base without use of tools. Enclosure shall be sized to fit backflow prevention device.

Insulated blanket shall be constructed of polymeric resin coated polyester fabric with R-30 fiberglass insulation. Blanket shall be sized to fit backflow prevention device.

RAIN SENSOR

UV resistant, polymer housing with weatherproof switch mechanism and mounting bracket.

The rain switch shall activate after ¼ inch of accumulated rainfall with automatic return to normal watering cycle.

Shall be installed in a stainless steel enclosure mounted to the side of the controller enclosure.

MISCELLANEOUS INSTALLATION MATERIALS

Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.

Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as Rector Seal #5.

Drain rock: 3/4 inch drain rock.

MISCELLANEOUS EQUIPMENT

Provide all equipment called for by the Drawings.

Provide to the Owner, at completion of the Maintenance Period, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valves. Include all wrenches necessary for complete disassembly of all heads and valves.

Provide two (2) each of quick coupler keys and hose swivels and three (3) sets of keys to both controller cabinets and enclosures.

CONSTRUCTION

PREPARATION

Schedule and coordinate placement of materials and equipment in a manner to effect the earliest completion of work in conformance with construction and progress schedule.

Contractor shall field verify the static water pressure at the project site prior to commencing work or ordering irrigation materials. If contractor fails to verify static water pressure prior to commencing work, contractor shall assume responsibility for all costs required to make system operational.

Examine areas and conditions under which work of this section is to be performed. Do not proceed with work until necessary conditions have been corrected.

HANDLING AND STORAGE

Protect work and materials from damage during construction and storage as directed by Architect.

Handle plastic pipe carefully; especially protecting it from prolonged exposure to sunlight.

LAYOUT

Layout work as accurately as possible in accordance with diagrammatic drawings.

Where site conditions do not permit location of piping, valves and heads where shown, notify Architect immediately and determine relocation in a joint conference.

Run pipelines and automatic control wiring in common trenches whenever practical.

EXCAVATING AND TRENCHING

Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.

Depth of trenches shall be enough to provide minimum cover from finish grade to top of pipe in trenches, as follows:

1. 18 inch minimum cover over main lines to the control valves and quick coupling valves.
2. 18 inch minimum cover over direct burial control wires from controller to valves.
3. 12 inch minimum cover over the valve controlled lines to sprinkler heads.
4. 24 inch minimum cover over sleeves.

Restore surfaces, existing underground installations, etc., damaged or cut as a result of excavations, to original conditions in a manner approved by the Architect.

Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by Architect.

ASSEMBLING PIPELINES

All pipes shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.

Solvent Weld Joint:

1. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning the pipe and fitting of dirt.
2. Dry-insert pipe into fitting to check for missizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
3. Coat the inside socket surface of the fitting and the external surface of the male end of the pipe with P-70 primer (manufactured by Weld-On), immediately followed by Weld-On 711 cement liberally applied to the male end of the pipe and lightly applied to the inside of the socket. Then, apply a second coat of cement to the pipe end.
4. Insert pipe immediately into fitting and turn it 90° to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check

alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
5. Hold joint still for approximately thirty (30) seconds and then wipe the excess cement from the pipe and fitting.
6. Cure joint a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.

Threaded Joint:

1. Field threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.
2. Factory-made nipples shall be used wherever possible. Field-cut threads in metallic pipe will be permitted only where absolutely necessary. When field threading, cut threads accurately on the axis with sharp dies.
3. All threaded joints shall be made up with pipe joint compound. Apply compound to male threads only.
4. Where assembling metallic pipe to metallic fitting or valve, no more than three (3) full threads shall show when joint is made up.
5. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tightening.
6. Where assembling soft metal (brass or copper) or plastic pipe, use a strap type friction wrench only; do not use a metal-jawed wrench.

Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.

Where pipes or control wires pass through sleeves, provide a removable non-decaying plug at ends of sleeve to prevent entrance of earth.

REMOTE CONTROL VALVES

Install where shown on Drawings and group together where practical. Limit one remote control valve per box with no exceptions. Decoders to be installed in one remote control box per group. Decoders shall be mounted securely to the side of the valve box. Decoders are only required for City maintained irrigation.

Locate valve boxes 12 inches from and perpendicular to walk edges, buildings and walls. Provide 12 inches between valve boxes where valves are grouped together.

Thoroughly flush main line before installing the valve.

Install in shrub or ground cover areas where possible.

Label control line wire at each valve with a 2 1/4” x 2 3/4” polyurethane I.D. tag, indicating identification number of the valve (controller and station number). Attach a label to control wire.

QUICK COUPLING VALVES

Install quick coupling valves on double swing-joint assemblies of Schedule 80 PVC risers and fittings.

Thoroughly flush main line before installing the valve.

Install 12 inch from hardscape areas.

VALVE BOXES

Install one valve box for each type of valve unless otherwise noted.

Install boxes 12 inches from walk or header and 12 inches apart. Short side of rectangular boxes shall be parallel to walk or header. Install 2 inches above finish grade in groundcover areas and flush with grade in lawn areas.

Install common bricks as shown and as required to keep box stable. Install drain rock sump after compaction of all trenches.

BUBBLERS

Thoroughly flush lines before installing drip tubing or bubblers.

Locate bubblers as shown in the Drawings and Detail.

SUB-SURFACE IRRIGATION

Install per manufacturer's instructions.

Install dripline in a grid pattern 2 inch below finish grade.

Install manual flush valve at a point farthest away from source or along exhaust header. Install in 6 inch round valve box.

AUTOMATIC CONTROL WIRING

Run two wire path along mains where practical.

Loop a minimum of two (2) feet of extra wire in each valve box; both control wire and ground wire.

Connections shall be made as shown on plans.

Locate all splices at valve locations within valve boxes.

Where control lines pass under paving, they shall pass through Schedule 40 electrical PVC conduit.

AUTOMATIC CONTROLLER

Provide and install automatic irrigation controller in approximate locations shown on Drawings. The exact location will be determined on the site by Architect. Provide conduit and wire and connect to 120 volt switch accessible to controller for ease of maintenance.

Program decoders to controller in sequential arrangement according to assigned identification number of the valve. Each decoder shall be labeled indicating station numbers of the valves controlled. This is only applicable for the City maintained irrigation.

Contractor is responsible for programming the controller. Provide optimum amounts of water for each plant type to maintain plants in vigorous healthy condition. Reprogram as required at end of maintenance period.

BACKFLOW PREVENTION ASSEMBLY

Local codes shall govern installation requirements.

Install a minimum of 12 inches and a maximum of 30 inches above grade.

Install enclosure on concrete pad as shown on drawings.

BACKFILLING

Backfill only after piping has been tested, inspected and approved.

Backfill material shall be the earth excavated from the trenches, free from rocks, concrete chunks, and other foreign or coarse materials. Carefully select backfill that is to be placed next to plastic pipe to avoid any sharp objects which may damage the pipe.

All pipe under asphalt paving shall be backfilled with 4 inches of clean sand on all sides of pipe.

Place backfill materials in 6 inch layers and compact by jetting or tamping to a minimum compaction of 90 percent of original soil density.

Dress off areas to finish grades and remove excess soil, rocks or debris remaining after backfill is completed.

If settlement occurs along trenches, and adjustments in pipes, valves and sprinkler heads, soil, sod or paving are necessary to bring the system, soil, sod, or paving to the proper level or the permanent grade, subcontractor, as part of the work under this Contract, shall make all adjustments without extra cost to the Owner.

PIPE TESTS

Notify Architect at least three (3) days in advance of testing.

Perform testing at his own expense

Center load piping with a small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.

Apply the following tests after weld plastic pipe joints have cured at least 24 hours.

1. Test live (constant pressure) and quick coupling valve lines hydrostatically at 125 PSI minimum. Lines shall be filled with water and pressure gauge connected to the pipe line. After lines have reached the 125 PSI, (use hydraulic pump or other safe method – do not use an air compressor) cut off the source of pressure. Lines will be approved if test pressure (with 0 PSI drop) is maintained for two (2) hours. Should leaks develop during the test period, they shall be located and repaired and retested in the same method. The subcontractor shall make tests and repairs as necessary until test conditions are met.

2. Test remote control valve controlled lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.

Remake faulty joints with new materials. Do not use cement or caulking to seal leaks.

SYSTEM ADJUSTMENT

Adjust pressure regulating modules to proper and similar pressure to provide optimum and efficient coverage.

Spray and Bubbler Check

1. Perform coverage test in the presence of Architect to establish that coverage of all planting areas is complete and adequate.
2. Correct deficiencies and repeat test until approved.

GUARANTEE

It shall be the responsibility of subcontractor to fill and repair all depressions and replace all necessary lawn and planting due to the settlement of irrigation trenches for one year following completion and acceptance of the job.

The subcontractor shall also guarantee all materials, equipment and workmanship furnished by him to be free of all defects of workmanship and materials, and shall agree to replace at his expense, at any time within one year after installation is accepted, any and all defective parts that may be found.

CLEANUP

When work of this section has been completed, and at such other times as may be directed, remove all trash, debris, surplus materials and equipment from the site.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications.

LANDSCAPE IRRIGATION shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for LANDSCAPE IRRIGATION shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in installing the landscape irrigation, complete in place, as shown on the plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.25 SITE FURNISHINGS AND ACCESSORIES

GENERAL

SUMMARY

The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.

Work Included: Furnish all labor, materials, equipment and services necessary to provide and construct, repair, or install the site elements, complete in place, as shown and specified, including, but not limited to:

1. Bench
2. Bike Rack
3. Drinking Fountain
4. EuroPave at Tree Well
5. Flow Sump
6. Mortar by Laticrete
7. Relocated Boulder
8. Trash Receptacle
9. Vertical Story Board and Mock-ups

Related Work:

1. Section 10-1.13: Portland Cement Concrete
2. Section 10-1.17: Earthwork
3. Section 10-1.23: Landscape Planting

SUBMITTALS

Prepare submittals in accordance with Section 10-1.01, “Submittal Procedures”.

Submit shop drawings where noted to the Engineer for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items), and connection details. All items shall conform to all codes and requirements, including but not limited to CBC, NEC, Fire Department regulations, and ADA. Contractor shall revise drawings as required for approval by Engineer.

Submit catalog cuts, samples and manufacturers literature (specifications and installation details) of all manufactured items in this section to Engineer for approval before installation.

1. Provide color samples, brushouts, or charts for all items. Final colors to be selected by Engineer and a sample submitted for approval.
2. Prior to Vertical Story Board fabrication, provide two (2) 12”x12” mock-ups as indicated on the plans. Mock-ups shall exhibit the required granite type, color, finishes, corner treatment, engraved letters, paint color, graphic and finishes.

DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle furnishings to prevent damage and deterioration.

Stack assembled items off the ground.

PROJECT CONDITIONS

Provide sleeves, anchors, inserts, bolts, clips, and other items furnished under this Section and

built in with work of other trades.

No work shall be installed until finish, color samples and shop drawings for the work have been reviewed and approved in writing by Engineer and final grading and surfacing is completed.

MATERIALS

MANUFACTURED ITEMS

1. Bench: per plans
2. Bike Rack: per plan
3. Drinking Fountain: per plan
4. EuroPave at Tree Well: Per Plan
5. Flow Sump: per plan
6. Mortar by Laticrete
7. Trash Receptacle: per plan

NON-MANUFACTURED ITEMS

1. Vertical Story Board and Mock-ups, including stainless steel anchorage components: per plans.
2. Relocated Boulder: per plans.

All other materials for site elements shall be as specified on the plans and these specifications.

CONSTRUCTION

INSTALLATION

Examination: Verify that conditions are satisfactory for installation of each item of site elements. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

Assemble and install site furnishings in accordance with approved shop drawings and manufacturer's printed instructions.

Perform fitting required for installation. Set the work accurately in location, alignment, and elevation free of rack, measured from established lines and levels. Assembled furnishings shall be firm, rigid, free of rattle, and provide maximum protection against tampering and vandalism.

Kiosk: per plans

Vertical element: per plans

GUARANTEE

At completion of project, Contractor shall provide City with written guarantee from each manufacturer identifying the nature of warranty for each product component.

1. Provide warranty manuals in accordance with Section 01 77 00, "Closeout Procedures".

Contractor shall provide City with two (2) bound maintenance manuals identifying each piece of

equipment and manufacturer's cut sheets, installation details, manufacturer specifications.

1. Provide maintenance manuals in accordance with Section 01 77 00, "Closeout Procedures".

Contractor to provide City with minimum of two (2) gallons each type and color of paint used on apparatus with recommended surface preparation and application guidelines.

MEASUREMENT AND PAYMENT

Measurement for Bench, Bike Rack, Relocated Boulder, and Trash Receptacle shall be "per each". Measurement for Drinking Fountain and Flow Sump, Vertical Story Board shall be "lump sum". Measurement for EuroPave at tree well shall be "square foot".

The contract price paid per each for BENCH shall include, but is not limited to, full compensation for furnishing all labor, materials, anchors, concrete footing, tools, equipment, and incidentals for doing all the work involved in installing BENCH, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

The contract price paid per each for BIKE RACK shall include, but is not limited to, full compensation for furnishing all labor, materials, concrete footing, tools, equipment, and incidentals for doing all the work involved in installing BIKE RACK, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

The contract lump sum paid for DRINKING FOUNTAIN AND FLOW SUMP shall include, but is not limited to, full compensation for furnishing all labor, materials, washed drain rocks, filter fabric, drain pipes, concrete footing, tools, equipment, and incidentals for doing all the work involved in installing DRINKING FOUNTAIN AND FLOW SUMP, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

The contract price paid per square foot for EUROPAVE AT TREE WELL shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in constructing EUROPAVE AT TREE WELL, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

The contract lump sum paid for VERTICAL STORY BOARD shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, engraving, laser cutting , two (2) 12"x12" mock-ups, earthwork, concrete footing, reinforcing, metal connections and anchors, art graphics, and incidentals for doing all the work involved in installing VERTICAL STORY BOARD, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer. All electrical work will not be measured separately for payment, but will be considered incidental to and included with the applicable items of work.

The contract price paid per each for RELOCATED BOULDER shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, excavation, subbase preparation, equipment, and incidentals for doing all the work involved in installing RELOCATED BOULDER, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

The contract price paid per each for TRASH AND RECYCLING RECEPTACLE shall include, but is not limited to, full compensation for furnishing all labor, materials, anchors, concrete footing, tools, equipment, and incidentals for doing all the work involved in installing TRASH AND RECYCLING RECEPTACLE, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

10-1.26 LIGHTING AND ELECTRICAL SYSTEMS

GENERAL

The Work shall consist of furnishing, installing and testing fully functional LED lighting, empty raceways for future CCTV and Electric Vehicle (EV) Charging Stations for the Oakley Transit Center parking lot, pole numbers, in-line fuses, pull boxes, conduit, cable, trenching and backfilling, repairing pavement and curb/gutter as necessary and all other materials and appurtenances in accordance with the Plans and these Technical Provisions, and the 2018 Revised Caltrans Standard Plans and Specifications, and as directed by the City Engineer. The installation must conform to all requirements as defined by the applicable codes, laws, rules, regulations and standards as specified herein. The end result shall be a system complete and in operation to the satisfaction of the Engineer.

The Work also includes the exploratory excavations by potholing at the locations of all proposed light poles.

MATERIALS

All materials delivered to the job shall be new, best quality of their respective grades, in accordance with these Technical Provisions and packed in their original sealed containers. All materials to be installed shall bear the Underwriters Laboratories, Inc., UL Label.

The Contractor shall use materials mentioned in these Technical Provisions as standard, or an approved equal from the latest edition of the City's Approved Material List, and in no case will a substitute be allowed without written approval of the Engineer.

Electrical equipment and components used in EV charging must have markings that identify the manufacturer, size, type, ratings, hazard warnings and other specifications. All labeling must be designed to withstand the environment in which they are installed and permanently affixed to the respective equipment in a manner appropriate for the environment and compatible with the substrate materials.

Contractor shall submit proposed lighting and electrical system components, including but not limited to cut sheets for lights and fixtures, conduit and pull boxes, conductors and fusing, bonding and grounding, to the City Engineer for approval.

Foundations

Foundations shall conform to Section 87-1.03E(3), "Concrete Pads, Foundations, and Pedestals" of the Caltrans Specifications and with the Standard Plans except as modified herein. The top four inches (4") of the foundation shall not be placed until the standard is erected and leveled

Electrolier Standards, Poles, Pedestals and Posts

Electrolier standards shall conform to Section 87-1.03J, "Standards, Steel Pedestals and Posts," of the Caltrans Specifications and with the Standard Plans except as modified herein. Allen head screws shall be used in all electrolier hand holes covers.

Charging Station

1. Level 2 family of charging stations providing 7.2 kW (208/240 V @ 30A) with:
    a. Network enabled: Compatible with remote management, billing, maintenance and other on-demand software applications.

b. Smart card reader: RFID reader able to accept Charge-pass cards or contactless credit cards.
c. Display: Bright, easy to read display
d. Utility grade Energy meter
e. Locking Holster: Connector electromechanically locks into the holster and releases when the driver is authorized to use it.
f. Power measurement: 2% at 15-minute intervals
g. UL Listed; complies with UL 2594, UL 2231-1, UL 2231-2, UL 1998, UL 991, NEC Article 625
h. EMC Compliance: FCC Part 15 Class A
i. Enclosure: NEMA 3R per NEMA 250-1997

2. Mounting Mechanism
   a. Bollard Mounting System for Level 2 Charging

3. Cable Assembly
   a. 30A Locked Cable Assembly for Level 2 Charging Stations
   b. 18 ft cable, J1772 connector and connector holster

4. Head Unit
   a. CDMA Gateway Head Unit for Level 2 Charging Stations
   b. Contactless Credit Card RFID reader

5. Charging Station Software
   a. Online software providing owners with real-time station monitoring, station reporting and billing software

Conduit

Conduits shall conform to Section 86-1.02B, "Conduit and Accessories," and Section 87-1.03B, “Conduit Installation” of the Standard Specifications except as modified herein.

Conduits to be installed underground shall be type 3, rigid non-metallic, schedule 40 unless otherwise noted. Conduit to be installed between a foundation and the nearest pullbox shall be galvanized rigid steel type.

Rigid plastic conduit connections shall be of the solvent weld type. See "Bonding and Grounding," of these Technical Provisions for grounding in plastic conduit.

Conduit stub ups for the receptacles shall be the plastic coated rigid steel conduit.

Conduit trenching, installation and backfill shall be done before the final street overlay. No street work shall be done after the final overlay for the street has been laid.

Pull Boxes

Pull boxes shall conform to Section 86-1.02C, "Pull boxes," and Section 87-1.03C “Installation of Pull Boxes” of the Standard Specifications and with the Standard Plans, except that pull box covers shall be composite type with stainless steel penta head hold down bolts.

A pull box shall be installed adjacent to all electrolier standards. The pull box shall be a No. 3 1/2 or as otherwise noted on the Plans.

Pull box covers for PG&E shall be marked “PG&E”.
Pull box covers for lighting shall be marked “Lighting” or “Electrical”.

Conductors and Wiring
Conductors and wiring shall conform to Section 86-1.02F, "Conductors and Cables," and Section 87-1.03F, "Conductors and Cables Installations," of the Standard Specifications. The insulation for No. 10 and larger conductors shall be one of the following:

Type TW polyvinylchloride conforming to the requirements of ASTM Designation D2219. Type THW or THWN polyvinylchloride.

A standard C-shaped compression connector shall be insulated per method B or the "Wiring Details and Fuse Rating," Detail ES-13, of the Standard Plans.

Minimum conductor sizes shall be No. 8 AWG and No. 10 AWG within the standard. Conductors shall be of consistent wire gauge and insulation unless otherwise specified. Conductors shall have a minimum of two feet (2') of slack in all pull boxes that are located next to the base of each electrolier and at each splice.

A 10-amp in-line fuse shall be installed in the pull box adjacent to each electrolier. Fuse holders shall conform to Section 86-1.02N, "Fused Splice Connectors," of the Standard Specifications.

Bonding and Grounding
Bonding and grounding shall conform to Section 86-1.02F(2)(c)(ii), "Bonding Jumpers and Equipment Grounding Conductors," of the Standard Specifications except as modified herein. Bonding connections shall be made with No. 8 AWG bare copper wire or with copper ground straps of equal cross-sectional area.

The ground electrode for the electrolier standards shall be as shown on the Standard Plans.

Where conductors and wires are installed in nonmetallic conduits, a properly sized, green insulated, No. 8 AWG minimum, copper wire (equipment grounding wire) shall be installed continuously in all circuits from the point of service to each pull box and light standard. The ground wire shall be properly grounded in the pull box located closest to the service point in accordance with Section 86-1.02O and 87-1.03O, "Grounding Electrodes," of the Caltrans Specifications.

Painting
Painting shall conform to "Painting," of the 2018 Revised Caltrans Specifications except as modified herein. The prime coats, two required, shall be red iron oxide type primer or approved equal.

The finish coats shall be as noted in the plans. The finish coat shall be applied in not less than two (2) applications.

All new electrical equipment shall have factory finish paint and will be acceptable only if of proper color, and if equal in quality to the specified finish.

Luminaires

Pedestrian Light (Type A, A1 and A3) as shown on the Light Fixture Schedule shall conform to City of Oakley Standard Plan E-03 and E-04.

Service
Service equipment enclosure shall conform to the provisions in Section 86-1.02P, “Enclosures”, and 87-1.03P, "Service Equipment Enclosures," of the Standard Specifications.

Pedestrian Push Buttons
Pedestrian push buttons shall be the Polara iNX push button assembly, or approved equal. All push buttons shall be mounted 36 inches above the adjacent pavement and installed per manufacturer specifications.

All pedestrian push button assemblies shall be ADA Compliant and shall meet the requirements of California Building Code Section 1117B.5.9, ‘Traffic-control Devices,”

Rectangular Rapid Flashing Beacon (RRFB) System
Rectangular rapid flashing beacon (RRFB) shall be Carmanah solar-powered SC315, or approved equal. RRFB shall be in the bi-directional configuration and the system shall include two W11-2 and two W16-7P (installed back to back), and push button assembly with R62E sign plate on 15' Type 1-B Pole.

CONSTRUCTION

All Work shall be in compliance with the requirements of the applicable sections of the Standard Specifications and the Caltrans Standard Plans. In case of conflict, the higher requirement shall govern.

All Work and material shall be protected at all times. Pipe openings shall be closed with protective caps during installation and all materials shall be covered and protected against dirt, water and mechanical or other injury. All materials damaged during the course of construction shall be replaced or repaired to original condition by the Contractor.

The Contractor shall not allow or cause any of his Work to be covered up or enclosed until it has been inspected and approved by the Engineer. Should any of the Work be enclosed or covered up before such inspection, the Contractor shall, at his own expense, uncover the Work and, after it has been inspected and approved, make all repairs with such material as may be necessary to restore all Work to its original and proper condition.

The Contractor shall conduct exploratory excavations by potholing to verify or to discover the actual locations and the size of existing underground utilities and improvements. Potholing shall be done at each proposed location of light poles to occur at least fourteen (14) calendar days in advance of any excavation or construction in that area, to avoid possible delay in the progress of the Work.

The Contractor’s proposed method of potholing and schedule for potholing shall be submitted to the Engineer for approval, at least one week prior to the commencement of operation. Any utilities damaged during potholing shall be immediately reported to the Engineer and repairs made immediately in accordance with the requirements of this Contract.

Poles

All work related to Standards, steel pedestals and posts shall conform to Section 87-1.03J, “Standards, Poles, Pedestals, and Posts,” of the Caltrans Specifications and Caltrans Standard Plans.

Charging Station
Install units and accessories in accordance with approved shop drawings and manufacturer's printed instructions. Installation and start-up of the EV charging station must be performed by a factory authorized EVITP (Electric Vehicle Infrastructure Training Program) certified service technician, at Contractor expense who has attended training courses and worked on the installation, operation and maintenance of EV charging stations in the last three years. Submit a letter listing the qualifications and proof of certification of the manufacturer’s field technician.
Test for proper operation.

Conduits
Excavating and backfilling shall conform to Section 87-1.03E, "Excavating and Backfilling for Electrical Systems," and Section 87-1.03E(2), "Trenching," of the Caltrans Specifications except as modified herein. The maximum width of trench shall be eight inches (8"). Trenching shall not occur in street pavement unless otherwise specified. "Initial Backfill" shall be sand. "Subsequent Backfill" shall be native material free of stones, hard pan lumps, broken concrete or paving material. The backfill material shall be brought to the elevation of the bottom of the subbase material of the sidewalk or pavement. Backfill shall be placed in layers not exceeding eight inches (8") in depth and shall be thoroughly tamped in such a manner as to prevent future settlement. Should the Contractor elect to use all sand backfill, the eight-inch (8") layer construction may be omitted and compaction may be obtained by pounding. All conduit work shall be completed before the last overlay of the street. No conduit work shall be done on the street after the last overlay layer has been laid.

A run of conduit installed without conductors and having a bend of ninety degrees (90°) or more shall have installed within the entire run a No. 12 AWG copper pull wire. The ends of all empty conduits shall be capped.

Connections from metal conduit to nonmetallic conduit shall be made at pull boxes or a minimum of four inches (4") inside electrolier foundations so that the connection will be completely covered by concrete.
Cutting and machining of conduit shall be in accordance with manufacturer's recommendations. Preassembly of sections of conduit shall not be permitted except where jacking is required.

When jacking is required, a galvanized metal pipe sleeve conforming to Section 86-1.02B, "Conduit and Accessories," of the Standard Specifications of sufficient diameter to contain the conduit shall be jacked across the required distance. The conduit shall then be threaded through the pipe and connected to the conduit system.

Trench-laid conduit installed outside of street pavement shall be placed not less than eighteen inches (18") below the surface of the ground or sidewalk. The conduit shall be laid over two inches (2") of uniformly spread sand. Native material may be used for backfill around and above the conduit.

Trench-laid conduit installed under street pavement shall be placed not less than thirty inches (30") below the pavement surface. The conduit shall be laid over two inches (2") of uniformly spread sand. A minimum of four inches (4") of the same type of material shall be placed over the conduit. The remaining trench may be backfilled with native material up to subgrade.

The minimum cover requirements for trench-laid conduit installed under street pavement may be reduced to eighteen inches (18") if the conduit is backfilled with controlled density fill (CDF). CDF shall be placed to three inches (3") below the pavement surface. The top three inches (3") of the trench shall be backfilled with asphalt concrete produced from commercial quality paving asphalt and aggregates. Prior to spreading asphalt concrete, paint binder (tack coat) shall be applied as specified in these Technical Provisions. Spreading and compacting of asphalt concrete shall be performed by any method which will produce an asphalt concrete surface of uniform smoothness, texture and density.

Conduit installed under street pavement by means of pushing, jacking or boring shall be placed not less than thirty (30") below the pavement surface.

Remove the conductors from the conduit to be abandoned. Abandon and remove conduits as shown in the electrical plans.

Conductors and Wiring
Splicing shall conform to the following methods as specified in Section 87-1.03H, "Conductor and Cables Splices," of the Standard Specifications or approved equal. Multiple lighting conductors shall only be spliced in pull boxes.

Pole Identification Plates
The City Engineer will assign pole identification numbers as required. The Contractor shall furnish and install pole identification plates at the request of the City and as indicated in the City standard Plans, and as directed by the City Engineer.

Painting
Failure to comply with any part of the painting specifications shall be sufficient cause for the Engineer to require the Contractor to completely remove all applied coats and reapply required prime and finish coats in accordance with these Technical Provisions.

The Contractor shall provide protective devices such as tarps, screens or covers, as necessary, to protect curb and gutters, glassware, adjacent buildings, parked automobiles, and other property or persons from all cleaning and painting operations. Paint or paint stains, which result in an unsightly appearance on surfaces not designated to be painted, shall be removed or obliterated by the Contractor at his expense and to the satisfaction of the Engineer.

Acceptance Tests
Field tests shall conform to Section 87-1.01D(2), "Quality Control," of the Standard Specifications except as modified herein.

The Contractor must conduct inspection and testing of each of the EV Charging Stations in accordance with the manufacturer’s recommendations.

The Contractor must notify the Engineer not less than five business days prior to the anticipated date of EV Acceptance Testing.

The Contractor shall be responsible for maintaining the lighting system during the functional test period. Payment for testing shall be the responsibility of the Contractor.

Cleaning and Protection
Clean soiled surfaces in accordance with manufacturer's instructions.

Protect components from damage until completion of project

Rectangular Rapid Flashing Beacon (RRFB) System
Rectangular rapid flashing beacon shall be installed per manufacturer recommendations. RRFB shall be installed in the bi-directional configuration. A minimum 7' sign height clearance shall be maintained.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Electrical Work shall include full compensation for furnishing all labor, materials, tools, equipment, testing, and incidentals, including electroliers (Type A, and A3), monument lighting (Type C), pull boxes, conduit and wires, , receptacle for café cart, conduit for future CCTV (Closed Circuit Television System) , trenching and backfilling and for doing all the work involved in completing the lighting and electrical systems work as shown on the Plans, City Standard Drawings, and as specified in the City Standard Specifications and these Technical Provisions, and no additional compensation will be allowed.

The contract lump sum price paid for Electric Vehicle (EV) Charging Stations shall include full compensation for furnishing all labor, materials, tools, equipment, testing, and incidentals, including electrical service equipment enclosure, transformer pad and underground raceway and boxes for PG&E service, electric vehicle charging equipment , pull boxes, conduit and wire, trenching and backfilling, and for doing all the work involved in completing the Electric Vehicle Charging Stations work as shown on the Plans, City Standard Drawings, and as specified in the City Standard Specifications and these Technical Provisions and no additional compensation will be allowed.

The contract lump sum price paid for Scheer Electrical Work shall include full compensation for furnishing all labor, materials, tools, equipment, testing, and incidentals, and for doing all the work involved in providing empty conduits and pull boxes, trenching and backfilling as shown on Sheet E-3, City Standard Drawings and as specified in the City Standard Specifications and these Technical Provisions, and no additional compensation will be allowed.

The contract lump sum price paid for Rectangular Rapid Flashing Beacon (RRFB) System shall include full compensation for furnishing all labor, materials, tools, equipment, testing, and incidentals, including poles, posts, foundations, pull boxes, conduit and wires, rectangular rapid flashing beacon, solar panels, push buttons, controller cabinet enclosure, trenching and backfilling, and for doing all the work involved in completing the Rectangular Rapid Flashing Beacon System as shown on the Plans, City Standard Drawings, and as specified in the City Standard Specifications and these Technical Provisions and no additional compensation will be allowed.

10-1.27 BIORETENTION AREAS

GENERAL

The work to be performed shall consist of furnishing and installing 4” PVC perforated piping, 4” PVC underdrain pipe, filter fabric, cleanouts, permeable material, and bioretention soil mix.

Related Work

1) Section 10-1.13, Portland Cement Concrete.
2) Section 10-1.23, Landscape Planting.
2) Section 10-1.24, Landscape Irrigation.

MATERIALS

PVC Piping
Polyvinyl chloride (PVC) pipe shall be four inches (4”) in diameter. Perforations shall be 3/8 inch size. PVC pipe and fittings shall conform to ASTM D3034 with an SDR of 35. Joints shall be a bell and spigot assembly with elastomeric sealing gaskets. Sealing gaskets shall meet the requirements of ASTM D1869. Solvent cement joints shall not be allowed. All pipe joints shall be made using manufactured PVC couplings. Band type couplings shall not be allowed.

Cleanout
Storm drain cleanout structures shall be of the size shown on the plans. Cleanout structures shall be constructed per manufacturer instructions.

Permeable Material
Permeable Material shall be Class 2 and comply with Section 68, “Subsurface Drains” of the Standard Specifications.

Import Topsoil
Per requirements of Section 10-1.22, Landscape Planting.

Bioretention Soil Mix
Bioretention soil and shall comply with the requirements set forth by Provision C.3.c.i.(2)(c)(ii) of the Municipal Regional Stormwater Permit (MRP). The bioretention soil mix shall have a percolation rate between 5"/hr and 10"/hr.

Landscape Planting
Per requirements of Section 10-1.22, Landscape Planting.

Cobblestone
Cobblestone shall be minimum 4" diameter and maximum 6" diameter.

CONSTRUCTION

PVC Piping

Excavate trenches for PVC pipe as indicated. When not indicated, excavate to a width equal to the outside diameter of the pipe plus 12 inches and to a depth of 2 inches minimum below the

grade established for the invert of the pipe.

Lay pipe to line and grade indicated. If pipe is of the bell-and-spigot type, lay bells in crosscuts cut in trench. Lay pipe with bell end uphill.

Fill space below the pipe invert with a layer of permeable material as indicated, upon which the pipe shall be laid with perforations down. Sections shall be joined with sleeve couplings furnished by the pipe manufacturer or other appropriate method as determined by the pipe-ends configuration and approved by the Engineer. Employ appropriate equipment to draw pipe sections together.

Rocks, bricks, broken concrete or asphalt shall not be used to give intermediate support to pipes. Large stones or other hard objects shall not be left in contact with the pipes.

Fill excavations for underdrains with drainage or filter aggregates as indicated. Place drainage aggregate and compact as required to fill voids and prevent settlement, without damaging the underdrain pipe.

MEASUREMENT AND PAYMENT

BIORETENTION AREAS shall be at the price indicated in the Bid Schedule. The contract lump sum price paid for BIORETENTION AREAS shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing the bioretention areas, including excavation and backfill, 4” PVC perforated piping, 4” PVC underdrain pipe, cleanouts, permeable material, bioretention soil mix, and cobblestone, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.28 SANITARY SEWER WORK

GENERAL

This work shall consist of capping abandoned gas lines, installing sanitary sewer connections and raising or adjusting existing utility facilities including, but not limited to manholes, valve boxes, sewer clean-outs, monument boxes, electrical boxes, water meter boxes, and monitoring well covers to the finish grade of the resurfaced asphalt pavement or finished sidewalk grade. On roadways to be milled, facilities shall first be lowered prior to cold planing and then adjusted to finish grade after completion of the resurfacing work. At various locations a monument box and cover shall be installed at finish grade over any unprotected, existing monumentation in the paved roadway.

All such work shall conform to the applicable provisions of the Standard Specifications; these Special Provisions; the plans and typical sections; and as directed by the Engineer.

MATERIALS

Sanitary sewer pipe shall be SDR 26 polyvinyl chloride (PVC) pipe.

All sanitary sewer pipes, fittings, cleanouts and drains shall comply with Ironhouse Sanitary District Standard Specifications for Design and Construction 2014 Edition.

CONSTRUCTION

Sanitary Sewer Installation
Perform sanitary sewer work in compliance with Ironhouse Sanitary District Standard Specifications for Design and Construction 2014 Edition.

Adjusting Utility Boxes to Grade
Adjustment of inlets and drainage structures shall comply with City of Oakley Standard Plans. The Contractor shall properly locate and tie all existing facilities to be raised in advance of paving operations.

Care shall be taken to keep frames and covers clean. The Contractor shall completely protect with heavy plastic or other suitable material all utility covers or other items which are visible on the surface and will be covered by his operations. This shall be completed prior to the start of operations and approved by the Engineer. Any materials that adhere to the frames and covers shall be removed.

Facilities damaged by the Contractor shall be replaced at the Contractor's expense. Facilities (box and lid or frame and cover) found existing in a damaged condition, and reported to the Engineer before disturbing, shall be replaced by the Contractor with materials furnished by the Owner. If not reported, contractor shall be responsible for replacement at it's expense.

The Contractor shall notify owners of private utility facilities seven days prior to the start of the resurfacing work. Such owners may request the contractor to raise the private facilities. Any contractor raising Diablo Water District (DWD) facilities shall perform any work on said facilities per DWD Standard Specifications and Drawings, June 2019.

Tolerances
The concrete around these adjusted facilities in the roadway shall be brought up to match the

finished pavement elevation. The surface of the adjusted facilities shall be true to the new pavement surface to within a 1/8-inch deviation. This tolerance shall apply in a single direction only, either up or down. In addition, the adjusted facility shall not vary to the high tolerance on one side and the low tolerance on the other (i.e. the total aggregate tolerance on both sides shall be limited to the 1/8 inch variation). This variation shall apply to the adjacent patch paving around the facility such that neither the paving nor facility vary by more than the stated tolerances. The adjusted facilities in the sidewalk shall be flush with adjacent surface.

Schedule

All facilities shall be adjusted to finish grade within 72 hours after the placement of the final surface paving on each individual street segment. If several lifts of pavement are to be placed, the facilities shall be raised if the paving operation ceases for more than 72 hours as approved by the engineer.

Survey Monuments

Where new survey monument boxes and covers are required, the Contractor shall perform the installation without disturbing the location of the monument. If the monument is disturbed the Contractor will be responsible for re-establishing it as a monument in accordance with State laws. The work for placement of the box and cover over an existing monument will include removal and replacement of the hot mix asphalt around the monument.

MEASUREMENT AND PAYMENT

Facilities to be lowered prior to cold planing and adjusted to finish grade after paving operations shall include, but not be limited to, manholes, water valves, gas valves, and survey monument covers. The unit costs shall govern regardless of the method used to make the adjustments.

SANITARY SEWER FOR TRASH ENCLOSURE shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid for SANITARY SEWER FOR TRASH ENCLOSURE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in installing sanitary sewer for trash enclosure, including excavation and backfill, installation of pipes, fittings, cleanouts and area drains, connecting to existing sanitary sewer system, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.29 DWD WATER INSTALLATIONS

GENERAL

Installation
Diablo Water District (DWD) water laterals, including excavation and backfilling, connecting to existing water mains, and hydrotesting and disinfecting of pipelines shall all be done in accordance with the Diablo Water District Standard Specifications and Drawings, June 2019, and as shown on the Project Plans.

Contractor's attention is directed to Diablo Water District General Water Notes of the Diablo Water District Standard Specifications and Drawings, June 2019 for notes pertaining to water service and fire hydrant installation.

All DWD installations shall be per Diablo Water District Standard Specifications and Drawings, June 2019 which may be viewed at www.diablowater.org under documents.

Submittals
Contractor shall submit the following materials and procedures for review and approval in accordance with Section 10-1.01 of these Special Provisions:

1. Manufacturer's product data for all material, including bedding and backfill.
2. Shoring and bracing plans, calculations and details prepared by a Civil or Structural Engineer licensed in the State of California.
3. Utility support details including support block, bracing to prevent pipe shifting or flotation, across or parallel to trench.

The Contractor shall provide two additional submittals for any water system related facilities for review and approval by Diablo Water District.

MATERIALS

All material shall be new.

All pipe materials and associated testing for new water services shall be per Section 02620, Polyvinyl Chloride (PVC) Pipe and Fittings of the DWD Standard Specifications and Drawings, June 2019. All pipe materials and fittings for fire hydrants and potable water services shall conform to the requirements of the DWD Standard Specifications and Drawings, June 2019.

All valves and appurtenances shall be in accordance to Section 15100, Valves, Hydrants and Appurtenances of the DWD Standard Specifications and Drawings, June 2019.

CONSTRUCTION

Trench excavation and backfill shall be in accordance to Section 02210, Trenching, Backfill and Compaction, of the DWD Standard Specifications and Drawings, June 2019.

MEASUREMENT AND PAYMENT

Contractor agrees to accept as full payment for water line and appurtenances compensation set forth in the project contract documents, which include all costs for labor, materials, tools equipment, services, all taxes (federal, state, and local), insurance and permits, royalties, overhead, profit, warranty performances and other costs necessary to perform the work in

accordance with Contract Documents.

1/2" WATER SERVICE (DWD-REVOCABLE) shall be at the cost indicated in the Bid Schedule. The contract prices paid per-each for 1/2" WATER SERVICE (DWD REVOCABLE) shall include, but is not limited to, full compensation for furnishing labor, materials, tools, equipment and incidentals and for doing all the work involved with installing new water lines, meter boxes, double check valve backflow preventer boxes, including pipe, pipe connections, valves, valve boxes, trenching and excavation, backfill, thrust blocks, cathodic protection, tapping, testing, and pavement restoration to finish grade, as specified herein, as shown on the plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.30 TRASH ENCLOSURE

GENERAL

This work shall consist of furnishing and installing trash enclosure where called for in the plans and these Technical Specifications.

MATERIALS

Masonry blocks shall comply with Section 58-2, “Masonry Block,” of the Standard Specifications. Masonry block shall be split face or decorative, as approved by the Engineer.

Reinforcement shall comply with Section 52, “Reinforcement,” of the Standard Specifications.

Concrete shall comply with Section 10-1.13, “Portland Cement Concrete.”

CONSTRUCTION

Masonry work shall comply with Section 58-2, “Masonry Block,” of the Standard Specifications.

Reinforcement work shall comply with Section 52, “Reinforcement,” of the Standard Specifications.

Concrete work shall comply with Section 10-1.13, “Portland Cement Concrete.”

MEASUREMENT AND PAYMENT

TRASH ENCLOSURE shall be at the price indicated in the Bid Schedule. The contract lump sum price paid for TRASH ENCLOSURE shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing the trash enclosure, concrete foundation enclosure pad, aggregate base, frame metal roof, concrete apron pad, curbs, block walls, gates, hinges and appurtenances, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.31 STAMPED ASPHALT CROSSWALKS

GENERAL

This work shall consist of heating and placing thermoplastic material into the finished asphalt roadway surface to produce a specified color, pattern and finish. See plans for patterns and colors.

All such work shall conform to manufacturer specifications and procedures, these Special Provisions, and as directed by the Engineer.

SUBMITTALS

Provide product cut sheets that describe manufacturer, color, pattern and finish.

Provide documentation that contractor is a certified applicator of the specified product.

Prior to crosswalk installation, fabricate mock-up using materials, pattern and treatment indicated for project work.

MATERIALS

Thermoplastic Coating
Homogeneously mixed non-hazardous polymer resins, pigments, fillers consisting of TiO^2 and $CaCO^3$, glass beads and at least 12% coarse aggregate particles sized 6-14 mesh.

Thermoplastic coating shall be supplied at a standard thickness of 180 mils +/- 10 mils (4.6 mm +/- 0.25mm).

Thermoplastic coating shall have the following material properties:

Characteristic	Test Method	Acceptable Results
Water Absorption	ASTM D570	< 0.5%
Binder Content	AASHTO T250	18.8% – 20.0%
Low Temp. Resistance @ 15˚F	AASHTO T250	No cracking
Specific Gravity	ASTM D792	2.0 – 2.16
Indentation resistance @ 46.1 °C	ASTM D 2240	44 - 52
Impact Resistance	ASTM D256, Mtd A	<20
Flash Point	ASTM D92	>440°F
Bond Strength	ASTM D4796	316+ psi
Friction	British Pendulum	BPN > 65

CONSTRUCTION

Surface Preparation
The asphalt pavement surface shall be dry and free from all foreign matter, including but not

limited to dirt, dust, and chemical residue.

Installation shall not proceed if the ambient air temperature and the pavement temperature is below 45°F.

Asphalt Heating
Asphalt pavement heating equipment shall reciprocate and allow the operator to monitor the asphalt pavement and the thermoplastic at all times during the heating processes. Monitor asphalt and thermoplastic temperature per manufacturer's specifications. Heat pavement to imprinting temperature per manufacturer's specifications.

Layout
Layout template for asphalt imprinting per manufacturer specifications and procedures, Project Plans; and as directed by the Engineer.

Sand Placement
Contractor shall utilize an air-assisted sand spreader to spray the sand in a uniform manner.

Thermoplastic Placement
Place the first template and press into place with vibratory plate compactors after the asphalt pavement has reached imprinting temperature. Vibratory plate compactors shall weigh between 700 and 900 pounds. Once the top of the template is level with the surrounding asphalt pavement, remove template.

Place the thermoplastic coating sheets over the imprinted asphalt pavement. Align with template. Coating sheets shall be butted together without overlap. Provide uniform coverage.

Heat thermoplastic coating per manufacturer's specifications. Place sand over the coating per manufacturer's specifications and at an approximate rate of 50 pounds per 200 square feet.

Place the second template and press in place with vibratory plate compactors to post-print the thermoplastic.

Protection and Opening to Traffic
Protect melted thermoplastic until it cools and hardens. Protect thermoplastic from debris, dust, water and chemical residue. Open crosswalk to traffic once the thermoplastic has cooled to adjacent pavement temperature, or as directed by the Engineer.

MEASUREMENT AND PAYMENT

Measurement and payment for Stamped Asphalt Crosswalks shall be included in the lump sum price paid for SIGNING AND STRIPING as identified in the Bid Schedule and includes all costs associated for furnishing all labor, materials, tools, equipment and incidentals for completing the work as specified in these Special Provisions, as shown on the plans and as directed by the Engineer and no additional compensation shall be allowed therefore.

10-1.32 DECORATIVE METAL

GENERAL

The Work shall consist of: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified, all incidentals, accessories, and as necessary to complete the Contract, including, but not limited to, these major items: shapes, sleeves, anchors, connectors, plates, hand railings, edges, items embedded in concrete as required, but which are not specified in other sections; metal posts; finishing; welding; directory; examine all drawings and specifications and include all miscellaneous metal which is specified in other sections. Provide all connections, anchors, bolts, other fastenings and post grouting as required. Do all cutting, punching, drilling and tapping required for proper assembly of the work; Contractor shall coordinate with City and the sculpture artist for traffic control, and installation of the sculpture prior to commencement of work.
Directory
Decorative Hand Railings

Related Sections

Section 10-1.13 – PORTLAND CEMENT CONCRETE
Section 10-1.25 - SITE FURNISHINGS AND ACCESSORIES

References

ASTM A123 - Zinc (Hot Galvanized) coatings on Products fabricated from rolled, pressed and forged shapes, plates, bars, and strip.
ASTM A153 - Zinc coating (Hot Dip) on iron and steel hardware.
ASTM A386 - Zinc coating (Hot Dip) on assembled steel products.
ANSI B 18.22.1 – Plane Washers.
ANSI B 18.23.1 – Beveled Washers.
ASTM A36 – Structural Steel.
ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
ASTM A108 - Steel Bars, Carbon, Cold-Finished, Standard Quality.
ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.
ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
ASTM A501 –Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
ASTM A563 – Carbon and Alloy Steel Nuts.
ASTM C1107– Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
AWS A2.0 – Standard Welding Symbols.
AWS D1.1 – Standard Welding code.
CCR - California Code of Regulations: Title 8, General Safety Order.
CCR – California Code of Regulations – Title 24.
SSPC – Steel Structure Painting Council.

Submittals

Submit under provisions of Section 10-1.01.

Shop Drawings: Indicate profiles, edge and joint conditions, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.

Field measurements

Welder's Certifications: Submit under provisions of Division 1, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

Manufacturer's Certificate: Certify that size and type of anchor bolts, expansion anchors, and studs for connection to concrete and concrete block are suitable for the type of substrate and intended purpose.

Verify that field measurements are as indicated on shop drawings.

Quality assurance

References:

American Society of Testing and Materials (ASTM)
American Welding Society (AWS)
American Institute of Steel Construction (AISC)
Field measurement: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the Owners Representative all conditions, which prevent proper execution of this work.
Shop assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordination of installation.

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MATERIALS

Steel shapes: conform to ASTM A36.

Steel tubing: ASTM A500, Grade C or ASTM A501.

Steel pipe: conform to ASTM A53, Grade B. Schedule 40.

Malleable iron castings: conform to ASTM A47.

Welding rods: conform to requirements of AWS for intended use.

Steel plate: conform to ASTM A283, Grade A.

Bolts, Nuts, and Washers: ASTM A325 and A307, galvanized as follows:

For A307 items: Zinc electroplated per ASTM B633.
Touch-up for galvanized surfaces: All State #321 Galvanizing Powder (30% tin, 30% zinc, 40% lead and flux).
Miscellaneous material: as indicated or specified.
Expansion Anchors
Proprietary type designed for intended use (only where indicated).

ITT Phillips Drill Division "Red Head Hedge or Sleeve Anchor".
Ramset Fastener Systems "Ramdrill".
Hilti Co. "Kwik Bolt II" as applicable.
Or equal. The Contractor will comply with applicable portions of the General Conditions and Special Conditions, including but not limited to GC-41 Product Options, Supplier Approval, and Substitutions and SC-6 Contract Data Requirements.

Bolt Size: Per manufacturer for each application unless indicated otherwise. See certification requirements, above in Submittals.

Embed Anchors: ASTM A36, galvanized

Welding Materials: AWS D1.1; type required for materials being welded.

Shop and Touch-Up Primer:
Tnemec Co., "No.P10-99 Metal Primer".
Rust-Oleum Co., "No 769 Demo-Proof Red Primer".
Porter International "260FD".
Or equal.

The Contractor will comply with applicable portions of the General Conditions and Special Conditions, including but not limited to GC-41 Product Options, Supplier Approval, and Substitutions and SC-6 Contract Data Requirements.

Touch-Up Primer for Galvanized Surfaces: MS DOD-P21035, high zinc dust content paint.

Temporary Supports, Staying and Spacing: As required by project conditions.

Shims and Leveling Devices: As required by project conditions.

Metal Lath: ASTM C847; flat diamond mesh or as detailed on drawings; flat rib, 3/8 inch; galvanized steel, 3.4 pounds per sq. /yards.

Non-Shrink Grout: Comply with ASTM C1107.

Fabrication

Fit and shop assemble in largest practical sections, for delivery to site.

Fabricate items with joints tightly fitted and secured. On finished surfaces, grind all welds smooth and flush with base metal

Exposed Mechanical Fastenings: Flush countersunk stainless steel screws or bolts; concealed where possible; consistent with design of component, except where specifically noted otherwise.

Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise. Where items are to be embedded in concrete or masonry, provide welded-on anchors or lugs as indicated or required

Assemble to give ample strength and stiffness.

Scribe and fit for best appearance where exposed.

Provide custom curved/ rolled fences and railings as shown on plan. Fences and rails shall be fabricated per field measurements and be equally curved in profile/ section/ or plan as required.

Finishes

Surface Preparation:

1. Grind weld spatter and sharp edges smooth prior to cleaning.
2. Prior to application of primer, clean surfaces as follows:

3. Steel to be encased in masonry or concrete: Hand tool cleaning per SSPC SP-2.
   Steel to remain exposed in the completed work: Brush off blast cleaning per SSPC SP-7.

Shop Primer:

1. Apply shop primer within 4 hours of surface cleaning.

2. Apply minimum 3 mils dry film thickness of primer to steel, unless otherwise specified.

3. Do not apply primer within two inches of steel assemblies, which are embedded in concrete.

4. Apply two coats of primer to steel assemblies, which are concealed in the finish work.

5. Touch-up shop primer of poor quality or insufficient thickness to a condition acceptable to the Engineer

Galvanized Finish:

1. Minimum 2 oz/sq. ft zinc coating in accordance with ASTM A386.

2. All finishes for the metal sculpture and metal base shall be provided by the Artist.

Powder Coating:

Powder coating shall be applied electrostatically using exterior-grade, UV-stable, polymer powder.

CONSTRUCTION

Examination

Verify that field conditions are acceptable and are ready to receive work.
Beginning of installation means erector accepts existing conditions.

Fabrication

Shop Assembly: Preassemble items in shop to greatest possible extent to minimize splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordination of installation.

Fabricate items with joints tightly fitted and secured.

Weld all shop connections. Welds shall be smooth, continuous beads, free to excessive roughness and spatter. Grind surface welds smooth and flush to match and blend with parent

metal surfaces.

Exposed Mechanical Fastenings: Flush countersunk stainless steel screws or bolts; concealed where possible; consistent with design of component, except where specifically noted otherwise.

Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabricated, except where specifically noted otherwise.

Assemble to give ample strength and stiffness.
Scribe and fit for best appearance where exposed.

All finishing for the metal sculpture and metal base shall be executed by the Artist.

All decorative hand railing materials shall have black powder coated finish.

Installation

Install items plumb and level, accurately fitted, free from distortion or defects and securely and rigidly attached to supporting construction and as detailed.

Curved items shall follow curved caps and walkways equally with no variance between finish cap elevations and bottom of rail and or in plan view between center of wall and center of rail.

Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

All welding shall conform to requirements of the Committee for Standard Tests for Welds of the American Welding Society. All welding shall be electric arc process. Welds exposed in finish work shall be filled out flush, ground and dressed. Welders for structural shall be certified.

Verify that field conditions are acceptable and are ready to receive work.

Install items plumb and level, accurately fitted, free from distortion or defects.

Connections and anchors shall be adequate to sustain normal loads which may be imposed, securely welded or bolted, conforming to AISC standards. Excess length of bolts where exposed to view to be cut off and ground smooth. Use spacer washers when fastening through finish materials.

Field welding of rails shall not be allowed. Where required properly prepare area and use approved materials and method to provide durable, long lasting protection against rust.

After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

Warranty

Warranty: 1 year including against rust.

MEASUREMENT AND PAYMENT

Measurement for DIRECTORY shall be “per each”.

The contract unit price paid for DIRECTORY shall include, but not be limited to : full compensation for furnishing all labor, materials, steel, paint, anti-graffiti coating, anchors, all excavation, concrete footing, reinforcing, directory and graphics, tools, equipment, and incidentals for doing all the work involved in constructing DIRECTORY, complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

DECORATIVE HAND RAILING shall be at the price indicated in the Bid Schedule. The contract unit price paid per linear foot for DECORATIVE HAND RAILING shall include, but not be limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in constructing decorative hand railing, including welding, galvanization, powder coating, pipe sleeves and grouting railing posts in pipe sleeves, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

All electrical work will not be measured separately for payment but will be considered incidental to and included with the applicable items of work.

10-1.33 SLURRY SEAL (TYPE II WITH BLACK ROCK)

GENERAL

This work shall consist of producing and placing Type II slurry seal with black rock on pavement where shown on the plans.

All work shall comply with Section 37-3, "Slurry Seal and Micro-Surfacings" of the Caltrans 2010 Standard Specifications, and these special provisions, except as modified herein.

MATERIALS

General

At least ten working days prior to starting work on placing the slurry seal, the Contractor shall submit a mix design for Type II slurry seal. The design shall be prepared in accordance with the International Slurry Seal Association Design Technical Bulletin No. 111, dated January 1998. A change in either the aggregate or emulsion during the course of work will require the preparation of a new mix design. In addition to the requirements of Bulletin No. 111, the slurry seal mix design shall also contain 2.5 percent latex.

The materials used in Type II slurry seal shall conform to Section 37-3.02B, "Materials", of the 2010 Standard Specifications.

Add to section 37-3.02B(2), "Aggregate" of the 2010 Standard Specifications:

- Aggregate shall be 100% crushed with no rounded particles, volcanic in origin and black in color, as supplied by George Reed, Table Mountain, Sonora, CA or Equal.

Asphalt Emulsion:

Asphalt emulsion shall conform to the provisions in Section 94-1.02, Table 3, "Requirements for Polymer Modified Asphaltic Emulsion", of the 2010 Standard Specifications, except as modified below, and shall be of the grade specified herein.

Asphalt emulsion shall be cationic type polymer modified asphaltic emulsion Grade PMCQS-1h. Bituminous binder shall be determined by use of California Test Method 302, Film Stripping, 10 percent Maximum, for Compatibility to Cationic or Anionic Emulsions.

Due to field conditions or performance of the finished product, modifications to the asphaltic emulsion may be necessary. Modifications will be as requested by the Engineer, will be within the ranges specified in these Special Provisions, and shall be performed at no additional cost to the City.

Cationic type asphaltic emulsion Grade PMCQS-1h shall conform to the requirements in Section 37-3.02B(3), "Asphaltic Emulsion" of the 2010 Standard Specifications.
The liquid rubber latex polymer shall be "co-milled" into the emulsion through the water phase at the time of manufacturing. Each load of polymer modified asphaltic emulsion shall have a certificate which guarantees that this "co-milling" process was used, and which also guarantees the percentage of liquid rubber latex polymer added to the asphaltic, or in the case of EVA the certificate shall guarantee the minimum amount of solid polymer was used in the asphalt prior to emulsification.

The Contractor shall submit a sample of the following materials:

1. The base asphalt
2. One quart of the polymer modified asphaltic emulsion

The above sample (No. 1) shall be submitted to the Engineer in a clean, air-tight, sealed, labeled **one-gallon** container, and the above sample (No. 2) shall be submitted in a clean, air-tight, sealed, labeled **one-quart** plastic container. Both samples shall be submitted a minimum of fourteen days prior to the beginning of chip sealing work. The Engineer shall have the submittal tested by an independent testing laboratory. No asphaltic emulsion shall be applied until the testing demonstrates that the proposed asphaltic emulsion conforms to the contract specifications. If the initial submittal does not conform, the costs of testing additional submittals shall be borne by the Contractor.

Additional samples of the polymer modified asphaltic emulsion, as delivered to the project, will be taken by the Engineer from the spray bar of the distributor truck at mid-load.

Submittals

The contractor shall provide material tags for tonnage of the aggregate and emulsion used to show that the application rate of aggregate and emulsion was within the range required by the specifications. If the application rate of aggregate or emulsion falls outside the minimum amount required, the Contractor shall reapply the slurry seal on those streets that are determined to have not met the contract requirements.

CONSTRUCTION

General

Placement of the slurry seal shall conform to these Special Provisions and Section 37 of the 2010 Standard Specifications.

Preparation

All vegetation on pavement surfaces to be slurry sealed shall be removed completely a minimum of ten calendar days in advance of the slurry seal or as required by the Engineer.

The roadway shall be crack sealed prior to slurry seal application.

Low areas and where the pavement has raveled to create holes, shall be skin patched prior to slurry sealing.

Slurry seals shall not be placed when the atmospheric temperature is below 65 degrees Fahrenheit or during unsuitable weather.

The Contractor shall remove and dispose of all painted, preformed, and thermoplastic paint markings; and all raised pavement markers prior to placing slurry seal. Removal methods shall conform to Section 15-2.02C of the 2010 Standard Specifications.

It is the Contractor's responsibility to clean pavement surfaces prior to application of the slurry seal. Surfaces shall be free of clay, dust, weeds, and other objectionable materials which may adversely affect bonding of the slurry seal. Cleaning equipment shall be capable of effectively removing clay, dust, and other objectionable materials from the pavement surfaces. Protection and maintenance of the street surface, to the condition required for proper slurry seal application, shall be the sole responsibility of the Contractor. The Contractor shall reseal all areas of the pavement which have not been sealed properly and completely or have been damaged by traffic.

All surface oil and grease shall be removed, or sealed with emulsified gilsonite or an approved equivalent, prior to application of the slurry seal.

The sites for stockpiling and batching materials shall be clean and free from objectionable materials and shall be located outside the road right-of-way. Arrangements for these sites shall be the responsibility of the Contractor. If on private property, a written agreement shall be approved by the City prior to commencing operations.

Contractor shall tie off survey monuments, manholes, water valves, etc. prior to application of the slurry seal. Immediately before commencing the slurry seal operation, all surface metal utility covers (including survey monuments) shall be protected by thoroughly covering the surface with an appropriate adhesive and oiled or plastic paper. 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 slurry material by the end of the same work day.

No slurry seal shall be placed until the pavement area has been prepared to the satisfaction of the Engineer, including but not limited to tie downs for striping dimensions.

Application

Type II slurry seal shall be applied onto the gutter lip, but shall not extend more than 3/4 inch onto the gutter lip. Both applications shall be at the rates specified in the Standard Specifications and as approved by the Engineer.

After the emulsion has broken, the slurry seal shall be rolled with a 6 to 8-ton pneumatic tire roller with a minimum tire pressure of 40 psi. The roller shall be on site prior to the start of slurry placement. Areas which require rolling shall receive a minimum of two (2) full coverage passes.

Adequate means shall be provided to protect the slurry seal from damage by traffic until such time that the mixture has cured sufficiently so that a slurry seal will not adhere to and be picked up by the tires of the vehicles. In the event the slurry seal does not set in 8 hours, the Contractor will not be allowed to place additional material the following day without approval of the Engineer.

Hand tools shall be available in order to remove spillage. Ridges or bumps in the finished surface will not be permitted.

The mixture shall be uniform and homogeneous after spreading on the road and shall not show separation of the emulsion and aggregate after settling.

Any slurry seal tracked onto concrete facilities by the Contractor's vehicles and equipment or by resident's vehicles shall be removed by power washing or other means at the Contractor's expense.

Street Sweeping

After completing, setting, and rolling of the slurry seal, any loose material shall be immediately removed by sweeping with a vacuum sweeper the day of application. Interim sweeping using a vacuum sweeper shall be accomplished as more loose material appears. **As a minimum, interim sweeping shall be accomplished on the 3rd, 7th, 14th and 21st day after surfacing. A final post construction sweeping of all the slurry seal streets shall be performed 30 days after completion of all of the micro surfacing**. The entire street surface, including sidewalks and driveways, shall be swept to the satisfaction of the City. No loose material will be allowed in the

street, gutters, sidewalks or other areas. If necessary, the Contractor will employ additional vacuum sweepers to remove the loose materials.

Sampling for testing will be taken of the slurry seal in place, at the contractor's expense, to determine the amount of material used. Compliance with the mix design will be verified the City's testing laboratory. The Engineer may sample material from stockpiles, trucks, application equipment, or during application.

Final cleaning of the streets shall include removal of any tracked material, misapplied slurry seal, cleaning of all utility covers of any new or old materials, and removal of any miscellaneous debris resulting from construction activities.

MEASUREMENT AND PAYMENT

CRACK SEALING AND SLURRY SEAL shall be at the price indicated in the Bid Schedule. The contract unit price paid per square foot for CRACK SEALING AND SLURRY SEAL shall include, but not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals require for doing all the work involved in performing crack seal and slurry seal, including covering street facilities, skin patching, protecting the slurry seal until it has set, rolling and sweeping, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.34 CRACK SEAL

GENERAL

The work shall comply with Section 37-5, "Crack Treatment" of the Caltrans 2010 Standard Specifications except as modified in these special provisions.

The work shall consist of treating and removing vegetation, and cleaning and filling cracks greater than 3/8-inches wide on existing pavement surfaces with rubber asphalt joint seal prior to slurry seal application, as specified in these special provisions, and as directed by the Engineer.

MATERIALS

Crack sealant shall be a mixture of paving asphalt and ground rubber and shall conform to ASTM D 5078, Type II. The crack seal product shall conform to the following requirements:

Test	Specification Limit
Cone Penetration 77°F(25°C)(ASTM D5329)	35-55
Resilience (ASTM D5329)	40% min.
Softening Point (ASTM D36)	200°F(93°C) min.
Ductility 77°F(25°C)(ASTM D5113)	30 cm min.
Flexibility (ASTM D3111 Modified)	Pass at 20EF(-7EC)
Flow 140°F(60°C)(ASTM D5329)	3 mm max.
Brookfield Viscosity 400°F(204°C)(ASTM D2669)	100 Poise max.
Asphalt Compatibility (ASTM D5329)	Pass
Bitumen Content (ASTM D4)	60% min.
Tensile Adhesion (ASTM D5329)	500% min.
Safe Heating Temperature	400°F(204°C)
Recommended Pour Temperature	380°F(193°C)

CONSTRUCTION

All cracks indicating weed growth are to be sprayed and cleaned as follows:

The Contractor shall apply herbicide, or use other approved mechanical removal methods, to all existing weed growth within the roadway area from curb to curb including the joint between the gutter lip and asphalt pavement. A minimum of two applications shall be made with a minimum period of 7 calendar days between applications. The second application shall be applied to treated areas and any additional new weed growth between applications. Any new weed growth shall be treated a third time after a minimum of 7 days from the second application. The herbicide shall be organic or Non-Proposition 65, E.P.A. approved herbicide. **The applied herbicide shall include a dye that is visible after the herbicide dries.** The herbicide shall be applied by a licensed applicator and shall comply with the manufacturers' recommendations.

Seven days after the last application of herbicide (either the second or third), all remaining vegetation in the cracks shall be mechanically removed.

All existing vegetation, outside the areas to be cleared and grubbed, shall be protected from the Contractor's operations unless specifically shown on the plans to be removed.

Immediately prior to applying the sealant, the cracks shall be cleaned with high pressure air jets to remove all residue and foreign material. Any weed growth shall be physically removed. **Water**

jets will not be allowed. Crack surfaces shall be surface dry at the time the sealant is applied.

During all construction operations, the Contractor shall protect cracks cleaned for sealing from intrusions of solid foreign materials into the groove or into the sealant.

Crack seal materials shall be placed in conformance with the manufacturer's recommendations. Crack seal materials shall not be placed when the surface temperature is below 50 degrees Fahrenheit.

After filling the cracks with the sealant, they are to be squeegeed with a “U” shaped squeegee so as to strike off excess material and to provide a bandaid effect with the sealant. After the sealant has cooled, there may be a slight depression of not more than 1/8th-inch below the adjacent pavement.

The finished crack seal shall be bonded to the crack such that there is no separation or opening between the sealant and the crack edge and there shall be no cracks, separation or other opening in the sealant.

The Contractor shall remove crack seal material that is not placed within the conformance of these provisions, clean cracks as specified herein and then reseal the cracks at his expense.

MEASUREMENT & PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for crack sealing shall be considered as included in the contract price paid for CRACK SEALING AND SLURRY SEAL and no additional compensation will be allowed therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.35 PAINTING

GENERAL

Surface preparation and field application of paints and coatings. Finish surfaces as indicated in schedule at end of this section and as shown. Unless otherwise shown or specified, all exposed paintable type surfaces, except where specified with factory finish in their respective sections, shall receive suitable paint type finish, whether or not specifically scheduled. “Paint” is defined as any coating system herein specified.

RELATED SECTIONS

Section 10-1.32– Decorative Metal

REFERENCES

ASTM D16: Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
ASTM D2016: Test Method for Moisture Content of Wood.
PDCA (Painting and Decorating Contractors of America): Painting - Architectural Specifications Manual.

DEFINITIONS

Conform to ASTM D16 for interpretation of terms used in this Section.

SUBMITTALS

Submit under provisions of Section 10-1.01.

Product Data: Provide data on all finishing products.

Samples:
3-inch x 3-inch in size, illustrating range of colors and textures available for each surface finishing product scheduled for Architect's color selection.

Prepare 8-inch x 10-inch samples of all selected finishes. When possible, apply finishes on identical type materials to which they will be applied on job. One-third of sample to have flat paint finish, one-third to have eggshell, and one-third to have semi-gloss. (Note: Flat paint is required to compare with manufacturer’s samples which are flat finish.) Identify each sample as to finish, color, name and number and sheen name and gloss units. The samples shall be marked for identification and retained by the Engineer. The selected colors and samples shall be tentative pending final verification of colors on field sample.

Manufacturer's Instructions: Indicate special surface preparation procedures, substrate conditions requiring special attention.
QUALIFICATIONS

Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years experience.

Applicator: Company specializing in performing the work of this section with minimum 5 years experience.

REGULATORY REQUIREMENTS

Conform to applicable code for flame and smoke rating requirements for finishes.

FIELD SAMPLES

Provide field sample of paint under provisions of Section 10-1.01.

Before proceeding with paint application, finish with specified number of coats one complete surface of each wall and ceiling color scheme required, clearly indicating selected colors, finish texture, materials and workmanship. Sample areas shall be located to receive daylight and/or temporary artificial light similar to that which will occur at paint color. Architect reserves the right to modify mock-up colors until Owner's final approval of colors has been obtained.

If approved, sample areas will serve as a minimum standard for work throughout the building.

Accepted sample may remain as part of the Work.

DELIVERY, STORAGE, AND HANDLING

Deliver, store, protect and handle products to site under provisions of Section 10-1.01.

Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions. Take precautionary measures to prevent fire hazards and spontaneous combustions.

ENVIRONMENTAL REQUIREMENTS

Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

Do not apply exterior coatings during rain, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
Minimum Application Temperature for Varnish and Alkyd Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.

Provide lighting level of 80 foot candles measured mid-height at substrate surface.

Products used on job site shall comply with the State of California VOC requirements.

EXTRA MATERIALS

Furnish under provisions of Section 10-1.01.

Provide 1 gallon of each color and type to City.

Label each container with paint formula, color, type, texture, and room locations, in addition to the manufacturer's label.

WARRANTY

Colors of all surfaces finished under this section shall, at the end of one year, have remained free from serious fading, and variations, if any, shall be uniform. All materials shall have their original adherence at the end of one year, and there shall be no evidence of blisters, running, peeling, scaling, chalking, streaks or stains at the end of this period. Washing with alkali-free soap and water shall remove surface dirt without producing any deteriorating effects.

MATERIALS

MANUFACTURERS

Manufacturers - Paint:
Fuller O'Brien
Dunn Edwards
Sherwin Williams

Manufacturers - Block Filler

Substitutions: Under provisions of Section 10-1.01. Request for substitution of paints of any manufacturer not listed shall be accompanied by test reports from a commercial testing laboratory, showing equality in weathering, hardness, washability, gloss and color retention, flow, hiding flexibility, non-yellowing and general appearance. These tests shall be conducted according to procedures set forth in Federal Specification TT-P-141. Manufacturer must have a 100% acrylic latex paint available to meet the paint schedule requirements.

MATERIALS

Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.

Accessory Materials: Paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

Patching Materials: Latex filler.

Fastener Head Cover Materials: Putty stick of matching color.

FINISHES

Refer to schedule at end of section for surface finish [and color] schedule.

CONSTRUCTION

EXAMINATION

Verify site conditions.

Verify that surfaces and substrate conditions are ready to receive work as instructed by the product manufacturer.

Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

Test shop applied primer for compatibility with subsequent cover materials.

Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums required by manufacturer, unless specifically approved in writing by the product manufacturer:
Plaster and Gypsum Wallboard: 12 percent.
Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
Interior Wood: 15 percent, measured in accordance with ASTM D2016.
Exterior Wood: 15 percent, measured in accordance with ASTM D2016.
Concrete Floors: 8 percent.

PROTECTION

Adequately protect other surfaces from paint and damage. Repair damage resulting from inadequate or unsuitable protection.

Furnish sufficient drop cloths, shields and protective equipment to prevent spray or droppings from fouling surfaces not being painted.

PREPARATION

Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

Correct defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.

Prepare surfaces in strict accordance with manufacturer's printed instructions and as hereinafter specified.

Seal with shellac and seal marks which may bleed through surface finishes.

Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.

Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer equivalent to "Ecoprime" distributed by Fuller O'Brien.
Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose

mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.

APPLICATION

Apply products in accordance with manufacturer's instructions.

Do not apply finishes to surfaces that are not dry.

Apply each coat to uniform finish.

Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

Sand lightly between coats where recommended by paint manufacturer to achieve required finish.

Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.

Allow applied coat to dry before next coat is applied.

Prime concealed surfaces of exterior woodwork, which is to receive paint or stain finish, with undercoater paint for painted surfaces and with clear water sealer for stained surfaces.

Prime concealed surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.

Use masking tape or protect factory finish of items adjacent to painted surfaces.

Finish inside of exterior doors to match the exterior finish as specified under “Painting - Exterior”.

The number of coats specified is the minimum that shall be applied. Finish coats shall be even, uniform color, free from brush marks, laps, runs and skipped or missed areas.

Spray paint metal door frames and like surfaces where possibility of detrimental appearance of brush strokes exists.

FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

Paint shop primed equipment. Paint shop prefinished items occurring at interior areas.

Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.

Paint interior surfaces of air ducts, and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to visible surfaces. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

Paint exposed conduit and electrical equipment occurring in finished areas.

Color code equipment, piping, conduit, and exposed ductwork in accordance with requirements indicated.

Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

CLEANING

Clean work under provisions of Section 01700. Do not use solvent to clean hardware or other metal surfaces. Solvent may remove permanent lacquer finish.

Collect waste material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

SCHEDULE

General: Unless noted or specified otherwise, all materials in any one system shall be the product of one manufacturer. Use only manufacturers' top of the line highest quality paint products. Major areas only are scheduled, but all miscellaneous items and areas within a room or space shall be treated with a suitable system, unless otherwise shown or specified. This specification shall serve as a guide and is meant to establish procedure, quality and minimum number of coats. (Numbers shown refer to Fuller O'Brien products, unless otherwise noted. Where acrylic latex paint is specified or used, it shall be 100% acrylic and not a blend of other resins.)

Exterior Finishes:
Cement Plaster:
Paint finish - 1 coat primer. (220-17)
Flat acrylic latex - 2 coats. (262 xx)
Note: Allow a minimum period of 30 days after plaster work has been completed before painting.

Concrete:
1 coat primer. (220-17)
2 coats flat acrylic latex finish. (262-xx)

Steel - Shop Primed.
Touch up shop prime coat where primed under other Sections of Work and provide:
1 coat primer. (621-04)
2 coats semi-gloss acrylic latex finish. (664-xx)

Galvanized Metal:
1 coat “Ecoprime”, “Galvaprep”, or equal.
1 coat primer. (621-05)
2 coats semi-gloss acrylic latex finish. (664-xx)
Note: Omit paint where shown "No Finish required."

Wood Stain:
2 coats semi-transparent stain. (645-84)
1 coat varathane.

MEASUREMENT AND PAYMENT

Full compensation for painting, including, but is not limited to, all labor, materials, tools, equipment and incidentals required to conform to the provisions of this section shall be considered as included in the price paid for DIRECTORY and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

10-1.36 FINAL CLEAN-UP

Before final inspection of the work, the Contractor shall clean the work and all ground occupied by him in connection with the work, of all rubbish, excess materials (including liquid asphalt), and equipment. The sidewalks and curbs shall be thoroughly swept clean of all dirt, dust and foreign material. The streets shall be swept in accordance with Section 13-7.02, Street Sweeping, of the Standard Specifications. All parts of the work shall be left in neat and presentable condition. Payment for sweeping of streets with pick-up sweeper, cleaning sidewalks and curbs, and clean up in general, shall be considered as included in the unit bid price for other contract items and no additional payment shall be made.

MEASUREMENT AND PAYMENT

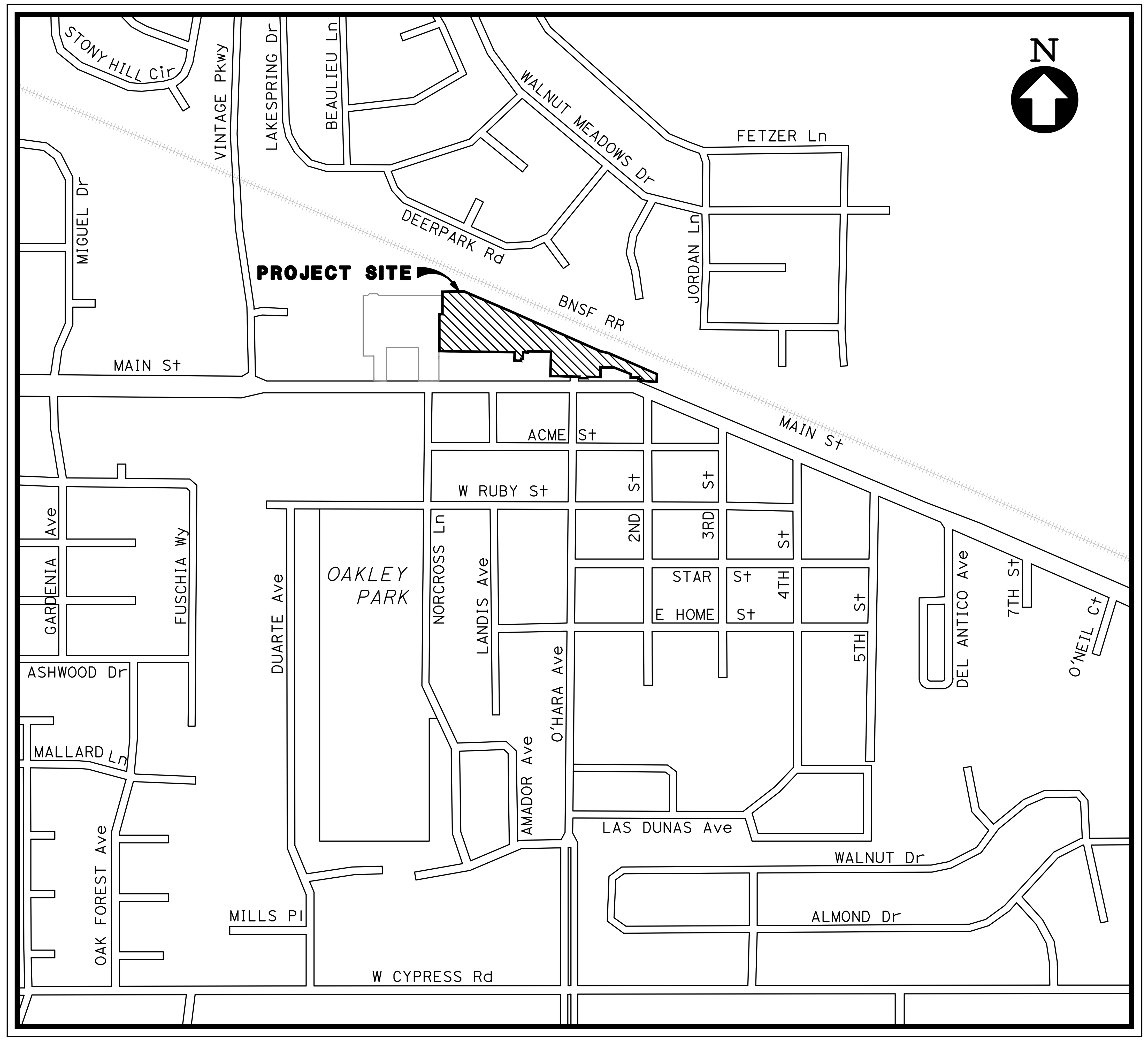
Items of work or other services which the Contractor is required to supply, such as clean-up or other incidental items, and which are not listed as separate bid items shall be included in the related bid items and shall be considered as paid in those items, whether or not specifically identified in the descriptions. Also included in such contract costs are any costs associated with the repair of damage, which may occur to existing improvements as a result of these construction operations.

DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CIP PROJECT No. 205

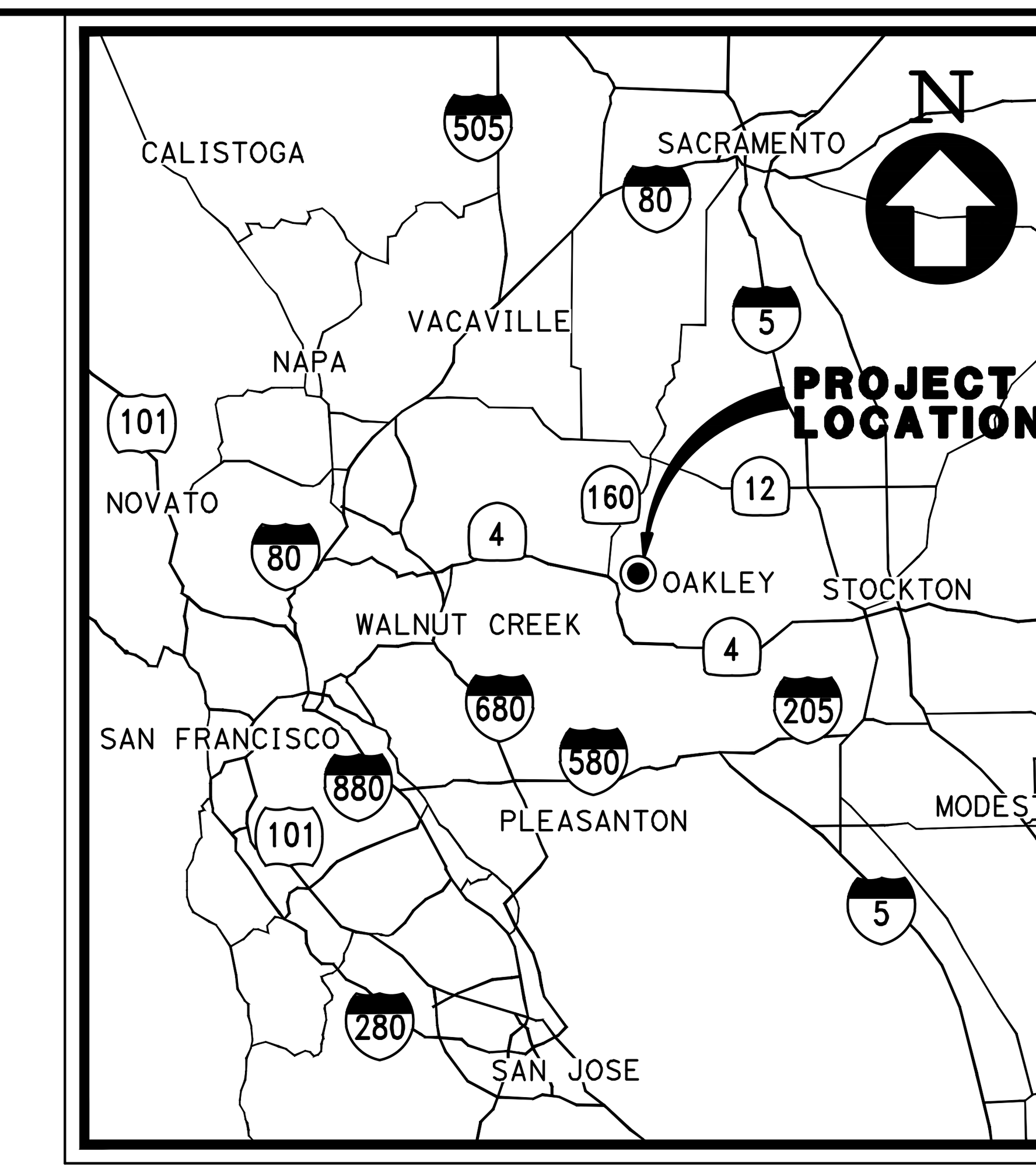
OAKLEY, CA

TO BE SUPPLEMENTED BY CALTRANS STANDARD PLANS & SPECIFICATIONS 2018
AND CITY OF OAKLEY STANDARD PLANS DATED JULY 2021 AND REVISIONS



LOCATION MAP

NO SCALE



VICINITY MAP

NO SCALE

BKF
ENGINEERS / SURVEYORS / PLANNERS
4670 WILLOW RD
SUITE 250
PLEASANTON, CA 94588
925-396-7700
925-396-7799 (FAX)

OAKLEY CALIFORNIA

DRAWING INDEX:

ALL LOCATIONS AND DEPTHS OF UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SIZES, DEPTHS, AND LOCATIONS OF ALL UTILITIES PRIOR TO PROCEEDING WITH ANY WORK OR ORDERING OF MATERIALS. ANY CHANGES TO THESE PLANS AND SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER.

CONTRACTOR SHALL NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 1-800-227-2600, A MINIMUM OF 48 HOURS BEFORE BEGINNING ANY EXCAVATIONS.

1-800-227-2600 CALL BEFORE YOU DIG — USA — UNDERGROUND SERVICE ALERT

REGISTERED PROFESSIONAL ENGINEER — M. COSENTINO — No. C69084 — Exp. 06/30/24 — CIVIL — STATE OF CALIFORNIA

REVIEWED FOR CONFORMANCE WITH THE CITY OF OAKLEY STANDARDS AND REQUIREMENTS. APPROVAL FOR CONSTRUCTION IS SUBJECT TO THE INFORMATION SHOWN HEREIN. THE CITY OF OAKLEY AND THE UNDERSIGNED ARE NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY EXIST ON THE PLANS.

KEVIN ROHANI	CITY ENGINEER	DATE
R.C.E. NO. 51138		EXPIRES 09/2023

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

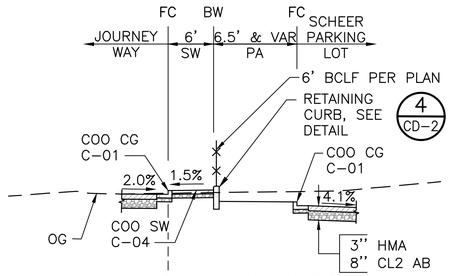
TITLE SHEET

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: AS NOTED
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number: T-1



RETAINING CURB
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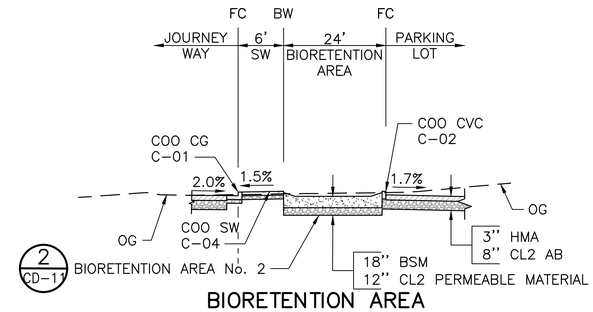

BIORETENTION AREA
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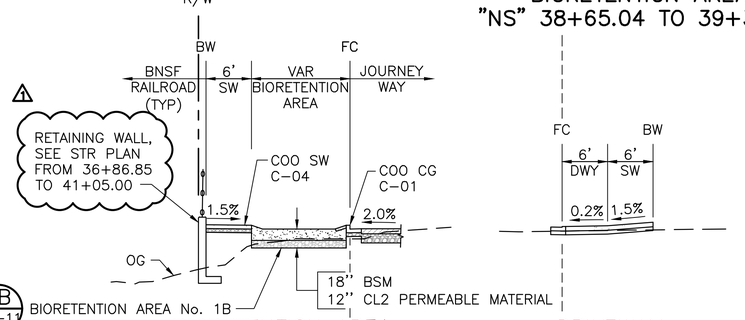
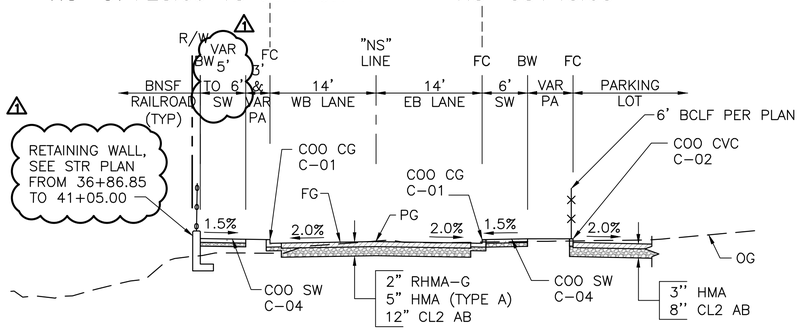


BIORETENTION AREA
"NS" 37+28.06 TO 37+79.74

DRIVEWAY
"NS" 38+45.03



JOURNEY WAY
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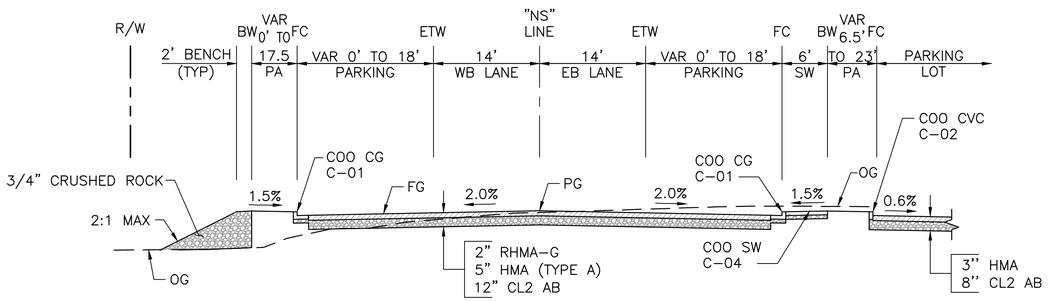

JOURNEY WAY
"NS" 35+96.61 TO 37+31.51

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CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

TYPICAL SECTIONS

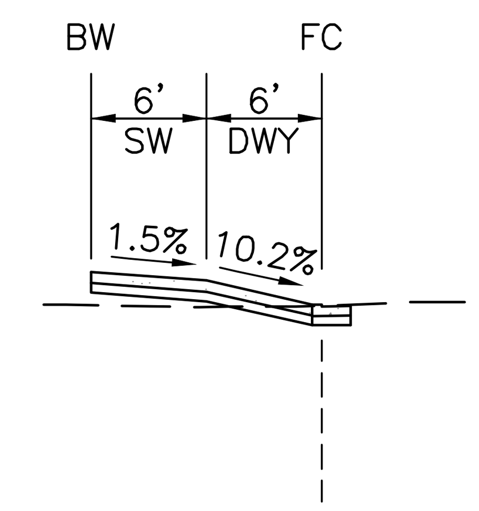
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

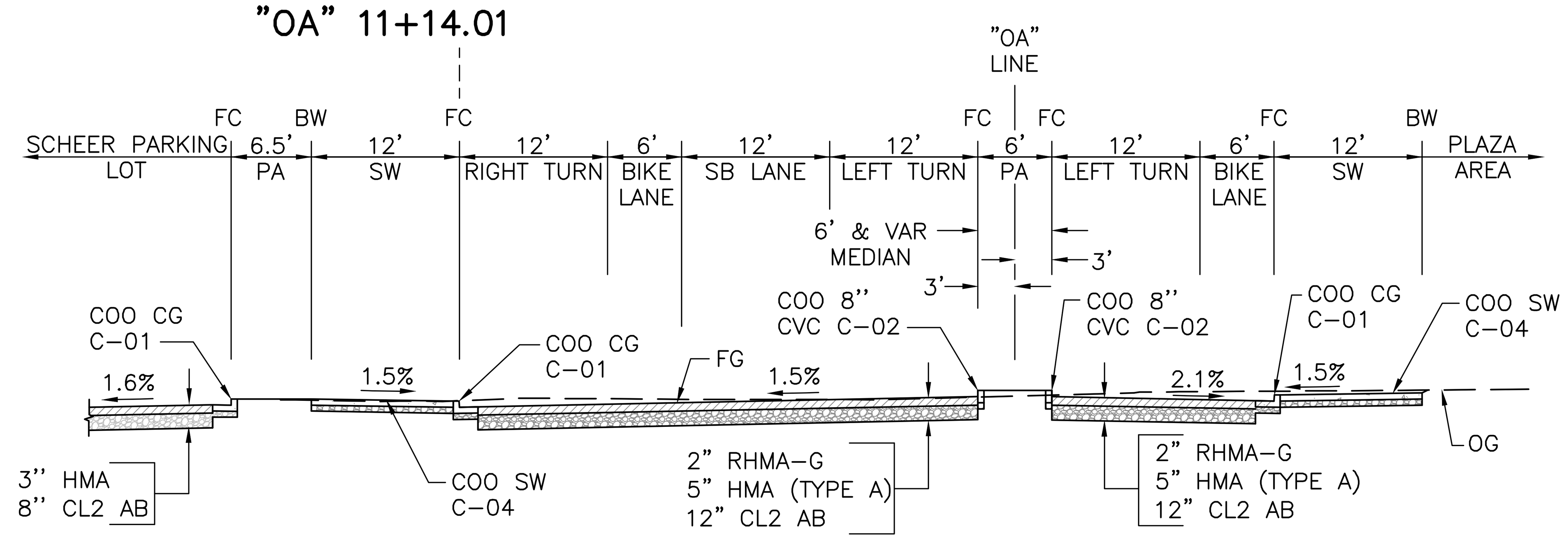
Date: 10/10/22
Scale: NO SCALE
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
X-1

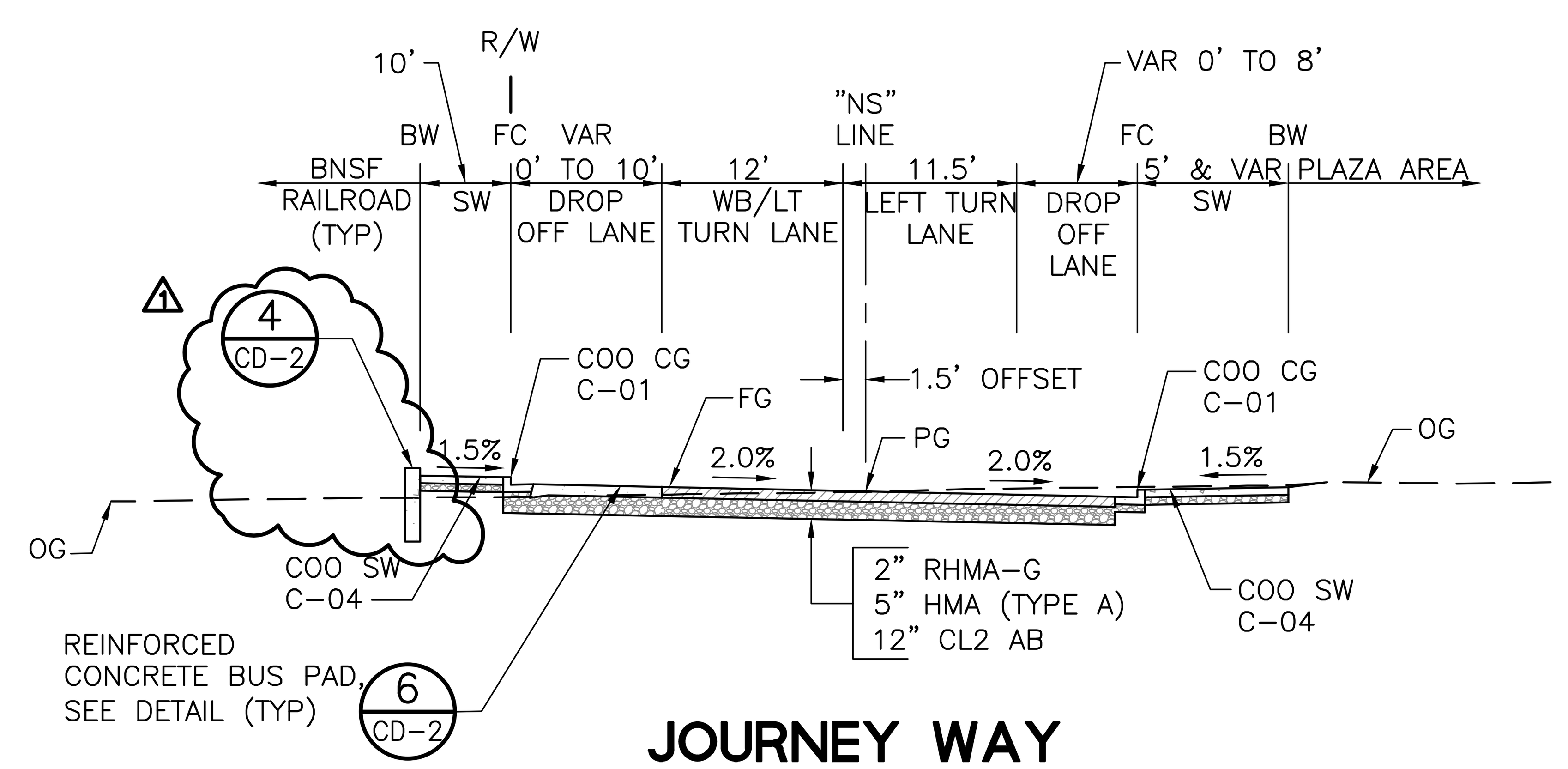
5 OF 81



DRIVEWAY
"OA" 11+14.01



O'HARA AVENUE
"OA" 10+65.83 TO 11+57.09



JOURNEY WAY
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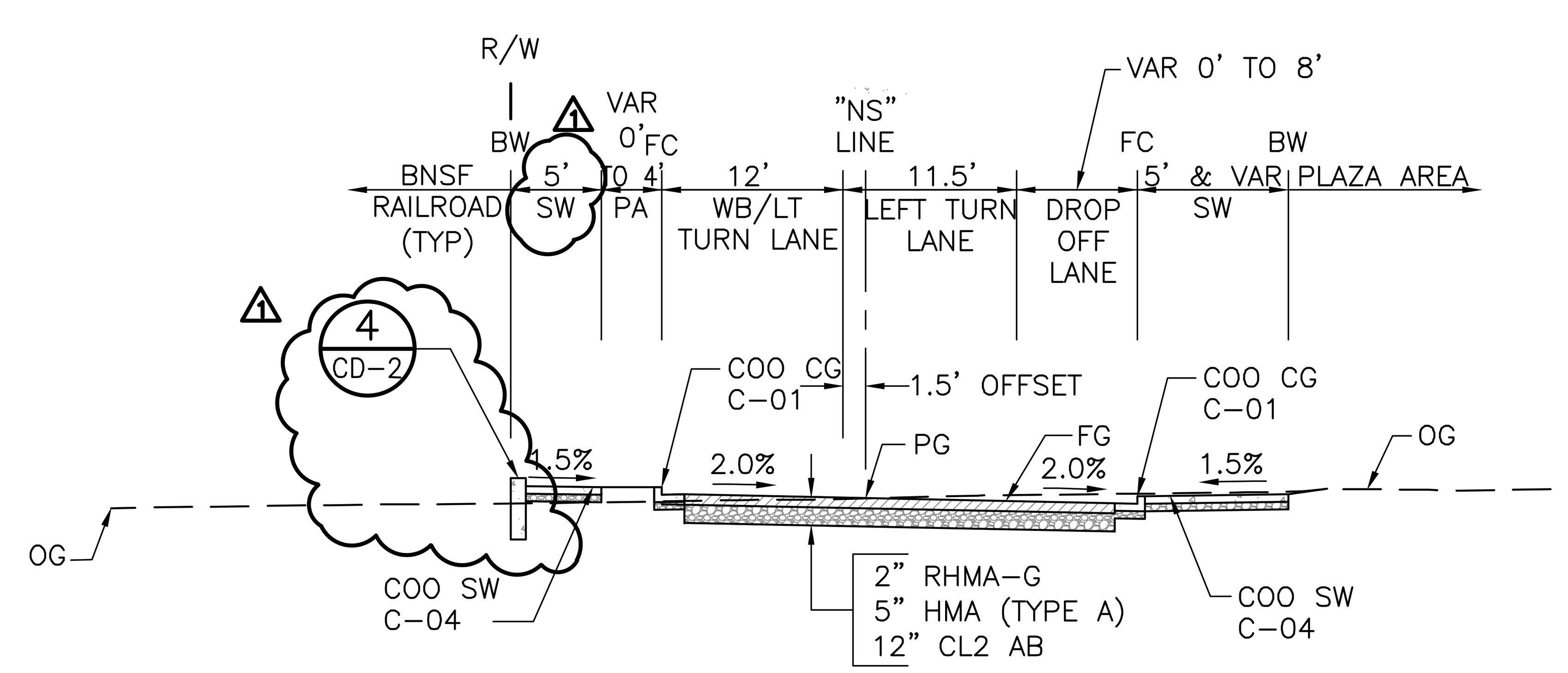

JOURNEY WAY
"NS" 43+08.24 TO 43+74.08

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OAKLEY
CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

TYPICAL SECTIONS

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

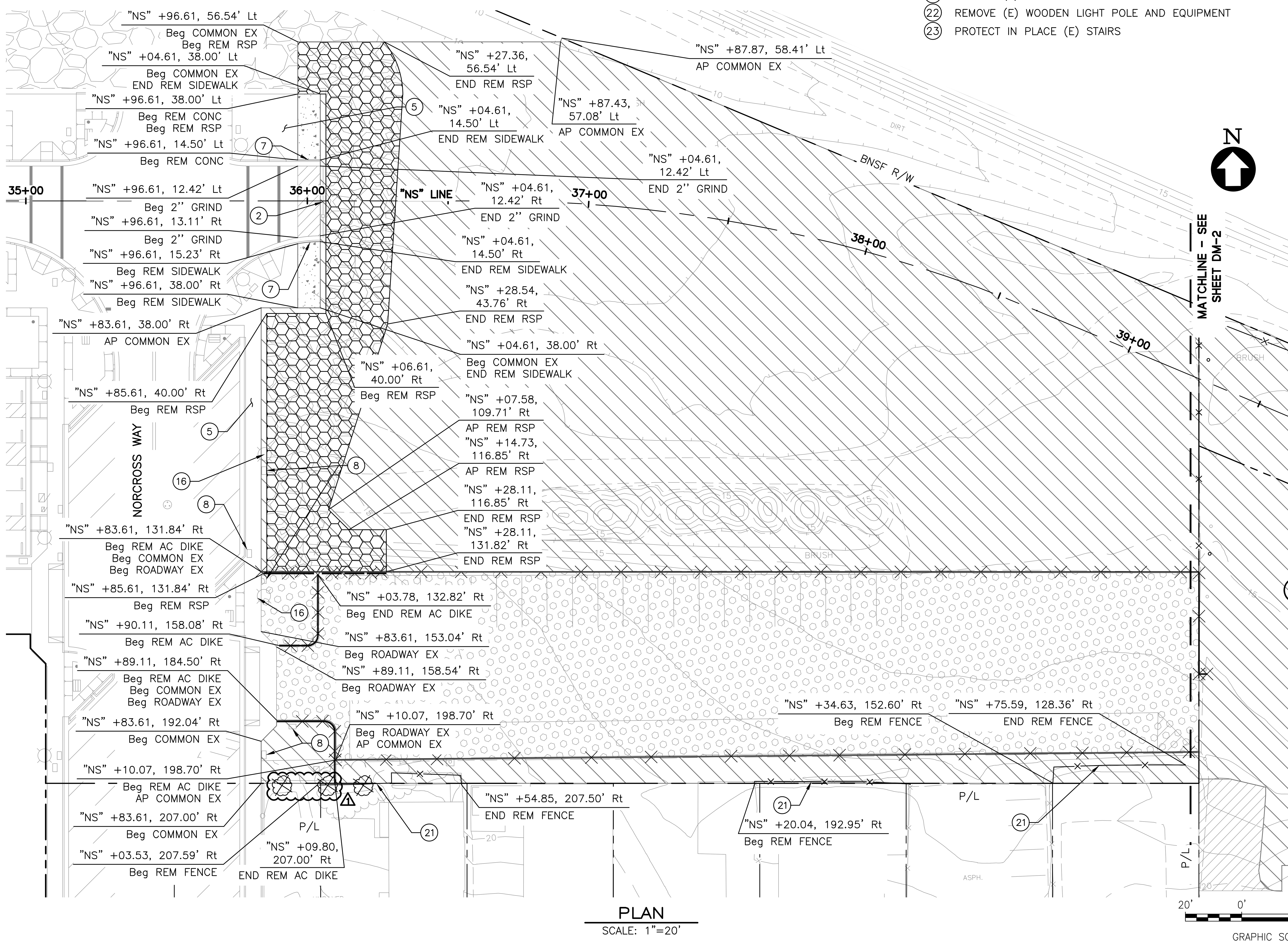
No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: NO SCALE
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
X-2

ITEMS OF WORK CONT':

(11) PROTECT IN PLACE (E) TRAFFIC SIGNAL POLE
(12) PROTECT IN PLACE (E) TREE
(13) PROTECT IN PLACE (E) BUILDING
(14) REMOVE (E) TEMPORARY K-RAIL
(15) REMOVE (E) WOOD BEAMS
(16) PROTECT (E) STREET LIGHT
(17) REMOVE (E) WOOD RETAINING WALL
(18) REMOVE (E) WOOD POST
(19) PROTECT (E) FH
(20) PROTECT (E) SEAT WALL AND PLANTER BOX
(21) REMOVE (E) FENCE
(22) REMOVE (E) WOODEN LIGHT POLE AND EQUIPMENT
(23) PROTECT IN PLACE (E) STAIRS



PLAN
SCALE: 1"=20'

NOTES:

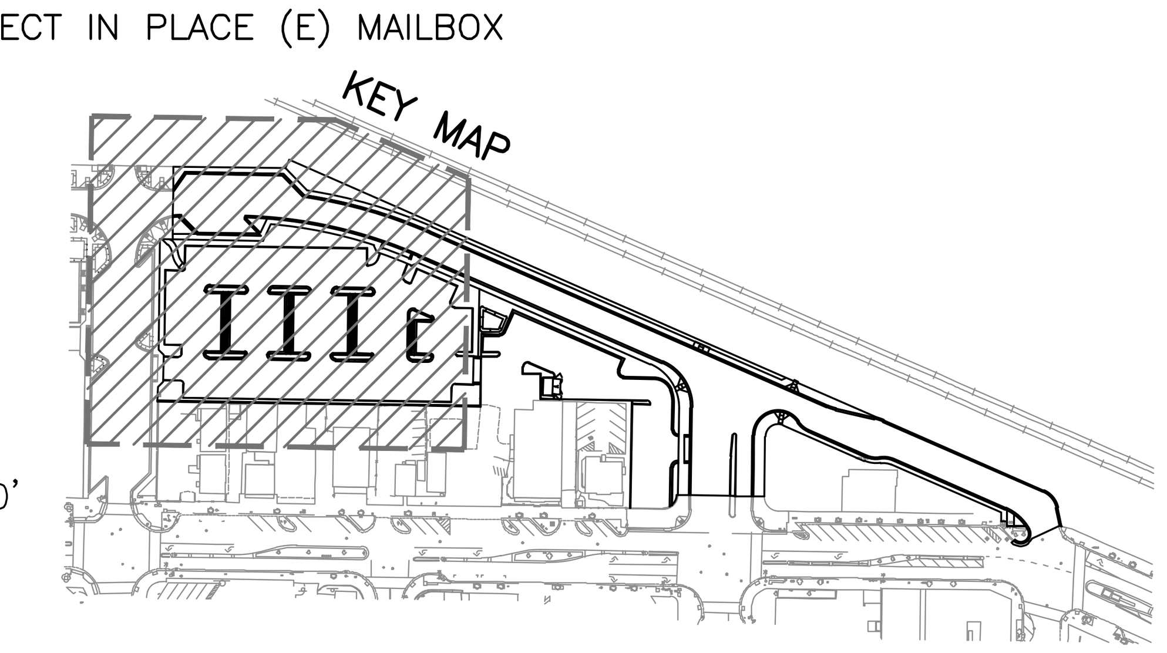
1. THIS PLAN IS ACCURATE FOR DEMOLITION WORK ONLY.
2. FOR GEOMETRY OF CONTROL LINE, SEE PROJECT CONTROL SHEET.
3. SAWCUT EXISTING PAVEMENT AND/OR PAVEMENT EDGE TO A NEAT LINE, PROTECT VERTICAL EDGE.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR THEIR OWN EARTHWORK QUANTITY CALCULATIONS.
5. NO COMPACTION OR EXPANSION FACTORS HAVE BEEN APPLIED.
6. REMOVE SIDEWALK AND GUTTER TO NEAREST SCOREMARK JOINT.
7. THE LINES AND THICKNESS SHOWN FOR THE REMOVAL OF PAVEMENT, CURB AND GUTTER, SIDEWALK AND ALL OTHER CIVIL CONSTRUCTION WORK ARE FOR INFORMATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXTENT OF WORK BASED ON THE SPACE REQUIRED TO PERFORM THE CONSTRUCTION WORK AND/OR THE CONTRACTOR'S MEANS AND METHODS AND REQUIREMENTS FOR SHORING EXCAVATION AND TEMPORARY SUPPORT.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ANY BENCHMARK OR MONUMENTATION. IF A BENCHMARK OR MONUMENTATION IS DISTURBED, THE CONTRACTOR SHALL HAVE A LICENSED LAND RESTORE THE BENCHMARK OR MONUMENTATION AT THE CONTRACTOR'S EXPENSE.
9. PAVEMENT, AGGREGATE BASE AND SUBGRADE MATERIAL SHALL BE REMOVED TO THE LINES AND GRADES SHOWN ON THESE PLANS. SEE GRADING PLANS GD-1 TO GD-3 FOR LIMITS OF EXCAVATION BEYOND THE GRADING PLANE.
10. FOR CUT AND FILL INFORMATION, SEE GRADING PLANS.
11. FOR RELOCATION OF UTILITIES, SEE UTILITY PLAN. FOR RELOCATION OF DRAINAGE FACILITIES, SEE GRADING AND DRAINAGE PLAN.
12. CONTRACTOR SHALL CLEAR AND GRUB ALL EXCAVATION AREAS PRIOR TO EXCAVATION.
13. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE FULL DURATION OF THE CONSTRUCTION CONTRACT. ADDITIONALLY, A TEMPORARY CHAIN LINK FENCE WITH DUST CONTROL BARRIER SHALL BE CONSTRUCTED AT 3478 MAIN STREET (110') AND AT 3530 MAIN STREET (150'). SEE DETAIL 1/– 2/–
14. CONTRACTOR SHALL PROTECT/ADJUST TO GRADE ANY UTILITY OR VALVE BOXES NOT SHOWN BEHIND BISTRO AND ON JOURNEY WAY.

LEGEND:

- REMOVE CONCRETE PAVEMENT AND BASE MATERIAL (SEE NOTE 9)
- ROADWAY EXCAVATION (SEE NOTE 9)
- COMMON EXCAVATION (SEE NOTE 9)
- 2" AC GRIND
- REMOVE RSP
- REMOVE CURB & GUTTER
- REMOVE AC DIKE
- 8' TEMP CLF WITH SCREEN (SEE NOTE 14)
- REMOVE FENCE
- REMOVE TREE
- (E) TREE
- (E) WOOD POLE
- (E) SIGN STRUCTURE

ITEMS OF WORK: (CONT' ABOVE)

(1) RELOCATE (E) TREE, FOR MORE INFORMATION, SEE LANDSCAPE PLANS AND SPECIFICATIONS
(2) REMOVE (E) BARRICADE
(3) PROTECT (E) TRASH RECEPTACLE
(4) PROJECT IN PLACE (E) CURB RAMP
(5) PROTECT IN PLACE (E) SIDEWALK/WALL/FENCE
(6) PROTECT IN PLACE (E) SEWER LIFT STATION
(7) PROTECT IN PLACE (E) CURB/AC DIKE
(8) PROTECT IN PLACE (E) UTILITY
(9) PROTECT IN PLACE (E) POWER POLE & GUY-WIRE
(10) PROTECT IN PLACE (E) MAILBOX



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OAKLEY
CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

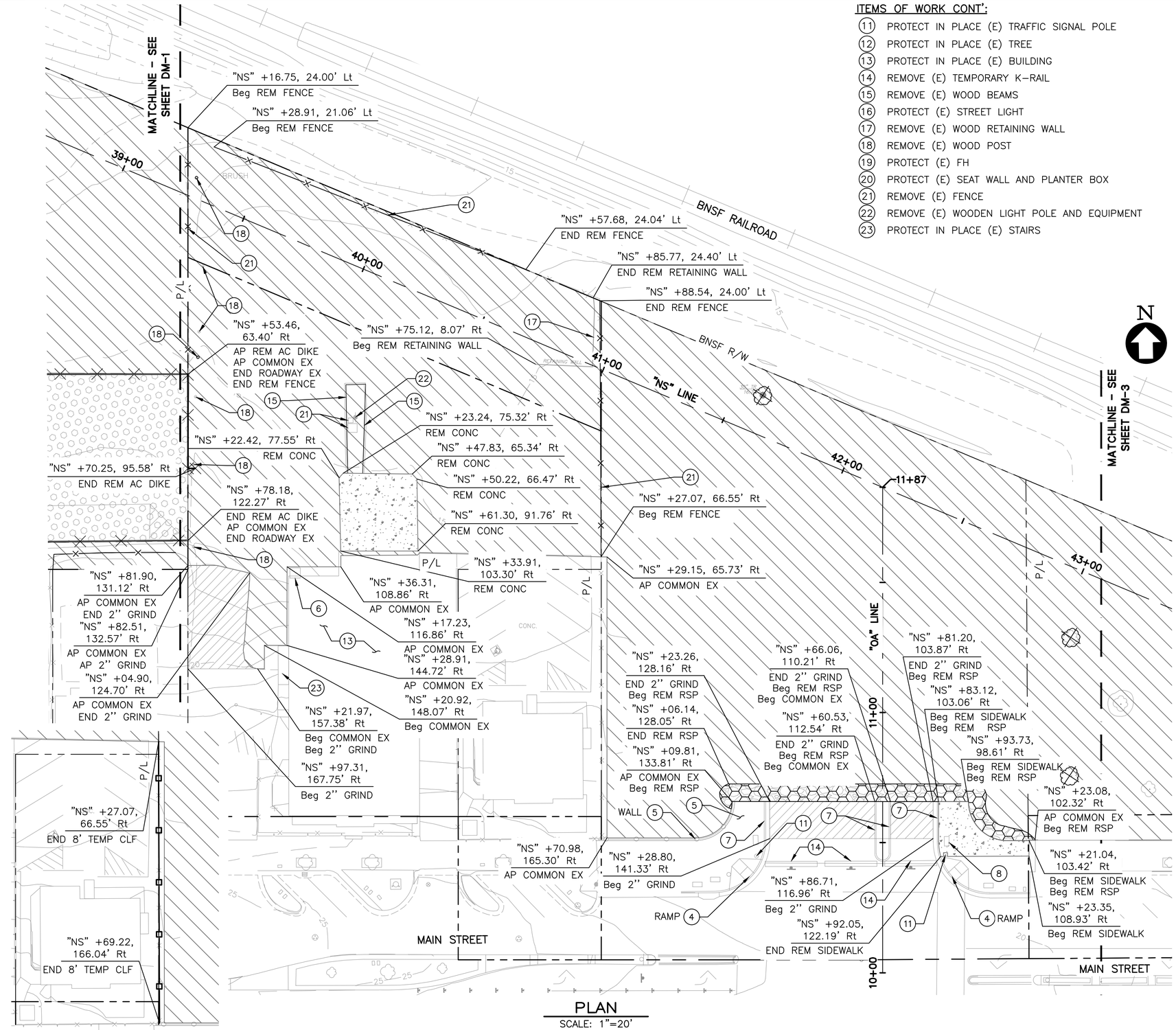
DEMOLITION PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
DM-1



PLAN
SCALE: 1"=20'

TEMPORARY FENCE
NTS
1
–

20' 0' 20' 40'
GRAPHIC SCALE

ITEMS OF WORK CONT':

11. PROTECT IN PLACE (E) TRAFFIC SIGNAL POLE
12. PROTECT IN PLACE (E) TREE
13. PROTECT IN PLACE (E) BUILDING
14. REMOVE (E) TEMPORARY K–RAIL
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18. REMOVE (E) WOOD POST
19. PROTECT (E) FH
20. PROTECT (E) SEAT WALL AND PLANTER BOX
21. REMOVE (E) FENCE
22. REMOVE (E) WOODEN LIGHT POLE AND EQUIPMENT
23. PROTECT IN PLACE (E) STAIRS

NOTES:

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3. SAWCUT EXISTING PAVEMENT AND/OR PAVEMENT EDGE TO A NEAT LINE, PROTECT VERTICAL EDGE.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR THEIR OWN EARTHWORK QUANTITY CALCULATIONS.
5. NO COMPACTION OR EXPANSION FACTORS HAVE BEEN APPLIED.
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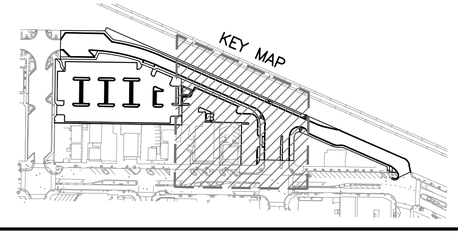
7. THE LINES AND THICKNESS SHOWN FOR THE REMOVAL OF PAVEMENT, CURB AND GUTTER, SIDEWALK AND ALL OTHER CIVIL CONSTRUCTION WORK ARE FOR INFORMATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXTENT OF WORK BASED ON THE SPACE REQUIRED TO PERFORM THE CONSTRUCTION WORK AND/OR THE CONTRACTOR'S MEANS AND METHODS AND REQUIREMENTS FOR SHORING EXCAVATION AND TEMPORARY SUPPORT.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ANY BENCHMARK OR MONUMENTATION. IF A BENCHMARK OR MONUMENTATION IS DISTURBED, THE CONTRACTOR SHALL HAVE A LICENSED LAND RESTORE THE BENCHMARK OR MONUMENTATION AT THE CONTRACTOR'S EXPENSE.
9. PAVEMENT, AGGREGATE BASE AND SUBGRADE MATERIAL SHALL BE REMOVED TO THE LINES AND GRADES SHOWN ON THESE PLANS. SEE GRADING PLANS GD–1 TO GD–3 FOR LIMITS OF EXCAVATION BEYOND THE GRADING PLANE.
10. FOR CUT AND FILL INFORMATION, SEE GRADING PLANS.
11. FOR RELOCATION OF UTILITIES, SEE UTILITY PLAN. FOR RELOCATION OF DRAINAGE FACILITIES, SEE GRADING AND DRAINAGE PLAN.
12. CONTRACTOR SHALL CLEAR AND GRUB ALL EXCAVATION AREAS PRIOR TO EXCAVATION.
13. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE FULL DURATION OF THE CONSTRUCTION CONTRACT. ADDITIONALLY, A TEMPORARY CHAIN LINK FENCE WITH DUST CONTROL BARRIER SHALL BE CONSTRUCTED AT 3478 MAIN STREET (110') AND AT 3530 MAIN STREET (150'). SEE DETAIL 1/2
14. CONTRACTOR SHALL PROTECT/ADJUST TO GRADE ANY UTILITY OR VALVE BOXES NOT SHOWN BEHIND BISTRO AND ON JOURNEY WAY.

LEGEND:

- REMOVE CONCRETE PAVEMENT AND BASE MATERIAL (SEE NOTE 9)
- ROADWAY EXCAVATION (SEE NOTE 9)
- COMMON EXCAVATION (SEE NOTE 9)
- 2" AC GRIND
- REMOVE RSP
- REMOVE CURB & GUTTER
- REMOVE AC DIKE
- 8' TEMP CLF WITH SCREEN (SEE NOTE 14)
- REMOVE FENCE
- REMOVE TREE
- (E) TREE
- (E) WOOD POLE
- (E) SIGN STRUCTURE

ITEMS OF WORK: (CONT' ABOVE)

1. RELOCATE (E) TREE, FOR MORE INFORMATION, SEE LANDSCAPE PLANS AND SPECIFICATIONS ⚠1
2. REMOVE (E) BARRICADE
3. PROTECT (E) TRASH RECEPTACLE
4. PROJECT IN PLACE (E) CURB RAMP
5. PROTECT IN PLACE (E) SIDEWALK/WALL/FENCE
6. PROTECT IN PLACE (E) SEWER LIFT STATION
7. PROTECT IN PLACE (E) CURB/AC DIKE
8. PROTECT IN PLACE (E) UTILITY
9. PROTECT IN PLACE (E) POWER POLE & GUY–WIRE
10. PROTECT IN PLACE (E) MAILBOX



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OAKLEY
CALIFORNIA

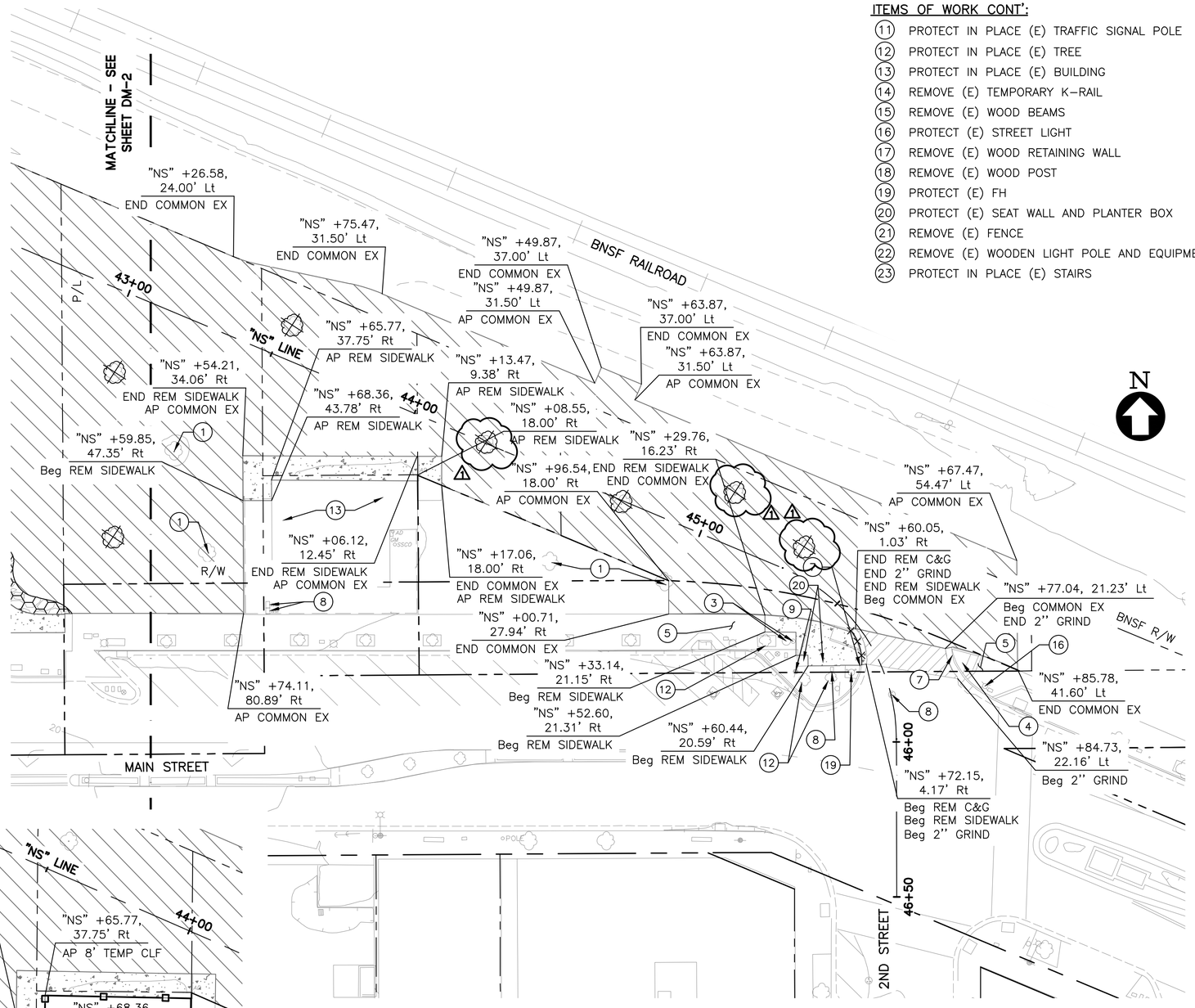
CIP 205 – DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
CALIFORNIA

DEMOLITION PLAN
OAKLEY
CONTRA COSTA COUNTY

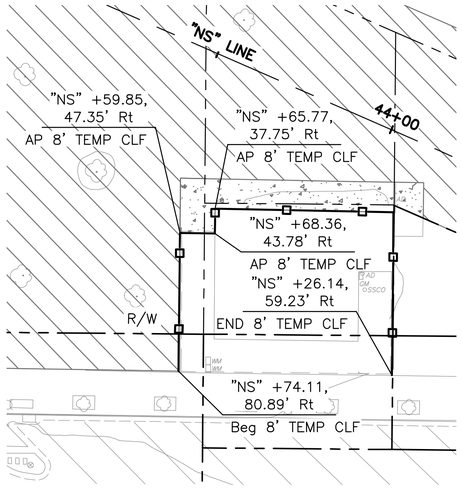
No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837–10

Drawing Number:
DM–2
9 OF 81



PLAN
SCALE: 1"=20'



TEMPORARY FENCE (2)
NTS

ITEMS OF WORK CONT':

11. PROTECT IN PLACE (E) TRAFFIC SIGNAL POLE
12. PROTECT IN PLACE (E) TREE
13. PROTECT IN PLACE (E) BUILDING
14. REMOVE (E) TEMPORARY K–RAIL
15. REMOVE (E) WOOD BEAMS
16. PROTECT (E) STREET LIGHT
17. REMOVE (E) WOOD RETAINING WALL
18. REMOVE (E) WOOD POST
19. PROTECT (E) FH
20. PROTECT (E) SEAT WALL AND PLANTER BOX
21. REMOVE (E) FENCE
22. REMOVE (E) WOODEN LIGHT POLE AND EQUIPMENT
23. PROTECT IN PLACE (E) STAIRS

NOTES:

1. THIS PLAN IS ACCURATE FOR DEMOLITION WORK ONLY.
2. FOR GEOMETRY OF CONTROL LINE, SEE PROJECT CONTROL SHEET.
3. SAWCUT EXISTING PAVEMENT AND/OR PAVEMENT EDGE TO A NEAT LINE, PROTECT VERTICAL EDGE.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR THEIR OWN EARTHWORK QUANTITY CALCULATIONS.
5. NO COMPACTION OR EXPANSION FACTORS HAVE BEEN APPLIED.
6. REMOVE SIDEWALK AND GUTTER TO NEAREST SCOREMARK JOINT.
7. THE LINES AND THICKNESS SHOWN FOR THE REMOVAL OF PAVEMENT, CURB AND GUTTER, SIDEWALK AND ALL OTHER CIVIL CONSTRUCTION WORK ARE FOR INFORMATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXTENT OF WORK BASED ON THE SPACE REQUIRED TO PERFORM THE CONSTRUCTION WORK AND/OR THE CONTRACTOR'S MEANS AND METHODS AND REQUIREMENTS FOR SHORING EXCAVATION AND TEMPORARY SUPPORT.
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10. FOR CUT AND FILL INFORMATION, SEE GRADING PLANS.
11. FOR RELOCATION OF UTILITIES, SEE UTILITY PLAN. FOR RELOCATION OF DRAINAGE FACILITIES, SEE GRADING AND DRAINAGE PLAN.
12. CONTRACTOR SHALL CLEAR AND GRUB ALL EXCAVATION AREAS PRIOR TO EXCAVATION.
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LEGEND:

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- ROADWAY EXCAVATION (SEE NOTE 9)
- COMMON EXCAVATION (SEE NOTE 9)
- 2" AC GRIND
- REMOVE RSP
- REMOVE CURB & GUTTER
- REMOVE AC DIKE
- 8' TEMP CLF WITH SCREEN (SEE NOTE 14)
- REMOVE FENCE
- REMOVE TREE
- (E) TREE
- (E) WOOD POLE
- (E) SIGN STRUCTURE

ITEMS OF WORK: (CONT' ABOVE)

1. RELOCATE (E) TREE, FOR MORE INFORMATION, SEE LANDSCAPE PLANS AND SPECIFICATIONS ⚠1
2. REMOVE (E) BARRICADE
3. PROTECT (E) TRASH RECEPTACLE
4. PROJECT IN PLACE (E) CURB RAMP
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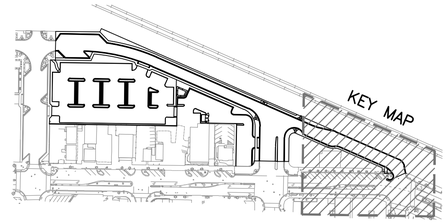
8. PROTECT IN PLACE (E) UTILITY
9. PROTECT IN PLACE (E) POWER POLE & GUY–WIRE
10. PROTECT IN PLACE (E) MAILBOX

20' 0' 20' 40'
GRAPHIC SCALE



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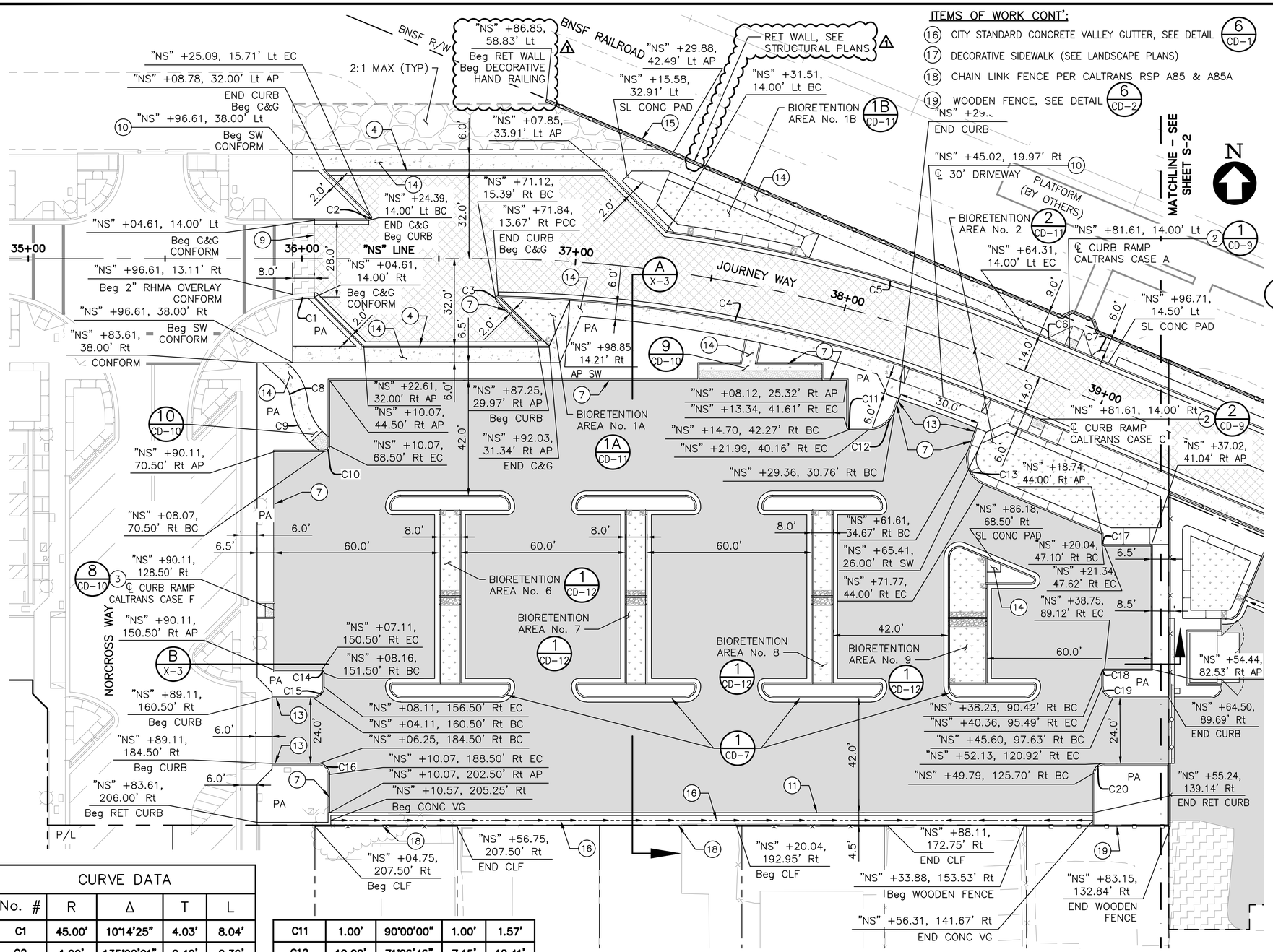
OAKLEY
CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
DEMOLITION PLAN
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
DM–3
10 OF 81



PLAN
SCALE: 1"=20'

ITEMS OF WORK CONT':

16. CITY STANDARD CONCRETE VALLEY GUTTER, SEE DETAIL 6/CD-1
17. DECORATIVE SIDEWALK (SEE LANDSCAPE PLANS)
18. CHAIN LINK FENCE PER CALTRANS RSP A85 & A85A
19. WOODEN FENCE, SEE DETAIL 6/CD-2

NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE DRAWING GN-1.
2. FOR GEOMETRY OF CONTROL LINE, SEE PROJECT CONTROL DRAWING.
3. FOR GRADING AND DRAINAGE INFORMATION, SEE GRADING PLAN.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ANY BENCHMARK OR MONUMENTATION. IF A BENCHMARK OR MONUMENTATION IS DISTURBED, THE CONTRACTOR SHALL HAVE A LICENSED LAND SURVEYOR RESTORE THE BENCHMARK OR MONUMENTATION AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR SHALL VERIFY ALL LINES AND GRADES AS FIELD CONDITIONS MIGHT HAVE CHANGED. IF A DISCREPANCY IS FOUND THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER IMMEDIATELY.
6. FOR STREET LIGHT LOCATIONS, SEE ELECTRICAL PLANS.
7. FOR PLANTING, SEE LANDSCAPE PLANS.
8. FOR BIORETENTION AREA DETAILS, SEE DRAWINGS CD-11 THRU CD-15.
9. FOR CURB RAMP DETAILS, SEE DRAWINGS CA-9 AND CA-10.
10. CONTRACTOR SHALL BACKFILL AREA WITH NATIVE MATERIAL AND 3" MULCH. SET FLUSH WITH TOP OF CURB.
11. FOR DECORATIVE SIDEWALK, CITY STANDARD SIDEWALK DETAILS SHALL APPLY.
12. FOR SLURRY SEAL WORK ALONG MAIN ST BETWEEN NORCROSS LANE AND 2ND ST, SEE SIGNING AND STRIPING PLANS. ⚠1

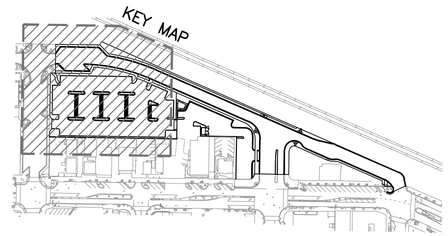
LEGEND:

- 3" HMA (TYPE A), 8" AB (CI 2)
- 2" RHMA-G, 5" HMA (TYPE A), 12" CL 2 AB
- DETECTABLE WARNING SURFACE
- BIORETENTION AREA
- PCC SIDEWALK OR DRIVEWAY
- DECORATIVE SIDEWALK (SEE LANDSCAPE PLANS)
- REINFORCED CONCRETE BUS PAD — 7/CD-1, 8/CD-1
- STAMPED CROSSWALK ASPHALT PAVING (SEE SIGNING AND STRIPING PLANS) ⚠1 — 2/CD-2
- 2" RHMA OVERLAY
- ROCK SLOPE PROTECTION — 3/CD-2
- CONCRETE VALLEY GUTTER
- CURB AND GUTTER
- VERTICAL CURB
- RETAINING WALL
- DECORATIVE HAND RAILING ⚠1
- TOP OF CUT
- TOE OF CUT

ITEMS OF WORK: (CONT' ABOVE)

1. CURB RAMP (CALTRANS CASE A), SEE DETAIL 1/CD-1
2. CURB RAMP (CALTRANS CASE C), SEE DETAIL 1/CD-1
3. CURB RAMP (CALTRANS CASE F), SEE DETAIL 1/CD-1
4. CITY STANDARD CURB & GUTTER, SEE DETAIL 2/CD-1
5. DEEPENED CURB & GUTTER, SEE DETAIL 1/CD-15
6. CITY STANDARD VERTICAL 8" CURB, SEE DETAIL 3/CD-1
7. CITY STANDARD VERTICAL 6" CURB, SEE DETAIL 3/CD-1
8. DEEPENED VERTICAL CURB, SEE DETAIL 2/CD-15
9. RHMA CONFORM, SEE DETAIL 2/CD-2
10. CITY STANDARD DRIVEWAY, SEE DETAIL 4/CD-1
11. RETAINING CURB, SEE DETAIL 4/CD-2
12. 6' BLACK CHAIN LINK FENCE PER CALTRANS RSP A85 & A85A
13. 1' RETAINING CURB TAPER, SEE DETAIL 1/CD-2
14. CITY STANDARD SIDEWALK, SEE DETAIL 5/CD-1
15. RETAINING WALL W/ HANDRAIL, SEE STRUCTURAL PLANS

KEY MAP



20' 0' 20' 40'
GRAPHIC SCALE

CURVE DATA				
No. #	R	Δ	T	L
C1	45.00'	10°14'25"	4.03'	8.04'
C2	1.00'	135°02'01"	2.42'	2.36'
C3	1.00'	135°49'00"	2.46'	2.37'
C4	485.76'	21°57'58"	94.27'	186.23'
C5	514.00'	15°13'04"	68.66'	136.52'
C6	3.00'	90°00'00"	3.00'	4.71'
C7	4.00'	90°00'00"	4.00'	6.28'
C8	14.00'	41°02'08"	5.24'	10.03'
C9	26.00'	46°09'21"	11.08'	20.94'
C10	2.00'	90°00'00"	2.00'	3.14'
C11	1.00'	90°00'00"	1.00'	1.57'
C12	10.00'	71°06'46"	7.15'	12.41'
C13	10.00'	86°06'17"	9.34'	15.03'
C14	1.00'	90°00'00"	1.00'	1.57'
C15	4.00'	90°00'00"	4.00'	6.28'
C16	4.00'	90°00'00"	4.00'	6.28'
C17	1.00'	90°00'00"	1.00'	1.57'
C18	1.00'	90°00'00"	1.00'	1.57'
C19	4.00'	90°00'00"	4.00'	6.28'
C20	4.00'	90°00'00"	4.00'	6.28'

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OAKLEY
CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

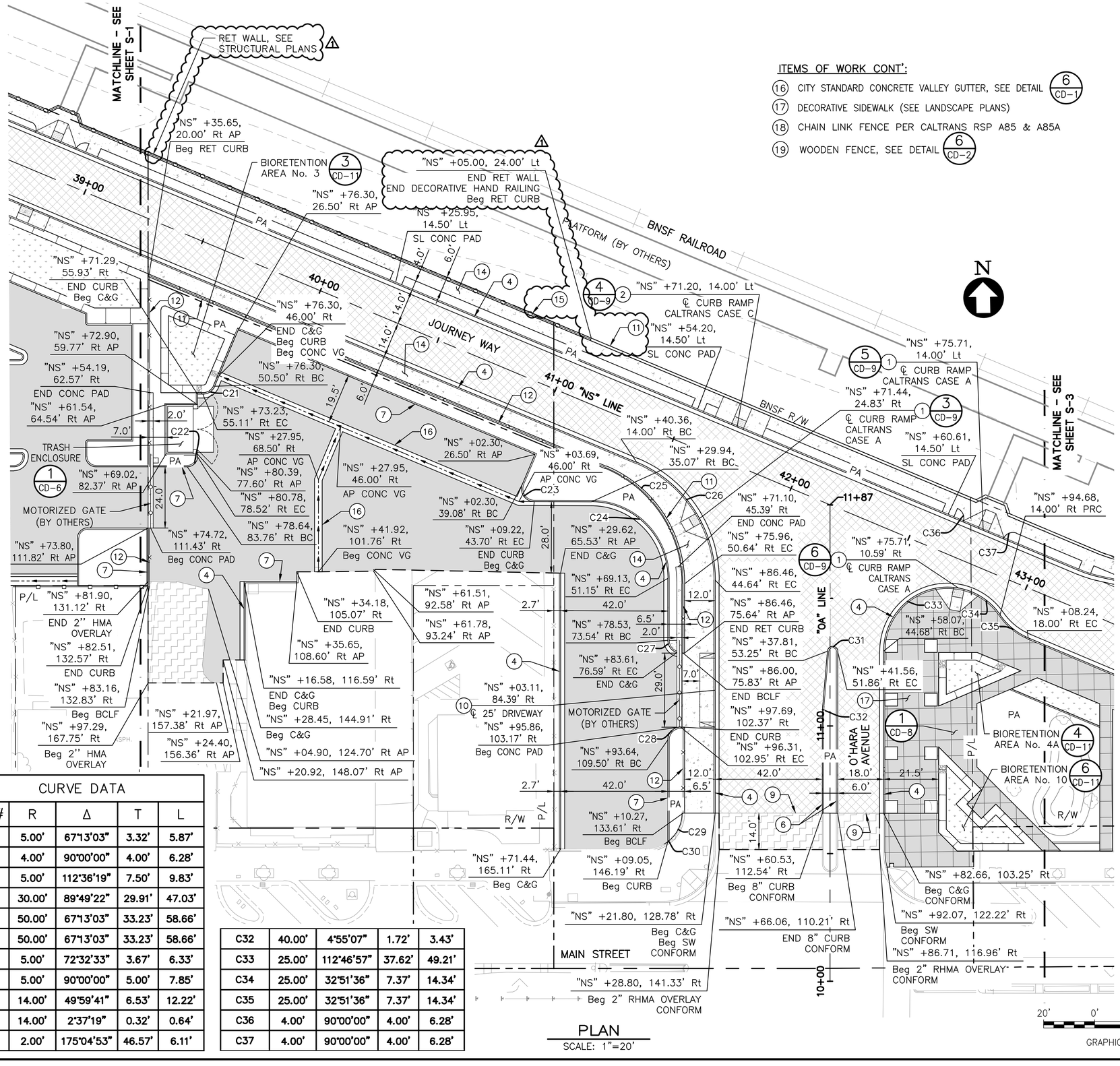
SITE PLAN

OAKLEY — CONTRA COSTA COUNTY — CALIFORNIA

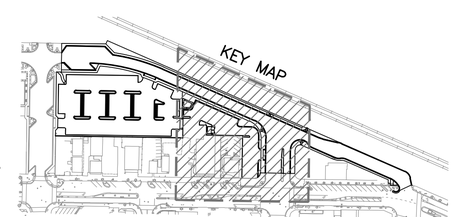
No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
S-1
11 OF 81



PLAN
SCALE: 1"=20'



20' 0' 20' 40'
GRAPHIC SCALE

CURVE DATA

No. #	R	Δ	T	L
C21	5.00'	67°13'03"	3.32'	5.87'
C22	4.00'	90°00'00"	4.00'	6.28'
C23	5.00'	112°36'19"	7.50'	9.83'
C24	30.00'	89°49'22"	29.91'	47.03'
C25	50.00'	67°13'03"	33.23'	58.66'
C26	50.00'	67°13'03"	33.23'	58.66'
C27	5.00'	72°32'33"	3.67'	6.33'
C28	5.00'	90°00'00"	5.00'	7.85'
C29	14.00'	49°59'41"	6.53'	12.22'
C30	14.00'	2°37'19"	0.32'	0.64'
C31	2.00'	175°04'53"	46.57'	6.11'
C32	40.00'	4°55'07"	1.72'	3.43'
C33	25.00'	112°46'57"	37.62'	49.21'
C34	25.00'	32°51'36"	7.37'	14.34'
C35	25.00'	32°51'36"	7.37'	14.34'
C36	4.00'	90°00'00"	4.00'	6.28'
C37	4.00'	90°00'00"	4.00'	6.28'

ITEMS OF WORK CONT':

16. CITY STANDARD CONCRETE VALLEY GUTTER, SEE DETAIL 6/CD-1
17. DECORATIVE SIDEWALK (SEE LANDSCAPE PLANS)
18. CHAIN LINK FENCE PER CALTRANS RSP A85 & A85A
19. WOODEN FENCE, SEE DETAIL 6/CD-2

NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE DRAWING GN-1.
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8. FOR BIORETENTION AREA DETAILS, SEE DRAWINGS CD-11 THRU CD-15.
9. FOR CURB RAMP DETAILS, SEE DRAWINGS CA-9 AND CA-10.
10. CONTRACTOR SHALL BACKFILL AREA WITH NATIVE MATERIAL AND 3" MULCH. SET FLUSH WITH TOP OF CURB.
11. FOR DECORATIVE SIDEWALK, CITY STANDARD SIDEWALK DETAILS SHALL APPLY.
12. FOR SLURRY SEAL WORK ALONG MAIN ST BETWEEN NORCROSS LANE AND 2ND ST, SEE SIGNING AND STRIPING PLANS. ⚠1

LEGEND:

- 3" HMA (TYPE A), 8" AB (CI 2)
- 2" RHMA-G, 5" HMA (TYPE A), 12" CL 2 AB
- DETECTABLE WARNING SURFACE
- BIORETENTION AREA
- PCC SIDEWALK OR DRIVEWAY
- DECORATIVE SIDEWALK (SEE LANDSCAPE PLANS)
- REINFORCED CONCRETE BUS PAD
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- 2" RHMA OVERLAY
- ROCK SLOPE PROTECTION
- CONCRETE VALLEY GUTTER
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- VERTICAL CURB
- RETAINING WALL
- DECORATIVE HAND RAILING ⚠1
- TOP OF CUT
- TOE OF CUT

ITEMS OF WORK: (CONT' ABOVE)

1. CURB RAMP (CALTRANS CASE A), SEE DETAIL 1/CD-1
2. CURB RAMP (CALTRANS CASE C), SEE DETAIL 1/CD-1
3. CURB RAMP (CALTRANS CASE F), SEE DETAIL 1/CD-1
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5. DEEPENED CURB & GUTTER, SEE DETAIL 1/CD-15
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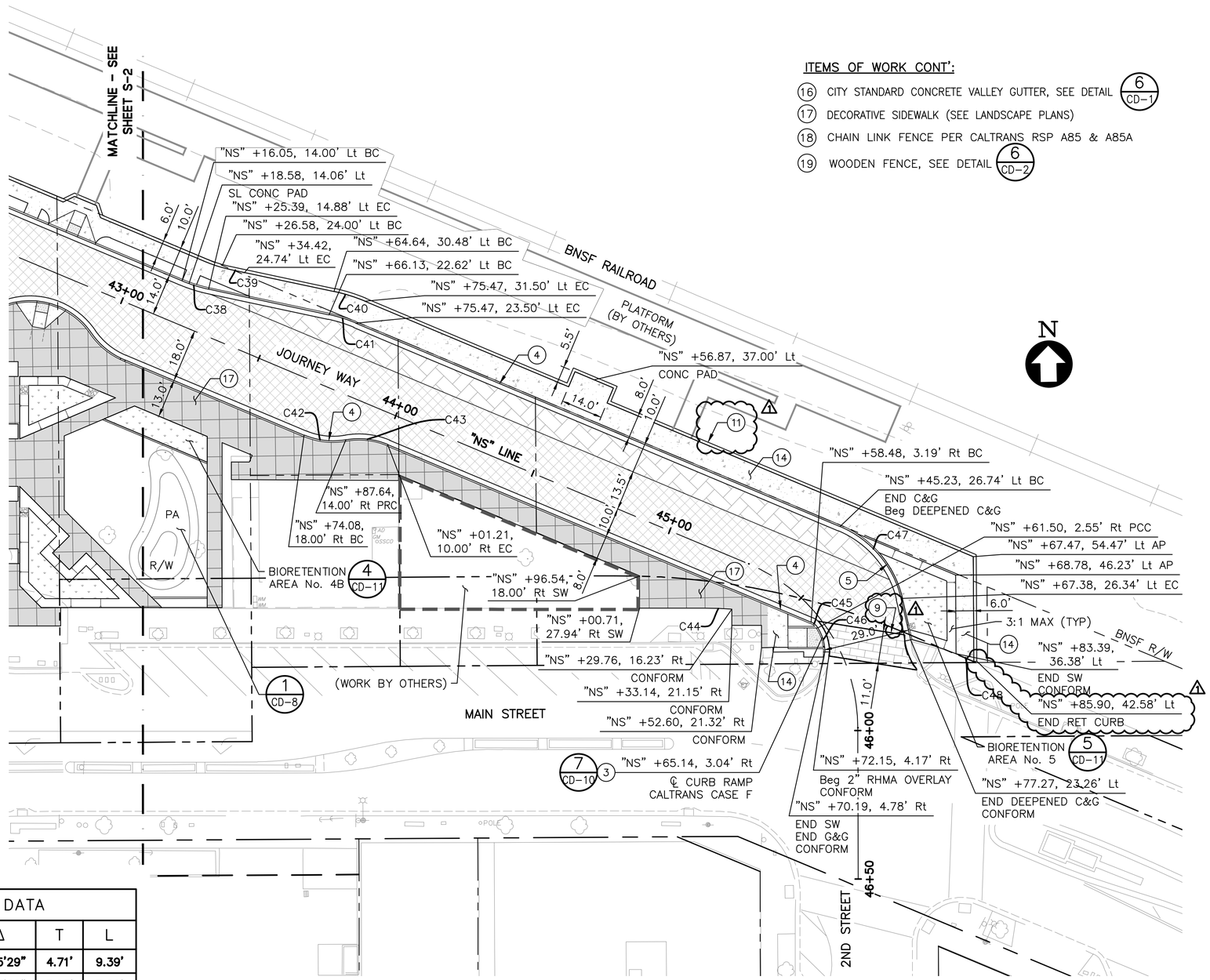
CIP 205 – DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
SITE PLAN
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
S-2
12 OF 81



PLAN
SCALE: 1"=20'

ITEMS OF WORK CONT':

16. CITY STANDARD CONCRETE VALLEY GUTTER, SEE DETAIL 6 / CD-1
17. DECORATIVE SIDEWALK (SEE LANDSCAPE PLANS)
18. CHAIN LINK FENCE PER CALTRANS RSP A85 & A85A
19. WOODEN FENCE, SEE DETAIL 6 / CD-2

NOTES:

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LEGEND:

- 3" HMA (TYPE A), 8" AB (CI 2)
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- DETECTABLE WARNING SURFACE
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- PCC SIDEWALK OR DRIVEWAY
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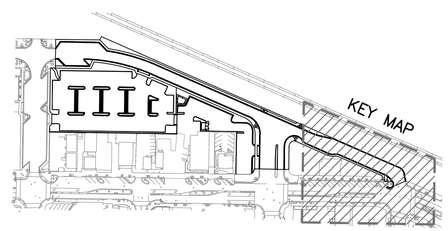
- STAMPED CROSSWALK ASPHALT PAVING (SEE SIGNING AND STRIPING PLANS) — 2 / CD-2
- 2" RHMA OVERLAY ⚠1
- ROCK SLOPE PROTECTION — 3 / CD-2
- CONCRETE VALLEY GUTTER
- CURB AND GUTTER
- VERTICAL CURB
- RETAINING WALL
- DECORATIVE HAND RAILING ⚠1
- TOP OF CUT
- TOE OF CUT

ITEMS OF WORK: (CONT' ABOVE)

1. CURB RAMP (CALTRANS CASE A), SEE DETAIL 1 / CD-1
2. CURB RAMP (CALTRANS CASE C), SEE DETAIL 1 / CD-1
3. CURB RAMP (CALTRANS CASE F), SEE DETAIL 1 / CD-1
4. CITY STANDARD CURB & GUTTER, SEE DETAIL 2 / CD-1
5. DEEPENED CURB & GUTTER, SEE DETAIL 1 / CD-15
6. CITY STANDARD VERTICAL 8" CURB, SEE DETAIL 3 / CD-1
7. CITY STANDARD VERTICAL 6" CURB, SEE DETAIL 3 / CD-1
8. DEEPENED VERTICAL CURB, SEE DETAIL 2 / CD-15
9. RHMA CONFORM, SEE DETAIL 2 / CD-2
10. CITY STANDARD DRIVEWAY, SEE DETAIL 4 / CD-1
11. RETAINING CURB, SEE DETAIL 4 / CD-2
12. 6' BLACK CHAIN LINK FENCE PER CALTRANS RSP A85 & A85A
13. 1' RETAINING CURB TAPER, SEE DETAIL 1 / CD-2
14. CITY STANDARD SIDEWALK, SEE DETAIL 5 / CD-1
15. RETAINING WALL W/ HANDRAIL, SEE STRUCTURAL PLANS

CURVE DATA				
No. #	R	Δ	T	L
C38	50.00'	10°45'29"	4.71'	9.39'
C39	42.00'	10°45'29"	3.95'	7.89'
C40	58.00'	10°45'29"	5.46'	10.89'
C41	50.00'	10°45'29"	4.71'	9.39'
C42	25.00'	32°51'36"	7.37'	14.34'
C43	25.00'	32°51'36"	7.37'	14.34'
C44	144.36'	3°43'54"	4.70'	9.40'
C45	5.00'	34°18'08"	1.54'	2.99'
C46	15.00'	32°45'11"	4.41'	8.57'
C47	35.00'	53°57'49"	17.82'	32.96'
C48	120.00'	3°07'29"	3.27'	6.54'

20' 0' 20' 40'
GRAPHIC SCALE



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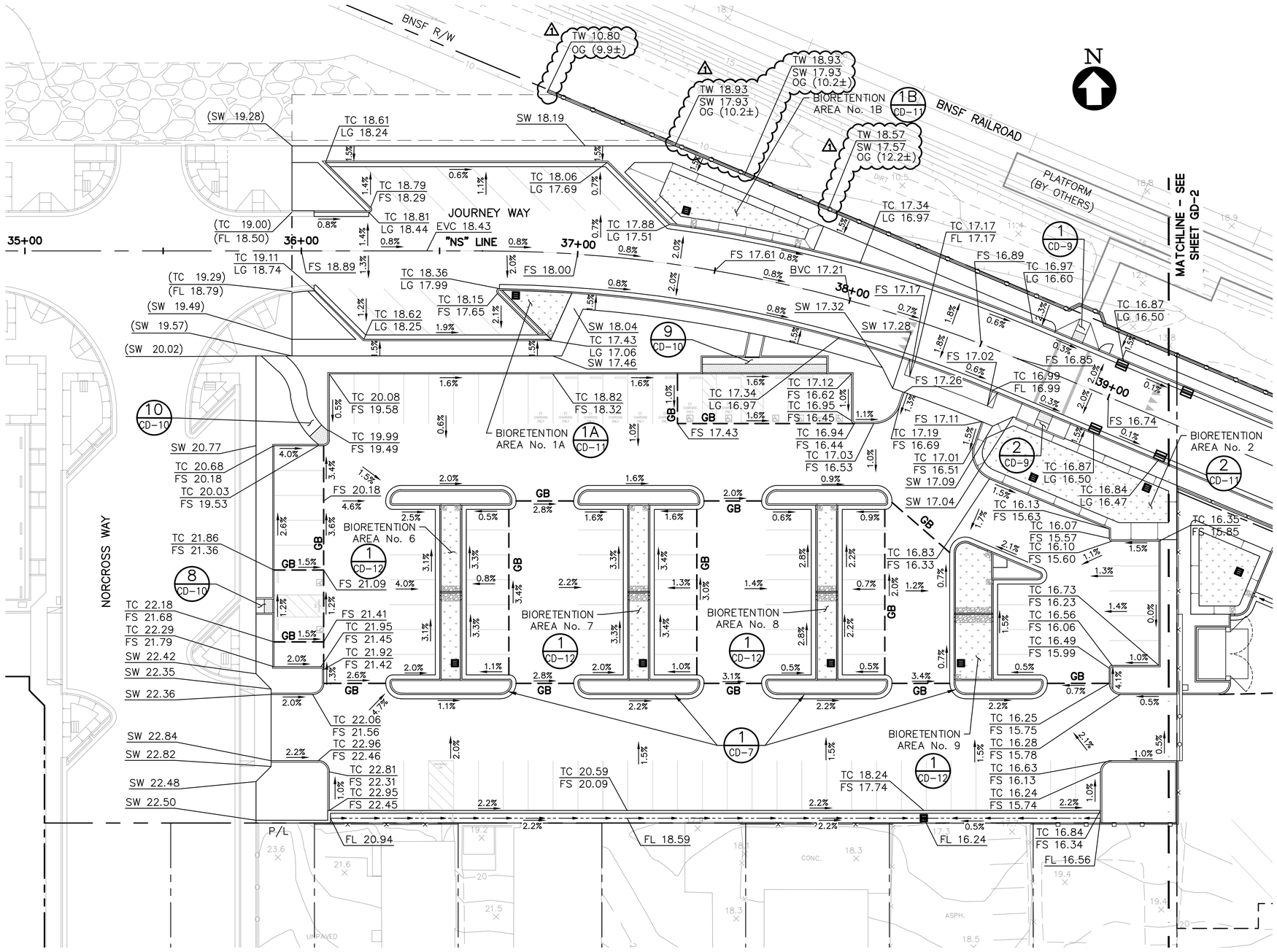
CIP 205 – DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
SITE PLAN
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

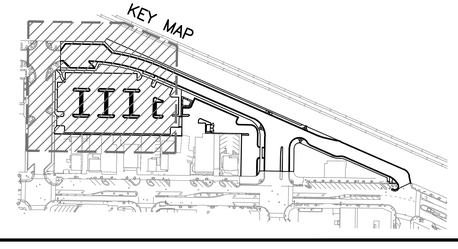
Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No:20181837-10

Drawing Number:
S-3
13 OF 81



PLAN
SCALE: 1"=20'

20' 0' 20' 40'
GRAPHIC SCALE



NOTES:

1. FOR GENERAL NOTES AND ABBREVIATIONS, SEE DRAWING GN-1.
2. FOR GEOMETRY OF CONTROL, SEE SITE PLAN.
3. THIS PLAN IS ACCURATE FOR GRADING ONLY.
4. CONTRACTORS SHALL COORDINATE WITH CITY FOR INSTALLATION OF DEEPENED CURBS FOR BIORETENTION AREAS.
5. CONTRACTOR SHALL CONFORM TO EXISTING GROUND AT 3:1 MAX.
6. FOR DRAINAGE WORK, SEE DRAINAGE PLANS.
7. TRASH ENCLOSURE PAD TO SLOPE TOWARDS SANITARY SEWER DRAIN LOCATED INSIDE OF ENCLOSURE.

LEGEND:

- Exist STORM DRAIN INLET
- PROPOSED STORM DRAIN INLET
- GB — GRADE BREAK
- PROPOSED CURB DRAIN
- CONCRETE VALLEY GUTTER
- TOP OF CUT / TOE OF CUT
- (XX.XX) Exist ELEVATION
- XX.XX PROPOSED ELEVATION
- 19.8 Exist SPOT ELEVATION

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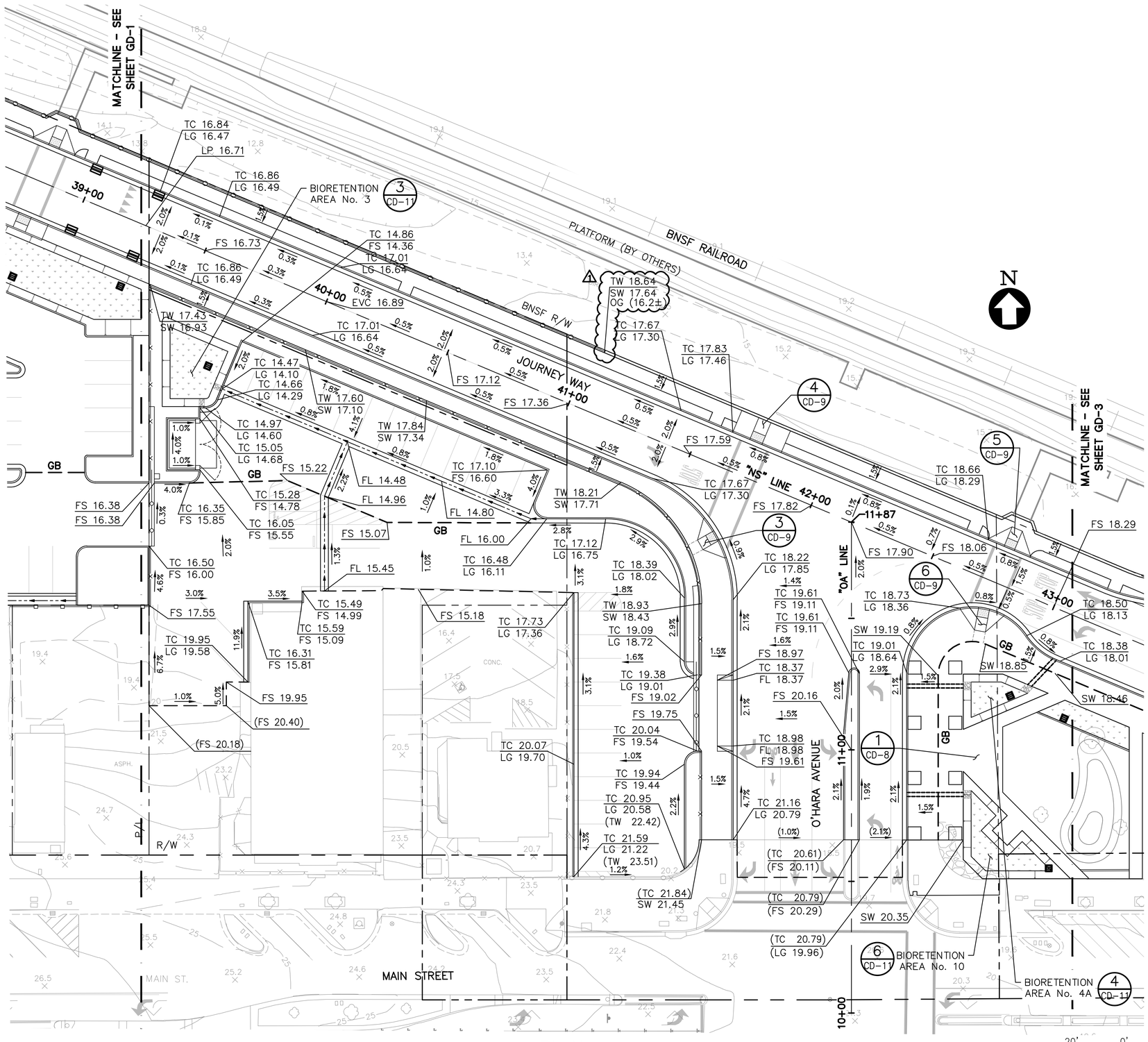
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
GRADING PLAN
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No:20181837-10

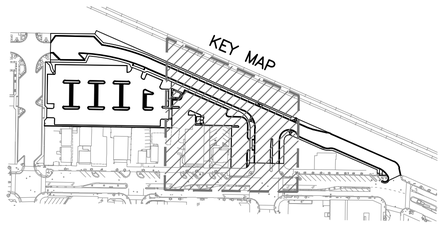
Drawing Number:
GD-1
17 OF 81

DRAWING NAME: \\Bkf-sj\vol4\2018\181837_Oakley_Transit_Center\ENG\SHEETS\17_GD-01.dwg
PLOT TIME: 10-13-22
PLOTTED BY:



PLAN
SCALE: 1"=20'

20' 0' 20' 40'
GRAPHIC SCALE



NOTES:

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6. FOR DRAINAGE WORK, SEE DRAINAGE PLANS.
7. TRASH ENCLOSURE PAD TO SLOPE TOWARDS SANITARY SEWER DRAIN LOCATED INSIDE OF ENCLOSURE.

LEGEND:

	Exist STORM DRAIN INLET
	PROPOSED STORM DRAIN INLET
GB	GRADE BREAK
	PROPOSED CURB DRAIN
	CONCRETE VALLEY GUTTER
	TOP OF CUT / TOE OF CUT
(XX.XX)	Exist ELEVATION
XX.XX	PROPOSED ELEVATION
19.8 ×	Exist SPOT ELEVATION

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CALIFORNIA

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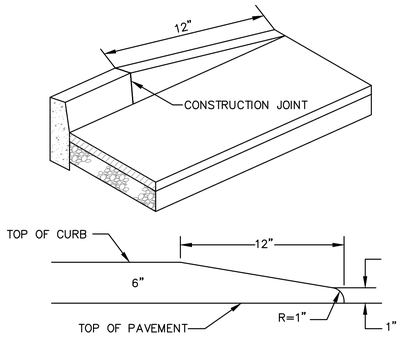
GRADING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

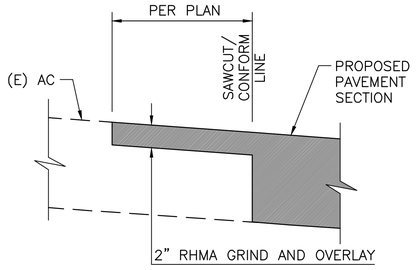
No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

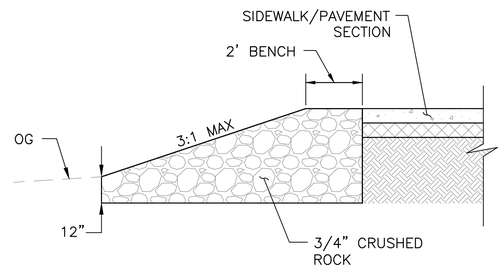
Drawing Number:
GD-2
18 OF 81



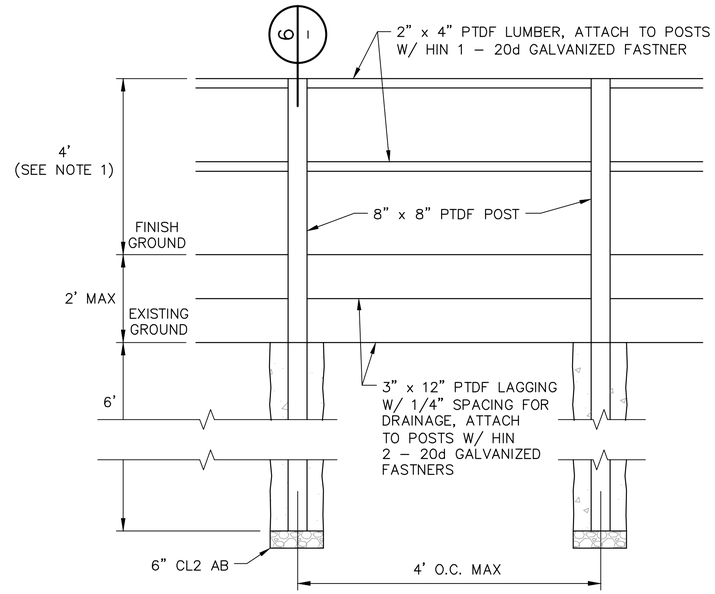
CURB TAPER DETAIL 1 – S–1, S–2
NTS

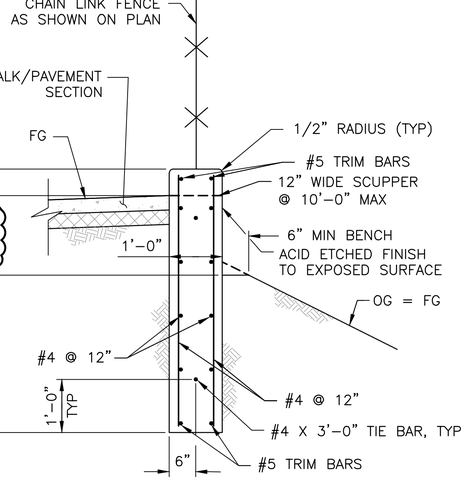


RHMA CONFORM DETAIL 2 – S–1, S–2, S–3
NTS

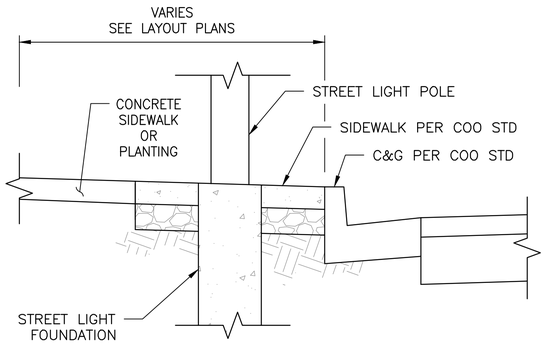


ROCK SLOPE PROTECTION 3 – S–1
NTS

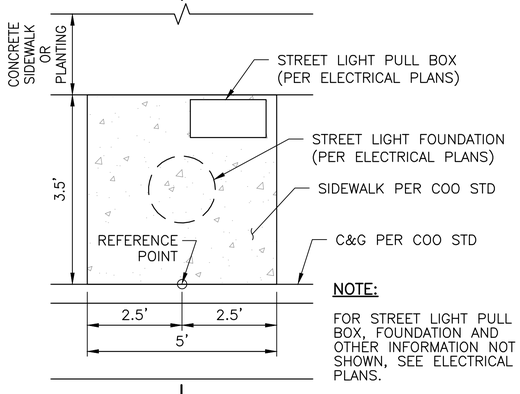




RETAINING CURB 4 – S–1, S–2
NTS



SECTION A – A



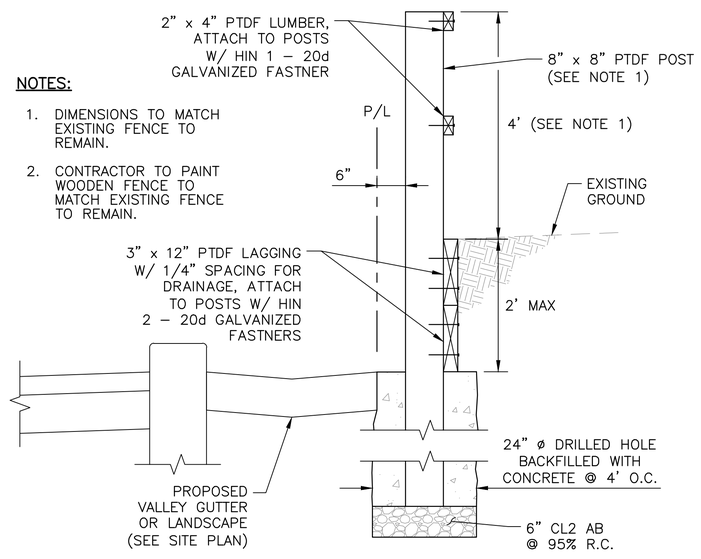
NOTE:

FOR STREET LIGHT PULL BOX, FOUNDATION AND OTHER INFORMATION NOT SHOWN, SEE ELECTRICAL PLANS.

STREET LIGHT CONCRETE PAD 5 – S–1, S–2, S–3
NTS

NOTES:

1. DIMENSIONS TO MATCH EXISTING FENCE TO REMAIN.
2. CONTRACTOR TO PAINT WOODEN FENCE TO MATCH EXISTING FENCE TO REMAIN.



WOODEN FENCE 6 – S–1
NTS

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CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

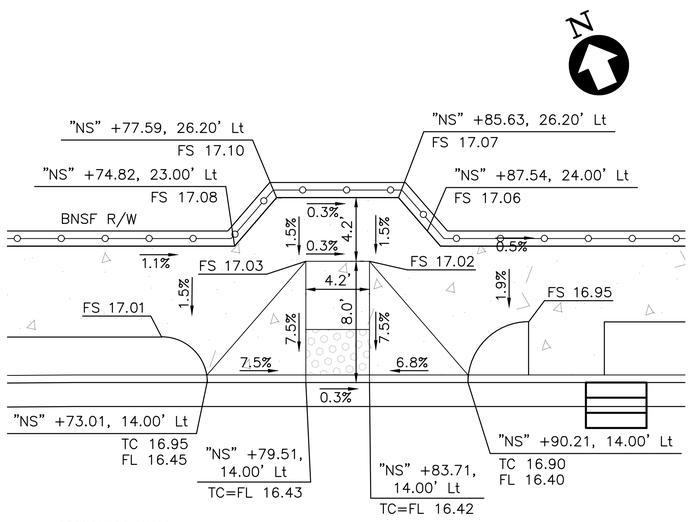
No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: AS NOTED
Design: CC
Drawn: AL
Approved: MC
Job No:20181837–10

Drawing Number:
CD–2
32 OF 81

NOTE:

FOR LEGEND AND NOTES, SEE GRADING PLAN.



DETAIL 1 / – GD-1
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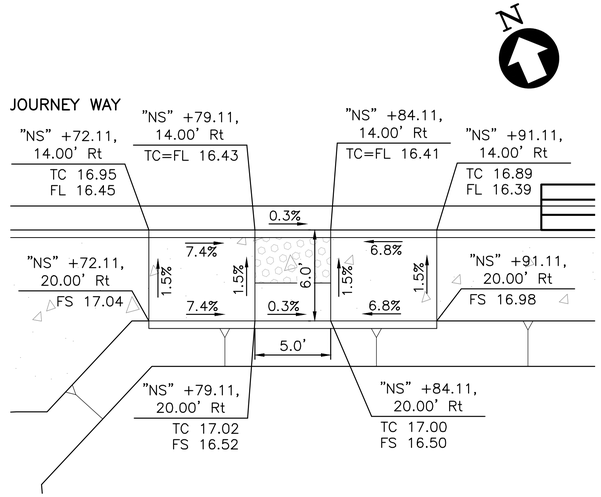

DETAIL 2 / – GD-1
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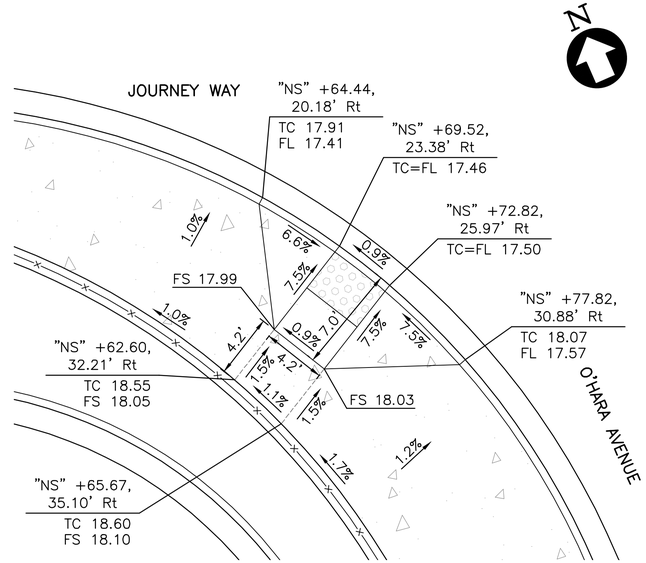
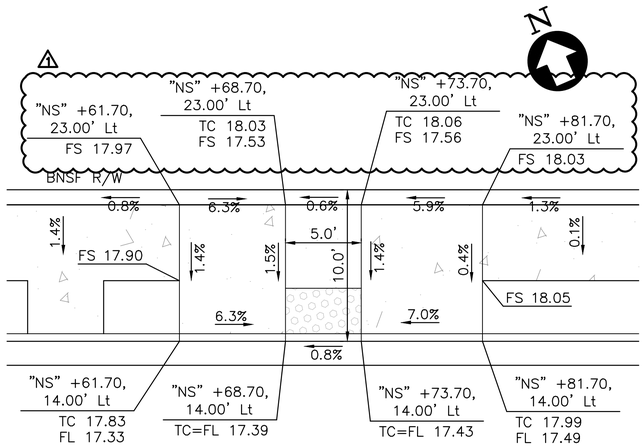
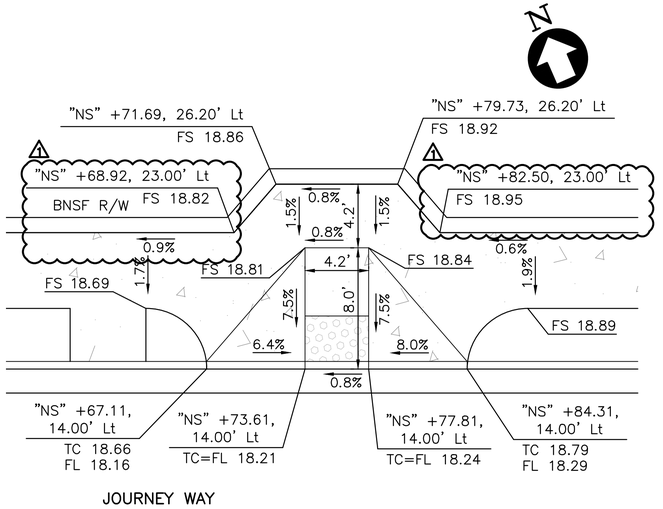


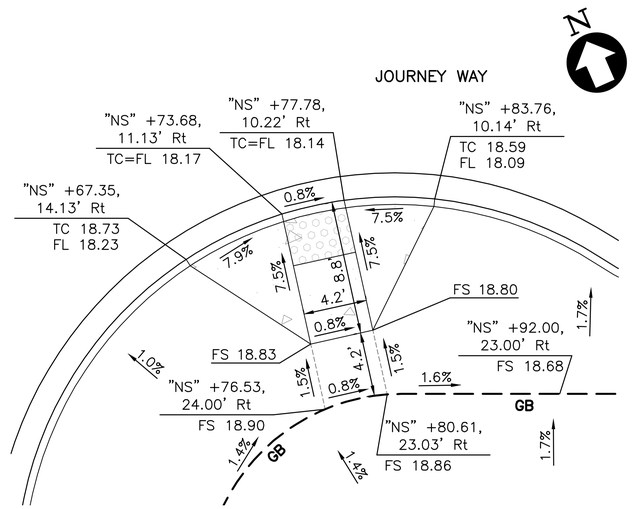
DETAIL 3 / – GD-2
SCALE: 1" = 5'



DETAIL 4 / – GD-2
SCALE: 1" = 5'



DETAIL 5 / – GD-2
SCALE: 1" = 5'



DETAIL 6 / – GD-2
SCALE: 1" = 5'

5' 0' 5' 10'
GRAPHIC SCALE

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CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

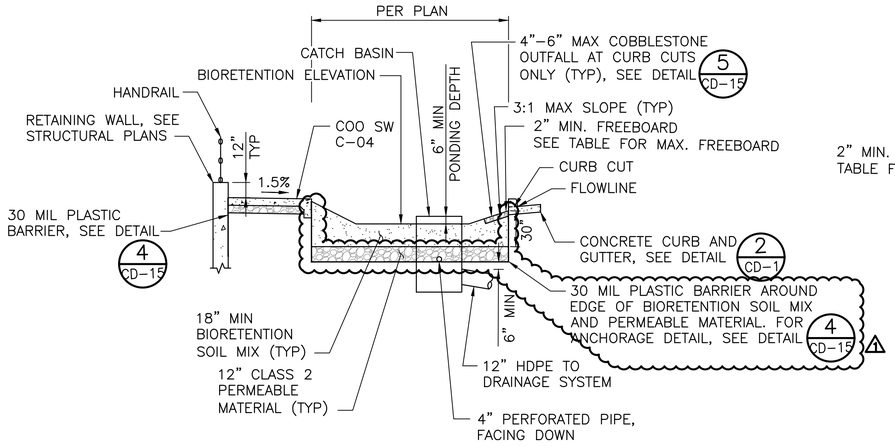
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: AS NOTED
Design: CC
Drawn: AL
Approved: MC
Job No:20181837-10

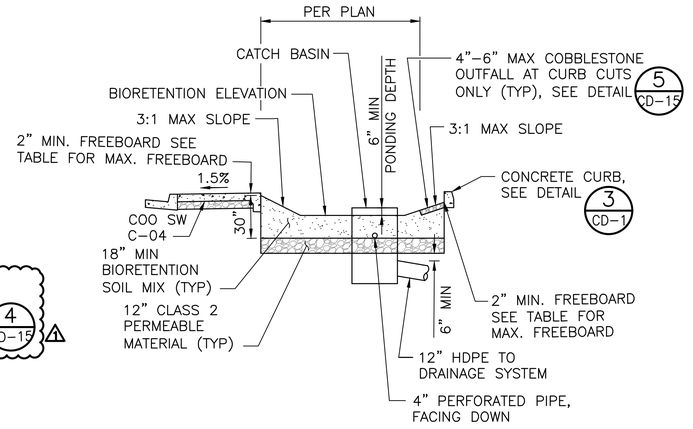
Drawing Number:
CD-9
39 OF 81

DRAWING NAME: \\bkf-s1\vol4\2018\181837_Oakley_Transit_Center\ENG\SHEETS\39_CD-09_CURB RAMPS.dwg
PLOT TIME: 10-12-22
PLOTTED BY: mwu



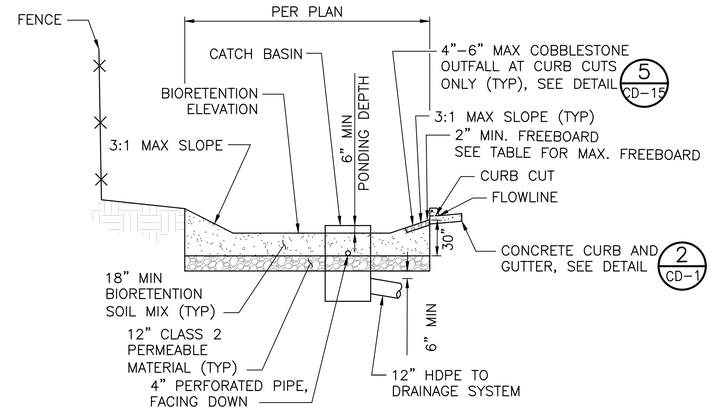
SECTION A – CD-11
NTS

BIORETENTION AREA No. 1B



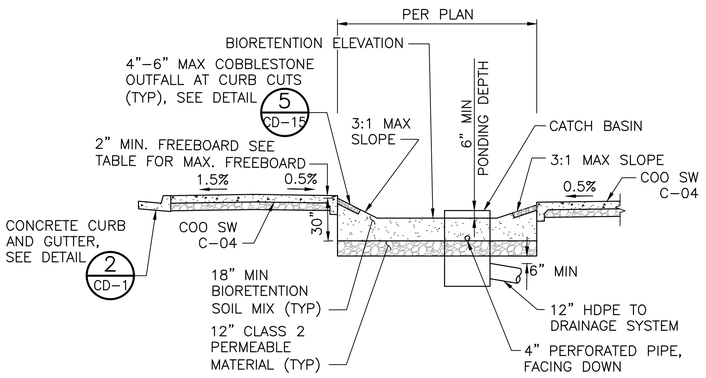
SECTION B – CD-11
NTS

BIORETENTION AREA No. 2



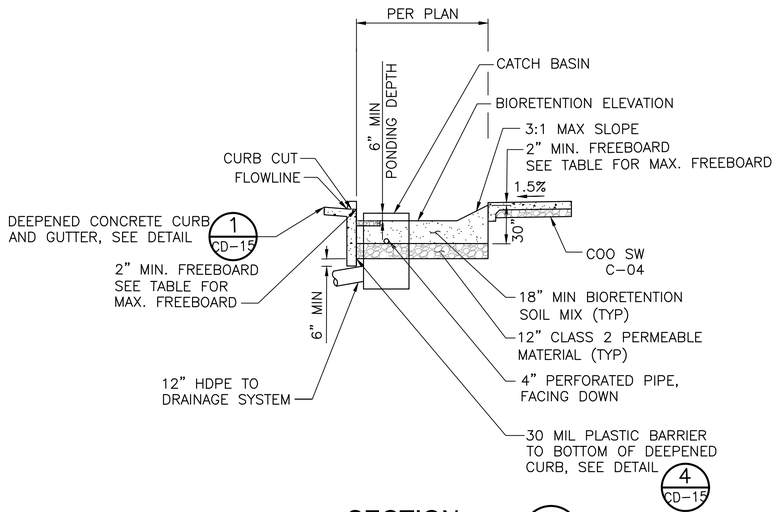
SECTION C – CD-11
NTS

BIORETENTION AREA No. 3



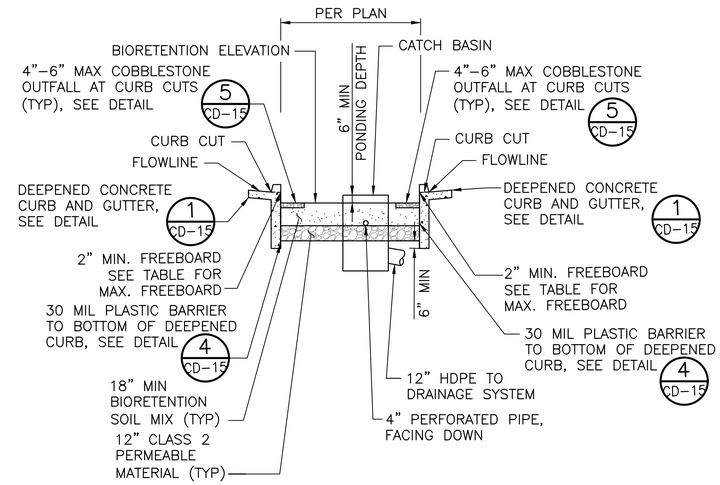
SECTION D – CD-11
NTS

BIORETENTION AREA No. 4A



SECTION E – CD-11
NTS

BIORETENTION AREA No. 5



SECTION F – CD-12
NTS

BIORETENTION AREAS No. 6 - 9

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CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

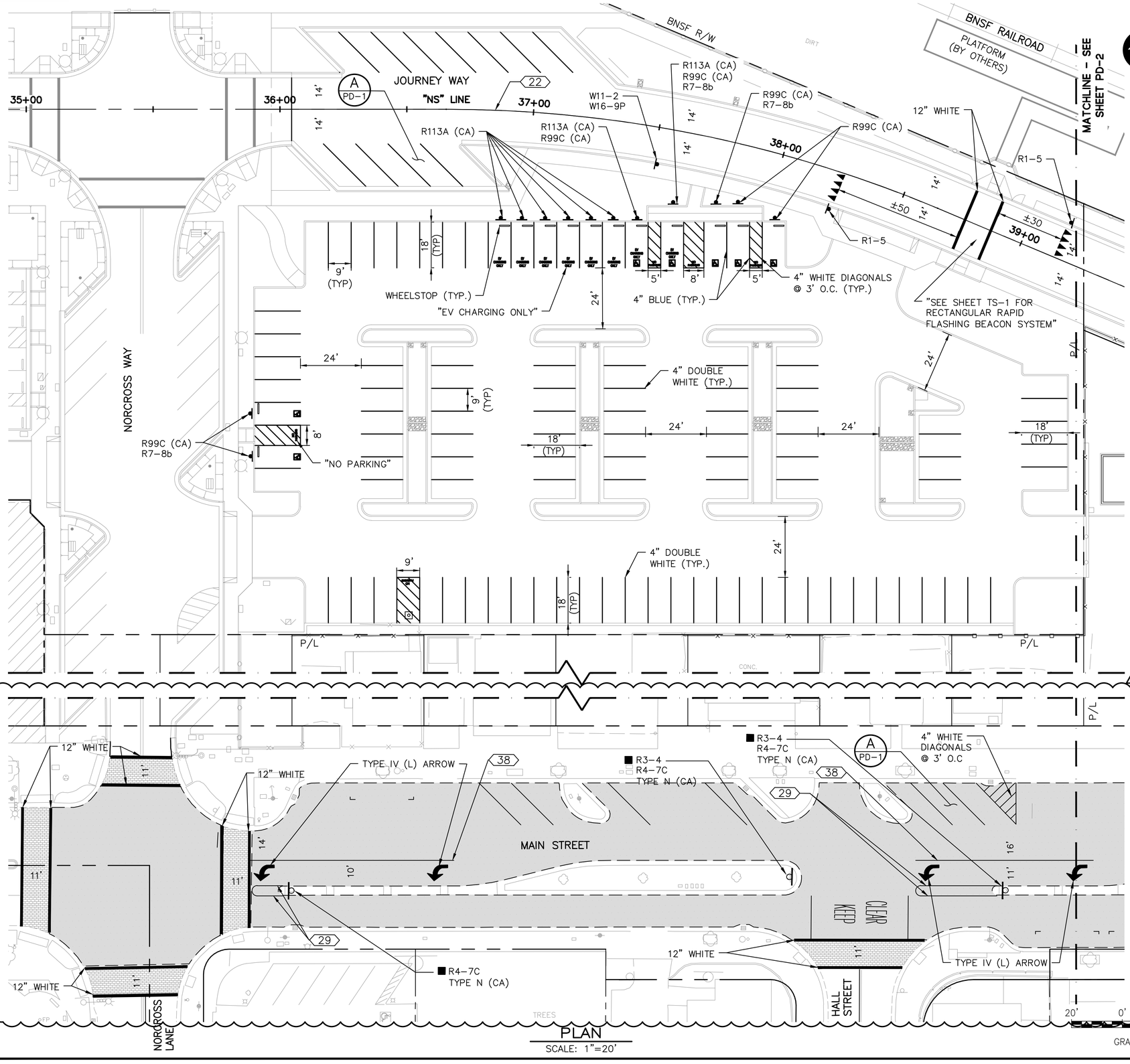
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: AS NOTED
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
CD–13

43 OF 81



NOTES:

1. REMOVE CONFLICTING (E) STRIPING AND MARKING.
2. UNLESS NOTED OTHERWISE, ALL PAVEMENT MARKERS, TRAFFIC LINES, PAVEMENT MARKINGS AND DELINEATORS SHOWN ON THIS PLAN ARE PER CALTRANS STANDARD PLANS 2018.
3. ALL PERMANENT STRIPING AND PAVEMENT MARKING SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
4. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY ENGINEER.
5. EXACT LOCATION AND POSITION OF PAVEMENT MARKINGS TO BE DETERMINED BY ENGINEER.
6. UNLESS INDICATED OTHERWISE, ALL SIGN TYPES SHOWN ON THIS PLAN ARE PER THE 2014 CALIFORNIA MUTCD.
7. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF STRIPING.
8. WHEELSTOP SHALL BE PRECAST CONCRETE AND BE 6" WIDE, 6" HIGH AND 4 FEET LONG. PRECAST WHEELSTOPS MUST BE FIRMLY AND PERMANENTLY ANCHORED A MINIMUM OF 12" BELOW THE PAVEMENT WITH GALVANIZED ANCHOR PINS. THE WHEELSTOP SHALL BE PLACED 3 FEET BACK FROM THE FRONT EDGE OF THE PARKING STALL TO ALLOW FOR THE FRONT OVERHAND OF THE VEHICLE. WHEELSTOP SHALL BE PLACED 6" FROM LEFT OR RIGHT EDGE OF PARKING STALL.

⚠1

9. CONTRACTOR SHALL GRIND OUT ALL EXISTING STRIPING PRIOR TO APPLYING SLURRY SEAL.
10. CONTRACTOR SHALL APPLY CRACK SEAL PRIOR TO SLURRY SEAL APPLICATION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF BENCHMARKS OR MONUMENTATION, MANHOLE LIDS, VALVE COVERS, UTILITY BOXES AND DECORATIVE CROSSWALKS WITHIN THE SLURRY SEAL LIMITS.

LEGEND:

⚠1 EXISTING ROADSIDE SIGN TO REMAIN

PROPOSED ROADSIDE SIGN

INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING PER CALTRANS STANDARD PLAN A24C

YIELD LINE PER 2018 CALTRANS STANDARD PLAN A24E

(No.) PAVEMENT DELINEATION DETAIL PER CALTRANS STANDARD PLANS 2018

CHANGE OF PAVEMENT DELINEATION DETAIL

BIKE LANE MARKING

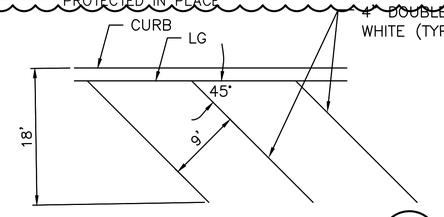
WHEELSTOP (SEE NOTE 8)

PAVEMENT MARKING PER 2018 CALTRANS STANDARD PLANS

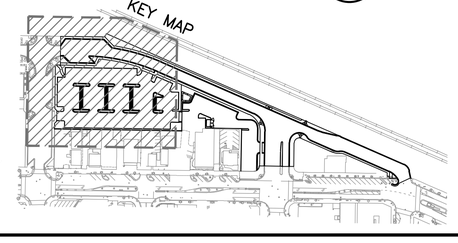
SLURRY SEAL (SEE NOTES 9, 10 & 11)

STAMPED ASPHALT PATTERN: 8"x12" TILE, COLOR: BRICK

EXISTING DECORATIVE ASPHALT CROSSWALK TO BE PROTECTED IN PLACE



TYPICAL ANGLED PARKING STALL LAYOUT (A PD-1)
1"=10'



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OAKLEY CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

SIGNING AND STRIPING PLAN

OAKLEY CONTRA COSTA COUNTY

No.	Revisions
⚠1	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20161837-10

Drawing Number: PD-1

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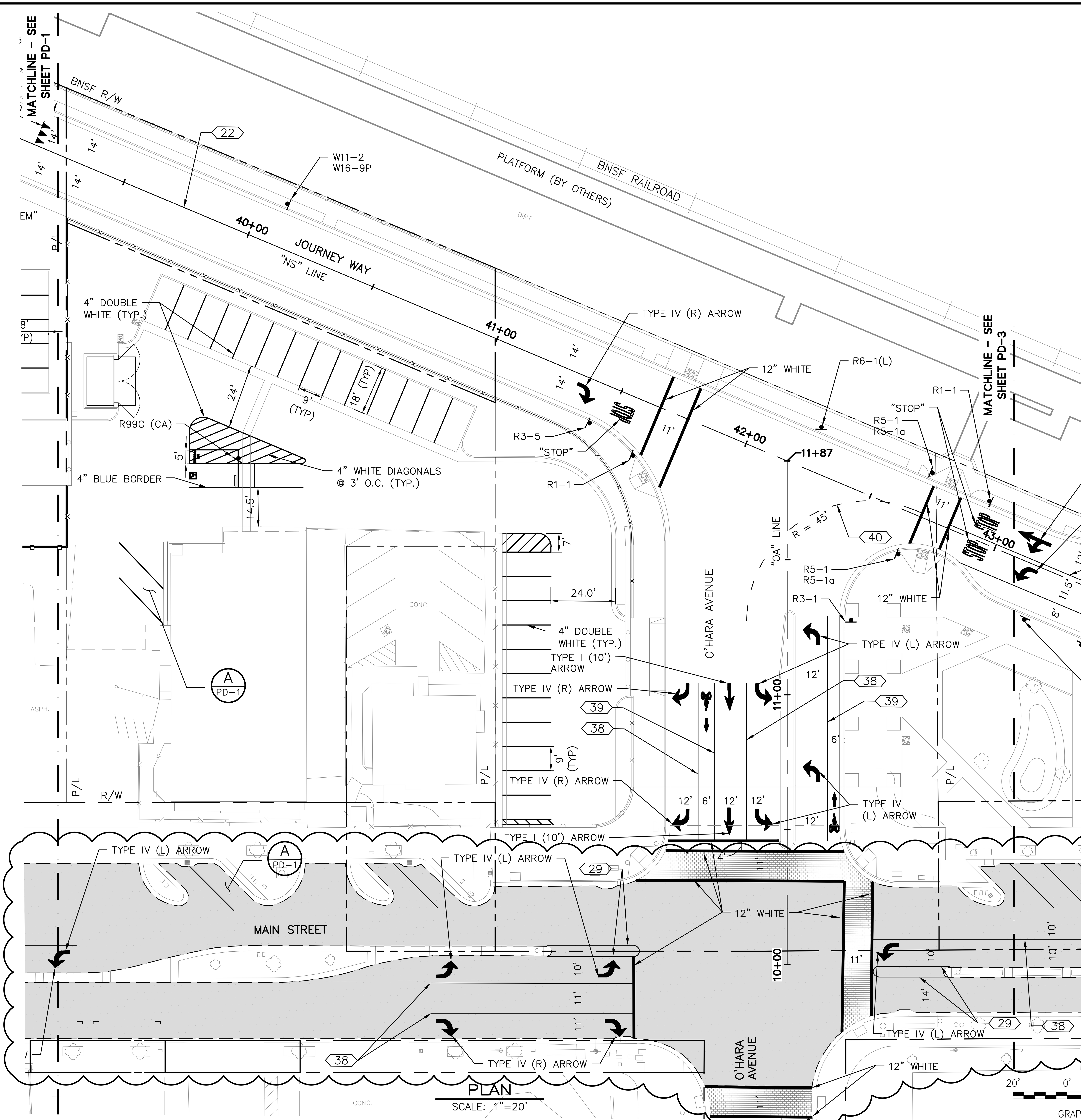


NOTES:

1. REMOVE CONFLICTING (E) STRIPING AND MARKING.
2. UNLESS NOTED OTHERWISE, ALL PAVEMENT MARKERS, TRAFFIC LINES, PAVEMENT MARKINGS AND DELINEATORS SHOWN ON THIS PLAN ARE PER CALTRANS STANDARD PLANS 2018.
3. ALL PERMANENT STRIPING AND PAVEMENT MARKING SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
4. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY ENGINEER.
5. EXACT LOCATION AND POSITION OF PAVEMENT MARKINGS TO BE DETERMINED BY ENGINEER.
6. UNLESS INDICATED OTHERWISE, ALL SIGN TYPES SHOWN ON THIS PLAN ARE PER THE 2014 CALIFORNIA MUTCD.
7. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF STRIPING.
8. WHEELSTOP SHALL BE PRECAST CONCRETE AND BE 6" WIDE, 6" HIGH AND 4 FEET LONG. PRECAST WHEELSTOPS MUST BE FIRMLY AND PERMANENTLY ANCHORED A MINIMUM OF 12" BELOW THE PAVEMENT WITH GALVANIZED ANCHOR PINS. THE WHEELSTOP SHALL BE PLACED 3 FEET BACK FROM THE FRONT EDGE OF THE PARKING STALL TO ALLOW FOR THE FRONT OVERHANG OF THE VEHICLE. WHEELSTOP SHALL BE PLACED 6" FROM LEFT OR RIGHT EDGE OF PARKING STALL.
9. CONTRACTOR SHALL GRIND OUT ALL EXISTING STRIPING PRIOR TO APPLYING SLURRY SEAL.
10. CONTRACTOR SHALL APPLY CRACK SEAL PRIOR TO SLURRY SEAL APPLICATION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF BENCHMARKS OR MONUMENTATION, MANHOLE LIDS, VALVE COVERS, UTILITY BOXES AND DECORATIVE CROSSWALKS WITHIN THE SLURRY SEAL LIMITS.

LEGEND:

- EXISTING ROADSIDE SIGN TO REMAIN
- PROPOSED ROADSIDE SIGN
- INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING PER CALTRANS STANDARD PLAN A24C
- YIELD LINE PER 2018 CALTRANS STANDARD PLAN A24E
- (No.) PAVEMENT DELINEATION DETAIL PER CALTRANS STANDARD PLANS 2018
- CHANGE OF PAVEMENT DELINEATION DETAIL
- BIKE LANE MARKING
- WHEELSTOP (SEE NOTE 8)
- PAVEMENT MARKING PER 2018 CALTRANS STANDARD PLANS
- SLURRY SEAL (SEE NOTES 9, 10 & 11)
- STAMPED ASPHALT PATTERN: 8"x12" TILE, COLOR: BRICK
- EXISTING DECORATIVE ASPHALT CROSSWALK TO BE PROTECTED IN PLACE

BKF ENGINEERS | SURVEYORS | PLANNERS
4670 WILLOW RD
SUITE 250
PLEASANTON, CA 94588
925-396-7700
925-396-7799 (FAX)

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

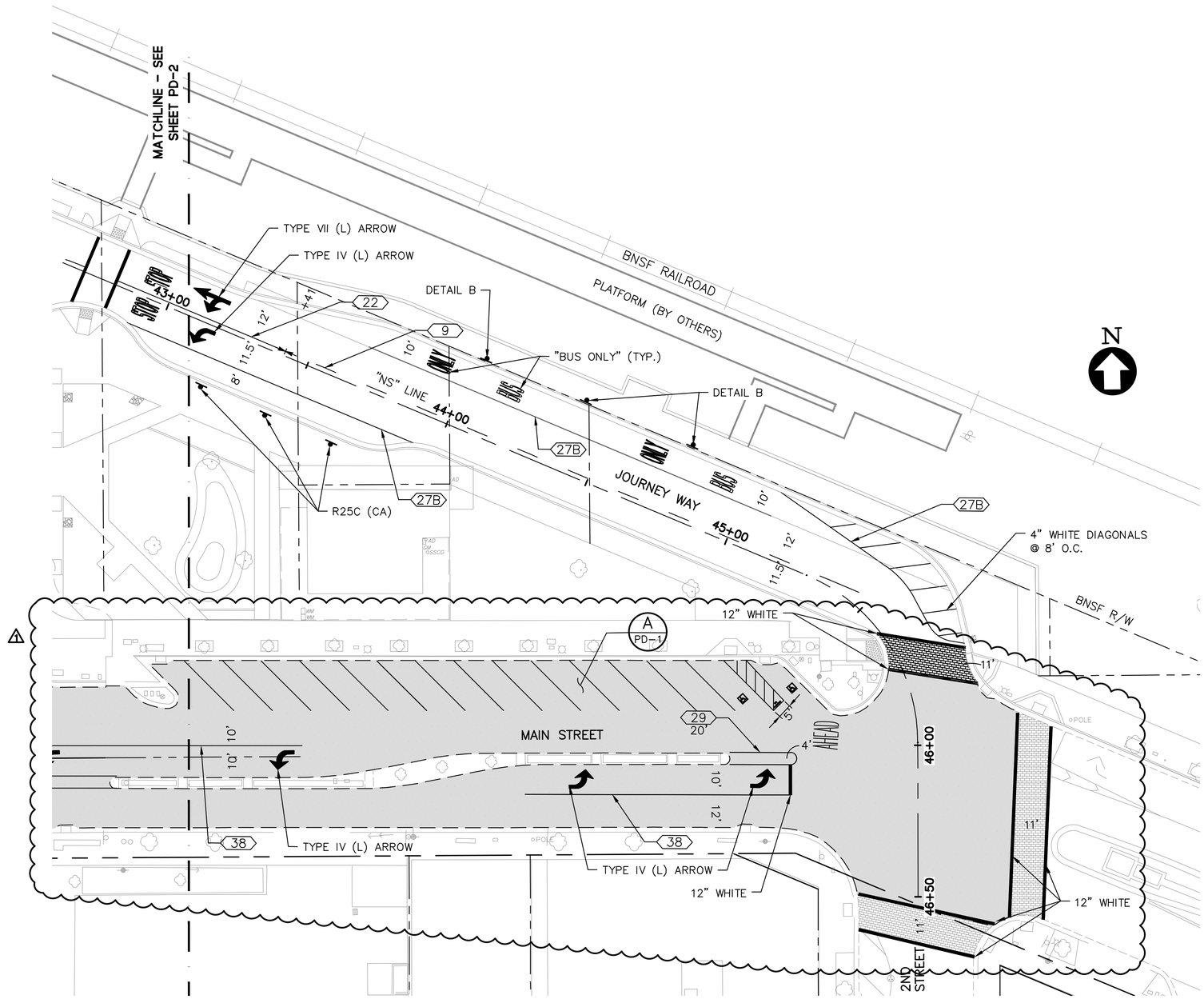
SIGNING AND STRIPING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number: PD-2



PLAN
SCALE: 1"=20'

NOTES:

1. REMOVE CONFLICTING (E) STRIPING AND MARKING.
2. UNLESS NOTED OTHERWISE, ALL PAVEMENT MARKERS, TRAFFIC LINES, PAVEMENT MARKINGS AND DELINEATORS SHOWN ON THIS PLAN ARE PER CALTRANS STANDARD PLANS 2018.
3. ALL PERMANENT STRIPING AND PAVEMENT MARKING SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
4. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY ENGINEER.
5. EXACT LOCATION AND POSITION OF PAVEMENT MARKINGS TO BE DETERMINED BY ENGINEER.
6. UNLESS INDICATED OTHERWISE, ALL SIGN TYPES SHOWN ON THIS PLAN ARE PER THE 2014 CALIFORNIA MUTCD.
7. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF STRIPING.
8. WHEELSTOP SHALL BE PRECAST CONCRETE AND BE 6" WIDE, 6" HIGH AND 4 FEET LONG. PRECAST WHEELSTOPS MUST BE FIRMLY AND PERMANENTLY ANCHORED A MINIMUM OF 12" BELOW THE PAVEMENT WITH GALVANIZED ANCHOR PINS. THE WHEELSTOP SHALL BE PLACED 3 FEET BACK FROM THE FRONT EDGE OF THE PARKING STALL TO ALLOW FOR THE FRONT OVERHAND OF THE VEHICLE. WHEELSTOP SHALL BE PLACED 6" FROM LEFT OR RIGHT EDGE OF PARKING STALL.

⚠

9. CONTRACTOR SHALL GRIND OUT ALL EXISTING STRIPING PRIOR TO APPLYING SLURRY SEAL.
10. CONTRACTOR SHALL APPLY CRACK SEAL PRIOR TO SLURRY SEAL APPLICATION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF BENCHMARKS OR MONUMENTATION, MANHOLE LIDS, VALVE COVERS, UTILITY BOXES AND DECORATIVE CROSSWALKS WITHIN THE SLURRY SEAL LIMITS.

LEGEND:

⚠ ■ EXISTING ROADSIDE SIGN TO REMAIN

PROPOSED ROADSIDE SIGN

INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING PER CALTRANS STANDARD PLAN A24C

▼▼▼▼ YIELD LINE PER 2018 CALTRANS STANDARD PLAN A24E

(No.) PAVEMENT DELINEATION DETAIL PER CALTRANS STANDARD PLANS 2018

CHANGE OF PAVEMENT DELINEATION DETAIL

BIKE LANE MARKING

WHEELSTOP (SEE NOTE 8)

PAVEMENT MARKING PER 2018 CALTRANS STANDARD PLANS

SLURRY SEAL (SEE NOTES 9, 10 & 11)

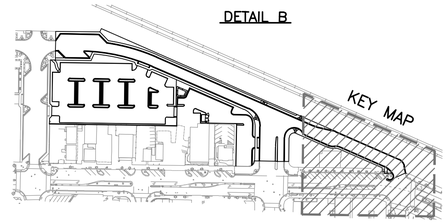
STAMPED ASPHALT PATTERN: 8"x12" TILE, COLOR: BRICK

EXISTING DECORATIVE ASPHALT CROSSWALK TO BE PROTECTED IN PLACE

⚠

R24A(MOD) (CA)

DETAIL B



20' 0' 20' 40'
GRAPHIC SCALE

BKF
4670 WILLOW RD
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PLEASANTON, CA 94588
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925-396-7799 (FAX)
ENGINEERS / SURVEYORS / PLANNERS

OAKLEY
CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

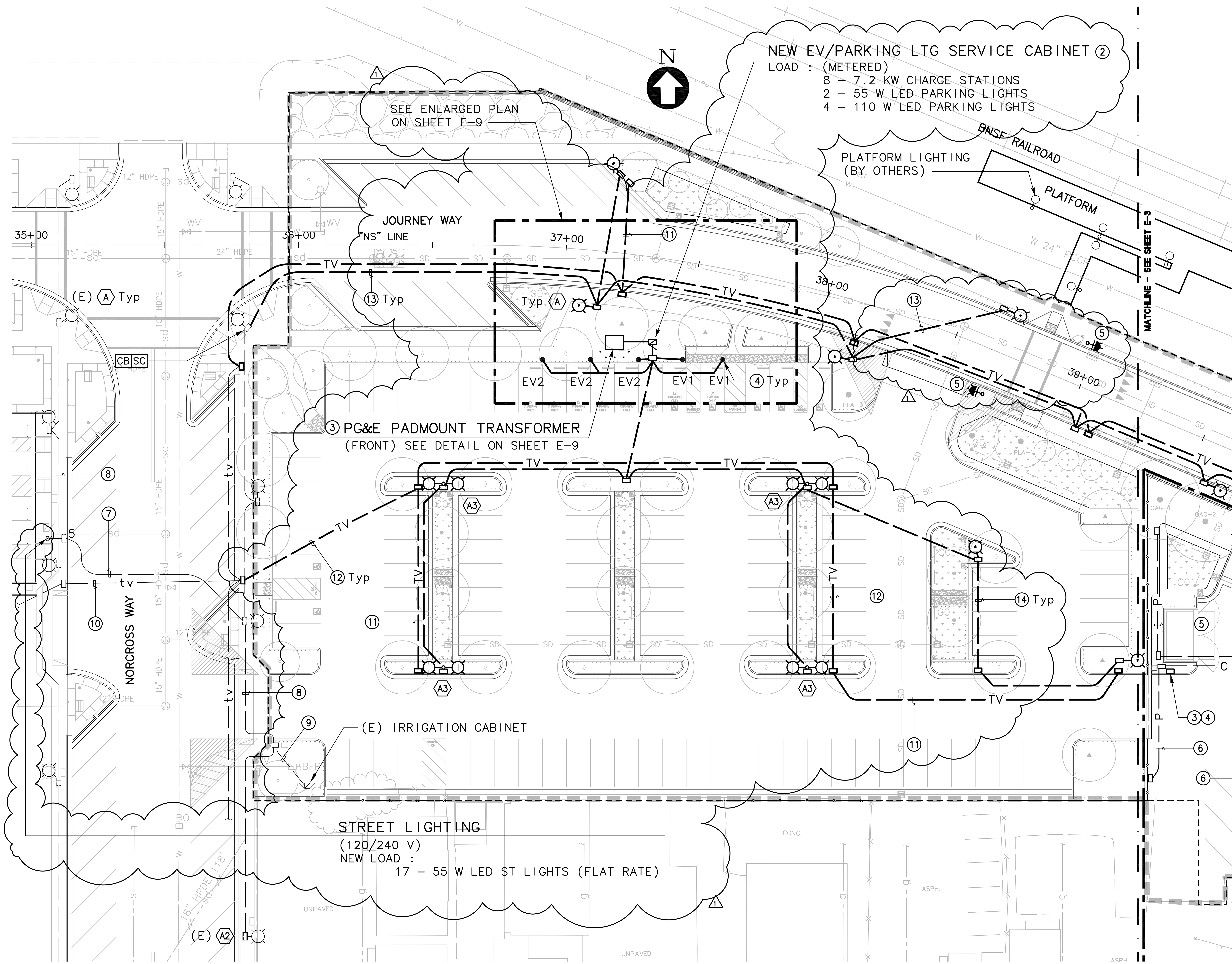
SIGNING AND STRIPING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
⚠	ADDENDUM No. 1 – 10/13/22

Date: 10/10/22
Scale: 1" = 20'
Design: CC
Drawn: AL
Approved: MC
Job No: 20181837-10

Drawing Number:
PD-3
48 OF 81



PLAN
SCALE: 1"=20'

GENERAL NOTES:

1. COORDINATE NEW ELECTRIC SERVICE WORK WITH PG&E AND PG&E SUBSTRUCTURE PLANS.
2. SEE SHEET E-1 FOR PULL BOX SCHEDULE.
3. CONFIRM EXACT LOCATION OF EQUIPMENT WITH CITY BEFORE INSTALLATION.

SHEET NOTES:

① SEE CIP215 PLANS SHEETS E-2, E-5 AND E-6 FOR DETAILS.

② SEE SHEET E-8 AND ENLARGED PLAN ON SHEET E-9.

③ PROVIDE TRANSFORMER BOX PAD WITH GROUNDING AND 4"øX48" HIGH BOLLARDS PER PG&E GREENBOOK. PAD MOUNTED TRANSFORMER BY PG&E. SEE DETAIL ON SHEET E-9.

④ SEE SHEET E-9 FOR CHARGE STATION DETAILS.

⑤ SOLAR POWERED RRFB. SEE CIVIL PLANS.

⑥ NOT USED.

⑦ (E) 2"C, 2#8 (ST LTG, 240 V)
2#10 (IRR, 120 V)
1#8 (G)

⑧ SAME AS ⑦ EXCEPT 1 1/2"C.

⑨ (E) 1 1/2"C.
INSTALL 2#10 (IRR, 120 V)
1#10 (G)

⑩ (E) 2"C, MT (FUTURE CCTV)

⑪ (E) 1 1/2"C, MT (FUTURE CCTV)

⑫ PROVIDE 2"C, MT (FUTURE CCTV)

⑬ PROVIDE 1 1/2"C, 2#8 (ST LTG, 240 V)
1#8 (G)

⑭ PROVIDE 1 1/2"C, 2#8 (PARKING LTG, 240 V)
1#8 (G)

Alliance Engineering Consultants, Inc.
4701 Patrick Henry Drive, Bldg. 10
Santa Clara, CA 95054
phone (408) 970-9888
fax (408) 970-9316
www.aec-engineers.com
PROJECT NO. 205-22-03

OAKLEY CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

LIGHTING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 09/12/22
Scale: 1" = 20'
Design: DC
Drawn: CB
Approved: KN
Job No: 20181837-10

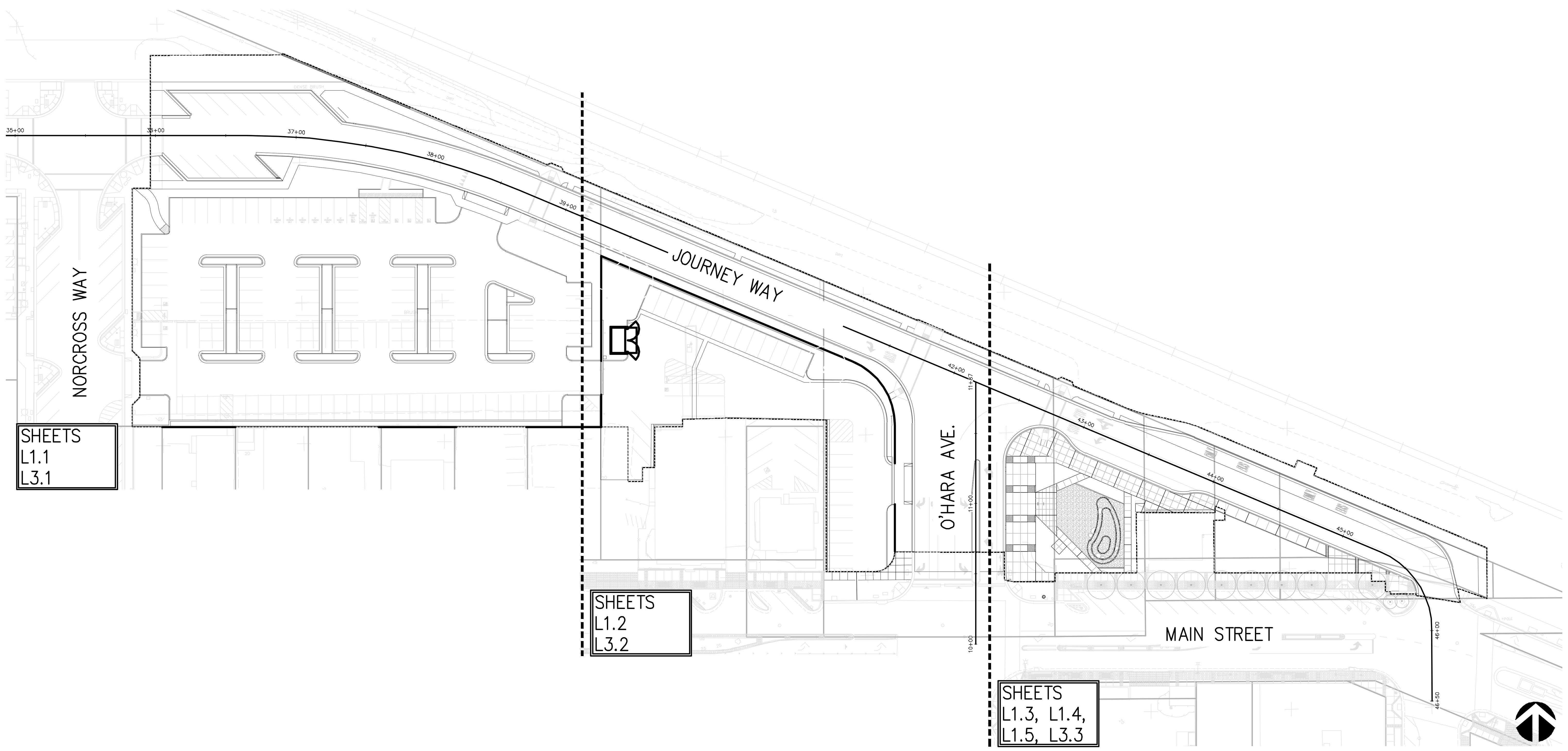
REGISTERED PROFESSIONAL ENGINEER DAVID W. CLOW No. 12883 Exp. 12/31/22 ELECT. STATE OF CALIFORNIA

Drawing Number:
E-2

CIP 205 DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1

OAKLEY, CA

KEY MAP



SHEET INDEX

SHEET NO.	SHEET TITLE
L0.1	KEY MAP AND SHEET INDEX
L0.2	NOTES, LEGEND AND PLANT SCHEDULE
L0.3	NOTES
L1.1	LAYOUT PLAN & PLANTING PLAN
L1.2	LAYOUT PLAN & PLANTING PLAN
L1.3	PLANTING PLAN
L1.4	LAYOUT PLAN
L1.5	DIMENSIONING PLAN
L2.1	CONSTRUCTION DETAILS
L2.2	CONSTRUCTION DETAILS
L2.3	CONSTRUCTION DETAILS
L2.4	CONSTRUCTION DETAILS
L3.1	IRRIGATION PLAN
L3.2	IRRIGATION PLAN
L3.3	IRRIGATION PLAN
L3.4	IRRIGATION LEGEND AND CALCS
L3.5	IRRIGATION NOTES
L3.6	IRRIGATION DETAILS
L3.7	IRRIGATION DETAILS
L3.8	IRRIGATION DETAILS
L3.9	IRRIGATION SCHEDULE
L3.10	IRRIGATION SCHEDULE
L3.11	NOT USED

ABBREVIATIONS

A	AMPERE	ES	EQUAL SPACES	IC	IRRIGATION CONTROL	MED	MEDIUM	S/W	SIDEWALK
AC	ASPHALT CONCRETE	EX	EXISTING	IRR	IRRIGATION	(N)	NEW	TEL, T	TELEPHONE
A.F.F.	ABOVE FINISHED GRADE	F.O.B.	FACE OF BUILDING	JB	JUNCTION BOX	NIC	NOT IN CONTRACT	TBD	TO BE DETERMINED
BOW	BACK OF WALK	(F), FUT	FUTURE	LIP	LIP OF GUTTER	NO.	NUMBER	TW	TOP OF WALL
BW	BOTTOM OF WALL	FC	FACE OF CURB	MFR	MANUFACTURER	NTS	NOT TO SCALE	TYP.	TYPICAL
BW	BOTH WAYS	FG	FINISH GRADE	MIN.	MINIMUM	O.C.	ON CENTER	UNO	UNLESS OTHERWISE NOTED
C	CONDUIT	FH	FIRE HYDRANT	R/W	RIGHT OF WAY	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	WP	WATERPROOF
CONC.	CONCRETE	FL	FLOW LINE	S	SLOPE	PA	PLANTING AREA		
CP	CONTROL POINT	(G), GRD	GROUND	S.C.D.	SEE CIVIL DRAWINGS	PCC	PORTLAND CEMENT CONCRETE		
CTRL	CONTROL	G	GAS	S.E.D.	SEE ELECTRICAL DRAWINGS	PL	PROPERTY LINE		
(E), EXIST	EXISTING	GB	GRADE BREAK	SP	SPACING	PR	PROPOSED		
E	ELECTRICAL	GV	GAS VALVE	SD	STORM DRAIN	PVC	POLY VINYL CHLORIDE		
E.W.	EACH WAY	HDPE	HIGH DENSITY POLYETHYLENE	SL	STREET LIGHT	(R)	RELOCATED		
EA	EACH	HH	HANDHOLE	SQ.	SQUARE	R	RADIUS		
EL	ELEVATION	HT	HEIGHT	SS	STAINLESS STEEL				
EQ	EQUAL	INV	INVERT	SS	SANITARY SEWER (CIVIL)				

PROJECT DIRECTORY

CLIENT
CITY OF OAKLEY
3231 MAIN STREET
OAKLEY, CA 94561
PH: (925) 625-7040
CONTACT: JASON KABALIN

CIVIL ENGINEER
BKF ENGINEERS
1730 N. FIRST ST, STE 600
SAN JOSE, CA 95112
PH: (408) 467-9144
CONTACT: CHIAMING CHI

LANDSCAPE ARCHITECT
GATES + ASSOCIATES
1655 N. MAIN STREET, STE 365,
WALNUT CREEK, CA 94596
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AEC INC.
4701 PATRICK HENRY DR., BLDG 10
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GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING · URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

KEY MAP & SHEET INDEX

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number: L0.1

OAKLEY CALIFORNIA

CITY OF OAKLEY
GENERAL NOTES - LANDSCAPE
PUBLIC WORKS AND ENGINEERING DEPARTMENT
3231 MAIN STREET
OAKLEY, CA 94561
PH. (925) 625-7000 FAX (925) 625-9194

GENERAL NOTES FOR PARK AND LANDSCAPE IMPROVEMENT PLANS

(Use only those applicable; and/or add Supplemental Notes as necessary.)

GENERAL NOTES:

1. **STANDARD PLANS AND SPECIFICATIONS:** CONSTRUCT IN ACCORDANCE WITH CITY OF OAKLEY STANDARD PLANS AND PROJECT SPECIFICATIONS, SUBJECT TO INSPECTION AND APPROVAL OF THE CITY OF OAKLEY. ALL CONSTRUCTION SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES, BY LICENSED CONTRACTORS AND EXPERIENCED WORKMEN. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES RELATING TO THEIR WORK.
2. **PLAN REVISIONS:** ALL REVISIONS TO THESE PLANS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION OF THE REVISION.
3. **LICENSING:** PRIME CONTRACTOR SHALL POSSESS A VALID CALIFORNIA CLASS 'A' (GENERAL ENGINEERING) LICENSE AT THE TIME THIS CONTRACT IS AWARDED. ATTENTION IS DIRECTED TO THE PROVISIONS OF DIVISION 3, CHAPTER 9 OF THE "BUSINESS AND PROFESSIONS CODE" CONCERNING CONTRACTOR LICENSING.
4. **VERIFICATION OF EXISTING CONDITIONS:** ALL EXISTING CONDITIONS, ELEVATIONS, DIMENSIONS AND CONSTRUCTION IN THE FIELD PRIOR TO BID. IF ANY DISCREPANCIES ARE NOTED, THE CONTRACTOR SHALL NOTIFY THE CITY OF OAKLEY IMMEDIATELY FOR DIRECTION.
5. **SAFETY:** CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC AND WORKER SAFETY IN COMPLIANCE WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS AND CAL OSHA.

   CONTRACTOR SHALL POST ON JOB SITE THE EMERGENCY TELEPHONE NUMBERS FOR PUBLIC WORKS, AMBULANCE, POLICE, AND FIRE DEPARTMENTS.

   THE CONTRACTOR SHALL TAKE RESPONSIBLE PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE REASONABLE PROTECTION TO PREVENT DAMAGE, INJURY, OR LOSS TO: EMPLOYEES ON THE SITE AND OTHER PERSONS WHO MAY BE AFFECTED THEREBY; THE WORK, MATERIALS AND EQUIPMENT TO BE INCORPORATED THEREIN, WHETHER IN STORAGE ON OR OFF SITE, UNDER CARE, CUSTODY, OR CONTROL OF THE CONTRACTOR OR THE CONTRACTOR'S SUBCONTRACTORS; AND OTHER PROPERTY AT THE SITE OR ADJACENT THERETO SUCH AS TREES, SHRUBS, TURF, PAVEMENTS, ROADWAYS, STRUCTURES AND UTILITIES.
6. **UNDERGROUND SERVICE ALERT (USA):** FOR EXISTING UTILITY LOCATIONS, CONTRACTOR SHALL NOTIFY USA, 811 OR (800) 227-2600 AT LEAST TWO (2) FULL WORKING DAYS PRIOR TO ALL PLANNED WORK OPERATIONS. THE USA AUTHORIZATION NUMBER SHALL BE KEPT
7. **EXISTING UTILITIES, UNDERGROUND FACILITIES AND SITE IMPROVEMENTS:** LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES (UNDERGROUND AND OVERHEAD) AND SITE IMPROVEMENTS, IF SHOWN ON THE PLANS, ARE APPROXIMATE ONLY. FIELD VERIFY LOCATION. PROTECT EXISTING UTILITIES AND SITE IMPROVEMENTS FROM DAMAGE. CONTRACTOR TO TAKE SPECIAL PRECAUTIONS WHEN WORKING NEAR HIGH RISK UTILITIES.

   CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANY TO OBTAIN INFORMATION REGARDING THE EXACT DEPTH OF BURIAL AND HORIZONTAL LOCATION OF UTILITY LINES AS NECESSARY. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS AND ADJUSTMENTS WITH THE APPROPRIATE UTILITY COMPANIES.

   PRIOR TO PERFORMING UNDERGROUND CONSTRUCTION, THE CONTRACTOR SHALL MAKE THE NECESSARY PROBES TO IDENTIFY AREAS OF POSSIBLE CONFLICT WITH PROPOSED CONSTRUCTION AS NEEDED. CONTRACTOR SHALL EXCAVATE TO DETERMINE TYPES, EXTENT, SIZE, AND DEPTHS OF UNDERGROUND UTILITIES. COORDINATE WORK TO AVOID CONFLICTS BETWEEN PROPOSED IMPROVEMENTS AND EXISTING UNDERGROUND FACILITIES, SEWER LATERALS, STORM DRAINS AND WATER MAINS.

   CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND BE HELD ACCOUNTABLE FOR ALL DAMAGES INCURRED.

   EXISTING IRRIGATION MAINLINE SHALL BE LOCATED AND MARKED AND IRRIGATION WIRE SHALL BE TRACED PRIOR TO EXCAVATION.
8. **UTILITY REPAIR:** CONTRACTOR SHALL REPAIR ANY DAMAGE OR INTERRUPTION OF UTILITIES, WATER LINES OR IRRIGATION SYSTEMS WITHIN 48 HOURS OF THE TIME OF DAMAGE.
9. **PRE-CONSTRUCTION:** PRIOR TO THE START OF CONSTRUCTION, THE DEVELOPER AND/OR CONTRACTOR SHALL CONTACT THE CITY'S PARKS AND LANDSCAPE MAINTENANCE, PUBLIC WORKS DEPARTMENT AT (925) 625-7015 AND REQUEST A PRECONSTRUCTION CONFERENCE. CONTRACTOR SHALL NOT COMMENCE WORK UNTIL AFTER A PRE-CONSTRUCTION MEETING HAS BEEN HELD WITH THE CITY OF OAKLEY, SUBMITTALS ARE APPROVED AND A PROJECT SCHEDULE HAS BEEN PROVIDED.
10. **STAKING:** CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LINES AND GRADES FOR THE PROJECT. THE CONSTRUCTION STAKING WORK SHALL BE COMPLETED UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR. SEE CIVIL PLANS.
11. **TRAFFIC CONTROL:** TRAFFIC CONTROL SHALL MEET CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS. SEE CIVIL PLANS.
12. **CONSTRUCTION AREA SIGNS:** LOCATION OF CONSTRUCTION AREA SIGNS SHALL BE REVIEWED AND APPROVED BY THE CITY OF OAKLEY PRIOR TO STARTING CONSTRUCTION ACTIVITIES. SEE CIVIL PLANS.
13. **COORDINATION:** GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL OF THE WORK PERFORMED BY HIS SUBCONTRACTORS WITHOUT EXCEPTION. CONTRACTOR SHALL MAINTAIN A QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES DURING CONSTRUCTION AND THROUGH THE COMPLETION OF THE PROJECT.
14. **TOILET FACILITIES:** CONTRACTOR SHALL PROVIDE PORTABLE SANITARY FACILITIES ADEQUATE FOR ALL WORKERS. THE TYPE OF TOILETS USED, THEIR LOCATIONS AND MAINTENANCE ARE SUBJECT TO APPROVAL BY THE CITY. SEE CIVIL PLANS.
15. **EROSION CONTROL, DUST CONTROL AND SWPPP:** CONFORM TO SPECIFICATIONS. ANY OPERATIONS THAT CREATE DUST MUST BE STOPPED IMMEDIATELY AND REMEDIAL ACTIONS TAKEN, SUBSEQUENTLY, CONTRACTOR SHALL REMOVE MUD TRACKS FROM STREETS OR ADJACENT PROPERTIES AND SWEEP STREETS, AS DIRECTED BY THE CITY INSPECTOR. THE CONTRACTOR SHALL MAINTAIN THE PROJECT SITE THROUGHOUT THE PROCESS OF WORK IN A REASONABLE, DRY, WORKABLE CONDITION, FREE OF SURFACE WATER. SEE CIVIL PLANS.
16. **MATCHING EXISTING CONDITIONS:** CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING PAVING, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING AND GRADING, ETC., AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES, CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS. WHERE PAVEMENT IS TO BE EXTENDED, THE EXISTING EDGE OF PAVEMENT TO BE REMOVED MUST BE NEATLY SAWCUT OR REMOVED TO AN EXPANSION JOINT. SEE CIVIL PLANS.
17. **FIELD CHANGES:** CONTRACTOR SHALL NOTIFY CITY'S REPRESENTATIVE IMMEDIATELY UPON DISCOVERY OF ANY POTENTIAL FIELD CHANGES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE CITY.
18. **PAVING REMOVAL AT NEW MEDIAN PLANTING AREAS:** REMOVE CONCRETE, ASPHALT, AND AGGREGATE BASE MATERIAL TO 24 INCHES DEEP, WITHIN MEDIAN PLANTING AREA TO THE BACK OF CURB FOR PROPER INSTALLATION OF LANDSCAPE IMPROVEMENTS. SEE CIVIL PLANS.
19. **EXISTING TREE AND PLANTING REMOVAL:** SEE DEMOLITION PLAN, A TREE PERMIT MAY BE REQUIRED FOR THE TREE REMOVAL. SEE CIVIL PLANS.
20. **HAULING:** WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, PAPER OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREET, ALLEY OR PUBLIC PLACE, NO PERSON SHALL ALLOW MATERIAL TO BLOW OR SPILL OVER AND UPON SAID PUBLIC, ADJACENT OR PRIVATE PROPERTY.
21. **SITE RESTORATION:** CONTRACTOR SHALL REPLACE OR RESTORE TO PRECONSTRUCTION CONDITION ALL PAVING, UTILITIES, SERVICES, IRRIGATION, LANDSCAPE MATERIALS, PAVEMENT DELINEATION AND OTHER IMPROVEMENTS; THAT ARE NOT TO BE REMOVED BUT ARE DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL EXPENSE AND TO THE SATISFACTION OF THE CITY OF OAKLEY. INSTALLATION SHALL COMPLY WITH CURRENT CITY OF OAKLEY STANDARDS.

    EXISTING IRRIGATION LINES CONTAMINATED SHALL BE FLUSHED THOROUGHLY PRIOR TO RECONNECTION TO IRRIGATION SYSTEM.
22. **CLEAN-UP:** CLEAN CITY STREETS AS OFTEN AS REQUIRED TO REMOVE ANY ACCUMULATION OF MUD AND DEBRIS RESULTING FROM THE CONSTRUCTION.
23. **PHOTOGRAPHY:** CITY WILL RESERVE THE RIGHT TO TAKE PHOTOGRAPHS AND VIDEOS DURING THE COURSE OF CONSTRUCTION.

LANDSCAPE AND IRRIGATION MAINTENANCE SCHEDULE, IRRIGATION AUDIT, IRRIGATION SURVEY, AND IRRIGATION WATER USE ANALYSIS SHALL BE SUBMITTED WITH THE CERTIFICATE OF COMPLETION IN COMPLIANCE WITH STATE OF CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE.

I HAVE COMPLIED WITH THE CRITERIA OF THE STATE OF CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

LANDSCAPE ARCHITECT SIGNATURE AND DATE 2022-09-09

LAYOUT NOTES

1. REFER TO CIVIL DRAWINGS FOR ALL STORMWATER TREATMENT AREA LOCATIONS AND ELEVATIONS.
2. ALL LANDSCAPE GRADING DOES NOT EXCEED 10%, REFER TO CIVIL DRAWINGS.

HARDSCAPE SUMMARY

IMPERVIOUS HARDSCAPE	
NAME	SQUARE FOOTAGE
CONCRETE PAVING	S.C.D.
A.C. PAVING	S.C.D.

RELOCATED EXISTING TREES

1. REFER TO CIVIL DRAWINGS FOR ALL EXISTING TREES TO BE REMOVED AND RELOCATED. REFER TO SHEETS L1.1 AND L1.3 FOR RELOCATION OF EXISTING TREES.

SYMBOL	BOTANICAL NAME	COMMON NAME
PLA-1	PLATANUS RACEMOSA	WESTERN SYCAMORE
PLA-2	PLATANUS RACEMOSA	WESTERN SYCAMORE
PLA-3	PLATANUS RACEMOSA	WESTERN SYCAMORE
LAG-1	LAGERSTROEMIA SPP.	CRAPE MYRTLE

LAYOUT LEGEND

- AC PAVING, S.C.D.
- PEDESTRIAN CONCRETE PAVING, S.C.D. COLOR: STD GRAY FINISH: MED BROOM
- EUROPAVE TREE WELL MFR: BLACK DIAMOND MDL: ADDPAVE TREE PIT SYSTEM COLOR: RHINE GOLD (4 / L2.2)
- PEDESTRIAN BRICK ACCENT PAVER (1 / L2.2)
- BOULDER (3 / L2.2)
- STORMWATER RETENTION AREA, S.C.D.
- SODDED TURF BOLERO PLUS BY DELTA BLUEGRASS
- PA — PLANTING AREA
- FLUSH/ ALIGN
- STREET LIGHT AND PARKING LOT LIGHT, S.E.D.
- VERTICAL STORY BOARD (1 / L2.3)
- DIRECTORY (2 / L2.3)
- DRINKING FOUNTAIN MFR: MDF MDL: 10145SM WITH PET FOUTNAIN MOUNT: SURFACE WITH TEMPLATE COLOR: GRAY (3 / L2.3)
- BENCH MFR: DUMOR MDL: 160 WITH CENTER ARMREST SIZE: 6' MOUNT: SURFACE COLOR: POWDER COATED BLACK (1 / L2.4)
- BIKE RACK MFR: DUMOR MDL: 83 MOUNT: SURFACE WITH COVER PLATE COLOR: POWDER COATED BLACK (2 / L2.4)
- RECYCLING RECEPTACLE MFR: DUMOR MDL: 157 WITH BT CAP, CUSTOM LOGO SIZE: 32 GAL MOUNT: SURFACE COLOR: POWDER COATED BLACK (3 / L2.4)
- TRASH RECEPTACLE MFR: DUMOR MDL: 157 WITH BT COVER, CUSTOM LOGO SIZE: 32 GAL MOUNT: SURFACE COLOR: POWDER COATED BLACK (4 / L2.4)

PLANTING SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING	WIDTH/HEIGHT	QTY
ARM	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	24"BOX STD.	M	AS SHOWN	20'X40'	21
AOG	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	24"BOX STD.	L	AS SHOWN	20'X80'	8
CER	CERCIS OCCIDENTALIS	WESTERN REDBUD	24"BOX STD.	L	AS SHOWN	8'X15'	8
LAM	LAGERSTROEMIA X 'MUSKOGEE'	LAVENDER CRAPE MYRTLE	24"BOX STD.	L	AS SHOWN	15'X20'	17
LAS	LAURUS X 'SARATOGA'	SARATOGA HYBRID LAUREL	24"BOX STD.	L	AS SHOWN	20'X30'	8
QUV	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36"BOX STD.	L	AS SHOWN	30'X50'	2
ULM	ULMUS X 'FRONTIER'	FRONTIER ELM	24"BOX STD.	L	AS SHOWN	20'X25'	6

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	SPACING	WIDTH/HEIGHT	QTY
AS	ACHILLEA MILLEFOLIUM 'SALMON BEAUTY'	SALMON BEAUTY COMMON YARROW	5 GAL	L	30" o.c.	2.5'x2.5'	16
CE2	CHONDROPETALUM TECTORUM 'EL CAMPO'	EL CAMPO CAPE RUSH	1 GAL	L	36" o.c.	3'X3'	19
CE	CHONDROPETALUM TECTORUM 'EL CAMPO'	EL CAMPO CAPE RUSH	5 GAL	L	36" o.c.	3'X3'	301
DV	DIETES GRANDIFLORA 'VARIEGATA'	STRIPED FORTNIGHT LILY	5 GAL	L	36" o.c.	3'X3'	303
EB2	EPILOBIUM CANUM 'BOWMAN'S#1'	BOWMAN'S #1 CALIFORNIA FUCHSIA	1 GAL	L	30" o.c.	2.5'X2.5'	15
EB	EPILOBIUM CANUM 'BOWMAN'S#1'	BOWMAN'S #1 CALIFORNIA FUCHSIA	5 GAL	L	30" o.c.	2.5'X2.5'	26
FM	FESTUCA MAIREI	ATLAS FESCUE	5 GAL	L	36" o.c.	3'X3'	70
HB	HESPERALOE PARVIFLORA 'BRAKELIGHTS' TM	BRAKELIGHTS RED YUCCA	5 GAL	L	36" o.c.	3'X3'	85
LL	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL	L	36" o.c.	3'X3'	67
MD	MUHLENBERGIA DUBIA	PINE MUHLY	5 GAL	L	36" o.c.	3'X3'	68
RE2	RHAMNUS CALIFORNICA 'EVE CASE'	EVE CASE COFFEEBERRY	1 GAL	L	72" o.c.	6'X6'	2
RE	RHAMNUS CALIFORNICA 'EVE CASE'	EVE CASE COFFEEBERRY	5 GAL	L	72" o.c.	6'X6'	3
SC2	SALVIA CLEVELANDII	CLEVELAND SAGE	1 GAL	L	60" o.c.	5'X4'	8
SC	SALVIA CLEVELANDII	CLEVELAND SAGE	5 GAL	L	60" o.c.	5'X4'	22
TP	TEUCRIUM CHAMAEDRYS 'PROSTRATUM'	PROSTRATE GERMANDER	5 GAL	L	36" o.c.	3'X1'	282
TA	TEUCRIUM FRUTICANS 'AZUREUM'	AZURE BUSH GERMANDER	5 GAL	L	60" o.c.	5'X4'	9
TC	TEUCRIUM FRUTICANS 'COMPACTA'	BUSH GERMANDER	5 GAL	L	36" o.c.	3'X3'	37
VL	VERBENA LILACINA 'DE LA MINA'	DE LA MINA LILAC VERBENA	5 GAL	L	30" o.c.	2.5'X2.5'	19

PLANTING LEGEND

- XXX / ## — TREE NAME / QUANTITY — SEE PLANT LIST FOR ADDT'L INFO. (1-4 / L2.1) (6 / L2.2)
- XX / ## — SHRUB NAME / QUANTITY — SEE PLANT LIST FOR ADDT'L INFO. (5-6 / L2.1)

WATER USE RATING LEGEND:
WUCOLS IV CATEGORIES OF WATER NEEDS FROM: UNIVERSITY OF CALIF COOPERATIVE EXTENSION, CALIF DEPARTMENT OF WATER RESOURCES, U.S. BUREAU OF RECLAMATION

H = HIGH L = LOW
M = MODERATE VL = VERY LOW

REGISTERED LANDSCAPE ARCHITECT CASEY CASE No. 6032 Signature 6/30/2024 Renewal Date 10/12/2022 Date STATE OF CALIFORNIA L.A.

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING · URBAN DESIGN
1655 N. MAIN ST. STE 365, WALNUT CREEK, CA 94596
T 925.736.8176 www.dgates.com

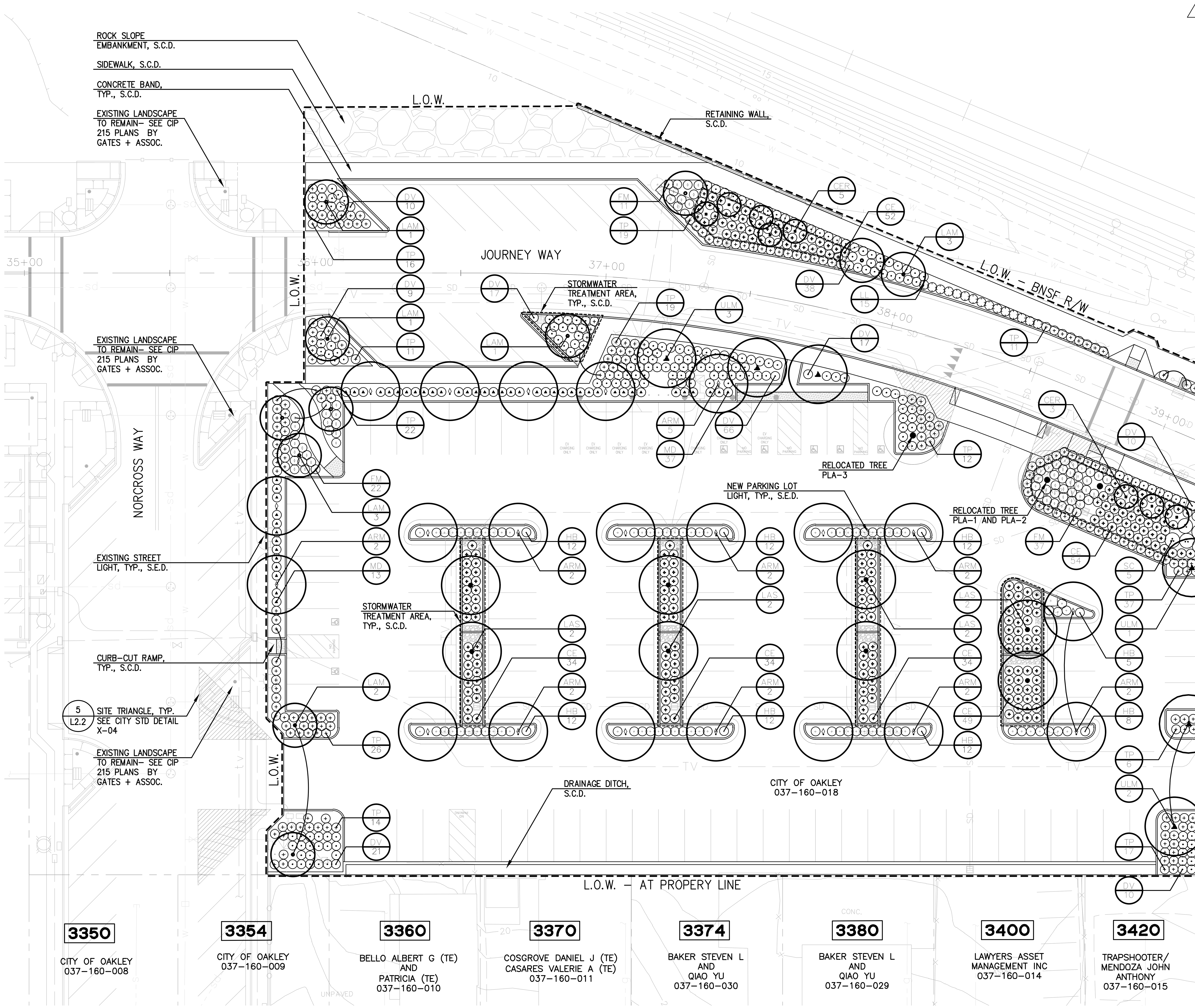
OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
NOTES, LEGEND & PLANT SCHEDULE
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number: L0.2

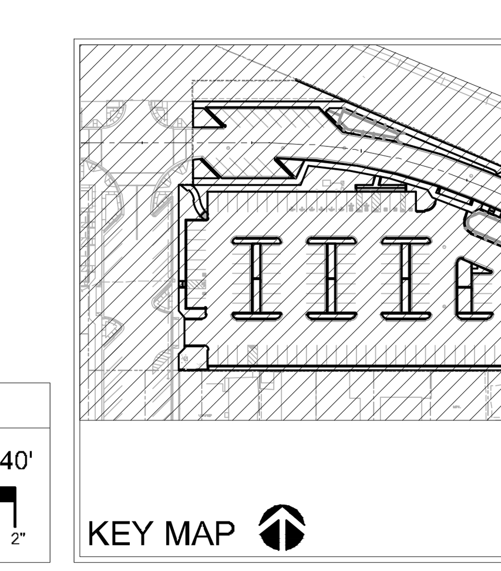


PLANTING SCHEDULE

1. REFER TO L1.1 FOR PLANTING SCHEDULE AND PLANTING NOTES

TREES	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
ARM	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	24"BOX STD.	AS SHOWN
AOG	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	24"BOX STD.	AS SHOWN
CER	CERCIS OCCIDENTALIS	WESTERN REDBUD	24"BOX STD.	AS SHOWN
LAM	LAGERSTROEMIA X 'MUSKOGEE'	LAVENDER CRAPE MYRTLE	24"BOX STD.	AS SHOWN
LAS	LAURUS X 'SARATOGA'	SARATOGA HYBRID LAUREL	24"BOX STD.	AS SHOWN
QUV	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36"BOX STD.	AS SHOWN
ULM	ULMUS X 'FRONTIER'	FRONTIER ELM	24"BOX STD.	AS SHOWN
SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
AS	ACHILLEA MILLEFOLIUM 'SALMON BEAUTY'	SALMON BEAUTY COMMON YARROW	5 GAL	30" o.c.
CE2	CHONDROPETALUM TECTORUM 'EL CAMPO'	EL CAMPO CAPE RUSH	1 GAL	36" o.c.
CE	CHONDROPETALUM TECTORUM 'EL CAMPO'	EL CAMPO CAPE RUSH	5 GAL	36" o.c.
DV	DIETES GRANDIFLORA 'VARIEGATA'	STRIPED FORTNIGHT LILY	5 GAL	36" o.c.
EB2	EPILOBIUM CANUM 'BOWMAN'S#1'	BOWMAN'S #1 CALIFORNIA FUCHSIA	1 GAL	30" o.c.
EB	EPILOBIUM CANUM 'BOWMAN'S#1'	BOWMAN'S #1 CALIFORNIA FUCHSIA	5 GAL	30" o.c.
FM	FESTUCA MAIREI	ATLAS FESCUE	5 GAL	36" o.c.
HB	HESPERALOE PARVIFLORA 'BRAKELIGHTS' TM	BRAKELIGHTS RED YUCCA	5 GAL	36" o.c.
LL	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL	36" o.c.
MD	MUHLENBERGIA DUBIA	PINE MUHLY	5 GAL	36" o.c.
RE2	RHAMNUS CALIFORNICA 'EVE CASE'	EVE CASE COFFEEBERRY	1 GAL	72" o.c.
RE	RHAMNUS CALIFORNICA 'EVE CASE'	EVE CASE COFFEEBERRY	5 GAL	72" o.c.
SC2	SALVIA CLEVELANDII	CLEVELAND SAGE	1 GAL	60" o.c.
SC	SALVIA CLEVELANDII	CLEVELAND SAGE	5 GAL	60" o.c.
TP	TEUCRIUM CHAMAEDRYS 'PROSTRATUM'	PROSTRATE GERMANDER	5 GAL	36" o.c.
TA	TEUCRIUM FRUTICANS 'AZUREUM'	AZURE BUSH GERMANDER	5 GAL	60" o.c.
TC	TEUCRIUM FRUTICANS 'COMPACTA'	BUSH GERMANDER	5 GAL	36" o.c.
VL	VERBENA LILACINA 'DE LA MINA'	DE LA MINA LILAC VERBENA	5 GAL	30" o.c.

SCALE: 1"=20'-0"
0' 10' 20' 40'



GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE · LAND PLANNING · URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

LAYOUT PLAN & PLANTING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837–10

Drawing Number: L1.1

PLANTING SCHEDULE

1. REFER TO L1.1 FOR PLANTING SCHEDULE AND PLANTING NOTES

TREES	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
ARM	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	24"BOX STD.	AS SHOWN
AOG	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	24"BOX STD.	AS SHOWN
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LAM	LAGERSTROEMIA X 'MUSKOGEE'	LAVENDER CRAPE MYRTLE	24"BOX STD.	AS SHOWN
LAS	LAURUS X 'SARATOGA'	SARATOGA HYBRID LAUREL	24"BOX STD.	AS SHOWN
QUV	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36"BOX STD.	AS SHOWN
ULM	ULMUS X 'FRONTIER'	FRONTIER ELM	24"BOX STD.	AS SHOWN
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CE	CHONDROPETALUM TECTORUM 'EL CAMPO'	EL CAMPO CAPE RUSH	5 GAL	36" o.c.
DV	DIETES GRANDIFLORA 'VARIEGATA'	STRIPED FORTNIGHT LILY	5 GAL	36" o.c.
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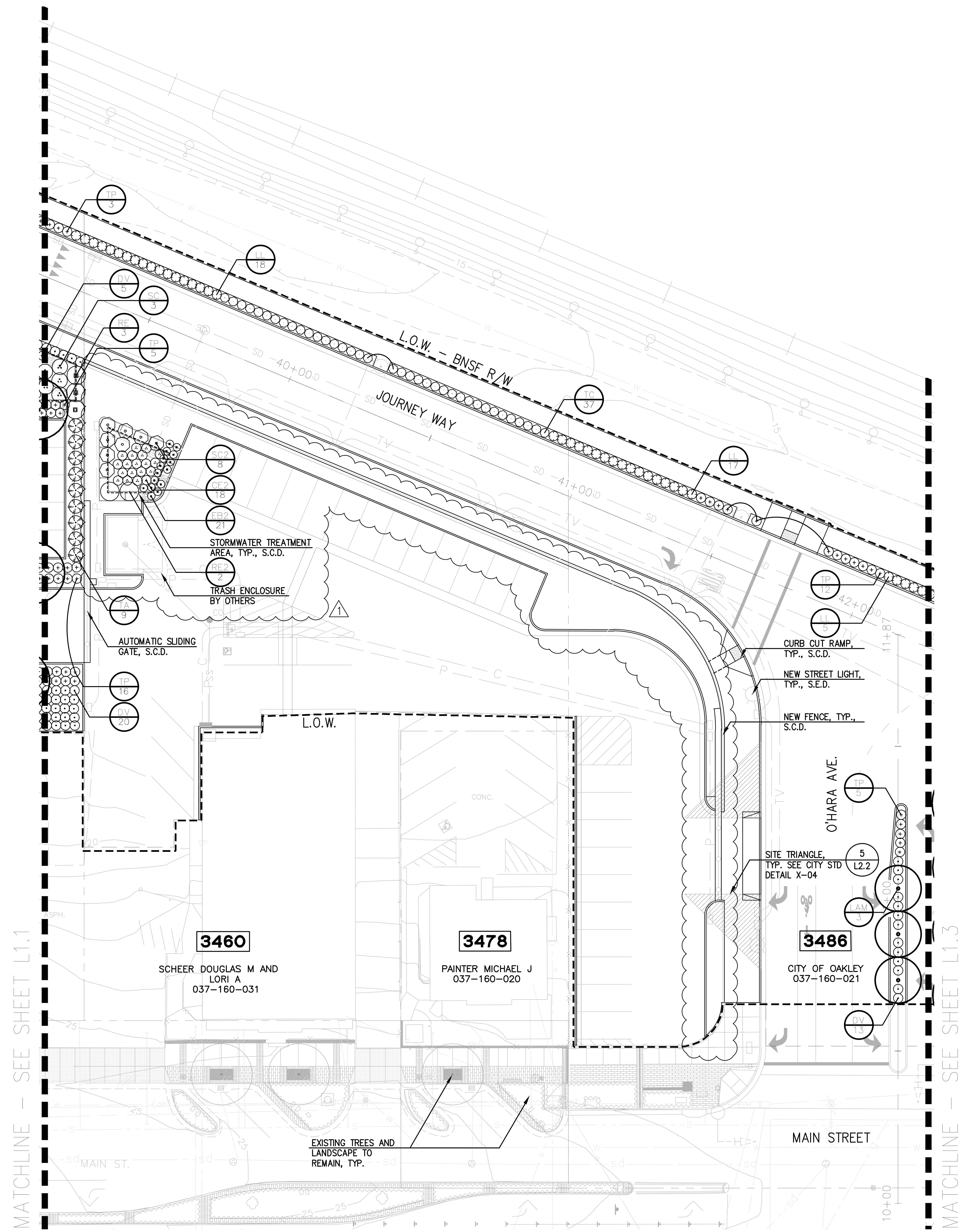

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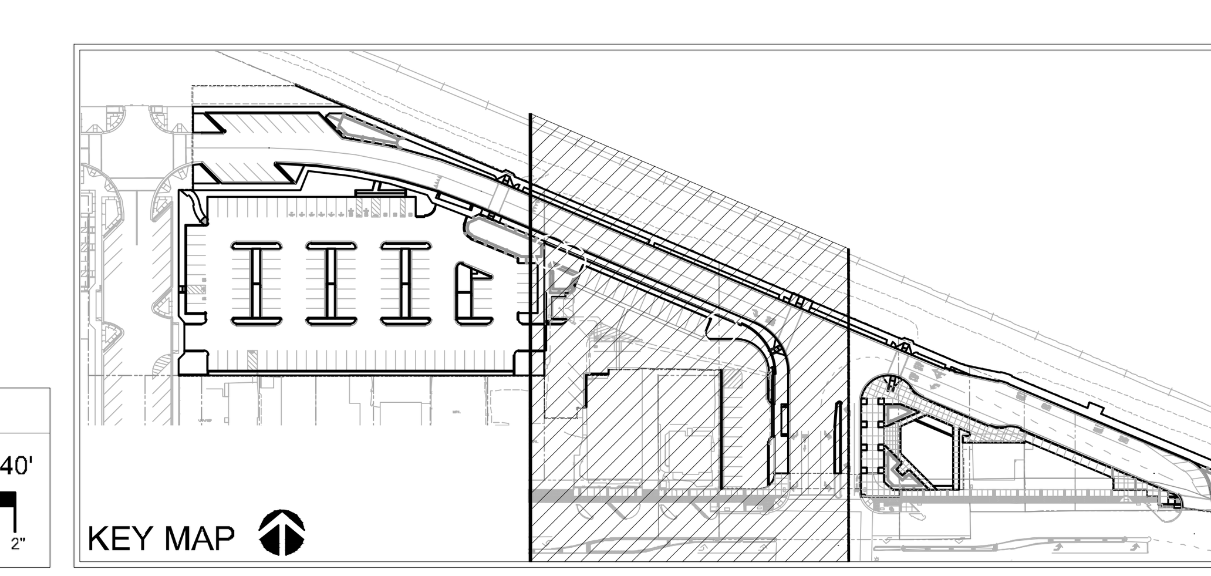


KEY MAP

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

LAYOUT PLAN & PLANTING PLAN

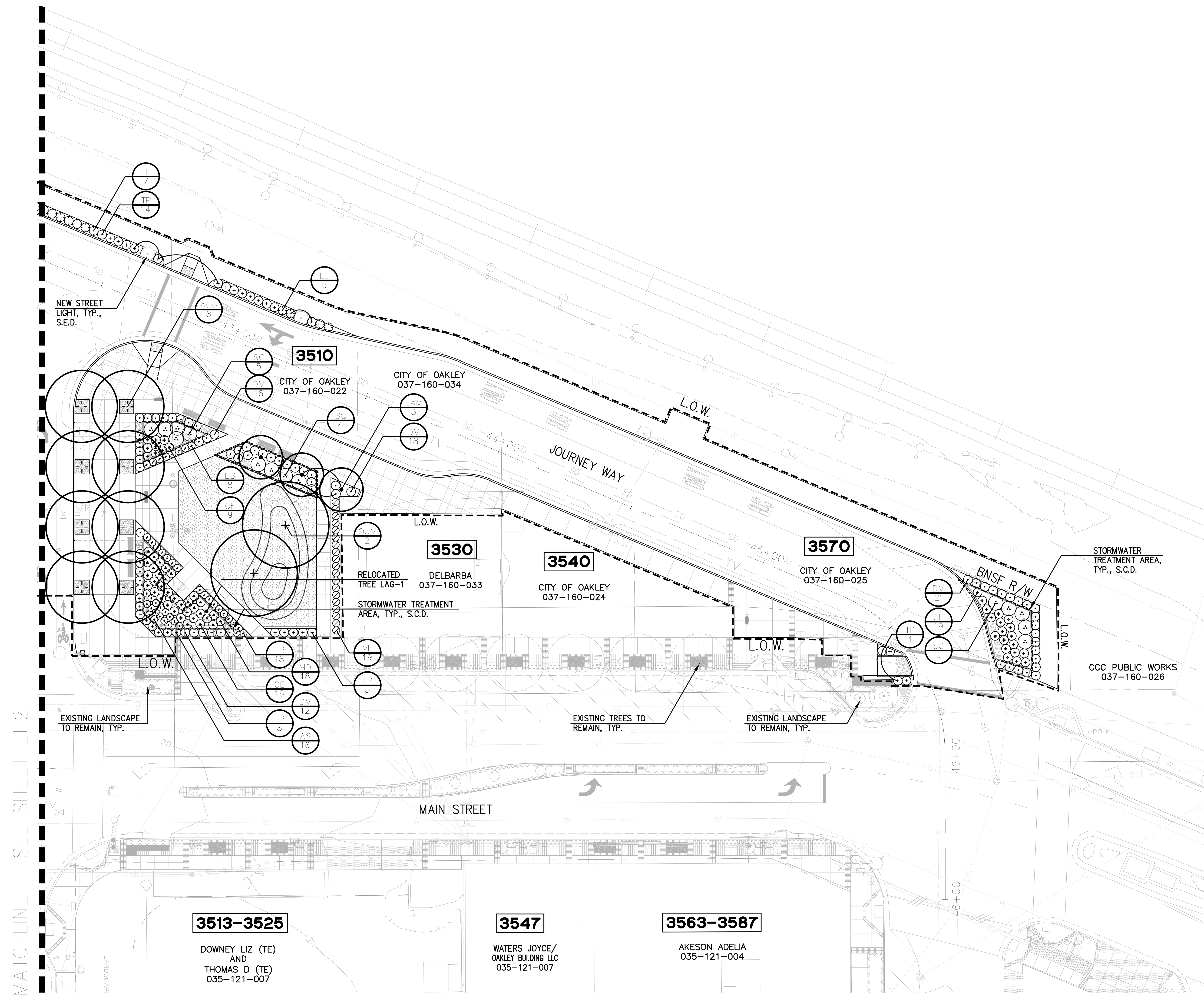
OAKLEY, CONTRA COSTA COUNTY, CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number: L1.2

63 OF 81



PLANTING SCHEDULE

1. REFER TO L1.1 FOR PLANTING SCHEDULE AND PLANTING NOTES

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SC2	SALVIA CLEVELANDII	CLEVELAND SAGE	1 GAL	60" o.c.
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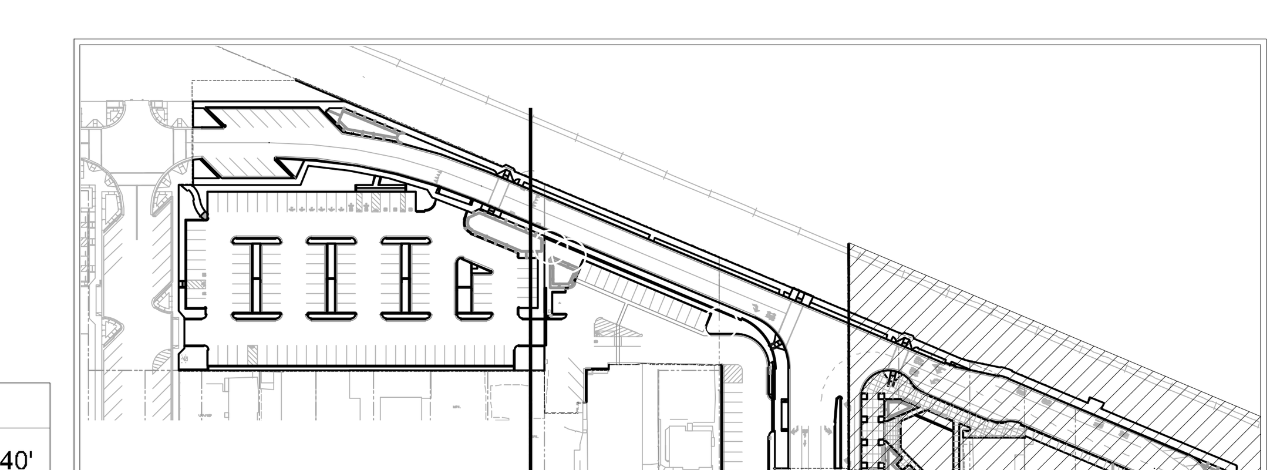
TC	TEUCRIUM FRUTICANS 'COMPACTA'	BUSH GERMANDER	5 GAL	36" o.c.
VL	VERBENA LILACINA 'DE LA MINA'	DE LA MINA LILAC VERBENA	5 GAL	30" o.c.

NOTES:
1. SEE SHEETS L1.4 AND L1.5 FOR LAYOUT PLAN AND DIMENSIONSING PLAN.

SCALE: 1"=20'-0"
0' 10' 20' 40'


KEY MAP

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

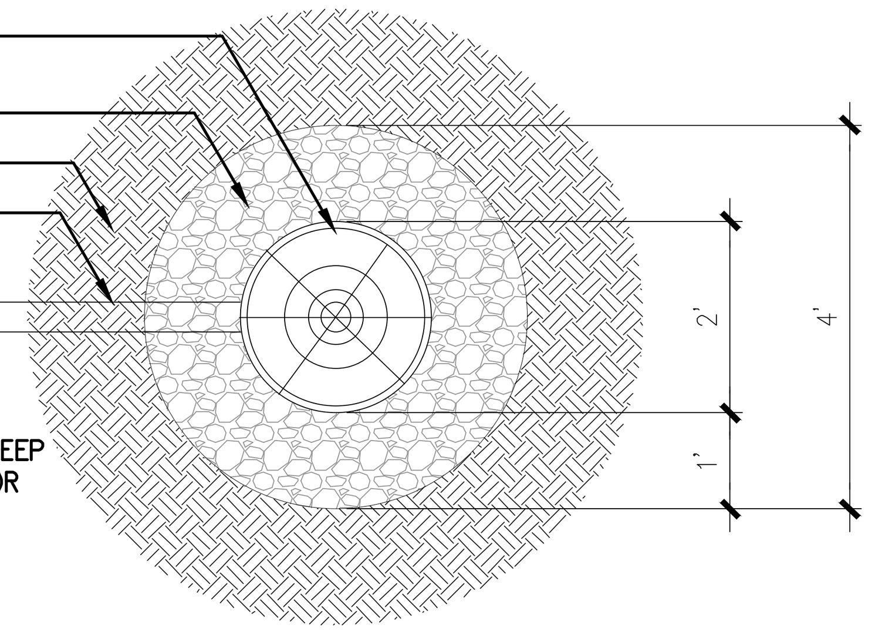
PLANTING PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

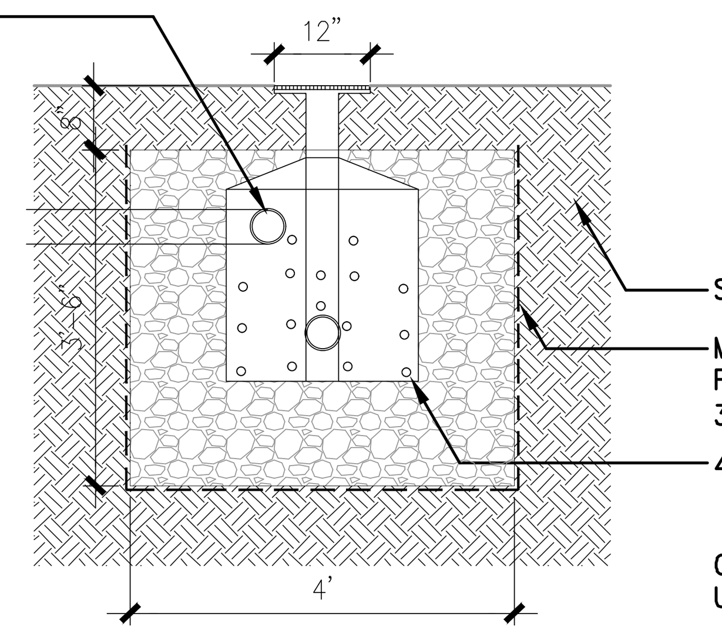
Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number: L1.3



FLOW WELL SUMP SYSTEM. SEE BELOW
3/4" DRAIN ROCK
SOIL
PVC PIPE CONNECT TO DRINKING FOUNTAIN

NOTE:
INSTALL PER MFR SPEC&DETAIL WHEN INSTALLED WITHIN 10' OF CONCRETE PAVING. INSTALL 36" DEEP WATER BARRIER. BY DEEP ROOT OR APPROVED EQUAL, ADJACENT TO CONCRETE PAVING



FLOW WELL SUMP SYSTEM
MFR: NDS OR APPROVED EQ.
MODEL: FLOW WELL FWAS24
W/ # 1243 WNIVERSAL LOCKING OUTLET
#1230 ADAPTER & 12x12" 1214 BRONZE GRATE
WRAP W/FWFF67 FABRIC WRAP
REFER TO FLOW WELL DETAILS AND SPECS FOR ADDITIONAL INSTALLATION INFORMATION
ADD VERTICAL PERF PIPE PER MFR SPEC AND DETAIL WHEN STACKING MULTIPLE UNITS.

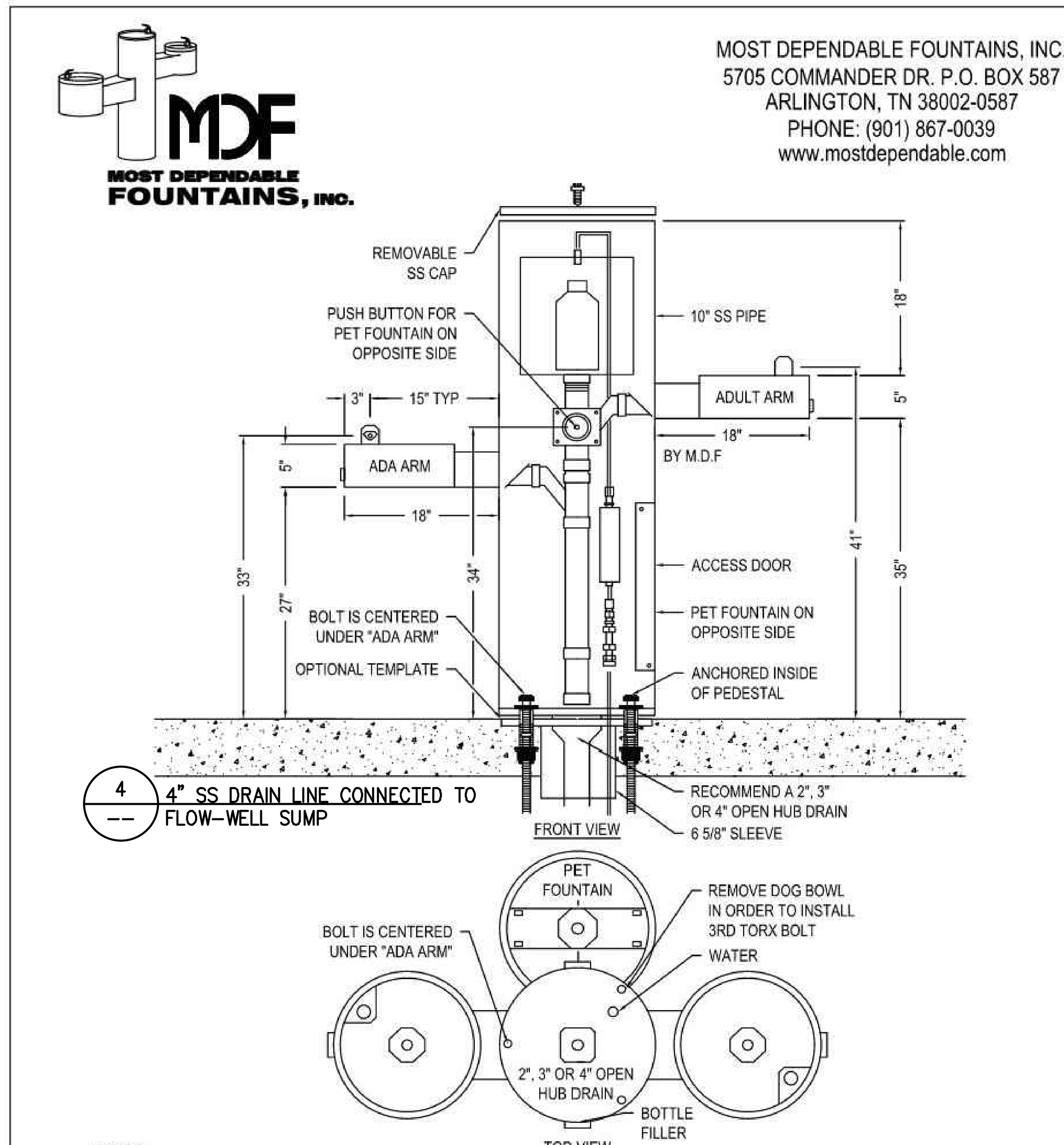
SOIL
MIRAFI 140N SOIL SEPARATOR FABRIC. COMPLETELY SURROUNDS
3/4" DRAIN ROCK
4" SCH 40 PERF PIPE

CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATION.

4 FLO-WELL SUMP AT DRINKING FOUNTAIN

SCALE: 1/2" = 1'-0"

MOST DEPENDABLE FOUNTAINS, INC.
5705 COMMANDER DR. P.O. BOX 587
ARLINGTON, TN 38002-0587
PHONE: (901) 867-0039
www.mostdependable.com



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. NOTE TO ARCHITECT, SCALE DRAWING IN AUTOCAD MODEL SPACE.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-17.52

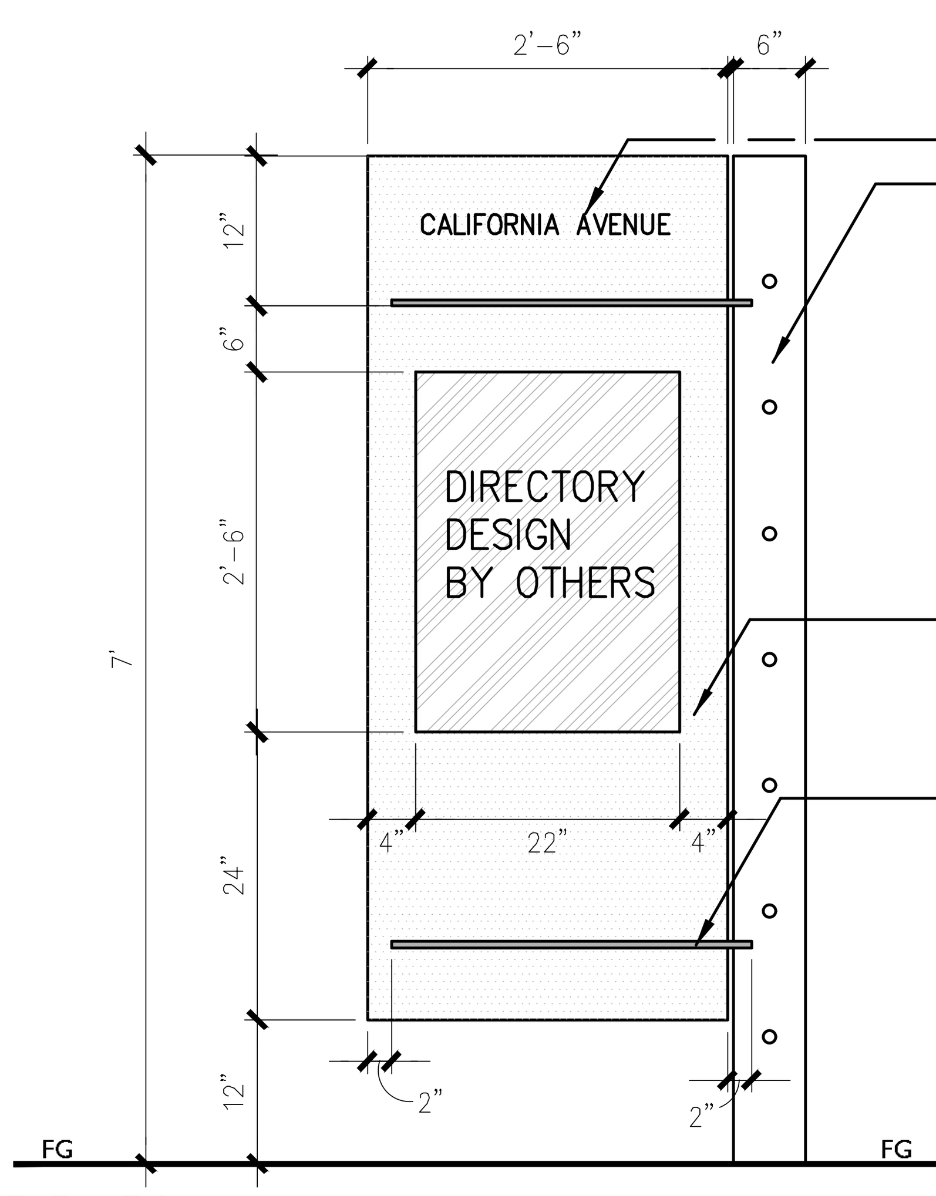
MODEL 10145 SM
SHOWN W/ OPTIONAL PET FOUNTAIN

3354-17.52 CADdetailsPLUS™ REVISION DATE 22/07/2019

3 DRINKING FOUTNAIN

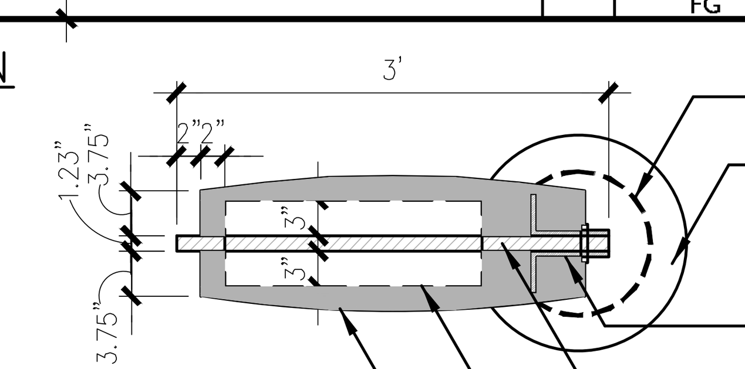
SCALE: 1" = 1"

NOTE:
1. SIGNAGE DETAIL IS SHOWN FOR DESIGN INTENT ONLY. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS FOR CITY REVIEW AND APPROVAL INCLUDING BUT NOT LIMITED TO ALL FRAMING, HARDWARE, PANELS, SECTIONS, FOOTINGS, FINISHING, FLUSH MOUNT HARDWARE, ELECTRICAL, LIGHTING, AND LETTERING. ALL HARDWARE TO BE COUNTERSUNK, FLUSH, AND PAINTED TO MATCH. LIGHTING TO BE EVENLY DISTRIBUTED. CABINET SEAMS TO BE FLUSH AND SMOOTH WITH NO SHARP EDGES. METAL WORK SHALL BE PLUMB, FLAT, SMOOTH, AND FREE OF DEFECT. CONTRACTOR TO PROVIDE NEOPRENE WASHERS AS REQUIRED BETWEEN DISSIMILAR METALS TO PREVENT GALVANIC CORROSIONALL. DIMENSIONS AND THICKNESSES OF PLATES, FRAMES, AND OTHER MATERIALS ARE SHOWN FOR DESIGN INTENT. CONTRACTOR MAY ADJUST DIMENSIONS UPON APPROVAL.
2. ALL METAL MEMBERS, BRACKETS AND PLATES SHALL BE HOT DIPPED GALVANIZED.
3. GRIND ALL EDGES SMOOTH.
4. FOR ALL METAL MEMBERS BRACKETS AND PLATES, APPLY TWO (2) EXTERIOR PRIMER COATS AND STEEL PAINT TWO (2) COATS.
5. PAINT SUPPLIER: SHERWIN-WILLIAMS OR APPROVED EQUAL.
6. CONTRACTOR TO SUBMIT ALL COLOR AND FINISH FOR REVIEW AND APPROVAL PRIOR TO PAINTING.
7. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF PARK SIGN OF BOTH SIDES FOR REVIEW AND APPROVAL PRIOR TO SIGN FABRICATION.
8. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON THE DECORATE METAL AND PAINTS.
9. APPLY GRAFFITI COATING ON ALL EXPOSED FACES, SEE SPECS
10. METALIZED COATINGS: SCOTTAG COR-TEN VARIEGATED COLOR.
11. SCOTCHLIGHT VINYL (CAN BE REMOVED FROM SURFACE FOR COPY CHANGE).
12. PRODUCT IS DESIGNED FOR EASE OF PANEL REMOVAL IN CASE OF VANDALISM.
13. BLADE ACCENTS:
-SUBSTATE: ALUMINUM, THICHKNESS: 1/2", FINISH: PAINTED STAIN BLACK
-MOUNTING: ATTACHED TO INTERNAL FRAME (PER PRODUCTION RECOMMENDATIONS.
14. SUPPORTS:
-MATERIAL: 3.5" X 6" ALUMINUM ANGLE (WALL THICKNESS .5"), WITH ROUNDED EDGES
-FASTENERS: EXPOSED TAMPER PROOF HEX SOCKET CAP SCREWS, PAINTED TO MATCH SUPPORTS.
-NOTE: PANEL IS TO BE REMOVABLE FOR EASE OF REMOVAL IN CASE OF VANDALISM.



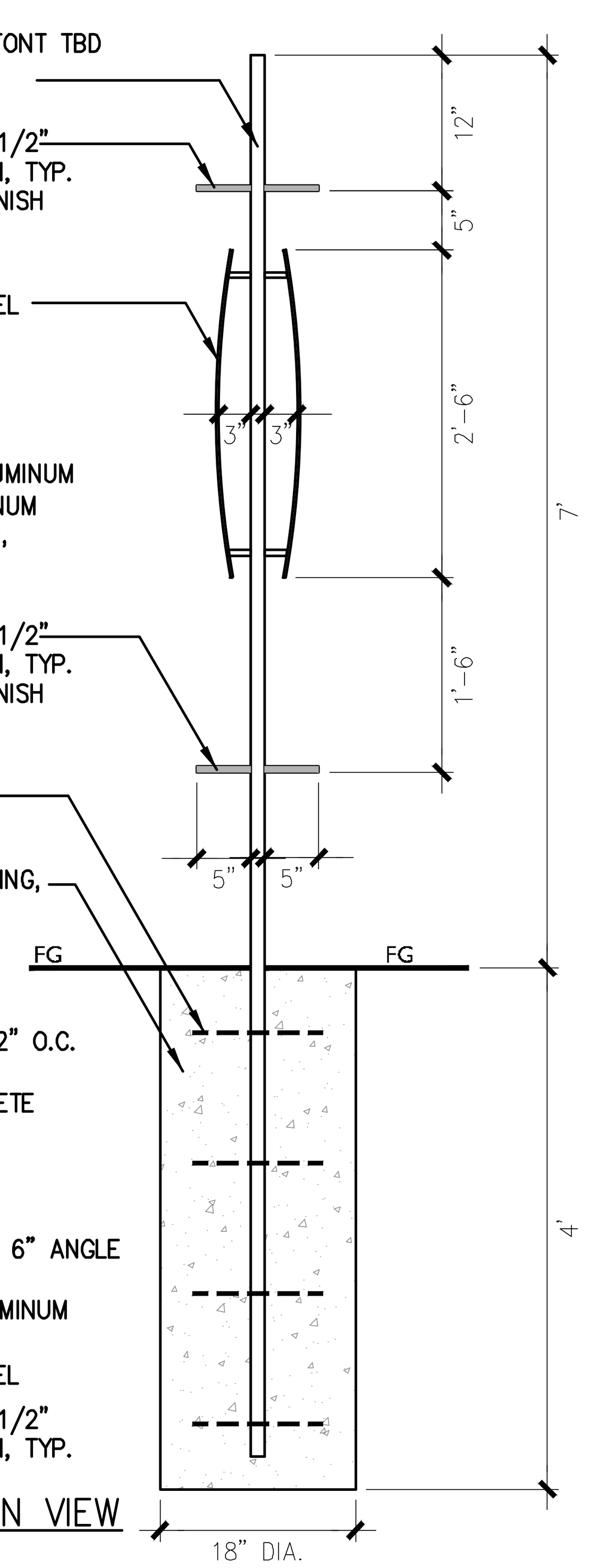
ELEVATION

STREET NAME, FONT TBD
ALUMINUM POST
BLADE ACCENT 1/2" THICK ALUMINUM, TYP. SATIN BLACK FINISH
DIRECTORY PANEL
FABRICATED ALUMINUM - 3/16" ALUMINUM COR-TEN FINISH, SEE NOTES
BLADE ACCENT 1/2" THICK ALUMINUM, TYP. SATIN BLACK FINISH
#4 REBAR AT 12" O.C.
CONCRETE FOOTING, 3,000 PSI MIN



PLAN VIEW

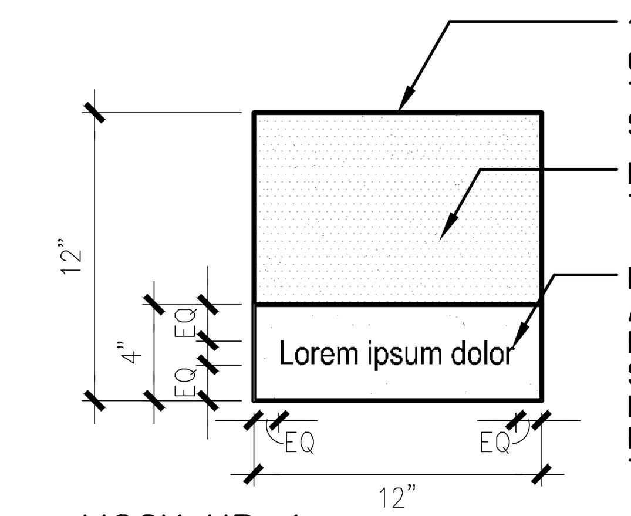
#4 REBAR AT 12" O.C.
18" DIA. CONCRETE FOOTING
ALUMINUM POST 6" ANGLE
1/2" THICK ALUMINUM BODY PANEL
DIRECTORY PANEL
BLADE ACCENT 1/2" THICK ALUMINUM, TYP.



SECTION VIEW

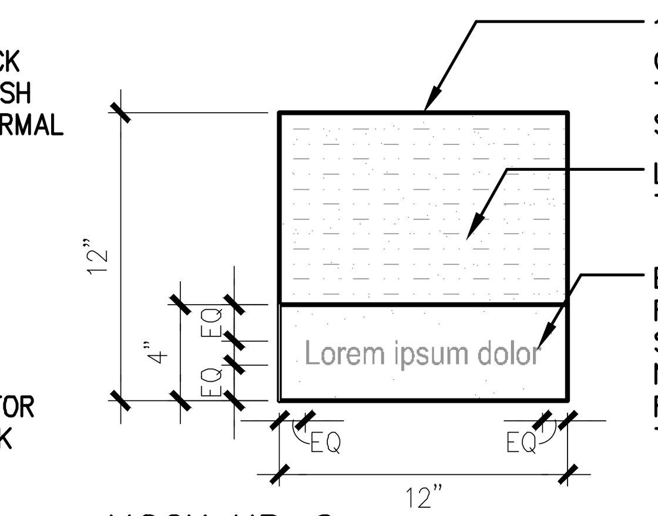
2 DIRECTORY

SCALE: 3/4" = 1'-0"



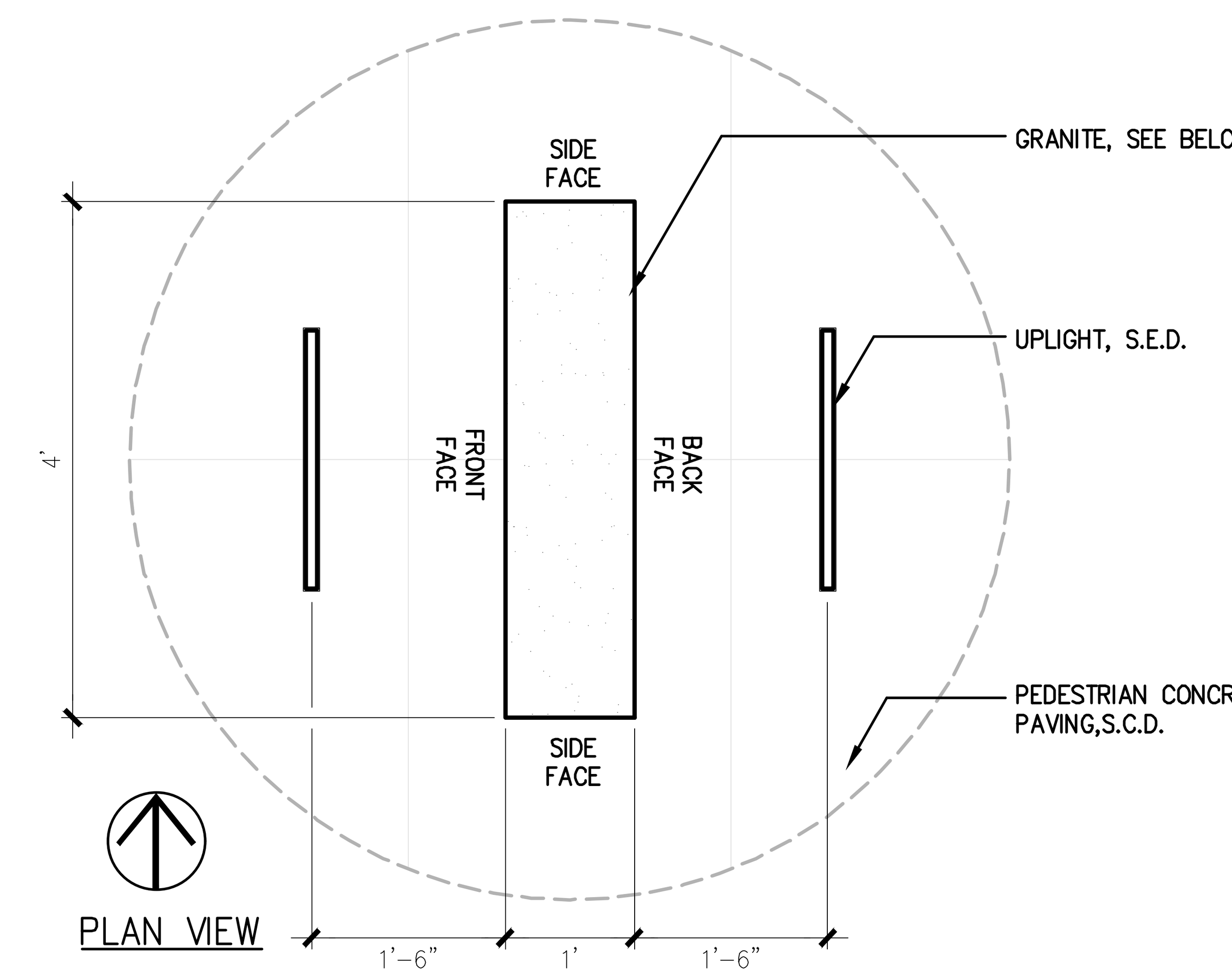
12"X12" GRANITE
COLOR: ACADEMY BLACK
TOP FACE FINISH: POLISH
SIDE FACE FINISH: THERMAL
ENGRAVED GRAPHIC TBD
ENGRAVED LETTERING, APPLY WHITE PAINT
FONT: TBD
SIZE: TBD
NOTE: GRAPHIC TEXT FOR REFERENCE ONLY, MOCK TEXT TBD

MOCK UP-1
N.T.S.



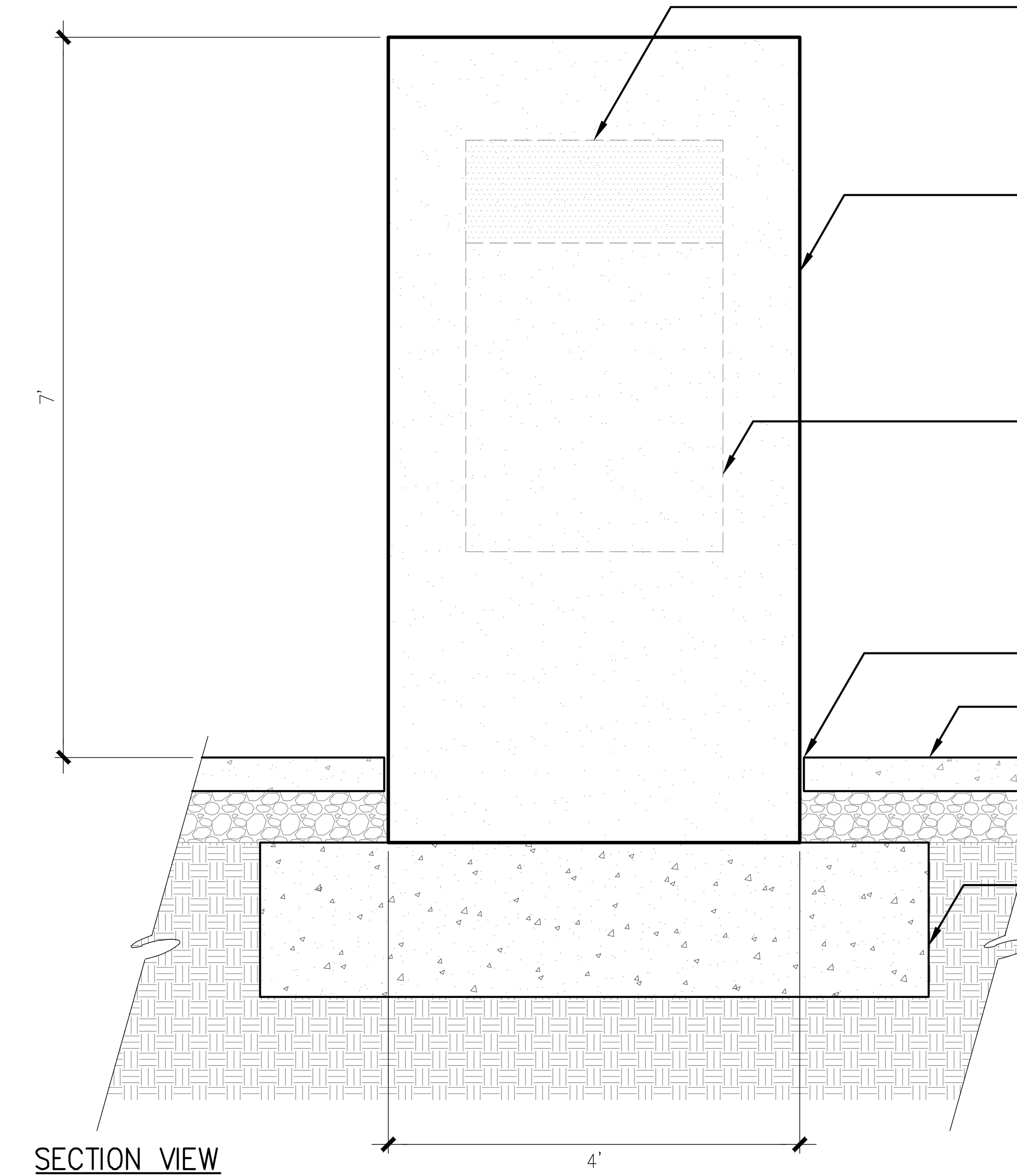
12"X12" GRANITE
COLOR: ACADEMY BLACK
TOP FACE FINISH: POLISH
SIDE FACE FINISH: THERMAL
LASER ETCHED GRAPHIC TBD
ENGRAVED LETTERING,
FONT: TBD
SIZE: TBD
NOTE: GRAPHIC TEXT FOR REFERENCE ONLY, MOCK TEXT TBD

MOCK UP-2
N.T.S.



GRANITE, SEE BELOW
UPLIGHT, S.E.D.
PEDESTRIAN CONCRETE PAVING,S.C.D.

PLAN VIEW



GRAPHIC,
GRAPHIC PROVIDED BY GATES AT FRONT AND BACK FACES. GRAPHIC CONTENT PROVIDED BY THE CITY, T.B.D. FOR BID PURPOSES ONLY, INSTALL LASER ETCHED GRAPHIC WITHIN 2.5 SF

GRANITE
COLOR: ACADEMY BLACK
AVAIL.: COLDSPRING GRANITE
FINISH:
SIDE FACES: THERMAL
TOP FACE: THERMAL
FRONT AND BACK FACE: POLISHED
BOTTOM: SAWN

ENGRAVED LETTERING,
FONT: TBD
SIZE: TBD
TEXT PROVIDED BY GATES AT FRONT AND BACK FACES. TEXT CONTENT PROVIDED BY THE CITY, T.B.D. FOR BID PURPOSES ONLY, INSTALL LETTERING WITHIN 7.5 SF; 1"H ENGRAVED TEXT WITH WHITE PAINT

EXPANSION JOINT
PEDESTRIAN CONCRETE PAVING,S.C.D.
CONCRETE FOOTING, REINFORCEMENT AND ANCHORING, S.S.D.

SECTION VIEW

NOTES:
1. FOOTING SIZE, REINFORCEMENT, AND CALCS SHALL BE REVIEWED AND PROVIDED BY THE STRUCTURAL ENGINEER.
2. DETAIL FOR VERTICAL STORY BOARD IS FOR DESIGN INTENT ONLY. CONTRACTOR SHALL PROVIDE ALL SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
3. PROVIDE FULL SIZE OF STORY BOARD CONTENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
4. CONTRACTOR SHALL PROVIDE (2) MOCK UPS OF GRAPHIC AND LETTERING FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

1 VERTICAL STORY BOARD

SCALE: 3/4" = 1'-0"

REGISTERED LANDSCAPE ARCHITECT, STATE OF CALIFORNIA, 6/30/2024 Renewal Date, 10/12/2022 Date, L.A.

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE, LAND PLANNING, URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

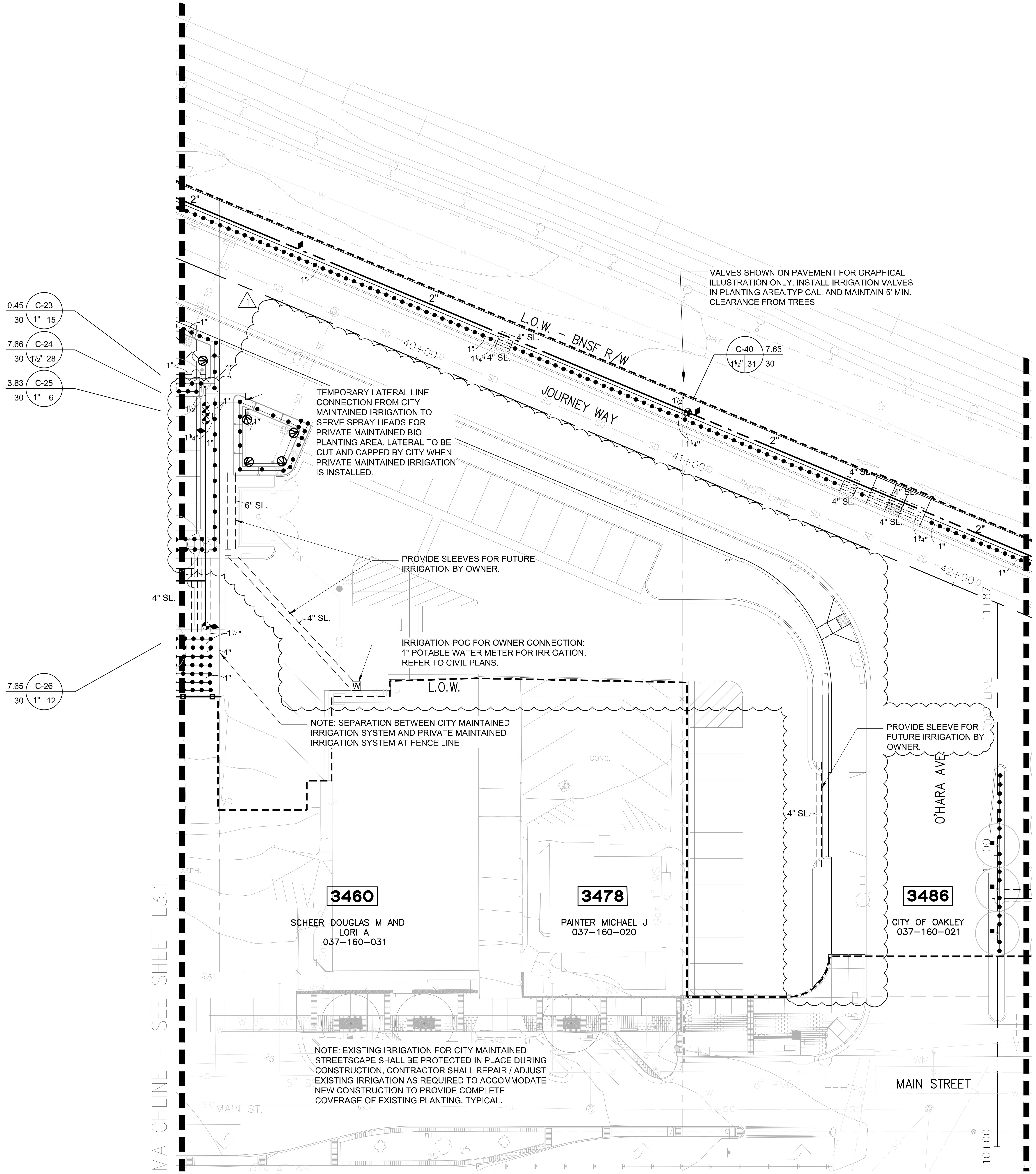
No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

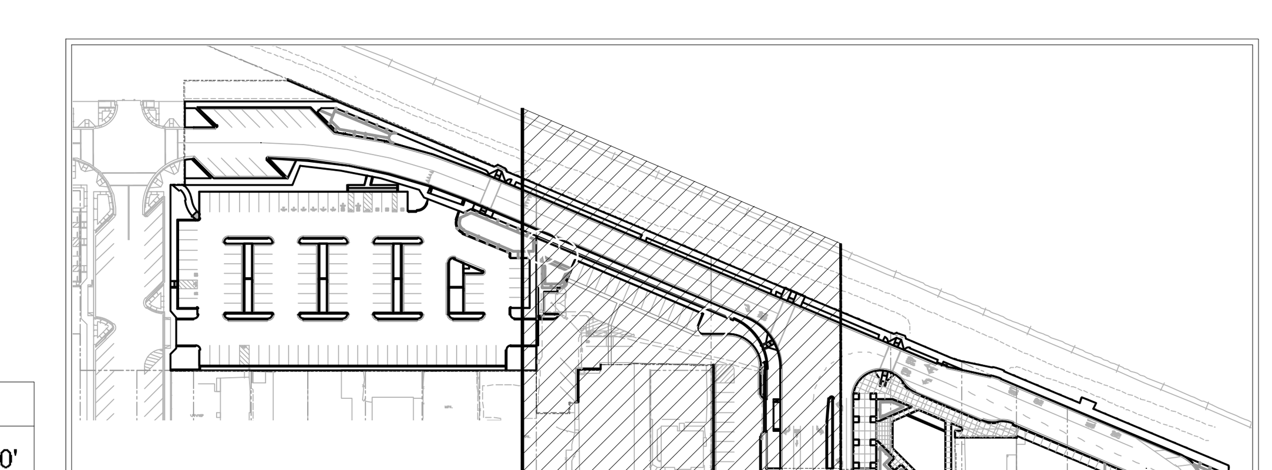
Drawing Number:
L2.3

BROOKWATER
IRRIGATION CONSULTANTS
480 ST. JOHN STREET, SUITE 220
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417
E-MAIL OFFICE@BROOKWATER.COM

"I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."



SCALE: 1"=20'-0"
0' 10' 20' 40'


KEY MAP

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE · LAND PLANNING · URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

IRRIGATION PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 03/30/22
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number:
L3.2

OAKLEY
CALIFORNIA

CITY OF OAKLEY
GENERAL NOTES - LANDSCAPE
PUBLIC WORKS AND ENGINEERING DEPARTMENT
3231 MAIN STREET
OAKLEY, CA 94561
PH. (925) 625-7000 FAX (925) 625-9194

WATER USE LANDSCAPE ORDINANCE (WELO)

1. PROJECT INFORMATION:
   - (A) DATE: 10/12/22
   - (B) PROJECT APPLICANT: City of Oakley
   - (C) PROJECT ADDRESS: Main Street & Norcross Way, Oakley CA 94561
   - *(OR PARCEL AND/OR LOT NUMBER(S))* ______
   - (D) TOTAL LANDSCAPE AREA (SQUARE FEET): 18,191
   - (E) PROJECT TYPE: ☒ NEW ☐ REHABILITATED *AND:* ☐ PUBLIC ☐ PRIVATE ☐ CEMETERY ☐ HOMEOWNER-INSTALLED
   - (F) WATER SUPPLY TYPE: ☒ POTABLE ☐ RECYCLED ☐ WELL *AND:* ☐ DIABLO WATER DISTRICT ☐ PRIVATE WELL
   - (G) PROJECT CONTACTS *(APPLICANT)*: Brookwater Irrigation Consultants, 480 St. John Street, STE 220 Pleasanton, CA 94566, Tel. 925.855.0417

     PROJECT CONTACT *(OWNER)*: City of Oakley, Kevin Rohani, City Engineer, R.C.E. NO. 51138
   - (H) I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

     Janet Luehrs — 09/09/2022

     APPLICANT SIGNATURE — DATE
2. WATER EFFICIENT LANDSCAPE WORKSHEET: *SEE SHEET* L3.4, L3.11
   - (A) HYDROZONE INFORMATION TABLE: *SEE SHEET* L3.4, L3.11
   - (B) WATER BUDGET CALCULATIONS: *SEE SHEET* L3.4, L3.11
     1. MAXIMUM APPLIED WATER ALLOWANCE (MAWA): 241,040 Gallons Per Year
     2. ESTIMATED TOTAL WATER USE (ETWU): 235,582 Gallons Per Year
3. SOIL MANAGEMENT REPORT: SEE SHEET ______
4. LANDSCAPE DESIGN PLAN: SEE SHEET(S) L1.1 - L1.3
5. IRRIGATION DESIGN PLAN: SEE SHEET(S) L3.1 - L3.10
6. GRADING DESIGN PLAN: *SEE SHEET(S)* ______

   ☒ *SEE CIVIL IMPROVEMENT PLANS BY:* BKF Engineers

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IRRIGATION:

43. THE IRRIGATION SYSTEM SHALL BE INSTALLED BY A LICENSED CONTRACTOR IN CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES/ORDINANCES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES RELATED TO WORK ON THE PROJECT.
44. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELF WITH GRADE DIFFERENCES AND WITH ALL LOCATIONS OF STRUCTURES, UTILITIES AND FENCES. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH OTHERS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERAL LINES THROUGH FOOTINGS, UNDER PAVING, ETC. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY THEIR WORK AT NO ADDITIONAL COST TO THE CITY.
45. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN AREA DIMENSIONS EXIST THAT MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
46. THE IRRIGATION PLAN IS DIAGRAMMATIC: ALL IRRIGATION EQUIPMENT SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. ALL VALVES AND SYSTEM EQUIPMENT SHALL BE LOCATED IN SHRUB AREAS WHEREVER POSSIBLE.
47. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM PRESSURE AND THE MAXIMUM FLOW DEMAND AS STATED ON THE DRAWINGS FOR EACH POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY STATIC WATER PRESSURE, SERVICE LINE SIZE, AND WATER METER SIZE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE ACTUAL WATER PRESSURE, SERVICE SIZE AND METER SIZE WITH THAT INDICATED ON THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE AS WELL AS THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING WORK.
48. THE CONTRACTOR SHALL REVIEW AND VERIFY THE LOCATION AND TYPE OF ELECTRICAL POWER SOURCE IN THE FIELD WITH THE OWNER'S REPRESENTATIVE AND THE IRRIGATION DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO BOTH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF ALL CONTROLLER LOCATIONS PRIOR TO INSTALLATION AND SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER(S).
49. THE IRRIGATION CONTROLLER SHALL BE PROGRAMMED TO WATER BETWEEN THE HOURS OF 9:00 PM AND 9:00 AM ONLY. ADDITIONAL RESTRICTED WATERING TIMES MAY BE ESTABLISHED BASED ON SITE CONDITIONS AS APPROVED BY THE CITY.
50. THE IRRIGATION CONTRACTOR SHALL SCHEDULE A MEETING WITH THE IRRIGATION CONTROLLER MANUFACTURER'S REPRESENTATIVE FOR PROPER INSTALLATION, PROGRAMMING AND OPERATION.

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51. THE CONTRACTOR SHALL BE TRAINED AND/OR CERTIFIED BY THE MANUFACTURER'S REPRESENTATIVE AS QUALIFIED TO INSTALL THE TWO-WIRE DECODER SYSTEM. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL HAVE A PRECONSTRUCTION CONFERENCE WITH THE MANUFACTURER'S REPRESENTATIVE AND CITY'S PUBLIC WORKS DEPARTMENT FOR THE INSTALLATION OF THE TWO-WIRE DECODER SYSTEM.
52. TWO-WIRE IRRIGATION CONTROL WIRE SHALL BE POLYETHYLENE DOUBLE-JACKETED OR UF-B UL PVC DOUBLE-JACKETED TWO-CONDUCTOR SOLID CORE DESIGNED FOR DIRECT BURIAL IS INSTALLED BETWEEN THE IRRIGATION CONTROLLER AND VALVE BOXES. IF TWO-WIRE CABLE RUN LENGTH EXCEEDS MAXIMUM RUN LENGTH SPECIFIED BY THE MANUFACTURER, RUN LENGTH SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY NECESSARY REVISIONS. USE CONSISTENT EXTERIOR JACKET WIRE COLOR FOR PROJECT. FOR PROJECTS WITH MULTIPLE CONTROLLERS, USE DIFFERENT EXTERIOR JACKET WIRE COLOR(S) FOR EACH CONTROLLER.
    - A. TWO-WIRE IRRIGATION CONTROL WIRE SHALL BE INSTALLED IN A 1-1/2 INCH SCH. 40 PVC CONDUIT WITH SOLVENT-WELD CONNECTIONS ALONG MAINLINE. INSTALL PULL BOXES 200 FEET ON-CENTER MAXIMUM OR AS NECESSARY AND NO MORE THAN THE EQUIVALENT OF FOUR (4) QUARTER BENDS (360 DEGREES TOTAL BETWEEN PULL BOXES).
    - B. PROVIDE 3 FEET EXPANSION COIL (MEASURED FROM TOP OF BOX) AT EACH WIRE CONNECTION AND AT PULL BOX LOCATIONS.
53. CONVENTIONAL IRRIGATION CONTROL WIRE SHALL BE #14-1, U.L. APPROVED FOR DIRECT BURIAL. COMMON WIRE SHALL BE #14-1, U.L. APPROVED FOR DIRECT BURIAL AND WHITE IN COLOR AND PILOT WIRES SHALL BE A COLOR OTHER THAN WHITE OR GREEN. SPARE WIRES SHALL BE A DIFFERENT COLOR.
    - A. INSTALL SIX (6) SPARE CONTROL WIRES OF A DIFFERENT COLOR ALONG THE MAINLINE FOR CONVENTIONAL IRRIGATION CONTROLLER WIRE. PROVIDE 3 FEET EXPANSION COIL (MEASURED FROM TOP OF BOX) INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVE BOXES.
    - B. PROVIDE 3 FEET EXPANSION COIL (MEASURED FROM TOP OF BOX) AT EACH WIRE CONNECTION AND AT LEAST EVERY 100 FEET OF WIRE LENGTH ON RUNS MORE THAN 100 FEET IN LENGTH AND AT CHANGES IN DIRECTION. FORM EXPANSION COILS BY WRAPPING AT LEAST FIVE TURNS OF WIRE AROUND A 2 INCHES DIAMETER PIPE, THEN WITHDRAWING THE PIPE. EXPANSION COILS NOT REQUIRED INSIDE SLEEVES OR CONDUIT.
54. WIRES SPLICES ARE PERMITTED ONLY ON RUNS EXCEEDING 2,500 FEET AND SHALL BE PLACED IN SPLICE BOXES. SPLICES SHALL BE INSTALLED WITH '3M' #DBR/Y-6 WATERPROOF CONNECTORS OR APPROVED EQUAL. INDICATE ALL SPLICE BOX LOCATIONS ON THE 'AS-BUILT' DRAWINGS.

TWO-WIRE CONTROLLER NOTES:

1. REFER TO MANUFACTURER'S DOCUMENTATION FOR COMPLETE INSTALLATION INSTRUCTIONS.
2. WEATHERTRAK WT-SPK / WT2W-H2O-SA SURGE PROTECTORS AND DECODERS SHALL BE INSTALLED AT THE CONTROLLER, EVERY 500' OR EVERY 5 DECODERS, WHICHEVER IS SMALLER, AND AT THE END OF ANY 2-WIRE PATH BRANCH LONGER THAN 25 FEET. A UL LISTED COPPER CLAD 5/8" X 96' GROUND ROD SHALL BE INSTALLED AT EACH SURGE PROTECTOR; #6 AWG BARE COPPER WIRE SHALL BE USED TO CONNECT THE GROUND ROD TO THE SURGE PROTECTOR.
3. EACH VALVE OR VALVE GROUP SHALL HAVE A WT2W-H2O DECODER. INSTALL DECODERS IN VALVE BOX WITH REMOTE CONTROL VALVE. MAXIMUM DISTANCE BETWEEN DECODER AND SOLENOID IS 200'. CONTRACTOR SHALL PROVIDE A WT2W-HHP HAND-HELD DECODER PROGRAMMER.
4. USE ONLY WEATHERTRAK COMPATIBLE WIRE (SUCH AS PAIGE P7072D OR P7354D) FOR ALL 2-WIRE PATH WIRING. REFER TO MANUFACTURER'S DOCUMENTATION FOR OTHER WIRE OPTIONS.
5. USE 3M DBY-6 AND DBR-6 WIRE CONNECTORS ONLY.
6. THE QUALITY OF WIRE SPLICES IN DECODER SYSTEMS IS EXTREMELY IMPORTANT. DECODER SYSTEMS HAVE SENSITIVE ELECTRONICS EASILY EFFECTED BY NICKS TO THE CONDUCTOR WIRE AND MOISTURE IN SPLICES. FOLLOW THESE INSTRUCTIONS FOR WIRE SPICES:
   - a. CAREFULLY SCORE THE OUTER JACKET. BEND WIRE UNTIL OUTER JACKET SNAPS. AVOID USING A KNIFE.
   - b. USING APPROPRIATE TOOL, CAREFULLY REMOVE THE INSULATION FROM CONDUCTOR WIRE WITHOUT NICKING THE WIRE.
   - c. TWIST ON WIRE NUTS AND TEST THE CONNECTION BEFORE ADDING THE WATER PROOFING. ENSURE WIRE NUT AND WIRE ARE PUSHED ALL THE WAY INTO THE WATERPROOF CAP.
7. LOOP TWO WIRE PATH AT ALL CORNERS, SPLICES (2' LOOP) AND IN PULL BOX IF DISTANCE FROM VALVE TO VALVE EXCEEDS 100'.

DRIPLINE NOTES:

1. PLANS ARE DIAGRAMMATIC. INSTALL DRIPLINE AND COMPONENTS PER MANUFACTURERS INSTRUCTIONS AND INSTALLATION DETAILS.
2. INSTALL DRIPLINE A MAXIMUM OF 18" APART WITH EMITTERS TRIANGULARLY SPACED. INSTALL 2" FROM PERIMETER OF PLANTED AREA. THERE SHOULD BE A MINIMUM OF TWO DRIPLINE LATERALS IN EACH PLANTED AREA. DRIPLINE SHALL BE INSTALLED AT A CONSISTANT DEPTH THROUGHOUT THE CIRCUIT.
3. PLACE FLUSH VALVES AT THE HYDRAULIC CENTER OF THE EXHAUST HEADER OR AT LOW POINT ON SLOPES. INSTALL MINIMUM OF ONE FOR EVERY 15 GPM.
4. INSTALL IN-LINE CHECK VALVES ON SLOPES GREATER THAN 3% AND WHERE LOW-LINE DRAINAGE COULD CAUSE WET AREAS IN THE LOWEST AREAS OF AN IRRIGATION ZONE. CHECK VALVES SHALL BE PLACED EVERY 4-5 FEET BETWEEN DRIPLINE LATERALS AND BEFORE THE FLUSH VALVE.
5. ON ALL SLOPES AND MOUNDS, PLACE THE DRIPLINE LATERALS PARALLEL TO THE SLOPE CONTOUR WHERE POSSIBLE. INCREASE THE LATERAL SPACING BY 25% ON THE LOWER ONE-THIRD OF THE SLOPE TO AVOID EXCESS DRAINAGE.
6. PVC SUPPLY AND FLUSH LINE SIZING GUIDE (ALL SUPPLY AND FLUSH LINES SHALL BE THE SAME SIZE FOR THE ENTIRE ZONE):
   - 0-5 GPM – 3/4"
   - 5.1-10 GPM – 1"
   - 10.1-20 GPM – 1 1/4"
   - 20.1-28 GPM – 1 1/2"
7. FITTINGS SHALL BE OF THE SAME MANUFACTURER AS DRIPLINE. TO PREVENT LEAKING AND FITTING BLOW OUTS, CAREFULLY FOLLOW THE FITTING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. STAPLE DRIPLINE TO GROUND EVERY 3 FEET. USE ADDITIONAL STAPLES OVER EACH TEE, ELBOW OR CROSS. USE U-SHAPED STAPLES TO AVOID PINCHING THE DRIPLINE.
9. THOROUGHLY FLUSH EACH INSTALLATION SEGMENT TO ENSURE NO DEBRIS CONTAMINATION OCCURS.
10. RUN THE DRIPLINE SYSTEM EVERY DAY OR EVERY OTHER DAY TO ESTABLISH PLANT MATERIAL. MAINTAIN A CONSISTENT MOISTURE BALANCE IN THE SOIL. IT IS IMPORTANT TO KEEP THE SOIL MOIST WITHOUT SATURATION.

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64. MARKING TAPE SHALL BE 3 INCHES WIDE, DETECTABLE MARKING TAPE, AS MANUFACTURED BY T. CHRISTY ENTERPRISES, INC., (800) 258-4583, INSTALLED 12 TO 18 INCHES BELOW THE SURFACE AND A MINIMUM OF 12 INCHES ABOVE POTABLE LINES, IRRIGATION MAIN LINES AND IRRIGATION WIRES. POTABLE LINES TAPE SHALL BE BLUE DETECTABLE MARKING TAPE MODEL #TA-DT-3-BPW. POTABLE IRRIGATION LINES TAPE SHALL BE BLUE DETECTABLE MARKING TAPE MODEL #TA-DT-3-B-IRR. RECLAIMED WATER IRRIGATION LINES TAPE SHALL BE PURPLE DETECTABLE MARKING TAPE MODEL #TA-DT-3-P-IRR.
65. PIPE JOINT COMPOUND SHALL BE NON-HARDENING, NON-TOXIC MATERIALS DESIGNED SPECIFICALLY FOR USE ON THREADED CONNECTIONS IN WATER CARRYING PIPE. USE RECTORSEAL NO. 5, WELD-ON ALL SEAL PIPE THREAD SEALANT, OR EQUIVALENT, EXCEPT AT REMOTE CONTROL VALVES AND IRRIGATION HEADS WHERE 3-4 WRAPS OF TEFLON TAPE SHALL BE USED. PIPE DOPE OR LIQUID TEFLON ARE NOT PERMITTED.
66. ALL EXCAVATIONS SHALL BE BACKFILLED TO 85% COMPACTION (95% UNDER PAVING) UNLESS OTHERWISE NOTED.
67. PLASTIC VALVE BOX MANUFACTURER SHALL BE CARSON INDUSTRIES AND BOXES SHALL BE BLACK IN COLOR (PURPLE FOR RECLAIMED WATER). VALVE BOXES LOCATED IN TURF AREAS SHALL BE GREEN IN COLOR (PURPLE FOR RECLAIMED WATER). VALVE BOXES SHALL HAVE BOLT DOWN, NON-HINGED COVER MARKED "IRRIGATION". BOX SHALL HAVE KNOCK OUTS. VALVE BOX LIDS SHALL BE HEAT STAMPED IN 2 INCH LETTERS WITH THE CONTENTS OF THE BOX: 'X1' FOR REMOTE CONTROL VALVES ('X'=CONTROLLER '1'=STATION NUMBER), 'MV' FOR MASTER CONTROL VALVE, 'FS' FOR FLOW SENSOR, 'GV' FOR GATE VALVE, 'QC' FOR QUICK COUPLING VALVE, 'SP' FOR SPLICE BOX, 'PB' OR PULL BOX., ETC.)
68. INSTALL IRRIGATION VALVE BOXES 12 INCHES FROM WALK, CURB, TURF, HEADER BOARD, BUILDING, OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, TURF, ETC. AND EACH BOX SHALL BE 12 INCHES APART. SHORT SIDE OF RECTANGULAR BOX SHALL BE PARALLEL TO WALK, CURB, TURF, ETC. VALVE BOXES IN A GROUPING SHALL BE SUITABLE FOR THE AREA AND MAXIMUM NUMBER OF VALVES IN GROUPING SHALL BE AS APPROVED BY THE CITY.
69. LOCATE QUICK COUPLING VALVES DOWNSTREAM OF IRRIGATION VALVE MANIFOLDS OR AT END OF LINES.
70. ALL OVERHEAD IRRIGATION SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL SET PRESSURE REGULATORS FOR OPTIMUM PERFORMANCE; FLUSH AND ADJUST ALL IRRIGATION VALVES, HEADS AND NOZZLES FOR OPTIMUM COVERAGE; AND ELIMINATE OVERSPRAY ONTO PAVING, WALKS, WALLS, FENCES, ETC.
71. LOCATE BUBBLER ON UP-SLOPE SIDE OF PLANT LOCATED ON SLOPES.
72. INSTALL A VALCON 5000 SERIES SPRING-LOADED CHECK VALVE BELOW SHRUB BUBBLERS WHERE LOW HEAD DRAINAGE WILL CAUSE EROSION AND/OR EXCESS WATER. USE ROOT ZONE WATERING SYSTEM TREE BUBBLERS IN PAVED AREAS OR TREE WELLS.
73. IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

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55. ALL PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. LATERAL PIPE NOT SIZED ON DRAWINGS AND DOWNSTREAM OF 1 INCH PIPE SHALL BE 3/4 INCH SIZE. NO SUBSTITUTIONS FOR SMALLER PIPE SHALL BE PERMITTED. HOWEVER, SUBSTITUTIONS FOR LARGER PIPE SIZES MAY BE APPROVED.
56. ALL MAINLINE PIPING AND CONTROL WIRES UNDER PAVING OR WALLS SHALL BE INSTALLED IN SEPARATE SLEEVES. SLEEVES SHALL BE A MINIMUM OF 4 INCHES DIAMETER OR TWICE (2x) THE DIAMETER OF THE PIPE TO BE SLEEVED, WHICHEVER IS LARGER.
57. CONTRACTOR SHALL NOTE AND INSTALL SLEEVE LOCATIONS AT REQUIRED DEPTHS AS SHOWN ON IRRIGATION PLANS. SLEEVES SHALL EXTEND 6 INCHES BEYOND FARTHEST EDGE OF PAVEMENT, CURB OR SIDEWALK. COORDINATE WITH CIVIL CONTRACTOR PRIOR TO PLACEMENT OF PAVING.
58. IRRIGATION MAIN LINES 4 INCHES AND LARGER SHALL BE POLYVINYLCHLORIDE (PVC-1120) CLASS 200 PIPE WITH GASKETED CONNECTIONS AND 3 INCHES AND SMALLER SHALL BE POLYVINYLCHLORIDE (PVC-1120) SCHEDULE 40 PIPE WITH SOLVENT-WELD CONNECTIONS.
59. PROVIDE 36 INCHES MINIMUM COVER FOR CLASS 200 PIPE WITH GASKET-CONNECTION PRESSURE SUPPLY LINES; 24 INCHES MINIMUM COVER FOR SCHEDULE 40 PIPE WITH SOLVENT-WELD CONNECTION PRESSURE SUPPLY LINES AND CONTROLLER WIRES; AND 12 INCHES MINIMUM COVER FOR ALL SCHEDULE 40 PIPE NON-PRESSURE LATERAL LINES UNLESS INDICATED TO BE DEEPER ON THE DRAWINGS.
60. GASKETED FITTINGS AT CHANGES IN DIRECTION OR BRANCH MAINS SHALL BE MECHANICALLY RESTRAINED. ADDITIONAL ADJACENT JOINTS SHALL BE RESTRAINED PER THE JOINT RESTRAINT MANUFACTURER'S INSTALLATION RECOMMENDATIONS. JOINT RESTRAINTS SHALL BE AS MANUFACTURED BY LEEMCO. ALL OTHER JOINTS SHALL USE APPROPRIATE HARCO OR LEEMCO DUCTILE IRON, DEEP BELL, RUBBER RING SEAL FITTINGS AS APPROVED BY THE UNIFORM PLUMBING CODE. ALL FITTINGS SHALL HAVE FUSION-BONDED EPOXY COATING ON INTERIOR AND EXTERIOR SURFACES.
61. CAST IRON AND DUCTILE IRON PIPE SHALL HAVE A BITUMINOUS COATING ON THE INTERIOR AND EXTERIOR SURFACES. FITTINGS AND VALVES SHALL BE COATED WITH 6-8 MIL NOMINAL THICKNESS OF PROTECTIVE FUSION-BONDED EPOXY. THE FUSION-BONDED EPOXY COATING SHALL BE APPLIED IN ACCORDANCE WITH AND SHALL MEET ALL APPLICABLE TERMS AND PROVISIONS OF ANSI/AWWA C116/A21.16-09.
62. ALL CAST IRON AND DUCTILE IRON PIPE AND FITTINGS AND SHALL BE ENCASED IN LOOSE 8 MIL MINIMUM THICKNESS POLYETHYLENE TUBING, FOR EXTERNAL CORROSION PROTECTION. INSTALLATION OF POLYETHYLENE ENCASEMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI A 21.5 (AWWA C105). SEAMS SHALL BE SEALED WITH 2 INCHES WIDE 10 MIL POLYETHYLENE TAPE. ENDS OF POLYETHYLENE TUBING SHALL BE SECURED TO PIPE WITH SAME POLYETHYLENE TAPE.
63. SOLVENT-WELD FITTINGS SHALL BE SCHEDULE 40 PVC AS APPROVED BY THE UNIFORM PLUMBING CODE. ALL MAIN LINE FITTINGS SHALL BE SCHEDULE 80 PVC.

REGISTERED LANDSCAPE ARCHITECT — CASEY CASE • No. 6032 — Signature — 6/30/2024 Renewal Date — 10/12/2022 Date — L.A. — STATE OF CALIFORNIA

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING - URBAN DESIGN
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OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

IRRIGATION NOTES

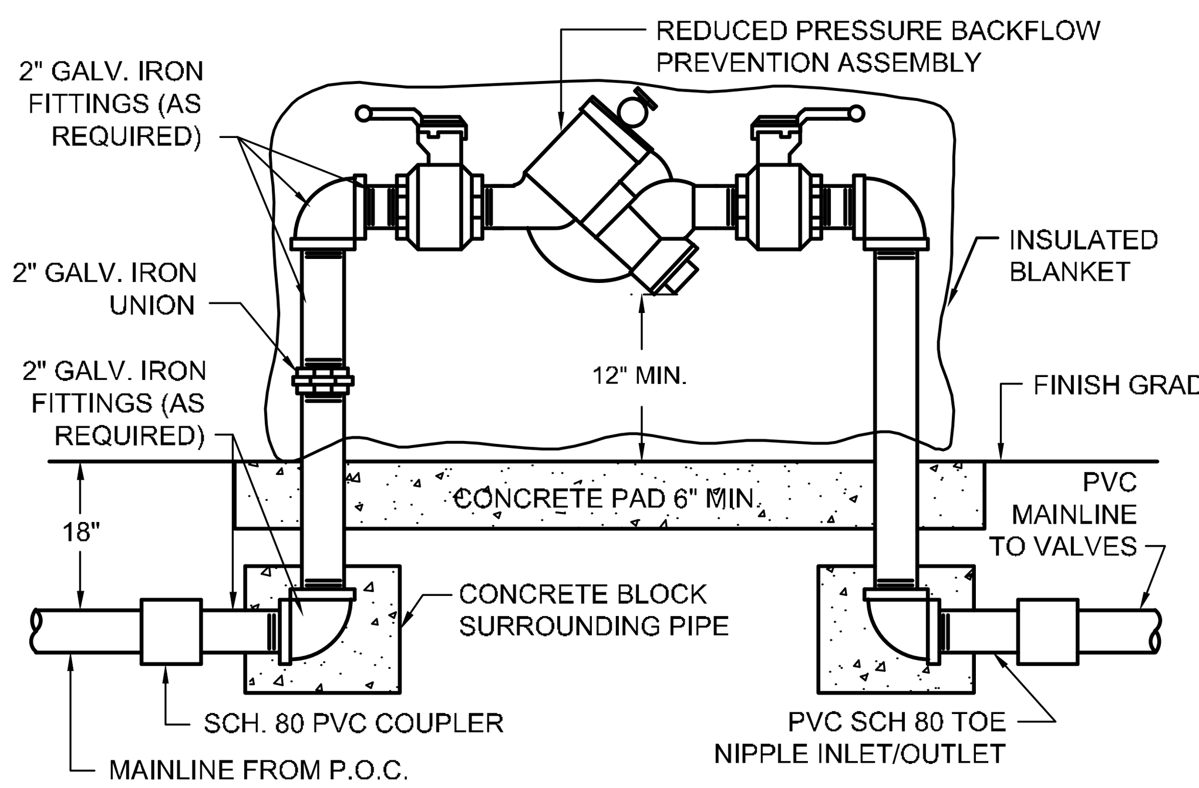
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

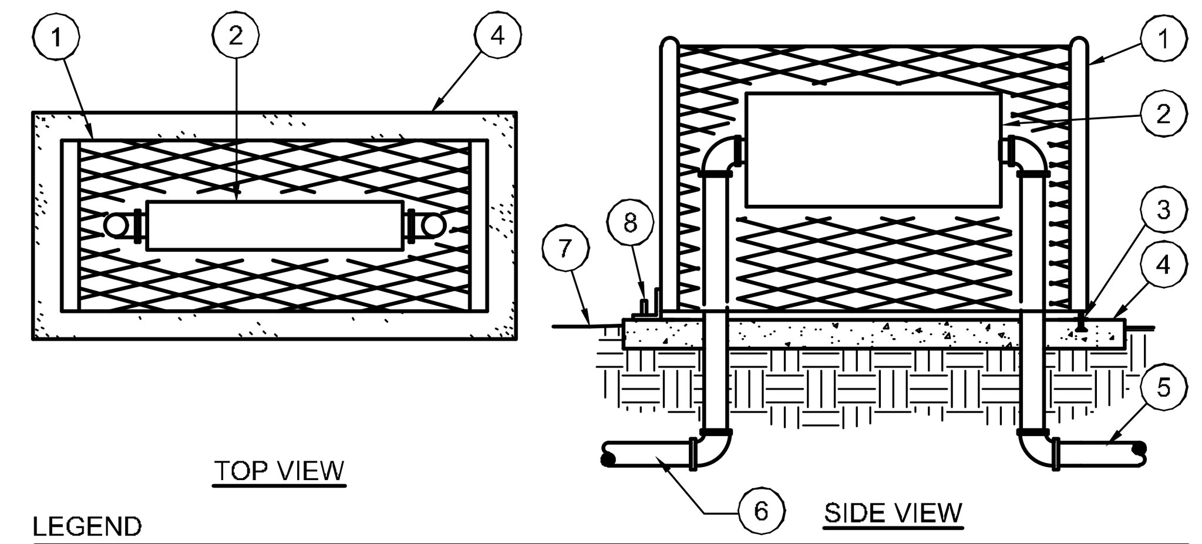
Date: 09/9/22
Scale: AS SHOWN
Design: JB
Drawn: JB
Approved: JL
Job No: 20181837-10

Drawing Number: L3.5

NOTE: EVENLY COAT METAL FITTINGS EXPOSED TO SOIL AND CONCRETE WITH 3M SCOTCHRAP PIPE PRIMER AND THEN WRAP WITH 3M SCOTCHRAP NO. 51 BLACK TAPE (3/4" OVERLAP). USE DIELECTRIC FITTINGS WHERE DISSIMILAR METALS COME INTO CONTACT.



1 REDUCED PRESSURE BACKFLOW ASSEMBLY
NOT TO SCALE



LEGEND

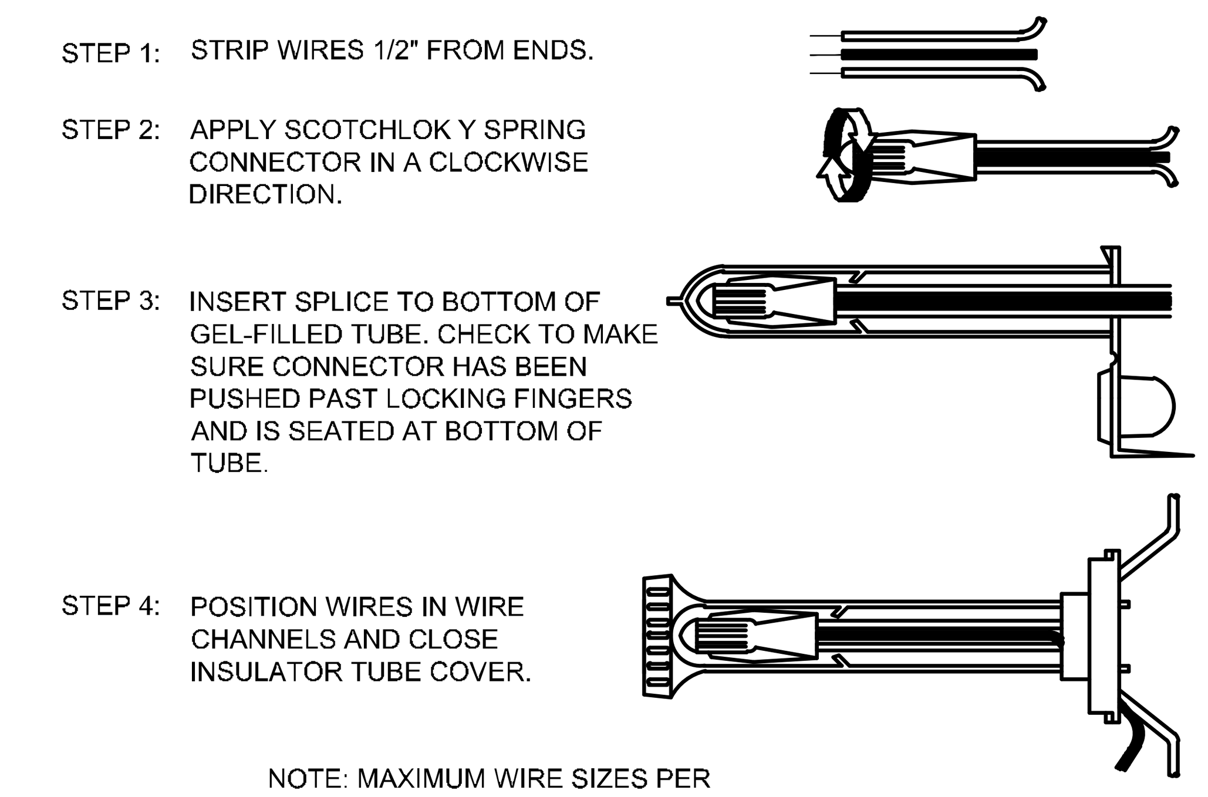
1. METAL BACKFLOW ENCLOSURE.
2. BACKFLOW PREVENTER.
3. HOLD DOWN ASSEMBLY (TYPICAL).
4. POURED CONCRETE BASE. - 6" MINIMUM THICKNESS - EXTEND 4" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE.
5. MAINLINE TO VALVES.
6. MAINLINE FROM POINT OF CONNECTION OR WATER METER.
7. FINISH GRADE.
8. SUPPORT ROD (TYPICAL).

2 U-SHAPE BACKFLOW ENCLOSURE
NOT TO SCALE

1

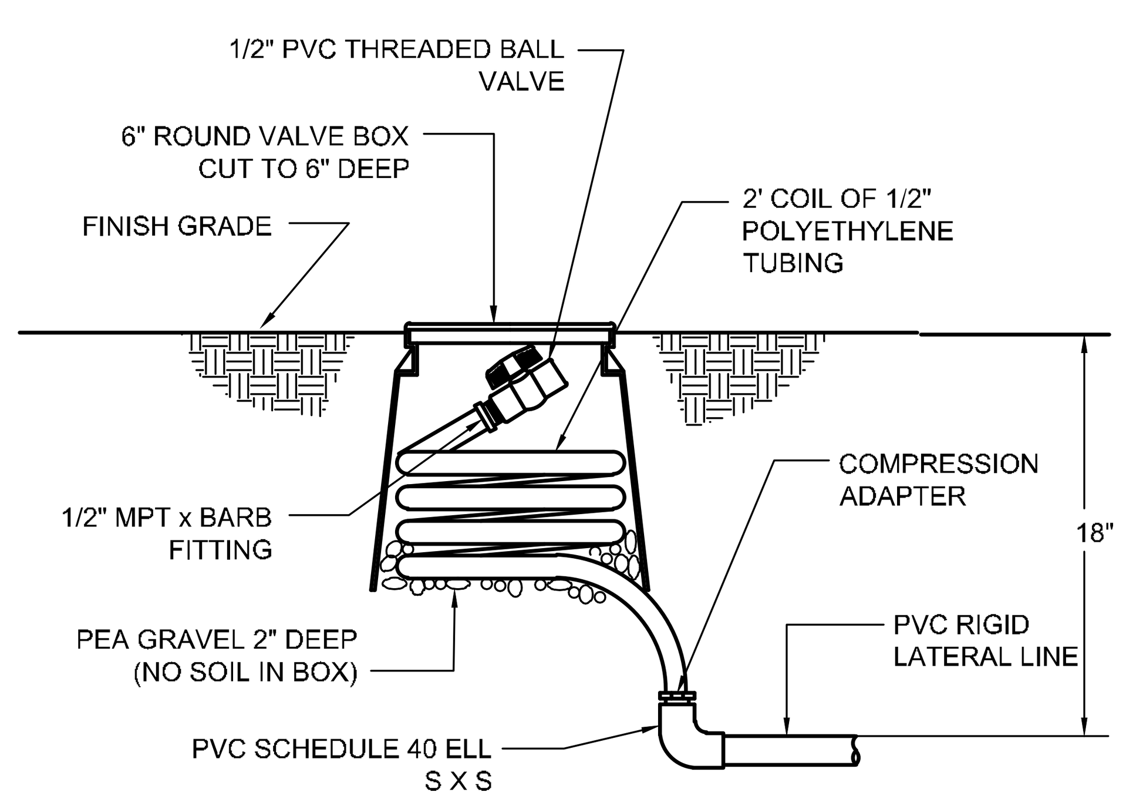
NOT USED

3

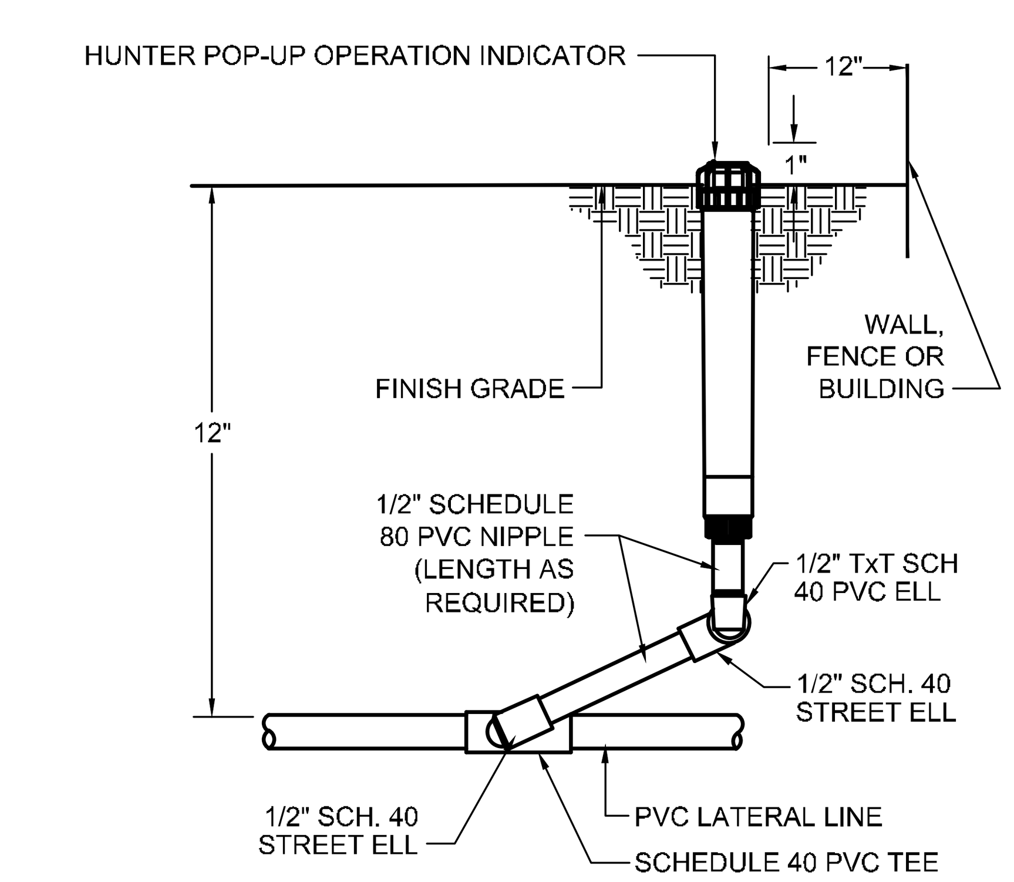


NOTE: MAXIMUM WIRE SIZES PER CONNECTOR ARE THREE # 14'S OR TWO #12'S.

4 WIRE CONNECTION DETAIL
NOT TO SCALE

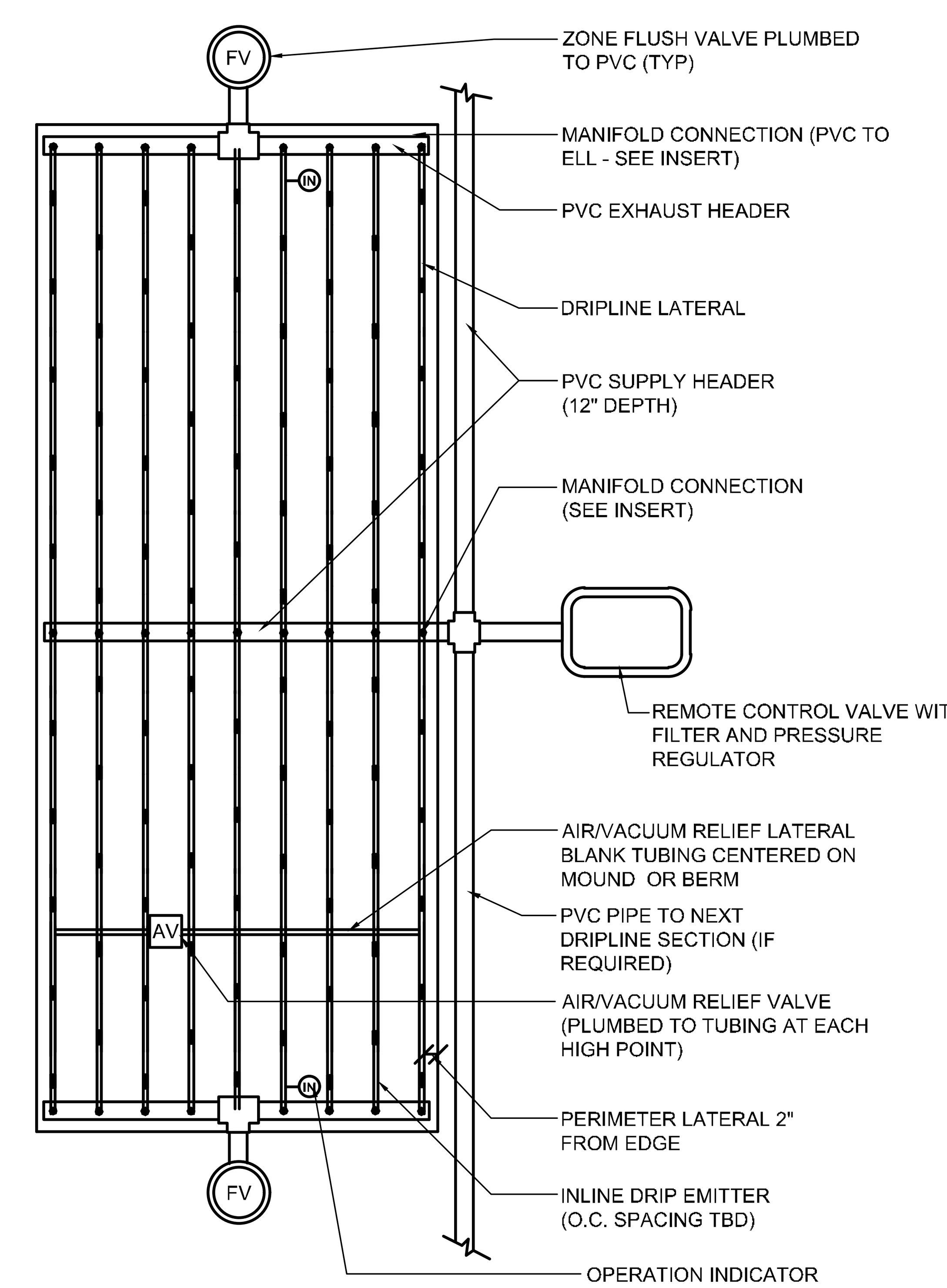


5 MANUAL FLUSH VALVE DETAIL
NOT TO SCALE

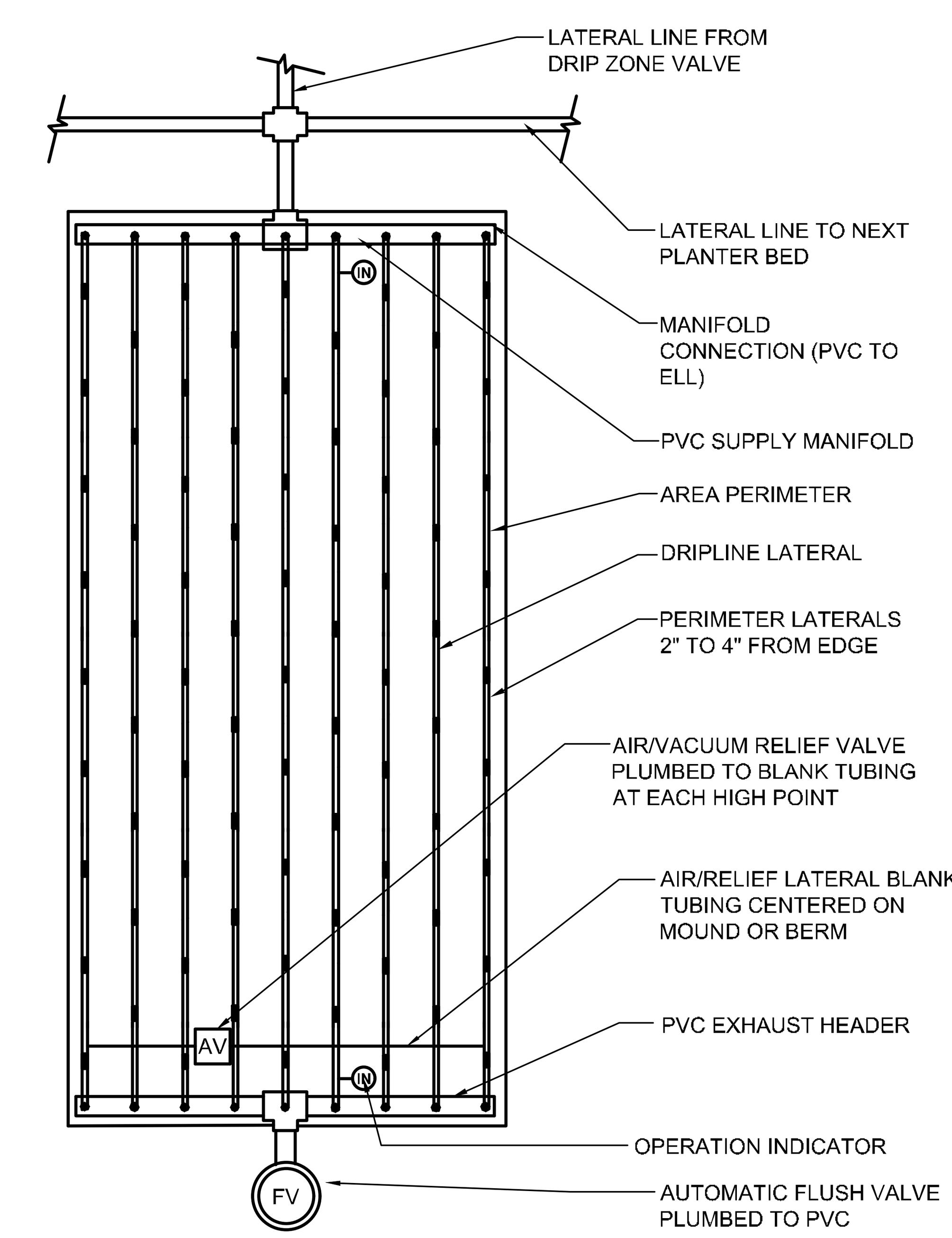


NOTE:
PRE-FABRICATED SWING JOINTS MAY BE USED.

6 HUNTER POP-UP OPERATION INDICATOR
NOT TO SCALE



7 CENTER FEED INLINE DRIP LAYOUT
NOT TO SCALE



8 END FEED INLINE DRIP LAYOUT
NOT TO SCALE

REGISTERED LANDSCAPE ARCHITECT
6/30/2024
10/12/2022
STATE OF CALIFORNIA

GATES + ASSOCIATES
LANDSCAPE ARCHITECTURE
LAND PLANNING · URBAN DESIGN

OAKLEY CALIFORNIA

CIP 205 – DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT
IRRIGATION DETAILS
OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 – 10/13/22

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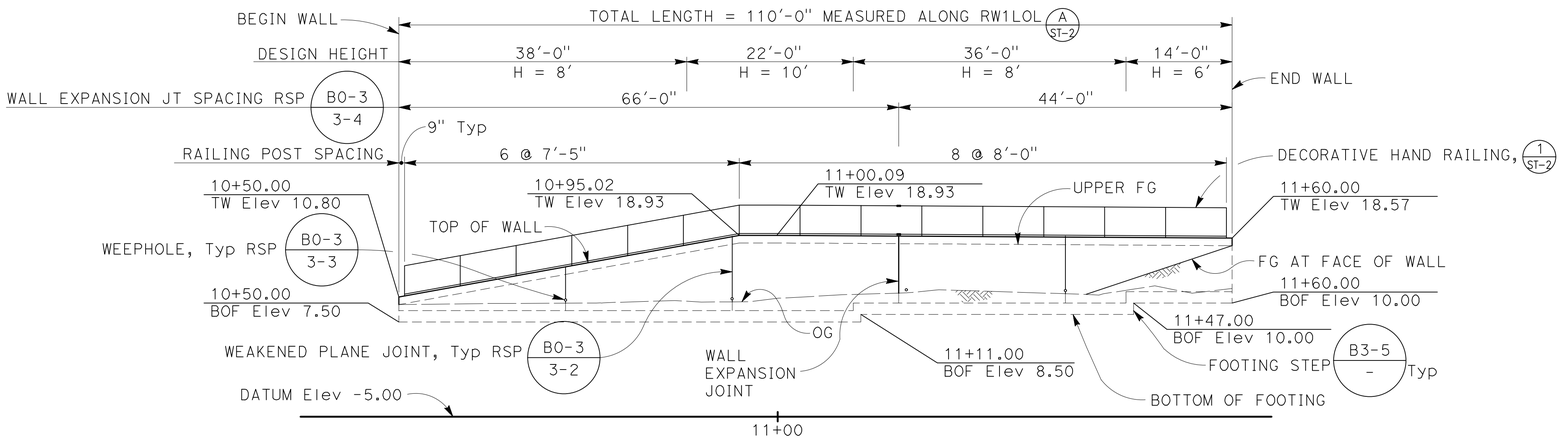
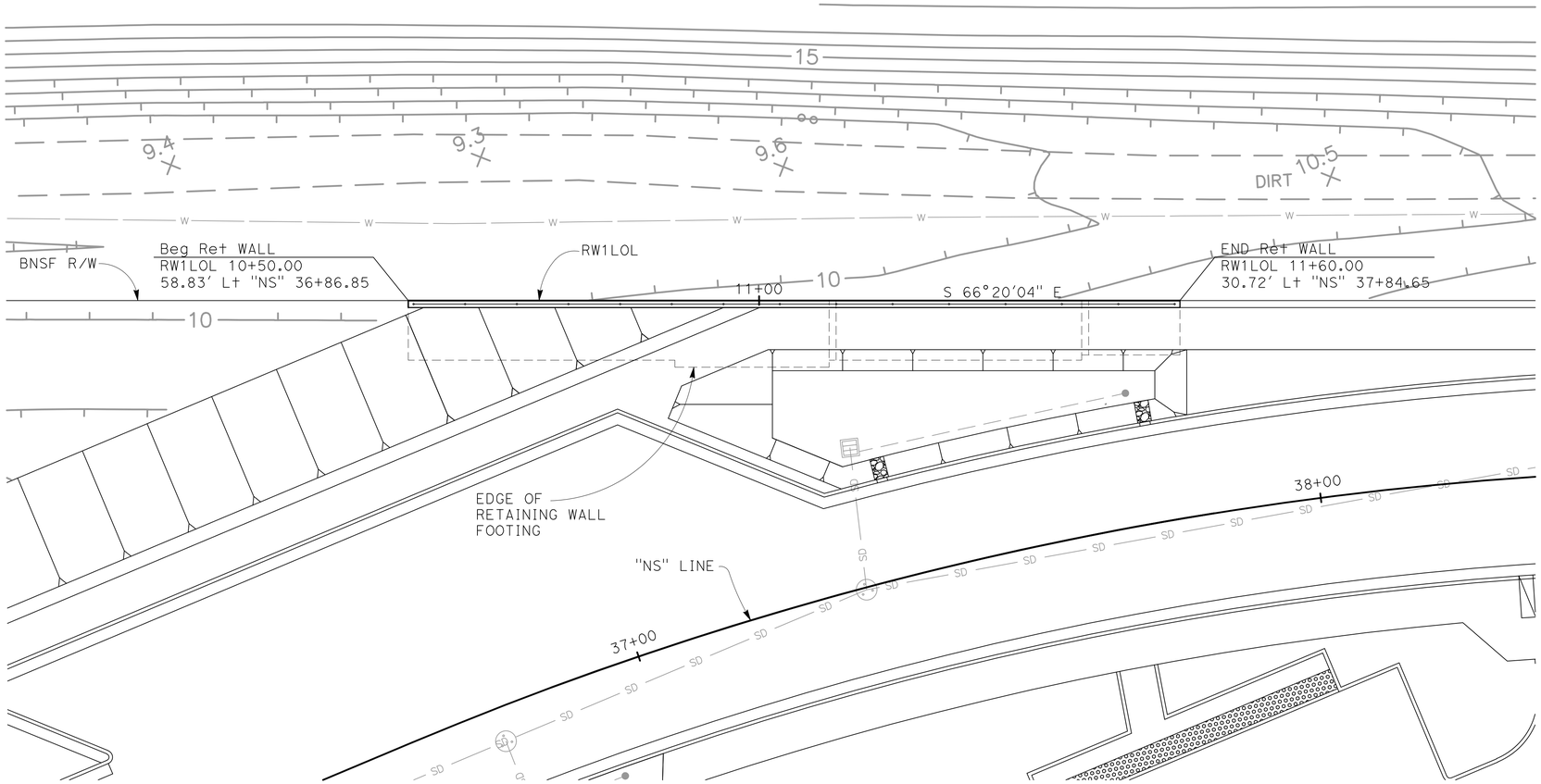
Scale: AS SHOWN
Design: KC
Drawn: MF
Approved: KC
Job No: 20181837-10

Drawing Number:
L3.8



MIRRORED ELEVATION

1" = 10'



PLAN

1" = 10'

NOTES:
1. This plan accurate for retaining wall work only.
2. Top of wall profiles are linear between points shown unless noted otherwise.
3. Top of footing is level, typ.
4. See "SPECIAL INSPECTION NOTES" sheet for inspection notes.

REGISTERED PROFESSIONAL ENGINEER
WES S. LI
No. C51561
Exp.6/30/24
CIVIL
STATE OF CALIFORNIA

BCR

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OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION
AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

RETAINING WALL PLAN

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
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81A OF 81

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PLOT TIME: 10-12-22
PLOTTED BY: JCL

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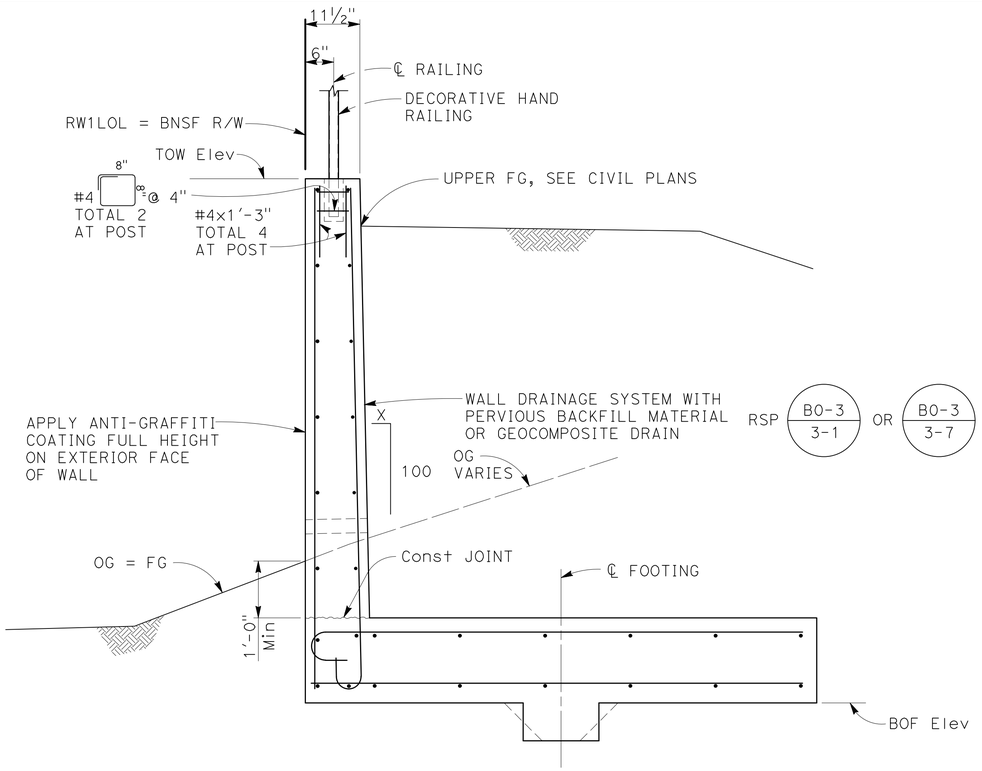
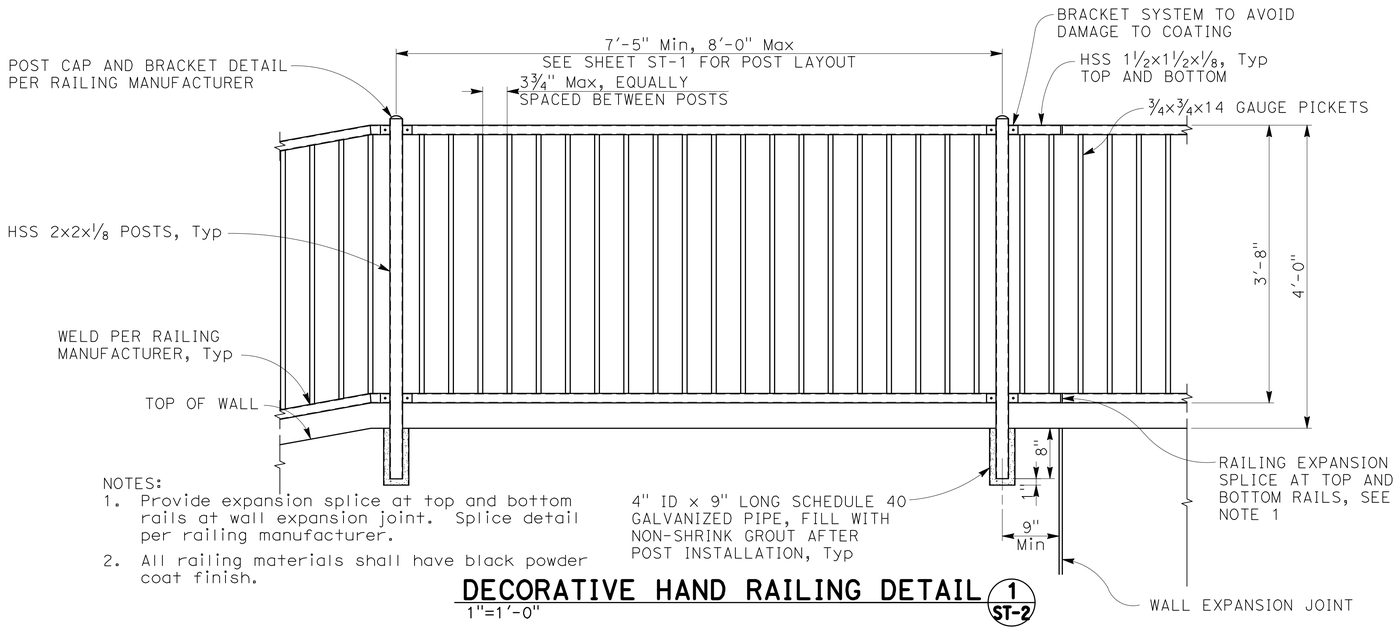


CALTRANS RETAINING WALL TYPE 5 (CASE 1) B3-4A (MOD)

RETAINING WALL SECTION A ST-2

3/4"=1'-0"



NOTES:
1. Provide expansion splice at top and bottom rails at wall expansion joint. Splice detail per railing manufacturer.
2. All railing materials shall have black powder coat finish.

DECORATIVE HAND RAILING DETAIL 1 ST-2

1"=1'-0"

CALTRANS STANDARD PLANS DATED 2018

	A3-A	ABBREVIATIONS (SHEET 1 OF 3)
	A3-B	ABBREVIATIONS (SHEET 2 OF 3)
	A3-C	ABBREVIATIONS (SHEET 3 OF 3)
	A101A	LINES AND SYMBOLS (SHEET 1 OF 5)
RSP	B0-3	BRIDGE DETAILS
	B3-4A	RETAINING WALL TYPE 5 (CASE 1)
	B3-5	RETAINING WALL DETAILS NO. 1

B0-3 / 3-2 — Indicates Caltrans Standard Plan sheet No. / Indicates Caltrans Detail No.

A / ST-3 — Indicates Section No. / Indicates sheet No. shown on

1 / ST-2 — Indicates Detail No. / Indicates sheet No. shown on

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OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION
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RETAINING WALL DETAILS

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

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Job No: 20181837-10

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81B OF 81

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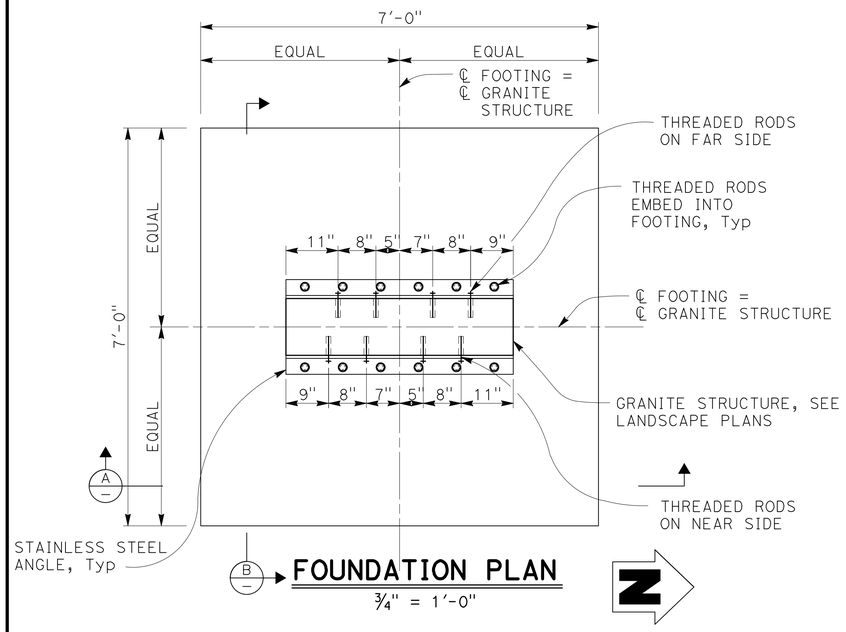


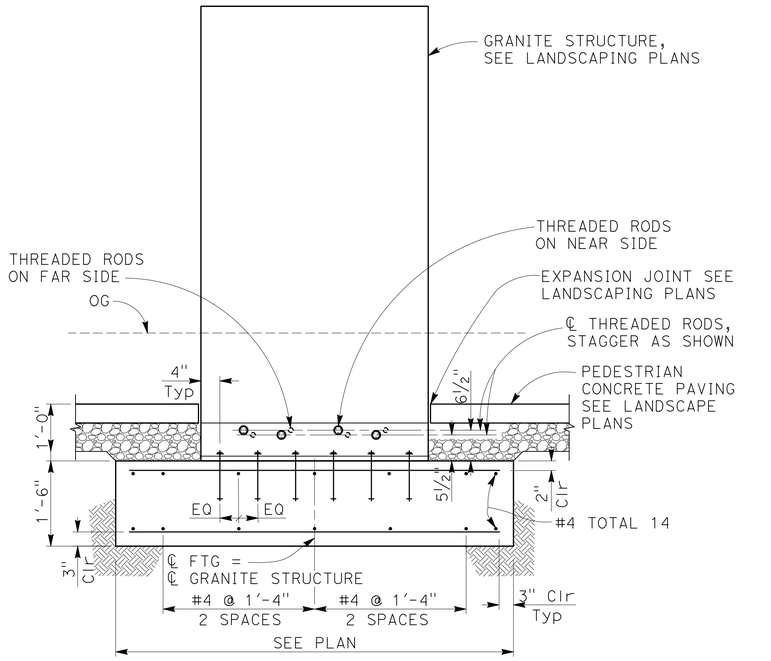
STORY BOARD FOUNDATION DESIGN NOTES

DESIGN: 2019 CALIFORNIA BUILDING CODE

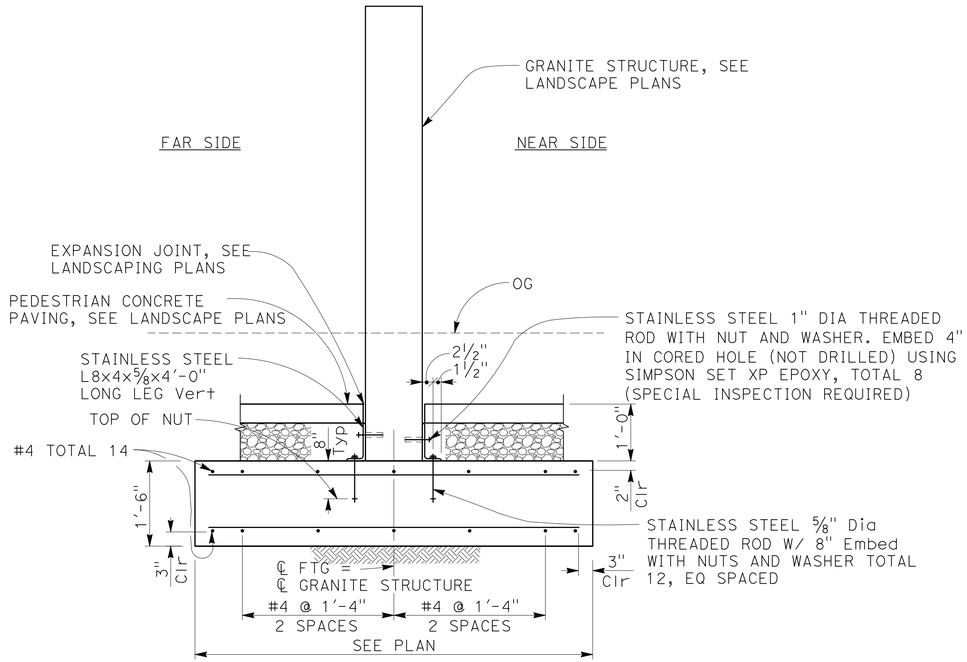
REINFORCED CONCRETE: f'y = 60,000 psi
f'c = 2,500 psi

STAINLESS STEEL:			
	ANGLES	ASTM A276	GR 316
	THREADED RODS	ASTM F593	GR 316
	NUTS	ASTM F594	GR 316
	WASHERS	ASTM A240	GR 316

See "SPECIAL INSPECTION NOTES" sheet for special inspection notes.



SECTION A
¾"=1'-0"
ST-3



SECTION B
¾"=1'-0"
ST-3

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STORY BOARD FOUNDATION DETAILS

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
1	ADDENDUM No. 1 - 10/13/22

Date: 09/23/22
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Design: DC
Drawn: SMH
Approved:
Job No: 20181837-1

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Drawing Number:
ST-3
81C OF 81

DRAWING NAME: W:\2022\2022303\2022303ST3.dwg
PLOT TIME: 10-12-22
PLOTTED BY: JCL

2022303(2022303ST3)

STRUCTURAL SPECIAL INSPECTION AND TESTING

GENERAL

THESE PROVISIONS SHALL GOVERN THE QUALITY, WORKMANSHIP, AND REQUIREMENTS FOR WORK COVERED. MATERIALS OF CONSTRUCTION AND TESTS MUST CONFORM TO THE 2019 CBC AND 2018 CALTRANS STANRDARD SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN CALTRANS STANDARDS SPECIFICATIONS AND 2019 CBC, CALTRANS STANDARDS SHOULD GOVERN. THE CONTRACTOR MUST PROVIDE A MINIMUM 48 HOUR NOTICE TO THE SPECIAL INSPECTION AGENCY FOR WORK THAT REQUIRES SPECIAL INSPECTION. THE CONTRACTOR MUST PROVIDE THE SPECIAL INSPECTOR WITH THE USE OF A LIFT OR OTHER EQUIPMENT AS REQUIRED TO ALLOW ACCESS TO THE WORK THAT REQUIRES INSPECTION. THE CONTRACTOR MUST PROVIDE THE SPECIAL INSPECTOR ACCESS TO THE APPROVED PLANS AND SPECIFICATIONS AND RETAIN SPECIAL INSPECTION RECORDS AT THE JOB–SITE.

DEFINITIONS

CONTINUOUS SPECIAL INSPECTION: THE FULL–TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.

PERIODIC SPECIAL INSPECTION: THE PART–TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

REFERENCE STANDARDS

CALIFORNIA BUILDING CODE 2019 (CBC), 2018 CALTRANS STANRDARD SPECIFICATIONS, AND ALL STANDARDS REFERENCED BY THESE DOCUMENTS.

REPORT REQUIREMENTS

SPECIAL INSPECTORS MUST KEEP RECORDS OF INSPECTIONS, AND MUST FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS MUST INDICATE THAT THE WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING THE REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS MUST BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF THE WORK BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL.

SCHEDULE OF STRUCTURAL INSPECTION AND TESTING

STEEL

*STAINLESS STEEL:
- CONFIRM IDENTIFICATION MARKINGS CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS
- REVIEW MANUFACTURER'S CERTIFICATE OF COMPLIANCE INCLUDING CERTIFIED TEST REPORTS

* CONCRETE (NO INSPECTION REQUIRED FOR FOOTING AND FOUNDATION WITH 2500 PSI MAX DESIGN STRENGTH)
- REVIEW CERTIFIED MILL TEST REPORTS FOR REINFORCING STEEL
- PERIODICALLY INSPECT REINFORCING STEEL AND PLACEMENT
- VERIFY USE OF ENGINEER OF RECORD REVIEWED MIX DESIGN AND MATERIAL CERTIFICATE
- CONTINUOUSLY INSPECT CONCRETE PLACEMENT
- PERIODICALLY INSPECT CURING MATERIAL FOR CONFORMANCE WITH APPROVED CONTRACT DOCUMENTS AND PLACEMENT
- PERIODICALLY INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS
- VERIFY CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORING AND FORMS FROM BEAMS AND ELEVATED SLABS
- FABRICATE 4" DIAMETER X 8" CYLINDER TEST SPECIMENS
- PERFORM SLUMP TESTING AT THE TIME CONCRETE IS SAMPLED
- PERFORM AIR CONTENT TESTING AT THE TIME CONCRETE IS SAMPLED
- RECORD TEMPERATURE OF CONCRETE AT THE TIME CONCRETE IS SAMPLED
- PERFORM CONCRETE COMPRESSION TESTING

POST–INSTALLED ANCHORS

* ADHESIVE ANCHORS AND POST–INSTALLED REINFORCING BAR CONNECTION IN CONCRETE OR REINFORCED MASONRY
- PERIODICALLY INSPECT ANCHOR/BAR TYPE, DIAMETER, LENGTH AND CLEANLINESS
- PERIODICALLY INSPECT ADHESIVE PRODUCT NAME AND EXPIRATION
- PERIODICALLY INSPECT HOLE LOCATION, DIAMETER, DEPTH AND CLEANLINESS
- PERIODICALLY INSPECT ANCHOR/BAR EMBEDMENT, SPACING AND EDGE DISTANCE
- PERIODICALLY INSPECT ADHERENCE TO MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS
- PERIODICALLY INSPECT SUBSTRATE TEMPERATURE AT TIME OF INSTALLATION
- PERIODICALLY INSPECT ADHESIVE AND ANCHOR/BAR INSTALLATION PER ICC/IAPMO EVALUATION REPORT
- CONTINUOUSLY INSPECT ANCHOR/BAR INSTALLED HORIZONTALLY OR UPWARDLY INCLINED THAT RESIST SUSTAINED TENSION LOADS

SOILS

- PERFORM INSPECTIONS AS REQUIRED BY GEOTECHNICAL ENGINEER AND PER APPROVED GEOTECHNICAL REPORT.

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
865 The Alameda
San Jose, California 95126
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BCR

OAKLEY CALIFORNIA

CIP 205 - DOWNTOWN TRAIN PLATFORM STATION AND PARKING LOT PHASE 1 IMPROVEMENT PROJECT

SPECIAL INSPECTION NOTES

OAKLEY CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions
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81D OF 81

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2022303(2022303ST4)