

BOOK 1

NOTICE, PLANS & SPECIAL PROVISIONS  
for Construction of:

WEST BROADWAY URBAN VILLAGE  
INFRASTRUCTURE IMPROVEMENTS PROJECT

City Project No. 2016-76  
Federal Project No. ATPL-5316(007)



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City Engineer

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Reviewed by: Richard Tanaka, PE  
Principal

CITY OF SEASIDE  
Department of Public Works  
February 21, 2017  
(CONFORM SET)

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**INFRASTRUCTURE IMPROVEMENTS PROJECT**

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## **CITY OF SEASIDE** **Notice Inviting Bids** **West Broadway Urban Village Infrastructure Improvements**

PUBLIC NOTICE IS HEREBY GIVEN that the City of Seaside will receive sealed bids for the above stated project in the office of the City's Deputy City Manager – Administrative Services, located at City Hall, 440 Harcourt Avenue, Seaside, CA 93955, until **3:00 p.m. on Tuesday, January 31, 2017**, at which time all bids will be publicly opened and read aloud.

The scope of the work will consist of all labor, material, equipment and services necessary to complete the work shown on the plans and in the specifications, including:

Traffic control, demolition, earthwork, utility relocation and adjustment, installation of subsurface stormwater storage, storm drainage, HMA paving, bus pads, concrete curb, gutter and sidewalk, street lighting, traffic signals, signing and striping, street furniture, planting and irrigation.

Copies of the Bid Documents will be available on December 29, 2016 from the City of Seaside Resource Management Services office: 440 Harcourt Avenue, Seaside, CA 93955; by telephone - (831) 899-6825. There is a nonrefundable fee of \$200.00 charged for the plans and specifications and an additional \$100.00 mailing fee to be paid in advance of mailing. The bid documents will be posted to the city website at [www.ci.seaside.ca.us](http://www.ci.seaside.ca.us). Bidder is responsible for costs of printing any and all of Bid Documents.

This project is a Federal Aid project.

The project is not on the National Highway System (NHS).

The City has established a DBE contract goal of 7%.

The quantities shown in the proposal forms are approximate only and given as a basis for the comparison of bids. The City does not expressly or by implication assert that the actual amount of work will correspond herewith and reserves the right to increase or decrease the amount of any portion of the work or to omit portions of the work as may be deemed necessary.

Bidders are required to sign and submit the bid forms provided in the Proposal and Contract book. No bid will be considered unless it is made on a proposal form furnished by the City and is accompanied by a bid bond for ten percent (10%) of the bid amount. The successful bidder shall furnish a Labor and Materials Bond, a Performance Bond, and a Surety Bond.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in Monterey 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 from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov>. The Federal minimum wage rates for this project as predetermined by the United States Secretary of Labor are **not** included in the Proposal and Contract. You are responsible to check current wage rates at Wage Determinations Online at [www.wdol.gov/dba.aspx](http://www.wdol.gov/dba.aspx). Addenda to modify the Federal minimum wage rates, if necessary, will be issued to holders of proposal forms. Future effective general prevailing wage rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the special provisions.

Attention is directed to the Federal minimum wage rate requirements in the Proposal and Contract book. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The City will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

For the Federal Training Program requirement in Standard Specification section 7-1.11D, the number of trainees is 5.

Notice is given to all bidders that no more than 70% of the work, as defined by the contract price, may be done by subcontractors.

Attention is directed to section 6-1.04 of the State Standard Specification for Buy America requirements.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The City will hold a pre-bid meeting at 10:00 a.m. on Wednesday, January 18, 2017, at City Hall Modular Office Building B, 440 Harcourt Avenue, Seaside, California.

Bidders shall contact the Department of Public Works office the day prior to Bid opening to obtain any addenda information. Submittal of a signed Bid shall be evidence that the Bidder has obtained this information and that the Bid is based on any changes contained therein.

Notice is also hereby given that all Bidders may be required to furnish a sworn statement of their financial responsibility, technical ability and experience before award is made to any particular Bidder.

Provision is made for security substitution on payment withholds as provided in Public Contract Code Sections 22200 and 22300.

The City reserves the right to reject any or all bids and the right to waiver minor irregularities or informalities in any bid proposal.

CITY OF SEASIDE  
Public Works Department

\_\_\_\_\_/s/\_\_\_\_\_  
Richard Riedl, PE  
City Engineer

December 22, 2016  
Date

# CITY OF SEASIDE

## Special Provisions Volume I

### West Broadway Urban Village Infrastructure Improvements Project

#### SECTION 1. SPECIFICATIONS AND PLANS

**1.01 GENERAL.** The work embraced herein shall be done in accordance with these special provisions and the Standard Specifications of the State of California Department of Transportation dated 2015 sections 1-99, insofar as the same may apply, which specifications are hereinafter referred to as the "Standard Specifications," and the Revised Standard Specifications dated December 2, 2016.

Whenever in these special provisions attention is directed to specific portions of the Standard Specifications, such direction is not exclusive and shall not be interpreted as excluding other applicable provisions of said specifications.

The following General Provisions of the Standard Specifications do not apply:

Section No.	Section Name
2-1.15	Disabled Veteran Business Enterprises
2-1.18	Small Business and Non-Small Business Subcontractor Preferences
2-1.27	California Companies
2-1.31	Opt Out of Payment Adjustments for Price Index Fluctuations
3-1.08	Small Business Participation Report
9-1.07	Payment Adjustments for Price Index Fluctuations
9-1.16C	Materials on Hand
9-1.16F	Retentions

In the event of conflict in the contract documents, the order of precedence shall be as follows:

1. Governing ranking of Contract parts in descending order is:

- 1.1. Permits and licenses
- 1.2. Special provisions
- 1.3. Project plans
- 1.4. Revised Standard Specifications
- 1.5. Standard Specifications
- 1.6. Revised standard plans
- 1.7. Standard plans
- 1.8. Supplemental project information

2. Written numbers and notes on a drawing govern over graphics
3. Detail drawing governs over a general drawing
4. Specific specification governs over a general specification
5. Specification in a section governs over a specification referenced by that section

1.02 DEFINITIONS AND TERMS.

Holiday:

Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Dr. Martin Luther King's Birthday	3rd Monday in January
Cesar Chavez Day	March 31st
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Day Following Thanksgiving Day	Day after Thanksgiving Day
Day before and Christmas Day	December 2th and 25th

When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

**Specifications:** Standard specifications, revised standard specifications, and special provisions.

1. standard specifications: Specifications standard to Caltrans construction projects. These specifications are in a book titled *Standard Specifications, State of California, California State Transportation Agency, Department of Transportation*, dated 2015 published by the California Department of Transportation.
2. revised standard specifications (RSS): New or revised standard specifications. The RSS are dated December 2, 2016 and can be found at this url:

<http://www.dot.ca.gov/des/oe/construction-contract-standards.html>

3. Special provisions: Specifications specific to the project. These specifications are in sections titled "Special Provisions Volume I" and "Special Provisions Volume II" of a book titled "Contract Documents, Plans and Special Provisions".

Whenever in the Standard Specifications, the terms "State of California," "Department of Transportation," "Director," "Division of Highways," "Chief Engineer," "Engineer," or "Laboratory" are used, the following terms shall be substituted therefore and any reference to any of the above terms shall be understood and interpreted to mean and refer to such substituted terms as follows:

- "State of California," substitute "City of Seaside."
- "Department of Transportation" -- the "Seaside City Council."
- "Director"-- the "Seaside City Manager."
- "Division of Highways"-- the "Public Works Department of the City of Seaside."
- "Engineer" or "Chief Engineer"-- the "City Engineer," acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.
- "Laboratory"-- the contract laboratory of the City of Seaside or such other laboratory as may be authorized by the City to test materials and work involved in the contract.

**1.03 CONTRACTOR'S COPIES OF CONTRACT DOCUMENTS.** The Engineer will supply the Contractor with two (2) full-size sets and one pdf set of contract documents that include the plans and specifications. Maintain at least one complete set of plans and specifications at the site of construction in good condition and at all times available to the Engineer. Additional copies of the contract documents, if required, can be furnished by the Engineer at the cost of reproduction.

**1.04 PAYMENT.** Full compensation for work specified in Volume I of the special provisions is included in the payment for the bid items involved unless:

1. Bid item for the work is shown on the Bid Item List
2. Work is specified as change order work



**Add to standard specification section 1-1.01:  
Bid Items and Applicable Sections**

Item No.	Item description	Applicable section
1	Bonds, Mobilization & Insurance	SP Vol 1
2	Project Funding Sign	12
3	Job Site Management	13
4	Prepare Storm Water Pollution Prevention Plan	13
5	Lead Compliance Plan (Stripe Removal)	7
6	Temporary Fence (Type CL-6) with fabric	16
7	Construction Area Signs	12
8	Traffic Control System	12
9	Temporary Traffic Stripe (Paint)	12
10	Temporary Pavement Marking (Paint)	12
11	Temporary Pavement Marker	12
12	Type III Barricade	12
13	Channelizer (Surface Mounted)	12
14	Portable Changeable Message Sign (EA)	12
15	Temporary Railing (Type K)	12
16	Temporary Crash Cushion Module	12
17	Temporary Drainage Inlet Protection	13
18	Temporary Construction Entrance	13
19	Temporary Concrete Washout (Portable)	13
20	Remove Tree	20
21	Remove Tree Well	20
22	Remove Yellow Thermoplastic Traffic Stripe (Hazardous Waste)	14
23	Remove Traffic Stripe (Paint)	84
24	Remove Painted Pavement Marking	84
25	Remove Pavement Marker	81
26	Remove Inlet	71
27	Remove Roadside Sign	82
28	Remove Sign Panel	82
29	Remove Bollard	20
30	Remove Trash Receptacle	20
31	Remove Bench	20
32	Remove Concrete Curb and Gutter	73
33	Remove Concrete (Valley Gutter)	73
34	Remove Concrete Sidewalk	73
35	Remove Culvert	71
36	Abandon Culvert	71
37	Clearing and Grubbing	17
38	Cap Storm Drain Manhole	71
39	Relocate Roadside Sign	82
40	Asphaltic Emulsion (Fog Seal Coat)	37
41	Roadway Excavation	19
42	Finishing Roadway	22
43	Class 2 Aggregate Base	26
44	Hot Mix Asphalt (Type A)	39
45	Furnish Single Sheet Aluminum Sign (0.063"-Unframed)	82
46	Roadside Sign (One Post)	82
47	Install Sign (Strap and Saddle Bracket Method)	82
48	Bench	20
49	Litter/Recycling Receptacle	20
50	Bike Rack	20

**Bid Items and Applicable Sections**

Item No.	Item description	Applicable section
51	Fence (2' Height)	20
52	Concrete Backfill (Pipe Trench)	61
53	4" Polyvinyl Chloride Pipe	64
54	6" Polyvinyl Chloride Pipe (Overflow)	64
55	12" High Density Polyethylene Pipe	64
56	Type G0 Inlet	51
57	Type G3 (Mod) Inlet	51
58	Expanded Type G4 Inlet	51
59	Storm Drain Manhole	51
60	Hydrodynamic Separator	62
61	Storm Drain Water Retention Structure	62
62	Concrete Gutter Depression (Integrally Colored)	73
63	15" Polyvinyl Chloride Pipe (SDR 26)	77
64	Sanitary Sewer Manhole	77
65	Concrete Curb Ramps (Integrally Colored)	73
66	Driveway Apron	73
67	Curb (Type A Mod, Integrally Colored)	73
68	Curb (Type A1 Mod, Integrally Colored)	73
69	Curb (Type B Mod, Integrally Colored)	73
70	Valley Gutter	73
71	Concrete Paving (4" Thick)	73
72	Concrete Paving (6" Thick)	73
73	Concrete Pavement (10" Thick)	40
74	4" Thermoplastic Traffic Stripe	84
75	6" Thermoplastic Traffic Stripe	84
76	6" Thermoplastic Traffic Stripe (Broken 8'-4')	84
77	Paint Pavement Marking (2-Coat)	84
78	Thermoplastic Pavement Marking	84
79	Bike Lane (Green) Thermoplastic Pavement Marking	84
80	Paint Curb (2-Coat)	78
81	Pavement Marker (Retroreflective)	81
82	Pavement Marker (Non-reflective)	81
83	Object Marker	82
84	Survey Monument	78
85	Import Topsoil	20
86	Washed Sand at Palms	20
87	Bioretention Media	20
88	Soil Amendments	20
89	Trees (48" Box)	20
90	Palm Trees, 25' Tall	20
91	1 Gallon Plant	20
92	5 Gallon Plant	20
93	Decomposed Granite Mulch, 3"	20
94	Compost Mulch, 3"	20
95	Plant Establishment Work (365 Days)	20
96	Landscape Irrigation System	20
97	Check and Test Existing Irrigation	20
98	Central Control Controller	20
99	Remove Ornamental Street Light	87
100	Pedestrian Lighting	20
101	LED Tree-Mounted Palm Accent Light Assembly	20
102	Modify Signal and Lighting (Location 1: Del Monte/Broadway)	87
103	Signal and Lighting (Location 2: Broadway/Alhambra)	87

### Bid Items and Applicable Sections

Item No.	Item description	Applicable section
104	Modify Signal and Lighting (Location 3: Broadway/Fremont)	87
105	Modify Signal and Lighting (Broadway Avenue Signal Interconnect Plan)	87
106	Temporary Signal System	87
107	Engineer's Field Office	10

## SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

**2.01 GENERAL.** The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid.

Proposal forms are provided in a separate book entitled "Proposal and Contract" for Construction of West Broadway Urban Village Infrastructure Improvements Project.

The Bidder's Bond Statement mentioned in the last paragraph in Section 2-1.34, "Bidder's Security" of the Standard Specifications will be found following the signature page of the Proposal in the Proposal and Contract Book.

Failure of the bidder to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including escrowed bid documents, where applicable, may subject the bidder to a determination of the bidder's responsibility in the event it is the apparent low bidder on a future public works contracts.

**2.02 FEDERAL LOBBYING RESTRICTIONS.** Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier sub recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
- (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or
- (3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

**2.03 DISADVANTAGED BUSINESS ENTERPRISE (DBE).** Federal aid projects must comply with the requirements of section 2-1.12 of the Standard Specifications.

**2.04 EXAMINATION OF SPECIFICATIONS, SPECIAL PROVISIONS, AND WORK SITE.** The bidder shall examine carefully the site of the work contemplated and the proposal, specifications, and contract forms therefore. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantities of work to be performed, materials to be furnished, and as to the requirements of the specifications, these special provisions, and the contract.

If any party contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the specifications or proposed contract documents, or finds discrepancies in or omissions from the specifications, shall submit to the City a written request for an interpretation or correction thereof. The party submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents prior to bid opening will be made only by addendum duly issued, and a copy of such addenda will be mailed to each person receiving a set of such documents. The City will not be responsible for any other explanations or interpretations of the proposed documents.

The bidder shall perform or make any investigations or studies he deems necessary to evaluate the site conditions and bid on the construction operations necessary to complete the project under this Contract. No additional compensation will be made for such investigations. All investigations shall be coordinated with the City and shall be subject to all applicable City standards and ordinances.

Bidder inquiries must be received by 4:00 PM January 20, 2017.

**2.05 PROPOSAL FORMS.** All proposals shall be made upon the forms obtained from the City. Proposals submitted on forms other than those issued by the City will be disregarded. All bids shall be presented under sealed cover, plainly marked "Proposal" and identifying the project name and number.

**2.06 REJECTION OF PROPOSALS CONTAINING ALTERATIONS ERASURES, OR IRREGULARITIES.** Proposals may be rejected if they show any alteration of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

**2.07 PROPOSAL GUARANTY.** All bids shall be accompanied by cash, cashier's or certified check, or by bidder's bond made payable to the City of Seaside and executed as surety by some corporation authorized to issue surety bonds in the State of California, for an amount equal to at least ten percent of the total bid amount. No bid shall be considered unless cash, cashiers' or certified check, or bidder's bond is enclosed therewith.

**2.08 WITHDRAWAL OF PROPOSAL.** Any bid may be withdrawn at any time prior to, but not after, the hour fixed in the public notice for the opening of bids, provided that a request in writing, executed by the bidder or his duly authorized representative, for the withdrawal of such bid, is filed with the City Engineer. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid.

**2.09 PUBLIC OPENING OF PROPOSALS.** Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents and the public are invited to be present.

**2.10 DISQUALIFICATION OF BIDDERS.** The City will not consider more than one proposal from an individual, firm, or partnership, a corporation, or an association under the same or different names. A Contractor may be interested in one bid as prime Contractor and another as subcontractor, providing no collusion exists. Proposals in which the prices are unbalanced may be rejected.

**2.11 COMPETENCY OF BIDDERS.** No bid will be accepted from or contract awarded to a Contractor to whom a proposal form has not been issued by the Engineer or who has not successfully performed on projects of similar character and scope of proposed construction. Submit a completed Bidder's Information Statement with your proposal using the form provided by the City. .

**2.12 PERMITS AND LICENSES.** Comply with Section 5-1.20B, "Permits, Licenses, Agreements, and Certifications," of the Standard Specifications and these special provisions.

Additionally, Contractor must:

- Hold a valid City of Seaside business license for the duration of this contract.
- Possess a Class A "General Engineering" Contractor license in accordance with section 3-1.06 of the Standard Specifications
- Obtain a project-specific Encroachment Permit from Caltrans for work in Canyon Del Rey to supplement the City's blanket permit. Pay fee and the City will reimburse you.
- Obtain all applicable permits except for Caltrans Encroachment Permit at no additional cost to the City
- Obtain City of Seaside no-fee encroachment and building permits

**2.13 SUPPLEMENTAL PROJECT INFORMATION.**

The City makes the following supplemental project information available for bidders:

**Supplemental Project Information**

Means	Description
Posted on the website	1. Geotechnical Engineering Report (July 1, 2011 and amended April 19, 2016)
Posted on the website	2. Area Sanitary Sewer Mains (PDF)

## SECTION 3. AWARD AND EXECUTION OF CONTRACT

**3.01 GENERAL.** The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

**Bid protests are to be delivered to the following address: 440 Harcourt Avenue, Seaside, CA 93955**

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the City so that it is received within 10 days, not including Saturdays, Sundays and holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to the following address: Resource Management Services, 440 Harcourt Avenue, Seaside, CA 93955.

**3.02 AWARD OF CONTRACT.** The City reserves the right to reject any or all bid proposals and to waive minor irregularities or informalities in any bonds or in any proposals. Bids are required for all the work described herein unless otherwise indicated on the proposal. The award of contract, if awarded, will be made within sixty calendar days to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

**3.03 CONTRACT BONDS.** The successful bidder shall furnish four separate bonds: a performance bond, a labor and materials bond, a surety bond, and a maintenance bond during plant establishment. The performance, labor and materials and surety bonds shall be executed in a sum equal to one hundred percent of the Contract price. All bonds must be issued by a bonding company with an A.M. Best rating of A- or better, or instrument of credit.

- Performance Bond: This bond shall guarantee the faithful performance of said contract by the Contractor. The performance bond will be held until final acceptance of the project.
- Labor and Materials Bond: This bond shall be furnished as required by the terms of Division 3, Title 15, Chapter 7, Section 3247, et seq. of the Civil Code of the State of California. The Labor and Materials bond shall be held until final acceptance of the project.
- Surety Bond: This bond shall serve as surety for the guaranty requirements, as follows: The successful bidder shall unconditionally guarantee the materials for a period of one year from the date of recording of the notice of completion. The guarantee shall cover one hundred percent of all costs of repairs within this one-year period, including all costs of labor, materials, equipment and incidentals.
- Upon completion of construction work and acceptance by the City of all the work except for plant establishment work, City will release the performance and labor and materials bonds upon receiving from you a maintenance bond in an amount equal to ten percent (10%) of the original security amount or the full bid amount for plant establishment work, whichever is lower, for a plant establishment period of 365 days.

Whenever any surety or sureties on any such bonds, or on any bonds required by law for the protection of the claims of laborers and material suppliers, become insufficient, or the City has cause to believe that such surety or sureties have become insufficient, a demand in writing may be made of the Contractor for such further bond or bonds or additional surety, not exceeding that originally required as is considered necessary considering the extent of the work remaining to be done. Thereafter, no payment shall be made upon such contract to the Contractor or any assignees of the Contractor until such bond or bonds or additional surety have been furnished.

**3.04 EXECUTION OF CONTRACT.** Attention is directed to the provisions in Section 3-1.18 "Contract Execution" of the Standard Specifications. The contract shall be signed by the successful bidder and returned, together with the contract bonds, copies of insurance policies, and Certificates of Insurance within 10 days, not including Saturdays, Sundays and holidays, after the bidder has received the contract for execution.

**3.05 FAILURE TO EXECUTE CONTRACT.** Failure to execute a contract and file acceptable bonds within five calendar days after receiving notice that the contract has been awarded shall be just cause for the annulment of the award and the forfeiture of the proposal guaranty. If the successful bidder refuses or fails to execute the contract, the City Council may award the contract to the second lowest responsible bidder. On the refusal or failure of the second or third lowest responsible bidder to whom such contract is

so awarded to execute the same, such bidder's guaranty shall be likewise forfeited to the City. The work may then be readvertised or may be constructed by day labor as the City Council may decide.

**3.06 RETURN OF PROPOSAL GUARANTIES.** Within ten days after the award of contract, the City will return the proposal guaranties accompanying such of the proposals as are not to be considered in making the award. All other proposal guaranties will be held until the contract has been finally executed, after which they will be returned to the respective bidder whose proposal they accompany.

**3.07 INDEMNIFICATION.** To the fullest extent permitted by law, the Contractor agrees to indemnify, defend and hold harmless, City and any and all of City's boards, officers, employees, agents, assigns, and successors in interest through legal counsel reasonably acceptable to the City, from and against any and all claims losses, demand and expenses, including, but not limited to, attorney's fees and cost of litigation, on account of bodily injury, including death, or property damage arising out of or in any way connected to the work performed by Contractor under this agreement. Without affecting the rights of City under any provision of this agreement, Contractor shall not be required to indemnify and hold harmless City for liability attributable to the active negligence of City, provided such active negligence is determined by agreement between the parties or by the findings of a court of competent jurisdiction. In instances where City is shown to have been actively negligent and where City's active negligence accounts for only a percentage of the liability involved, the obligation of Contractor will be for that entire portion or percentage of liability not attributable to the active negligence of City.

**3.08 RESPONSIBILITY FOR DAMAGE AND INSURANCE.** Prior to the beginning of and throughout the duration of the work, Contractor will maintain insurance in conformance with the requirements set forth below. Contractor will use existing coverage to comply with these requirements. If that existing coverage does not meet the requirements set forth here, it will be amended to do so. Contractor acknowledges that the insurance coverage and policy limits set forth in this section constitute the minimum amount of coverage required. Any insurance proceeds available to City in excess of the limits and coverage required in this agreement and which is applicable to a given loss, will be available to City.

Contractor shall provide the following types and amounts of insurance:

1. Commercial General Liability Insurance using Insurance Services Office "Commercial General Liability" policy form CG 00 01 or the exact equivalent. Defense costs must be paid in addition to limits. There shall be no cross liability exclusion for claims or suits by one insured against another. Limits shall be no less than \$2,000,000 per occurrence for all covered losses and no less than \$4,000,000 general aggregate.

Contractor's policy shall contain no endorsements limiting coverage beyond the basic policy coverage grant for any of the following:

- Explosion, collapse or underground hazard (XCU)
- Products and completed operations
- Pollution liability
- Contractual liability

Coverage shall be applicable to City for injury to employees of contractors, subcontractors or others involved in the project. Policy shall be endorsed to provide a separate limit applicable to this project.

2. Workers Compensation on a state-approved policy form providing statutory benefits as required by law with employer's liability limits no less than \$1,000,000 per accident for all covered losses.
3. Business Auto Coverage on ISO Business Auto Coverage form CA 00 01 06 92 including symbol 1 (Any Auto) or the exact equivalent. Limits shall be no less than \$1,000,000 per accident, combined single limit. If Contractor owns no vehicles, this requirement may be satisfied by a non-owned auto endorsement to the general liability policy described above. If Contractor or Contractor's employees will use personal autos in any way on this project, Contractor shall provide evidence of personal auto liability coverage for each such person.
4. Excess or Umbrella Liability Insurance (Over Primary) if used to meet limit requirements, shall provide coverage at least as broad as specified for the underlying coverages. Any such coverage provided under an umbrella liability policy shall include a drop down provision providing primary coverage above a maximum \$25,000 self-insured retention for liability not covered by primary but covered by the umbrella. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross liability exclusion precluding coverage for claims or suits by one insured

against another. Coverage shall be applicable to City for injury to employees of Contractor, subcontractors or others involved in the Work. The scope of coverage provided is subject to approval of City following receipt of proof of insurance as required herein. Limits are subject to review but in no event less than \$1,000,000 per occurrence and aggregate.

Insurance procured pursuant to these requirements shall be written by insurers that are admitted carriers in the state of California and with an A.M. Best rating of A- or better and a minimum financial size VII.

Contractor and City agree as follows:

1. Contractor agrees to endorse the third party general liability coverage required herein to include as additional insureds City, its officials, employees and agents, using standard ISO endorsement No. CG 2010 with an edition date of 1985. Contractor also agrees to require all contractors, subcontractors, and anyone else involved in any way with the project contemplated by this agreement to do likewise.
2. Any waiver of subrogation express or implied on the part of City to any party involved in this agreement or related documents applies only to the extent of insurance proceeds actually paid. City, having required that it be named as an additional insured to all insurance coverage required herein, expressly retains the right to subrogate against any party for sums not paid by insurance. For its part, Contractor agrees to waive subrogation rights against City regardless of the applicability of any insurance proceeds, and to require all contractors, subcontractors or others involved in any way with the project(s) contemplated by this agreement, to do likewise.
3. All insurance coverage maintained or procured by Contractor or required of others by Contractor pursuant to this agreement shall be endorsed to delete the subrogation condition as to City, or to specifically allow Contractor or others providing insurance herein to waive subrogation prior to a loss. This endorsement shall be obtained regardless of existing policy wording that may appear to allow such waivers.
4. It is agreed by Contractor and City that insurance provided pursuant to these requirements is not intended by any party to be limited to providing coverage for the vicarious liability of City, or to the supervisory role, if any, of City. All insurance coverage provided pursuant to this or any other agreement (express or implied) in any way relating to City is intended to apply to the full extent of the policies involved. Nothing referred to here or contained in any agreement involving City in relation to the project(s) contemplated by this agreement is intended to be construed to limit the application of insurance coverage in any way.
5. None of the coverages required herein will be in compliance with these requirements if they include any limiting endorsement of any kind that has not been first submitted to City and approved of in writing.
6. All coverage types and limits required are subject to approval, modification and additional requirements by the City, as the need arises. Contractor shall not make any reductions in scope of coverage (e.g. elimination of contractual liability or reduction of discovery period) that may affect City's protection without City's prior written consent.
7. Proof of compliance with these insurance requirements, consisting of binders of coverage, or endorsements, or certificates of insurance, at the option of City, shall be delivered to City at or prior to the execution of this Agreement. In the event such proof of any insurance is not delivered as required, or in the event such insurance is canceled at any time and no replacement coverage is provided, City has the right, but not the duty, to obtain any insurance it deems necessary to protect its interests under this or any other agreement and to pay the premium. Any premium so paid by City shall be charged to and promptly paid by Contractor or deducted from sums due Contractor, at City option.
8. Contractor agrees to endorse, and to require others to endorse, the insurance provided pursuant to these requirements, to require 30 days notice to City and the appropriate tender prior to cancellation of such liability coverage and notice of any material alteration or non-renewal of any such coverage, and to require contractors, subcontractors, and any other party in any way involved with the project contemplated by this agreement to do likewise.
9. It is acknowledged by the parties of this agreement that all insurance coverage required to be provided by Contractor or any subcontractor, is intended to apply first and on a primary non-contributing basis in relation to any other insurance or self insurance available to City.
10. Contractor agrees to ensure that subcontractors, and any other party involved with the project who is brought onto or



involved in the project by contractor, provide the same minimum insurance coverage required of Contractor. Contractor agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Contractor agrees that upon request, all agreements with subcontractors and others engaged in the project will be submitted to City for review.

11. Contractor agrees that all layers of third party liability coverage required herein, primary, umbrella and excess, will have the same starting and expiration date. Contractor agrees further that all other third party coverages required herein will likewise have concurrent starting and ending dates.
12. Contractor agrees not to self-insure or to use any self-insured retentions or deductibles on any portion of the insurance required herein and further agrees that it will not allow any contractor, subcontractor, Architect, Engineer or other entity or person in any way involved in the performance of work on the project contemplated by this agreement to self-insure its obligations to City. If contractor's existing coverage includes a deductible or self-insured retention, the deductible or self-insured retention must be declared to the City. At that time the City shall review options with the contractor, which may include reduction or elimination of the deductible or self-insured retention, substitution of other coverage, or other solutions.
13. The City reserves the right at any time during the term of the contract to change the amounts and types of insurance required by giving the Contractor ninety (90) days advance written notice of such change. If such change results in substantial additional cost to the Contractor, the City will negotiate additional compensation proportional to the increased benefit to City.
14. For purposes of applying insurance coverage only, all contracts pertaining to the project will be deemed to be executed when finalized and any activity commences in furtherance of performance under this agreement.
15. Contractor acknowledges and agrees that any actual or alleged failure on the part of City to inform Contractor of non-compliance with any insurance requirement in no way imposes any additional obligations on City nor does it waive any rights hereunder in this or any other regard.
16. Contractor will renew the required coverage annually as long as City, or its employees or agents face an exposure from operations of any type pursuant to this agreement. This obligation applies whether or not the agreement is canceled or terminated for any reason. The insurance shall include but not be limited to products and completed operations and discontinued operations, where applicable. Termination of this obligation is not effective until City executes a written statement to that effect.
17. Contractor agrees to waive its statutory immunity under any workers' compensation statute or similar statute, in relation to the city, and to require all subcontractors and any other person or entity involved in the project contemplated by this agreement to do likewise.
18. Requirements of specific coverage features are not intended as limitations on other requirements or as a waiver of any coverage normally provided by any given policy. Specific reference to a given coverage feature is for purposes of clarification only as it pertains to a given issue, and is not intended by any party or insured to be all-inclusive.
19. Any provision in any of the construction documents dealing with the insurance coverage provided pursuant to these requirements, is subordinate to and superseded by the requirements contained herein. These insurance requirements are intended to be separate and distinct from any other provision in this agreement and are intended by the parties here to be interpreted as such.
20. All liability coverage provided according to these requirements must be endorsed to provide a separate aggregate limit for the project that is the subject of this agreement and evidencing products and completed operations coverage for not less than two years after issuance of a final certificate of occupancy by all appropriate government agencies or acceptance of the completed work by City.
21. Contractor agrees to be responsible for ensuring that no contract used by any party involved in any way with the project reserves the right to charge City or Contractor for the cost of additional insurance coverage required by this agreement. Any such provisions are to be deleted with reference to City. It is not the intent of City to reimburse any third party for the cost of complying with these requirements. There shall be no recourse against City for payment of premiums or other amounts with respect thereto.

22. Contractor agrees to obtain and provide to City a copy of Professional Liability coverage for Architects or Engineers working on this project through Contractor. City shall determine the liability limit.

## SECTION 4. PROSECUTION AND PROGRESS

**4.01 BEGINNING OF WORK, TIME OF COMPLETION, AND LIQUIDATED DAMAGES.** Attention is directed to the provisions in Section 8-1.04, "Start of Job Site Activities," in Section 8-1.05 "Time" and in Section 8-1.10, "Liquidated Damages;" of the Standard Specifications.

The Contractor shall begin work within 15 calendar days after the Notice to Proceed has been issued by the City of Seaside.

This work shall be diligently prosecuted to completion, except for plant establishment work, before the expiration of **220 WORKING DAYS** beginning on the fifteenth calendar day after approval of the contract.

The Contractor shall pay to the City of Seaside **the sum of \$4,450 per day, for each and every calendar day's delay** in finishing the work in excess of the number of working days prescribed above.

Upon written request of the Contractor, the Engineer will add one day to the contract completion date for each working day that in the judgment of the Engineer work cannot be performed to the specifications herein due to inclement weather conditions. The Contractor shall submit such delay request to the Engineer no later than 9:00 a.m. on the workday in question.

**4.02 PRECONSTRUCTION CONFERENCE.** Prior to or in conjunction with issuance of the Notice to Proceed, a preconstruction conference will be held for the purpose of discussing with the Contractor the scope of work, contract drawings, specifications, existing conditions, schedule, traffic control, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution of and the satisfactory completion of the project as required. The Contractor's representative at this conference shall include all major superintendents for the work and may include major subcontractors.

At or before the preconstruction conference, submit to the Engineer a "letter of responsibility" on company letterhead indicating (1) the names and phone numbers of at least three different persons who shall be available to be contacted in case of emergency at any time during the term of the contract. (said persons must have decision-making authority within the company); and (2) the name and title of each of your officials who will be authorized to sign contract change orders, daily extra work reports, and the final pay estimate.

**4.03 SUBCONTRACTORS.** In the event that the bidder proposes to subcontract any portion of the work in an amount in excess of one-half of one percent (0.5%) of the total amount of bid, he shall complete the form included in the proposal showing the name and location of the place of business of each subcontractor and the portion of the work to be done by such subcontractor. The purchase of sand, gravel, crushed rock, batched concrete, aggregates, ready-mixed concrete and/or any other materials produced at and furnished from established and recognized commercial plants, together with the delivery of such materials to the site of the work by means of vehicles owned and operated by such plants or by recognized commercial hauling companies, shall not be considered as subcontracting under these special provisions.

**4.04 SCHEDULE.** A detailed progress schedule shall be submitted for approval at the scheduled pre-construction meeting. Schedule must comply with the requirements of Section 8-1.02 "Schedule" of the Standard Specifications.

**4.05 SUSPENSION OF CONTRACT.** Attention is directed to Section 8-1.13, "Contractor's Control Termination" of the Standard Specifications for requirements regarding suspension of contract.

**4.06 RESOLUTION OF CONSTRUCTION CLAIMS.** "Claim" means a separate demand by the Contractor for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, (3) an amount the payment of which is disputed by the City. This section applies to all public works claims of three hundred seventy-five thousand dollars [\$375,000] or less. For any claim subject to this section, the following requirements apply:

1. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
2. For claims of less than fifty thousand dollars the City shall respond in writing to any written claim within 45 days of receipt of the claim, or may request in writing within 30 days of receipt of the claim any additional documentation supporting the claim or relating to defenses or claims the City may have against the claimant.

If additional information is thereafter required, it shall be requested and provided pursuant to this section upon mutual agreement of

the City and the Contractor. The City's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

3. For claims of over fifty thousand and less than or equal to three hundred seventy-five thousand dollars the owner shall respond in writing to all written claims within 60 days of receipt of the claim, or may request in writing within 30 days of receipt of the claim any additional documentation supporting the claim or relating to defenses or claims the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this section upon mutual agreement of the City and the Contractor. The City's written response to the claim, as further documented, shall be submitted to the Contractor within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
4. If the claimant disputes the owner's written response or the City fails to respond within the time prescribed, the claimant may so notify the City in writing either within 15 days of receipt of the City's response or within 15 days of the City's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the owner shall schedule a meet and confer conference within 30 days for settlement of the dispute.
5. If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 [commencing with Section 900] and Chapter 2 [commencing with Section 910] of Part 3, Division 3.6, Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subsection (1) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

The following procedures are established for all civil actions filed to resolve claims subject to this article:

- (1) Within 60 days, but no earlier than 30 days, following the filing of response pleading, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.
- (2) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 [commencing with Section 1141.10] of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986, Article 3 [commencing with Section 2016] of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

In addition to Chapter 2.5 [commencing with Section 1141.10] of Title 3 of Part 3 of the Code of Civil Procedure, [A] arbitrators shall, when possible, be experienced in construction law, and [B] any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

**4.07 MEASUREMENT AND PAYMENT.** Measurement and payment shall conform to the applicable provisions of Section 9 of the Standard Specifications, except as the referenced section is modified herein.

The City does not share costs. You are responsible for the entire cost of flagging and BMP maintenance.

**4.08 PROGRESS PAYMENTS.** For the purpose of making progress payments pursuant to Section 9-1.16, "Progress Payments," of the Standard Specifications, the amount set forth for the contract items of work hereinafter listed shall be deemed to be the maximum value of the contract item of work which will be recognized for progress payment purposes.

Item	Maximum Value for Progress Payment
Mobilization	\$540,000

After acceptance of the contract pursuant to the provisions in Section 9-1.17, "Payment After Contract Acceptance," of the Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes hereinabove listed for the item, will be included for payment in the first estimate made after acceptance of the contract.

The City shall retain five percent of such estimated value of the work done as aforesaid as part security for the fulfillment of the contract by the Contractor, and shall pay monthly to the Contractor while carrying on the work the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No such estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the contract, or when, in his judgment, the total value of the work done since the last estimate amounts to less than Three hundred dollars. No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

The City of Seaside, by and through the appropriate officer or officers, may at its option and at any time retain out of any amounts due the Contractor sufficient to cover any unpaid claims provided that sworn statements of said claims shall have been filed in the office of the City Engineer.

No progress payments will be made for any materials on hand which are furnished but not incorporated in the work.

**4.09 FINAL PAYMENT.** Within fifteen days after the completion of the work, make a semi-final estimate in writing of the final quantities of work done under the contract and the value of such work and submit such estimate to the Engineer. The City will retain five percent of such estimated value of the work done and will pay to the Contractor the balance not retained as aforesaid after deducting therefrom all amount to be kept and all amounts to be retained under the provisions of the contract.

Within fifteen days after submission to the City of the semi-final estimate, submit to the Engineer your written statement of all claims for additional compensation due under the contract. Claim statements must comply with the requirements of Section 9-1.17D(2), "Claim Statement" of the Standard Specifications.

Upon your approval, or if you file no claims within said period of fifteen days, the Engineer will issue a final written estimate, and the City will pay you the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept or retained under the provisions of the contract. If you, within said period of fifteen days, file claims, the Engineer will then consider and investigate such claims, and will make such revision in the final quantities as he may find to be due, and will then make and issue a final written estimate. The City will pay the amount so found due, after deducting therefrom all previous payments and amounts to be retained under the provisions of the contract.

All prior partial estimates and payments shall be subject to correction in the final estimate and payment. The final estimate shall be conclusive and binding against both parties to the contract on all questions relating to the performance of the contract and the amount of work done thereunder and compensation therefor, except in the case of gross error.

Payment on the final estimate shall not be due and payable in less than thirty-five days after the date of recording of the notice of completion in the county recorder's office.

The City, by and through the appropriate officer or officers may at its option and at any time retain out of any amounts due the Contractor sums sufficient to cover any unpaid claims provided that sworn statements or said claims shall have been filed in the Public Works Department.

Attention is directed to Section 5.06, "Prompt Payments," of these Special Provisions.

**4.10 CLEANUP.** Attention is directed to Section 4-1.13, "Cleanup," of the Standard Specifications. Ensure that all vehicles leaving the site area are in a condition so that no dirt or debris will be spilled upon the City's streets or highways. Full compensation for all cleanup work is considered included in the various contract bid items, and no additional payment will be made therefore.

**4.11 HOURS OF WORK.** The hours of construction shall be begin at 7:00 am and end at 5:00 pm Monday through Friday. No work except maintenance of the traveled way or maintenance of completed work shall be performed on Saturday, Sunday or holidays without the Engineer's written authorization. Perform overtime and shift work only when authorized d by the Engineer. You must pay the City's costs for inspection and management of overtime and shift work.

**4.12 PUBLIC NOTIFICATION.** Prior to beginning work and during the course of the work, deliver notices to each business and resident adjacent to the project area, and to residents of adjacent streets that may have access restricted during construction. Submit

notices and proposed delivery schedule for each at the pre-construction conference. Notices in English and Spanish shall be posted as door hangers at each address at least on month prior to the work and within two (2) weeks of restricting access. Notice must include a brief description of the work, estimated duration of access restriction, and names, email addresses and mobile phone numbers for Contractor' Project Superintendent and City contact representatives.

In addition to obtaining approval from the Seaside Police and Fire Departments in compliance with the Public Safety section of these special provisions, , notify the United States Post Office (831.394.6329), and Monterey-Salinas Transit (831.899.2555) by telephone two workdays prior to implementing street and lane closures for this project.

Full compensation for providing public notification shall be considered as included in the contract lump sum price paid for "Mobilization," and no separate payment will be made therefor.

**4.13 CONSTRUCTION SURVEYS.** Replace State Standard section 5-1.26 with the following:

### **5-1.26 Construction Surveys**

#### **5-1.26A General**

Construction staking services will be provided by the City. One set of constructions stakes will be provided for the work and will be limited to the items described in section 5-1.26B.

Provide traffic control for City's staking operations.

You must perform other staking, as required.

Request in writing the particular schedule of staking operations at least two working days in advance of the time stakes are desired. You are responsible for survey crew costs incurred if site is not ready for staking at the scheduled time, or if you request more crew mobilizations than are described in this section.

Preserve benchmarks, reference points, and construction stakes. You will be billed for the City's costs incurred in replacing benchmarks, reference points, or construction stakes that your activities destroy. Staking in addition to the staking specified in this section will be provided at your expense.

#### **5-1.26B Construction Stakes**

##### **5-1.26B(1) Stage Construction Staking**

For Stage 1, City will set paint marks at 50 foot intervals 5 feet left of the WB Line (1,600 LF) plus two paint marks along each of four cross streets for a total of 36 paint marks.

For Stage 3, City will set two paint marks along each of four cross streets for a total of eight paint marks. It is assumed Stage 2 construction will control longitudinal limit of Stage 3 along center of Broadway.

City will mobilize survey crew no more than 3 times for stage construction staking.

No staking will be provided for Stages 2 and 4.

##### **5-1.26B(2) Drain Systems & Bioretention Area Staking**

City will provide offset stakes for one run of storm drain pipe and 35 structures. One reference stake will be set referencing the pipe with cut/fill to pipe invert.

Structures will be set with two reference straddlers with cut/fill to inverts and grate or cover.

City will provide reference stakes for seven bioretention areas. Two stakes will be provided for each area referencing limits as shown in plan set. No cuts/fills will be provided.

City will mobilize survey crew no more than 2 times for drain systems and bioretention areas staking.

##### **5-1.26B(3) Sanitary Sewer Staking**

City will provide offset stakes for sanitary sewer and six structures. Pipe will be staked at 50 foot intervals with cut to invert.

Manholes will be staked with actual center of manhole and two offsets with cut/fill to inverts.

City will mobilize survey crew no more than 2 times for sanitary sewer staking.

#### **5-1.26B(4) Curb, Ramp and Pedestrian Light Staking**

City will provide stakes for curb and gutter and pedestrian lights shown on the sidewalk layout plan. Stakes will be set with 3 foot offset to top of curb with cut/fill to top of curb. Stakes will be set at 50 foot intervals, at changes in line or grade, and at each light shown on sidewalk layout plan. Stakes will reference the beginning, end, midpoint and angle point in the valley gutter.

City will provide stakes for 16 curb returns, including radius point, beginning of curve, end of curve, and midpoint of ramps. Stakes will be offset to top of curb with cut/fill to top of curb.

City will mobilize survey crew no more than 4 times for curb, ramp and pedestrian lights staking.

#### **5-1.26B(5) Profile Grade Staking**

City will provide stakes for profile grade. Stakes will be set with offset to profile grade with cut/fill to profile grade. Stakes will be set at 50 foot intervals and at changes in line or grade.

City will mobilize survey crew no more than 2 times for profile grade staking.

#### **5-1.26B(6) Signal Pole Staking**

City will provide stakes for eight poles shown on traffic signal plans. These elements will be staked with two reference stakes (one on each side of the feature) showing cut/fill to top of curb.

City will mobilize survey crew no more than 2 times for signal pole staking.

#### **5-1.26B(7) Back of Sidewalk Staking**

City will provide stakes for approximately 3,200 linear feet of back of sidewalk at each proposed grade shown on the sidewalk grading plan. Stake will be an actual point with cut/fill to the grade shown on the plans. No offset stake will be set.

City will mobilize survey crew no more than 2 times for back of sidewalk staking.

#### **5-1.26B(8) Tree Well Staking**

City will provide one stake at each station/offset shown on the sidewalk layout plans, excluding lights. Each stake will be an actual point with no elevation or grade.

City will mobilize survey crew no more than 2 times for tree well staking.

## SECTION 5. GENERAL

**5.01 LABOR NONDISCRIMINATION.** Comply with the requirements of section 7-1.02I(2) "Nondiscrimination," of the Standard Specifications.

**5.02 PREVAILING WAGE.** The Contractor must pay the higher of the State general prevailing wage or the Federal minimum wage rates.

This contract is subject to Federal minimum wage rates and state and local general prevailing wage rates. The Federal minimum wage rates are available directly from Wage Determinations Online at [www.wdol.gov/dba.aspx](http://www.wdol.gov/dba.aspx). If any changes to Federal minimum wage rates occur up to ten days before bid opening, the City will issue an addendum notifying all planholders of the change. It is the bidders' responsibility to determine the applicable wage rates by visiting the Wage Determinations Online website. The City will include a copy of the applicable Federal minimum wage rates with the contract. There have been changes to the federal minimum wage rate since December 22, 2016, the date City issued the Notice to Bidders.

The general prevailing wage rates are determined by the Director of Industrial Relations, for the County of Monterey. Current prevailing wage rates can be found in "General Prevailing Wage Determinations made by the Director of Industrial Relations" (wage determinations) at the Division of Labor Statistics and Research, Prevailing Wage Unit, P. O. Box 420603, San Francisco, CA 94142, (415) 703-4774, or at DIRs website at <http://www.dir.ca.gov/>. These wage rates are not included in the Bid book for the project. Changes, if any, to the general prevailing wage rates will be available at the same location. The City will include a copy of the applicable State prevailing wage rates with the contract.

The Contractor will be required to maintain and distribute certified payroll records in compliance with Section 1776 of the California Labor Code. The Contractor shall register as specified in Labor Code section 1771.1(a). The project is subject to compliance monitoring and enforcement by the Department of Industrial Relations in accordance with Labor Code sections 1725.5 (contractor registration requirements and criteria), 1771.1 (requirement to register as a condition to bid or work on public works), and 1771.4 (project compliance monitoring).

The labor surcharge, equipment rental rates, and the delay factors for each classification of equipment are listed in the Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates."

**5.03 PUBLIC SAFETY.** The Contractor shall provide for the safety of traffic and the public in conformance with the provisions in Section 7-1.04, "Public Safety," of the Standard Specifications and these special provisions.

The Contractor shall install temporary railing (Type K) between a lane open to public traffic and an excavation, obstacle or storage area when the following conditions exist:

- A. Excavations--The near edge of the excavation is 12 feet or less from the edge of the lane, except:
  - 1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
  - 2. Excavations less than 1 foot deep.
  - 3. Trenches less than 1 foot wide for irrigation pipe or electrical conduit, or excavations less than 0.3-m in diameter.
  - 4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
  - 5. Excavations in side slopes, where the slope is steeper than 1:4 (vertical: horizontal).
  - 6. Excavations protected by existing barrier or railing.
- B. Temporarily Unprotected Permanent Obstacles--The work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.
- C. Storage Areas--Material or equipment is stored within 12 feet of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these special provisions.



The approach end of temporary railing (Type K), installed in conformance with the provisions in this section "Public Safety" and in Section 7-1.04, "Public Safety," of the Standard Specifications, shall be offset a minimum of 15 feet from the edge of the traffic lane open to public traffic. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than 1 foot transversely to 10 feet longitudinally with respect to the edge of the traffic lane. If the 15 feet minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas, the Contractor shall close the adjacent traffic lane unless otherwise provided in the Standard Specifications and these special provisions:

Approach Speed of Public Traffic (Posted Limit) (Miles Per Hour)	Work Areas
Over 45 Miles Per Hour	Within 6 feet of a traffic lane but not on a traffic lane
35 to 45 Miles Per Hour	Within 3 feet of a traffic lane but not on a traffic lane

The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of a traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 10 feet without written approval from the Engineer.

When work is not in progress on a trench or other excavation that required closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Suspended loads or equipment shall not be moved nor positioned over public traffic or pedestrians.

In addition to any other measures pursuant to the provisions of Section 7-1.04, "Public Safety," of the Standard Specifications, your attention is directed to the following special provisions. Maintain access to all fire hydrants within the project area to the satisfaction of the Seaside Fire Department. Obtain their written approval prior to using any hydrant within the City of Seaside.

Make provisions for the safe passage of pedestrians around the area of work at all times.

Construction is within City owned right-of-way, and you must make provisions for the safe passage of public traffic through the necessary portions of the work at all times, unless full closure of the right-of-way is required and authorized by the Engineer.

Maintain access to adjacent parking areas by motor vehicles at all times, and make provisions for the safe passage of pedestrians around walkway and parking areas at all times.

Prior to the closure of any portion of a street, written approval shall be obtained from the Seaside Fire Department (831.899.6790), the Seaside Police Department (831.899.6280), and the Engineer. Fire and Police Departments shall immediately be notified when such street is reopened. Keep the City police and fire departments informed of obstructions in either public or private roads caused by reason of your operations.

Comply with the California MUTCD for all items related to traffic control.

The fact that rain or other causes, either within or beyond your control, may force suspension or delay of the work shall in no way relieve you of responsibility for maintaining traffic through the project and providing local access as specified herein. At all times, keep on the job such materials, force, and equipment as may be necessary to keep roads, streets, and driveways within the project open to traffic and in good repair, and expedite the passage of such traffic, using such force and equipment as may be necessary.

Should you fail, in the opinion of the Engineer, to provide all the materials, force, and equipment necessary to maintain traffic through the work as set forth herein, the City, upon the recommendation of the Engineer, may take steps necessary to suspend the contract. The City may then, upon such suspension, cause such work as may be necessary to maintain traffic to be done and may charge same against you and your sureties.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if in the opinion of the Engineer public traffic will be better served and the work expedited. Such deviations shall not be adopted without the Engineer's written authorization. All other modifications will be made by contract change order.

**5.04 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.** Comply with the requirements of Section 14-11, "Hazardous Waste and Contamination" of the Standard Specifications.

If delay of work in the area delays the current controlling operation, you will be compensated for the delay in conformance with the provisions in Section 8-1.07, "Delays," of the Standard Specifications.

**5.05 SUBCONTRACTING.** Comply with the requirements of Section 5.13, "Subcontracting" of the Standard Specifications. Each subcontract and any lower tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction Contracts" in Section 14 of these special provisions. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

**5.06 PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS.** The City of Seaside shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The prime contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

## **SECTION 6. NOT USED**

## SECTION 7. MATERIALS

**7.01 SOURCE OF SUPPLY AND QUALITY OF MATERIALS.** All materials required to complete the work under the attached contract shall be furnished by the Contractor unless otherwise specified. Upon approval of the contract, the Contractor shall notify the Engineer of the proposed source of supply of all materials to be used in the work, and shall furnish samples of such materials as may be required by the Engineer for testing.

At the request of the Engineer, the Contractor shall submit manufacturer/supplier certificates of compliance for any or all materials used in the construction of the project. If certification is so requested, said certificates must be reviewed and accepted in writing by the Engineer prior to any use or installation of the material on the project.

**7.02 TRADE NAMES AND ALTERNATIVES.** Attention is directed to Section 6-1.05, "Specific Brand or Trade Name and Substitution," of the Standard Specifications.

Requests for substitutions will be considered only if received within 10 calendar days from the date of award. Requests received after this period may be accepted or rejected at the discretion of the Engineer.

Prepare and submit each request for substitution to the City in accordance with the procedures for submittals. Provide the following additional information:

1. An explanation of the advantages to the City for accepting the substitution.
2. A comparison of significant qualities of the proposed substitution with those specified.
3. When the substitute equipment or material necessitates changes to or coordination with any portion of the work, include drawings and details showing all such changes. You must perform these changes as a part of any acceptance of substitute material or equipment.
4. A statement indicating the substitution's effect on the construction schedule compared to the construction schedule without acceptance of the substitution. Indicate the effect of the proposed substitution on overall contract time.
5. Cost information, including a proposal of the net change, if any, in the Contract Sum.
6. Certification that the substitution is equal to or better in every respect to that required by Contract Documents, and that it will perform adequately in application indicated. Include Contractor's waiver of rights to additional payment or time extensions that may be necessary because of the substitution's failure to perform adequately.

Substitution requests will be considered by the Engineer when the following conditions are satisfied, as determined by the Engineer; otherwise, requests will be returned without action except to record noncompliance with these requirements.

1. Extensive revisions to Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of Contract Documents.
3. The request is timely, fully documented and properly submitted.
4. The specified product or method of construction cannot be provided within the specified Contract Time. The request may not be considered if the product or method cannot be provided as a result of failure of the Contractor to pursue the work promptly or coordinate activities properly.
5. A substantial advantage is offered the City, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the City may be required to bear. Additional responsibilities for the City may include additional compensation to the Consulting Engineer/Architect for redesign and evaluation services, increased cost of other construction by the City or separate contractors, and similar considerations.
6. The specified product or method of construction cannot receive necessary approval by a regulatory agency, and the requested substitution can be approved.
7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the compatibility.
8. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution can provide the required warranty.

Submittal of shop drawings, product data or samples that do not comply with the Contract Documents does not constitute a valid request for substitution, nor does it constitute acceptance of a substitution.

The Engineer will notify the Contractor of acceptance or rejection of the proposed substitution within 28 calendar days of receipt. If a decision on use of a substitute cannot be made within these time limits, the product originally specified shall be used.

No extension of contract time will be allowed through your failure to either transmit requests for substitution sufficiently in advance of the work, or on account of processing time outside the time limits noted above.

Should the originally specified materials not be available within the specified contract time due to your failure to order and obtain such materials, you are responsible to provide, install and maintain a temporary "equal" material as approved by the City, and for replacing such temporary material with the required product upon availability. You are responsible for all costs associated with the installation, maintenance, and removal of the temporary product and the installation of the specified product, including an extended one year warranty to cover the final product installed. Sufficient funds to cover the purchase and installation of the specified product will be withheld until such work has been completed and accepted by the City.

The use of any material or equipment so offered will be permitted only after written acceptance of the Contractor's offer by the Engineer. Such acceptance by the Engineer shall not relieve the Contractor from full responsibility from the efficiency, sufficiency, and quality, and performance of the substitute material or equipment, in the same manner and degree as the material and equipment specified in the Contract Documents.

**7.03 SUBMITTALS.** This section supplements the requirements of section 5-1.23, "Submittals" of the Standard Specifications.

All submittals must be electronic.

Accompany submittals with a transmittal form. Use a separate form for each item, class of material, equipment, and for items specified in separate specification sections. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are functionally related such that expediency indicates checking or review of the group or package as a whole. Assign a sequential number to each submittal and note the number on the transmittal form accompanying each item submitted.

Submittal numbers shall have the following format:

XX.YY (NN-N.NN)

Where:

XX = the sequential submittal number

YY= the sequential number of the submittal ("01" for the first submittal, "02" for the second submittal, etc.)

(NN-N.NN) identifies the specification section number that requires the submittal.

For example, if the twelfth submittal made is the quality control plan for sign panels, as required by section 56-2.01A, the initial submittal would be 12.01 (56-2.01A). If a re-submittal were required, it would be 12.02 (56-2.01A).

In general, allow 10 working days for Engineer's review of submittals. Allow 20 working days for Engineer's review of submittals that include shop drawings or calculations.

## SECTION 8. OTHER REQUIREMENTS

8.01 **GENERAL.** Section 8 includes specifications for miscellaneous project-specific work, and bid item descriptions.

8.02 **TITLE VI ASSURANCES.** During the performance of this Agreement, the contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as CONTRACTOR) agrees as follows:

- (1) Compliance with Regulations: CONTRACTOR shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this agreement.
- (2) Nondiscrimination: CONTRACTOR, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
- (3) Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by CONTRACTOR for work to be performed under a Sub-agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by CONTRACTOR of the CONTRACTOR'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- (4) Information and Reports: CONTRACTOR shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the California Department of Transportation or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts CONTRACTOR has made to obtain the information.
- (5) Sanctions for Noncompliance: In the event of CONTRACTOR's noncompliance with the nondiscrimination provisions of this agreement, the California Department of Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including:
  - (a) withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
  - (b) cancellation, termination or suspension of the Agreement, in whole or in part.
- (6) Incorporation of Provisions: CONTRACTOR shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

CONTRACTOR shall take such action with respect to any agreement, sub-agreement or procurement as the California Department of Transportation or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, CONTRACTOR may request the California Department of Transportation enter into such litigation to protect the interests of the State, and, in addition, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

Maintain records and submit reports documenting your performance under this section.

8.03 **PROJECT APPEARANCE.** The Contractor shall maintain a neat appearance to the work. In any area visible to the public, the following shall apply, at no additional cost to the City:

When practicable, broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. No stockpiling is allowed.

**8.04 WORK SEQUENCING.** Work sequencing shall conform to the provisions in Section 10-1.02, "Work Sequencing," of the Standard Specifications, the plans, and these special provisions.

The Contractor's sequence of construction operations shall provide for the maintenance of full and uninterrupted utility services, except that minor planned interruptions of utility services may be permitted, with the Engineer's written authorization. The Contractor shall submit to the City a written notice of the intent to disrupt services at least ten days prior to the planned disruption. Said notice shall specify the dates and time, nature of the service disrupted, and a complete list of properties affected. It shall be the Contractor's responsibility to notify occupants of properties affected of any services interruptions and to coordinate the work necessitating the interruption with the appropriate owners, or their authorized agents, of the utilities involved. Authorization by the Engineer to disrupt services shall be in no way relieve the Contractor of his responsibility for damage or preservation of property as specified in Section 5-1.36, "Property and Facility Preservation" and Section 5-1.39, "Damage Repair and Restoration " of the Standard Specifications. Sequence work in accordance with the "Stage Construction and Traffic Handling Plan" found in the plans.

**8.05 DUST CONTROL.** Control the dust resulting from construction of this project regardless of whether it is the result of your operations or caused by public traffic only.

**8.06 WATERING.** The application of water for dust control, landscaping, and other uses shall conform to Section 10-6 and applicable sections of the Standard Specifications, these special provisions, and as directed by the Engineer. Provide all the water required to perform any operations and work under this Contract.

**8.07 OBSTRUCTIONS.** Attention is directed to Section 5-1.36, "Property and Facility Preservation" of the Standard Specifications.

**Add between the 2nd and 3rd paragraphs of standard specifications section 5-1.36D:**

Installation or adjustment of the utilities shown in the following table requires coordination with your activities. Make the necessary arrangements with the utility company through the Engineer and submit a schedule:

1. Verified by a representative of the utility company
2. Allowing at least the time shown for the utility owner to complete its work

**Utility Relocation and Contractor-Arranged Time for the Relocation**

Utility	Contact	Work	Days
Cal-Am Water	Lesley Silva 81-646-3224	1" service and meter	5
PG&E	Monique Chaidez 831-648-3249	Adjust cover to grade	5
AT&T	Susan Barazza 831-728-6571	Adjust vault/cover to grade	5
Comcast	Mark Giblin 408-440-4823	Adjust cover to grade	5

Coordinate with PG&E to schedule PG&E's disconnection of panels or service points so that you can make the required service connections. Contact Alannah Hasen at 831-648-3224 one week prior to making your connection to service. Contact Alannah Hasen when your connection is ready for activation.

High priority utilities are shown. No excavation may be made within 10 feet of these utilities unless and until such utilities have been positively located as to horizontal and vertical position.

No utilities will be relocated or rearranged to allow for construction work. If you want a utility rearranged or temporarily deactivated, make arrangements with the utility owner.

Section 1540(a) 1 of Construction Safety Orders (Title 8) California Administrative Code, Section 1540 states:

"Prior to opening any excavation, effort shall be made to determine whether underground installations i.e., sewer, water fuel, electric lines etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the approximate location of such installation, the exact location shall be determined by carefully probing or hand digging; and, when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of

underground facilities in the area concerned shall be advised of proposed work at least two working days prior to start of actual excavation."

Contractor shall make the effort to determine the exact locations of the underground installations.

No extra payment will be allowed for the removal, replacement, repair, or possible increased cost caused by inadvertent or planned interception and breaking of underground obstructions which may exist.

Attention is directed to the existence of certain underground facilities that may require special precautions be taken by you to protect the health, safety and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables, with potential to ground of more than 300 volts, either directly buried or in duct or conduit which do not have concentric grounded conductors or other effectively grounded metal shields or sheaths. If such facilities are not located on the plans in both alignment and elevation, no work shall be performed in the vicinity of said facilities, except as provided herein for conduit to be placed under pavement, until the owner, or his representative, has located the facility by potholing, probing, or other means that will locate and identify the facility. Any conduit to be installed under pavement in the vicinity of such facilities shall be placed by the trenching method as specified.

You are responsible for the protection of utility facilities and services. Rearrangement of underground utilities may be required at various locations. You are not liable to the various utility owners nor to the City of Seaside for the cost of utility rearrangements. You must:

- (1) Coordinate the efforts of the utility owners in identifying all possible points of conflict between existing underground utilities and improvements to be constructed under this Contract, and
- (2) Coordinate your construction activities with the utility owners to expedite the rearrangement of existing underground utilities as necessary to construct the improvements as shown on the plans.

If utility conflicts exist when you start construction, be prepared to schedule your work around these conflicts. While you will be granted time extensions without penalty for utility delays if such delays impede your overall progress, no extra payment will be made for utility delays.

Notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure.

**8.08 MAINTAINING TRAFFIC.** Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," and 12, "Temporary Traffic Control," of the Standard Specifications and to the Section 5.03, "Public Safety" in these special provisions.. Nothing in these special provisions shall be construed as relieving the Contractor from his responsibility as provided in said Section 7-1.04. Lane closures shall conform to the provisions in section 12 of these special provisions. At the pre-construction meeting, submit Traffic Control Plan(s) conforming to the *California MUTCD*, Part 6 "Temporary Traffic Control," and the requirements of these Special Provisions for acceptance by the Engineer.

Included your proposed haul route in the Traffic Control Plan. Hauling is allowed only on Del Monte, Fremont, General Jim Moore, and Canyon Del Rey Boulevards.

Notify local authorities of your intent to begin traffic control work at least working 5 days before work is begun. Cooperate with local authorities relative to handling traffic through the area and make your own arrangements relative to keeping the working area clear of parked vehicles.

You bear the entire cost of flagging, including furnishing all flaggers, stands, towers and the transportation of flaggers. .

The provisions in this section shall in nowise relieve you from your responsibility for providing for the safety of the public as provided in said Section 7-1.04 nor relieve you from your responsibility for damage as provided in Section -5-1.39, "Damage Repair and Restoration "

If not otherwise specified, whenever vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, the shoulder area

shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the Engineer.

The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays and designated holidays, after 3:00 p.m. on Fridays and the day preceding designated holidays, and when construction operations are not actively in progress.

Designated holidays are listed in section 12-4.02(A)2.

Unless otherwise specified, provide a minimum of one paved traffic lane, not less than 10 feet wide, for use by public traffic.

If there is no bid item for Traffic Control, payment for conforming to the provisions of this article shall be considered as included in the payments made for various other bid items.

Complete any work that obstructs entry to a business and restore access to business within 24 consecutive hours.

**8.09 COOPERATION.** In the event construction is under way by other forces or by other contractors within or adjacent to the limits of the work specified, cooperate with the other contractors or other forces to the end that any delay or hindrance to their work will be avoided. Each contractor shall be responsible to the other for damage to work, to persons or property caused to the other by their operations, and for loss caused the other due to unnecessary delays or failure to finish the work within the time specified for completion.

**8.10 USE OF UNITED STATES FLAG VESSELS.** The Contractor agrees:

1. To utilize privately owned United State-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for Unites States-flag commercial vessels.
2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.



## 8.11 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, and 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or

women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the

contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. 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 result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

**IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural

minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

## 1. Minimum wages

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

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

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

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

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

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

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

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

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be

necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

### 3. Payrolls and basic records

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

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

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

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

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

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

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

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

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

### 4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than

the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

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

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

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

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

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

**10. Certification of eligibility.**

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

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

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

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

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

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

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

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total

original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

#### **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.



e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from

participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in

this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or

employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**8.12 DESCRIPTIONS OF BID ITEMS.** Attention is directed to Section 9-1.03, "Payment Scope," of the Standard Specifications. The project area is as shown in the contract documents in the City of Seaside.

Bid Item 1. Bonds, Mobilization & Insurance: Bonds, Mobilization & Insurance shall consist of preparatory work and operations, including those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site. Payment for this item will be made on a lump sum basis.

Bid Item 2. Project Funding Sign: The lump sum payment for Project Funding Sign is full compensation for all Project Funding Sign work described in section 12-3.11 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 3. Job Site Management: The lump sum payment for Job Site Management is full compensation for all Job Site Management work described in section 13-4 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 4. Prepare Storm Water Pollution Prevention Plan: The lump sum payment for Prepare Storm Water Pollution Prevention Plan is full compensation for all Prepare Storm Water Pollution Prevention Plan work described in section 13-3 of the technical provisions, in accordance with section 13-3.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 5. Lead Compliance Plan (Stripe Removal): The lump sum payment for Lead Compliance Plan (Stripe Removal) is full compensation for all Lead Compliance Plan (Stripe Removal) work described in section 7-1.02K(6)(j)(ii) of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 6. Temporary Fence (Type CL-6) with fabric: The unit price payment for Temporary Fence (Type CL-6) with fabric is full compensation for all Temporary Fence (Type CL-6) with fabric work described in section 16-2.06 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 7. Construction Area Signs: The lump sum payment for Construction Area Signs is full compensation for all Construction Area Signs work described in section 12-3.11 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 8. Traffic Control System: The lump sum payment for Traffic Control System is full compensation for all Traffic Control System work described in section 12-4 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 9. Temporary Traffic Stripe (Paint): The unit price payment for Temporary Traffic Stripe (Paint) is full compensation for all Temporary Traffic Stripe (Paint) work described in section 12-6 of the technical provisions, in accordance with section 12-6.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 10. Temporary Pavement Marking (Paint): The unit price payment for Temporary Pavement Marking (Paint) is full compensation for all Temporary Pavement Marking (Paint) work described in section 12-6 of the technical provisions, in accordance with section 12-6.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 11. Temporary Pavement Marker: The unit price payment for Temporary Pavement Marker is full compensation for all Temporary Pavement Marker work described in section 12-6 of the technical provisions, in accordance with section 12-6.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 12. Type III Barricade: The unit price payment for Type III Barricade is full compensation for all Type III Barricade work described in section 12-3.10 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 13. Channelizer (Surface Mounted): The unit price payment for Channelizer (Surface Mounted) is full compensation for all Channelizer (Surface Mounted) work described in section 12-3.05 of the technical provisions, with

scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 14. Portable Changeable Message Sign: The unit price payment for Portable Changeable Message Sign is full compensation for all Portable Changeable Message Sign work described in section 12-3.32 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 15. Temporary Railing (Type K): The unit price payment for Temporary Railing (Type K) is full compensation for all Temporary Railing (Type K) work described in section 12-3.20 of the technical provisions, in accordance with section 12-3.20D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 16. Temporary Crash Cushion Module: The unit price payment for Temporary Crash Cushion Module is full compensation for all Temporary Crash Cushion Module work described in section 12-3.22 of the technical provisions, in accordance with section 12-3.22D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 17. Temporary Drainage Inlet Protection: The unit price payment for Temporary Drainage Inlet Protection is full compensation for all Temporary Drainage Inlet Protection work described in section 13-6 of the technical provisions, in accordance with section 13-6.04 except that the City does not share maintenance costs, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 18. Temporary Construction Entrance: The lump sum payment for Temporary Construction Entrance is full compensation for all Temporary Construction Entrance work described in section 13-7.03 of the technical provisions, in accordance with section 13-7.03D except that the City does not share maintenance costs, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 19. Temporary Concrete Washout (Portable): The lump sum payment for Temporary Concrete Washout (Portable) is full compensation for all Temporary Concrete Washout (Portable) work described in section 13-9 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 20. Remove Tree: The unit price payment for Remove Tree is full compensation for all Remove Tree work described in section 20-10.03 of the technical provisions, in accordance with section 20-10.03D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 21. Remove Tree Well: The unit price payment for Remove Tree Well is full compensation for all Remove Tree Well work described in section 20 of the technical provisions, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 22. Remove Yellow Painted Traffic Stripe (Hazardous Waste): The unit price payment for Remove Yellow Painted Traffic Stripe (Hazardous Waste) is full compensation for all Remove Yellow Painted Traffic Stripe (Hazardous Waste) work described in section 14-11.12 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 23. Remove Traffic Stripe (Paint): The unit price payment for Remove Traffic Stripe (Paint) is full compensation for all Remove Traffic Stripe (Paint) work described in section 84-9 of the technical provisions, in accordance with section 84-9.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 24. Remove Painted Pavement Marking: The unit price payment for Remove Painted Pavement Marking is full compensation for all Remove Painted Pavement Marking work described in section 84-9 of the technical provisions, in accordance with section 84-9.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 25. Remove Pavement Marker: The unit price payment for Remove Pavement Marker is full compensation for all Remove Pavement Marker work described in section 81-8 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 26. Remove Inlet: The unit price payment for Remove Inlet is full compensation for all Remove Inlet work described in section 71-2 of the technical provisions, in accordance with section 71-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 27. Remove Roadside Sign: The unit price payment for Remove Roadside Sign is full compensation for all Remove Roadside Sign work described in section 82-9 of the technical provisions, in accordance with section 82-9.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 28. Remove Sign Panel: The unit price payment for Remove Sign Panel is full compensation for all Remove Sign Panel work described in section 82-9 of the technical provisions, in accordance with section 82-9.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 29. Remove Bollard: The unit price payment for Remove Bollard is full compensation for all Remove Bollard work described in section 20-7 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 30. Remove Trash Receptacle: The unit price payment for Remove Trash Receptacle is full compensation for all Remove Trash Receptacle work described in section 20-7 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 31. Remove Bench: The unit price payment for Remove Bench is full compensation for all Remove Bench work described in section 20-7 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 32. Remove Concrete Curb and Gutter: The unit price payment for Remove Concrete Curb and Gutter is full compensation for all Remove Concrete Curb and Gutter work described in section 73-10 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 33. Remove Concrete (Valley Gutter): The unit price payment for Remove Concrete (Valley Gutter) is full compensation for all Remove Concrete (Valley Gutter) work described in section 73-10 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 34. Remove Concrete Sidewalk: The unit price payment for Remove Concrete Sidewalk is full compensation for all Remove Concrete Sidewalk work described in section 73-10 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 35. Remove Culvert: The unit price payment for Remove Culvert is full compensation for all Remove Culvert work described in section 71-2 of the technical provisions, in accordance with section 71-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 36. Abandon Culvert: The unit price payment for Abandon Culvert is full compensation for all Abandon Culvert work described in section 71-6 of the technical provisions, in accordance with section 71-6.03D, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 37. Clearing and Grubbing: The lump sum payment for Clearing and Grubbing is full compensation for all Clearing and Grubbing work described in section 17-2 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 38. Cap Storm Drain Manhole: The unit price payment for Cap Storm Drain Manhole is full compensation for all Cap Storm Drain Manhole work described in section 71-4 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 39. Relocate Roadside Sign: The unit price payment for Relocate Roadside Sign is full compensation for all Relocate Roadside Sign work described in section 82-9 of the technical provisions, in accordance with section 82-9.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 40. Slurry Seal: The unit price payment for Slurry Seal is full compensation for all Slurry Seal work described in section 37-3 of the technical provisions, in accordance with sections 37-3.02D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 41. Roadway Excavation: The unit price payment for Roadway Excavation is full compensation for all Roadway Excavation work described in section 19-2 of the technical provisions, in accordance with section 19-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 42. Finishing Roadway: The lump sum payment for Finishing Roadway is full compensation for all Finishing Roadway work described in section 22 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 43. Class 2 Aggregate Base: The unit price payment for Class 2 Aggregate Base is full compensation for all Class 2 Aggregate Base work described in section 26 of the technical provisions, in accordance with section 26-1.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 44. Hot Mix Asphalt (Type A): The unit price payment for Hot Mix Asphalt (Type A) is full compensation for all Hot Mix Asphalt (Type A) work described in section 39 of the technical provisions, in accordance with section 39-5, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 45. Furnish Single Sheet Aluminum Sign (0.063"-Unframed): The unit price payment for Furnish Single Sheet Aluminum Sign (0.063"-Unframed) is full compensation for all Furnish Single Sheet Aluminum Sign (0.063"-Unframed) work described in section 82-2 of the technical provisions, in accordance with section 82-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 46. Roadside Sign (One Post): The unit price payment for Roadside Sign (One Post) is full compensation for all Roadside Sign (One Post) work described in section 82-3 of the technical provisions, in accordance with section 82-3.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 47. Install Sign (Strap and Saddle Bracket Method): The unit price payment for Install Sign (Strap and Saddle Bracket Method) is full compensation for all Install Sign (Strap and Saddle Bracket Method) work described in section 82-3 of the technical provisions, in accordance with section 82-3.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 48. Bench: The unit price payment for Bench is full compensation for all Bench work described in section 20-5.05 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 49. Litter/Recycling Receptacle: The unit price payment for Litter/Recycling Receptacle is full compensation for all Litter/Recycling Receptacle work described in section 20-5.05 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 50. Bike Rack: The unit price payment for Bike Rack is full compensation for all Bike Rack work described in section 20-5 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 51. Fence (2' Height): The unit price payment for Fence (2' Height) is full compensation for all Fence (2' Height) work described in section 20-5.04 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 52. Concrete Backfill (Pipe Trench): The unit price payment for Concrete Backfill (Pipe Trench) is full compensation for all Concrete Backfill (Pipe Trench) work described in section 61-5 of the technical provisions, in accordance with section 61-5.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 53. 4" Polyvinyl Chloride Pipe: The unit price payment for 4" Polyvinyl Chloride Pipe is full compensation for all 4" Polyvinyl Chloride Pipe work described in section 64-2 of the technical provisions, in accordance with section 64-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 54. 6" Polyvinyl Chloride Pipe (Overflow): The unit price payment for 6" Polyvinyl Chloride Pipe (Overflow) is full compensation for all 6" Polyvinyl Chloride Pipe (Overflow) work described in section 64-2 of the technical provisions, in accordance with section 64-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 55. 12" High Density Polyethylene Pipe: The unit price payment for 12" High Density Polyethylene Pipe is full compensation for all 12" High Density Polyethylene Pipe work described in section 64-2 of the technical provisions, in accordance with section 64-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 56. Type G0 Inlet: The unit price payment for Type G0 (Mod) Inlet is full compensation for all Type G0 (Mod) Inlet work described in section 51-7 of the technical provisions, in accordance with section 51-7.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 57. Type G3 (Mod) Inlet: The unit price payment for Type G3 Inlet is full compensation for all Type G3 Inlet work described in section 51-7 of the technical provisions, in accordance with section 51-7.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 58. Expanded Type G4 Inlet: The unit price payment for Expanded Type G4 Inlet is full compensation for all Expanded Type G4 Inlet work described in section 51-7 of the technical provisions, in accordance with section 51-7.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 59. Storm Drain Manhole: The unit price payment for Storm Drain Manhole is full compensation for all Storm Drain Manhole work described in section 51-7 of the technical provisions, in accordance with section 51-7.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 60. Hydrodynamic Separator: The unit price payment for Hydrodynamic Separator is full compensation for all Hydrodynamic Separator work described in section 62-3 of the technical provisions, in accordance with section 62-3.05, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 61. Storm Drain Water Retention Structure: The lump sum payment for Storm Drain Water Retention Structure is full compensation for all Storm Drain Water Retention Structure work described in section 62-2 of the technical provisions, in accordance with section 62-2.05, and with scope in accordance with section 9-1.03 of the standard specifications. .

Bid Item 62. Concrete Gutter Depression (Integrally Colored): The unit price payment for Concrete Gutter Depression (Integrally Colored) is full compensation for all Concrete Gutter Depression (Integrally Colored) work described in section 73-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 63. 15" Polyvinyl Chloride Pipe (SDR 26): The unit price payment for 15" Polyvinyl Chloride Pipe (SDR 26) is full compensation for all 15" Polyvinyl Chloride Pipe (SDR 26) work described in section 77-1 of the technical provisions, in accordance with section 77-1.06, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 64. Sanitary Sewer Manhole: The unit price payment for Sanitary Sewer Manhole is full compensation for all Sanitary Sewer Manhole work described in section 77-1 of the technical provisions, in accordance with section 77-1.06, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 65. Concrete Curb Ramps (Integrally Colored): The unit price payment for Concrete Curb Ramps (Integrally Colored) is full compensation for all Concrete Curb Ramps (Integrally Colored) work described in section 73-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 66. Driveway Apron: The unit price payment for Driveway Apron is full compensation for all Driveway Apron work described in section 73-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 67. Curb (Type A-Mod, Integrally Colored): The unit price payment for Curb (Type A-Mod, Integrally Colored) is full compensation for all Curb (Type A-Mod, Integrally Colored) work described in section 73-2 of the technical provisions, in accordance with section 73-1.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 68. Curb (Type A1, Integrally Colored): The unit price payment for Curb (Type A1, Integrally Colored) is full compensation for all Curb (Type A1, Integrally Colored) work described in section 73-2 of the technical provisions, in accordance with section 73-1.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 69. Curb (Type B-Mod, Integrally Colored): The unit price payment for Curb (Type B-Mod, Integrally Colored) is full compensation for all Curb (Type B-Mod, Integrally Colored) work described in section 73-2 of the technical provisions, in accordance with section 73-1.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 70. Valley Gutter: The unit price payment for Valley Gutter is full compensation for all Valley Gutter work described in section 73-2 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 71. Concrete Paving (4" Thick): The unit price payment for Concrete Paving (4" Thick) is full compensation for all Concrete Paving (4" Thick) work described in section 73-3 of the technical provisions, in accordance with sections 73-1.04 and 73-3.04, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 72. Concrete Paving (6" Thick): The unit price payment for Concrete Paving (6" Thick) is full compensation for all Concrete Paving (6" Thick) work described in section 73-3 of the technical provisions, in accordance with sections 73-1.04 and 73-3.04, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 73. Concrete Pavement (10" Thick): The unit price payment for Concrete Pavement (10" Thick) is full compensation for all Concrete Pavement (10" Thick) work described in section 40 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 74. 4" Thermoplastic Traffic Stripe: The unit price payment for 4" Thermoplastic Traffic Stripe is full compensation for all 4" Thermoplastic Traffic Stripe work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 75. 6" Thermoplastic Traffic Stripe: The unit price payment for 6" Thermoplastic Traffic Stripe is full compensation for all 6" Thermoplastic Traffic Stripe work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 76. 6" Thermoplastic Traffic Stripe (Broken 8-4): The unit price payment for 6" Thermoplastic Traffic Stripe (Broken 8-4) is full compensation for all 6" Thermoplastic Traffic Stripe (Broken 8-4) work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 77. Paint Pavement Marking (2-Coat): The unit price payment for Paint Pavement Marking (2-Coat) is full compensation for all Paint Pavement Marking (2-Coat) work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 78. Thermoplastic Pavement Marking: The unit price payment for Thermoplastic Pavement Marking is full compensation for all Thermoplastic Pavement Marking work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 79. Bike Lane (Green) Thermoplastic Pavement Marking: The unit price payment for Bike Lane (Green) Thermoplastic Pavement Marking is full compensation for all Bike Lane (Green) Thermoplastic Pavement Marking work described in section 84-2 of the technical provisions, in accordance with section 84-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 80. Paint Curb (2-coat): The unit price payment for Paint Curb (2-coat) is full compensation for all Paint Curb (2-coat) work described in section 78-4 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 81. Pavement Marker (Retroreflective): The unit price payment for Pavement Marker (Retroreflective) is full compensation for all Pavement Marker (Retroreflective) work described in section 81-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.



Bid Item 82. Pavement Marker (Nonreflective): The unit price payment for Pavement Marker (Nonreflective) is full compensation for all Pavement Marker (Nonreflective) work described in section 81-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 83. Object Marker: The unit price payment for Object Marker is full compensation for all Object Marker work described in section 82-5 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 84. Survey Monument: The unit price payment for Survey Monument is full compensation for all Survey Monument work described in section 78-2 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 85. Import Topsoil: The unit price payment for Import Topsoil is full compensation for all Import Topsoil work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 86. Washed Sand at Palms: The unit price payment for Washed Sand at Palms is full compensation for all Washed Sand at Palms work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 87. Bioretention Media: The unit price payment for Bioretention Media is full compensation for all Bioretention Media work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 88. Soil Amendments: The lump sum payment for Soil Amendments is full compensation for all Soil Amendments work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 89. Tree (48" Box): The unit price payment for Tree (48" Box) is full compensation for all Tree (48" Box) work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 90. Palm Tree 25' Tall: The unit price payment for Palm Tree 25' Tall is full compensation for all Palm Tree 25' Tall work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 91. 1 Gallon Plant: The unit price payment for 1 Gallon Plant is full compensation for all 1 Gallon Plant work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 92. 5 Gallon Plant: The unit price payment for 5 Gallon Plant is full compensation for all 5 Gallon Plant work described in section 20-3 of the technical provisions, in accordance with section 20-3.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 93. Decomposed Granite Mulch, 3": The unit price payment for Decomposed Granite Mulch, 3" is full compensation for all Decomposed Granite Mulch, 3" work described in section 20-5 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 94. Compost Mulch, 3": The unit price payment for Compost Mulch, 3" is full compensation for all Compost Mulch, 3" work described in section 20-5 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 95. Plant Establishment Work (365 Days): The lump sum payment for Plant Establishment Work (365 Days) is full compensation for all Plant Establishment Work (365 Days) work described in section 20-4 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 96. Landscape Irrigation System: The lump sum payment for Landscape Irrigation System is full compensation for all Landscape Irrigation System work described in section 20-2 of the technical provisions, in accordance with section 20-2.01D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 97. Check and Test Existing Irrigation: The lump sum payment for Check and Test Existing Irrigation is full compensation for all Check and Test Existing Irrigation work described in section 20-10 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 98. Central Control Controller: The unit price payment for Central Control Controller is full compensation for all Central Control Controller work described in section 20-2 of the technical provisions, in accordance with section 20-2.06D, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 99. Remove Ornamental Streetlight: The unit price payment for Remove Ornamental Streetlight is full compensation for all Remove Ornamental Streetlight work described in section 87-21 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 100. Pedestrian Lighting: The lump sum payment for Pedestrian Lighting is full compensation for all Pedestrian Lighting work described in section 20-6 of the technical provisions, in accordance with section 20-6.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 101. LED Tree-Mounted Palm Accent Light Assembly: The unit price payment for LED Tree-Mounted Palm Accent Light Assembly is full compensation for all LED Tree-Mounted Palm Accent Light Assembly work described in section 20-6 of the technical provisions, in accordance with section 20-6.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 102. Modify Signal and Lighting (Location 1: Del Monte/Broadway): The lump sum payment for Modify Signal and Lighting (Location 1: Del Monte/Broadway) is full compensation for all Modify Signal and Lighting (Location 1: Del Monte/Broadway) work described in section 87-21 of the technical provisions, in accordance with section 87-21.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 103. Signal and Lighting (Location 2: Broadway/Alhambra): The lump sum payment for Signal and Lighting (Location 2: Broadway/Alhambra) is full compensation for all Signal and Lighting (Location 2: Broadway/Alhambra) work described in section 87-4 of the technical provisions, in accordance with section 87-2.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 104. Modify Signal and Lighting (Location 3: Broadway/Fremont): The lump sum payment for Modify Signal and Lighting (Location 3: Broadway/Fremont) is full compensation for all Modify Signal and Lighting (Location 3: Broadway/Fremont) work described in section 87-21 of the technical provisions, in accordance with section 87-21.04, and with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 105. Modify Signal and Lighting (Broadway Avenue Signal Interconnect Plan): The lump sum payment for Modify Signal and Lighting (Broadway Avenue Signal Interconnect Plan) is full compensation for all Modify Signal and Lighting (Broadway Avenue Signal Interconnect Plan) work described in section 87-21 of the technical provisions, in accordance with section 87-21.04, with scope in accordance with section 9-1.03 of the standard specifications.

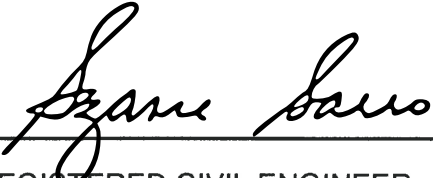
Bid Item 106. Temporary Signal System: The lump sum payment for Temporary Signal System is full compensation for all Temporary Signal System work described in section 12-3 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

Bid Item 107. Engineer's Field Office: The lump sum payment for Engineer's Field Office is full compensation for all Engineer's Field Office work described in section 10-2 of the technical provisions, with scope in accordance with section 9-1.03 of the standard specifications.

**SPECIAL PROVISIONS VOLUME II – TECHNICAL SPECIFICATIONS**

The West Broadway Urban Village Infrastructure Improvements Project special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

**ROADWAY**



REGISTERED CIVIL ENGINEER



**ELECTRICAL**



REGISTERED CIVIL ENGINEER



**LANDSCAPE**



LICENSED LANDSCAPE ARCHITECT



## STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

### ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND

A3A	Abbreviations (Sheet 1 of 3)
A3B	Abbreviations (Sheet 2 of 3)
A3C	Abbreviations (Sheet 3 of 3)
A10A	Legend - Lines and Symbols (Sheet 1 of 5)
A10B	Legend - Lines and Symbols (Sheet 2 of 5)
A10C	Legend - Lines and Symbols (Sheet 3 of 5)
A10D	Legend - Lines and Symbols (Sheet 4 of 5)
A10E	Legend - Lines and Symbols (Sheet 5 of 5)

### PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS

A20A	Pavement Markers and Traffic Lines - Typical Details
A20B	Pavement Markers and Traffic Lines - Typical Details
A20C	Pavement Markers and Traffic Lines - Typical Details
A20D	Pavement Markers and Traffic Lines - Typical Details
A24A	Pavement Markings - Arrows
A24B	Pavement Markings - Arrows and Symbols
A24C	Pavement Markings - Symbols and Numerals
A24D	Pavement Markings - Words
A24E	Pavement Markings - Words, Limit and Yield Lines
A24F	Pavement Markings - Crosswalks

### OBJECT MARKERS, DELINEATORS, CHANNELIZERS, AND BARRICADES

A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades

### SURVEY MONUMENTS

A74	Survey Monuments
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### FENCES

RSP A85	Chain Link Fence
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### CURBS, DRIVEWAYS, DIKES, CURB RAMPS, AND ACCESSIBLE PARKING

A87A	Curbs and Driveways
RSP A88A	Curb Ramp Details
A90A	Accessible Parking Off-Street
A90B	Accessible Parking On-Street

### DRAINAGE INLETS, PIPE INLETS AND GRATES

D71	Drainage Inlet Markers
RSP D72B	CIP Drainage Inlets - Types G1, G2, G3, G4, G5 and G6
RSP D72C	CIP Drainage Inlets - Types G1, G2, G3, G4, G5 and G6
RSP D72E	CIP Drainage Inlets - Types GO and GDO
RSP D72F	CIP Drainage Inlets Notes
RSP D72G	CIP Drainage Inlets Tables
RSP D73B	Precast Drainage Inlets - Types G1, G2, G3, G4, G5 and G6
RSP D73C	Precast Drainage Inlets - Types G2 and G4

RSP D73E	Precast Drainage Inlets - Types GO and GDO
RSP D73F	Precast Drainage Inlets Notes
RSP D73G	Precast Drainage Inlets Tables
RSP D74	Drainage Inlet Details
D75C	Pipe Inlets - Ladder and Trash Rack Details
D77A	Grate Details No. 1
D77B	Grate Details No. 2
<b>GUTTER AND INLET DEPRESSIONS</b>	
D78A	Gutter Depressions
<b>TEMPORARY CRASH CUSHIONS, RAILING AND TRAFFIC SCREEN</b>	
T1A	Temporary Crash Cushion, Sand Filled (Unidirectional)
T1B	Temporary Crash Cushion, Sand Filled (Bidirectional)
T2	Temporary Crash Cushion, Sand Filled (Shoulder Installations)
T3A	Temporary Railing (Type K)
T3B	Temporary Railing (Type K)
<b>TEMPORARY TRAFFIC CONTROL SYSTEMS</b>	
T13	Traffic Control System for Lane Closure on Two Lane Conventional Highways
T17	Traffic Control System for Moving Lane Closure on Two Lane Highways
<b>ROADSIDE SIGNS</b>	
RS1	Roadside Signs - Typical Installation Details No. 1
RS2	Roadside Signs - Wood Post - Typical Installation Details No. 2
RS4	Roadside Signs - Typical Installation Details No. 4
<b>ELECTRICAL SYSTEMS - LEGEND AND ABBREVIATIONS</b>	
ES-1A	Electrical Systems (Legend)
ES-1B	Electrical Systems (Legend)
RSP ES-1C	Electrical Systems (Legend)
<b>ELECTRICAL SYSTEMS - SERVICE EQUIPMENT AND WIRING DIAGRAMS</b>	
ES-2D	Electrical Systems (Service Equipment Enclosure and Typical Wiring Diagram, Type III - A Series)
ES-2F	Electrical Systems (Service Equipment Enclosure and Typical Wiring Diagram, Type III - C Series)
<b>ELECTRICAL SYSTEMS - CONTROLLER CABINETS</b>	
RSP ES-3C	Electrical Systems (Controller Cabinet Foundation and Pad Details)
<b>ELECTRICAL SYSTEMS - BBS POWER CONNECTION DIAGRAMS</b>	
RSP ES-3L	Electrical Systems (BBS Power Connection Diagram, without Bypass Control Line)
<b>ELECTRICAL SYSTEMS - SIGNAL HEADS, SIGNAL FACES AND MOUNTINGS</b>	
ES-4A	Electrical Systems (Signal Heads and Mountings)
ES-4B	Electrical Systems (Pedestrian Signal Heads)
ES-4C	Electrical Systems (Signal Heads and Mountings)
ES-4D	Electrical Systems (Signal Head Mounting)
ES-4E	Electrical Systems (Signal Heads and Optical Detector Mounting)
<b>ELECTRICAL SYSTEMS - DETECTORS</b>	
RSP ES-5A	Electrical Systems (Loop Detectors)
RSP ES-5B	Electrical Systems (Detectors)
ES-5C	Electrical Systems (Accessible Pedestrian Signal and Push Button Assemblies)
ES-5D	Electrical Systems (Curb and Shoulder Termination, Trench, and Handhole Details)

	<b>ELECTRICAL SYSTEMS - SIGNAL AND LIGHTING STANDARDS</b>
<b>RSP ES-7B</b>	<b>Electrical Systems (Signal and Lighting Standard, Type 1 and Equipment Identification Characters)</b>
<b>RSP ES-7F</b>	<b>Electrical Systems (Signal and Lighting Standard, Case 4 Signal Mast Arm Loading, Wind Velocity = 100 mph and Signal Mast Arm Lengths 25' to 45')</b>
	<b>ELECTRICAL SYSTEMS - SIGNAL AND LIGHTING STANDARD DETAILS</b>
<b>RSP ES-7N</b>	<b>Electrical Systems (Signal and Lighting Standard - Detail No. 2)</b>
<b>ES-7O</b>	<b>Electrical Systems (Signal and Lighting Standard - Detail No. 3)</b>
	<b>ELECTRICAL SYSTEMS - INTERNALLY ILLUMINATED STREET NAME SIGN</b>
<b>ES-7P</b>	<b>Electrical Systems (Internally Illuminated Street Name Sign)</b>
	<b>ELECTRICAL SYSTEMS - PULL BOX</b>
<b>RSP ES-8A</b>	<b>Electrical Systems (Non-Traffic Pull Box)</b>
	<b>ELECTRICAL SYSTEMS - ISOFOOTCANDLE CURVES AND FOUNDATION DETAILS</b>
<b>RSP ES-11</b>	<b>Electrical Systems (Foundation Installations)</b>
	<b>ELECTRICAL SYSTEMS - SPLICING, FUSE RATING, KINKING AND BANDING DETAILS</b>
<b>RSP ES-13A</b>	<b>Electrical Systems (Splicing Details)</b>
<b>RSP ES-13B</b>	<b>Electrical Systems (Fuse Rating, Kinking, and Banding Detail)</b>





Prior to purchasing any furnishings or equipment, submit catalog cuts and specifications for such items to the Engineer for approval. Furnish equipment of standard quality and new, or like-new in appearance and function.

Provide security locks and two sets of keys to the Engineer at the time of acceptance for occupancy.

Hot and cold drinking water, hand washing and private toilet facilities must be provided within the office, or at the Engineer's option, conveniently accessible to the office. The sanitary facilities provided shall comply with State and local governing authorities.

Maintain the office and related facilities throughout the construction period and until 30 days after all the work is accepted. Furniture and office equipment that you purchase becomes your property at the end of the contract.

#### **10-2.01B Field Office**

The Field Office must have a minimum of 600 square feet of usable space with the following features:

1. Open floor Plan
2. Lockable windows
3. Electric heater with central air-conditioning unit capable of automatically maintaining an office temperature of 70°F within a range of outside shade temperatures between 25°F and 90°F.
4. Ceiling lights to provide 100 footcandles at desk height and six 110 volts AC duplex receptacles
5. Exterior lighting over entrance doors
6. Entrance doors with cylinder locks and two sets of keys
7. Access to restrooms with flushing water
8. Smoke detector
9. Fire extinguisher
10. First aid kit

#### **10-2.01C Furnishings**

Provide:

1. Two 30" x 60" office desks with 6 drawers (2 with locks)
2. Two padded, upholstered swivel chairs.
3. One folding table (48" x 96")
4. Three bookcases with adjustable shelves (36"H x 40"W x 16"D)
5. One two-drawer file cabinet
6. One erasable white board (36" x 48"), complete with erasers and markers.
7. Eight stackable chairs
8. One bottled water dispenser (5-gallon size) that provides hot and cold water, drinking cups and up to 5 gallons of bottled water per week.
9. One 10 gallon trash can and one wastebaskets
10. One refrigerator (1 cubic foot freezer, 4 cubic feet refrigerator space)

#### **10-2.01D Equipment**

Provide the following equipment:

1. One network digital color copier/printer/scanner meeting the following requirements:
  - a. Print speed – 30 pages per minute
  - b. Capable of printing and scanning letter size (8½" x 11") and ledger size (11"x17") documents
  - c. Automatic feed, two-sided printing, and collation capable
2. Broadband internet connection with minimum 20 mbps download bandwidth and wifi
  - a. Router
  - b. APC back-up



**Add to section 12-4.02A(1):**

Provide traffic control traffic for project staking operations performed by others. Staking operations are described in section 4.13 of volume 1 of these special provisions.

**Add to section 12-4.02A(1):**

The City does not use LCS. References to LCS do not apply.

**Replace the table in the definition of *designated holidays* in section 12-4.02A(2) with:**

**Designated Holidays**

Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Dr. Martin Luther King's Birthday	3rd Monday in January
Cesar Chavez Day (Observed)	March 31st
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Day Following Thanksgiving Day	Day after Thanksgiving Day
Day before and Christmas Day	December 2th and 25th

When a designated holiday falls on a Sunday, the following Monday shall be a designated holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated holiday.

**Add to the end of section 12-4.02C(1):**

Keep the full width of the traveled way open to traffic when no active construction activities are occurring in the traveled way or within 6 feet of the traveled way.

Limit construction activity to between 7:00 AM and 5:00 PM Monday through Friday, except additional construction activity to restore business entrances will be allowed for limited time periods as shown on the plans.

Work outside the designated hours must be authorized by the Engineer. Additional hours of construction may be allowed for limited time periods to minimize traffic impacts.

**Add to the end of section 12-4.02C(3)(a):**

If work vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane on Broadway, Del Monte, Fremont, or on cross-streets, close the shoulder area with fluorescent-orange traffic cones or portable delineators. Place the cones or delineators on a taper in advance of the parked vehicles or equipment and along the edge of the traveled way at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. Use at least 9 cones or delineators for the taper. Place advance warning signs as specified in section 12-4.02C(8).

For daytime construction stages on West Broadway, when authorized and when active construction operations require, traffic may be limited to one 12-ft-wide lane. Detour opposing traffic or provide flagging for one-way travel. Constraint of traffic to one-way, one-lane travel will not be allowed between 7 AM and 9 AM, nor between 3 PM and 5 PM.

Nighttime closures for Stage 7 construction, when authorized, will occur between 9 PM and 6 AM.

On Del Monte and Fremont Boulevards and Canyon Del Rey Road, keep a minimum of 2 paved traffic lanes at least 11 feet wide open to traffic except as authorized during night closures.

On Contra Costa, Hillsdale, Alhambra, and Calaveras Streets north and south of Broadway Avenue, keep two paved traffic lanes at least 11 feet wide open for traffic except during active construction operations when a one-way, one-lane travel may be authorized between the hours of 9 AM and 3 PM.







**Add to section 20-1.03C(4):**

Plant materials removed during construction must be contained and treated as trash and disposed of in a certified landfill.

**Delete the second paragraph of section 20-1.04.**

**Add to section 20-2.01A(3):**

**20-2.01A(3)(c) Record Drawings**

Clearly mark irrigation facilities on project record drawings.

Maintain in good order in the field one complete set of black line prints of project irrigation plans, showing all water lines, valves, controllers and stub-outs. In the event any work is not installed as indicated on the plans, such work shall be corrected and dimensioned accurately from the building walls.

Underground stub-outs for future connections and valves must be located and dimensioned accurately from building walls on record drawings.

**20-2.01A(3)(d) Schedule of Values**

Submit a schedule of values within 15 days after Contract approval.

Determine the quantities required to complete the work. Submit the quantities as part of the schedule of values.

Provide a schedule of values for each lump sum bid item.

Do not include costs for the traffic control system in the schedule of values.

**Replace first item in third paragraph list in section 20-2.01B(7) with:**

1. Concrete

**Add to section 20-2.01C(1):**

Connect new controller to power from new service location C shown on sheet SL-2.

**Replace section 20-2.01C(2) with:**

Perform trenching and backfilling under section 87.

Make a minimum 2-inch-deep saw cut along neat lines around the perimeter of the pavement to be removed at locations determined by the Engineer.

The trench must have uniform bearing throughout the entire length and must be free of jagged rubble or sharp objects. Ensure conduit, supply line, and joints are not moved or damaged by backfill activity.

For a project with multiple water service points, excavate and backfill the trenches 1 service point at a time.

Rocks and debris encountered during trenching activity must be brought to the ground surface. The removal of rocks and debris is change order work.

Where existing surfacing is removed, replace the structural section to match the materials removed. Replacement concrete must be of uniform smoothness, color, and texture equal to the adjacent concrete surface. Install supply line and conduit at the bottom of trenches and backfill with sand to a depth of 2 inches over the top of the supply lines and conduits. Except for the part of the trench backfilled with surfacing or pavement, the remainder of the trench must be backfilled with material that is excavated from the trench. Rock, broken concrete, asphalt concrete and other particles larger than 2 inches in greatest dimension must not be used.

**Add to section 20-2.01C(4):**

Replace existing irrigation valve boxes and covers to remain within project area with valve boxes and covers that comply with section 20-2.01B(7).

**Replace section 20-2.01D with:**

Except for central control controller, payment for an operating irrigation system as shown is included in payment for landscape irrigation system.

Payment for the items shown in the irrigation component assemblies is included in the payment for landscape irrigation system.

**Replace section 20-2.06B(2) with:**

Central control controller must be JDL Greentech Division controller assembly with Rain Master Evolution DX2 controller with radio communication.

Radio communication must be Rainmaster controller radio communication model: EV-RAD-BV with antenna cable, EV-SER-925

**Replace section 20-2.06B(3) with:**

Controller enclosure must be Rainbird model no. DX42-SPED with flow sensor DX-Flow.

**Replace section 20-2.06B(4) with:**

Wireless rain sensor must be Irritrol RS1000.

**Delete item 2.1 from the list in section**

**Replace “reserved” in section 20-2.07A(2) with:**

**PVC Irrigation sleeve, sleeve:** irrigation conduit

**Add to section 20-2.07C(1):**

Install pull boxes at capped ends of unused conduit.

**Add to section 20-2.08A(4):**

Conduct a water analysis prior to the installation of any drip equipment. The water analysis conducted shall include total dissolved solids (TDS), hardness, iron and sulfides. If the analysis shows levels unacceptable to the manufacturer's recommendations, notify the Engineer in writing. In the event this notification is not performed, you assume full liability for any revisions necessary.

**Replace section 20-2.08B(4) with:**

The subsurface dripline shall be polyethylene and have an in-line, pre-installed drip emitter every eighteen (18") inches. Each emitter shall be individually pressure compensating, self-flushing and have a minimum discharge rate of 0.92 gallons per hour and a maximum discharge rate of 1.0 gallons per hour.

The flush valve shall be a hydraulic type, normally open valve allowing for automatic flushing at the beginning of each irrigation cycle.

The air release valve shall automatically release air from lines in which water flows under pressure.

**Add to section 20-2.08B(5):**

Non-pressure laterals must be class 200.

Pressure laterals larger than 2" in diameter must be class 315.

All other pressure laterals must be schedule 40.

**Replace section 20-2.08C(3) with:**

Trenches for the subsurface dripline shall run parallel to contours, spaced eighteen (18") inches apart, and be a minimum of four (4") inches in depth. On slopes it may be necessary to adjust the spacing between the trenches. The distance between the trenches shall be increased from eighteen (18") inches towards the bottom of slopes and decreased from eighteen (18") inches towards the top of the slope.



When backfilling subsurface dripline, only use clean backfill free of rocks, the soil must not be wet or muddy. Subsurface dripline to be pressurized and inspected for leaks before backfilling.

The filter shall be installed per the Irrigation Details and manufacturer's instructions.

The flush valve shall be installed per the Irrigation Details and manufacturer's instructions.

The air release valve shall be installed at high points on the line per the direction and authorization of the Engineer. Install the air release valve per the manufacturer's instructions and inside a valve box.

Flush the PVC sub-mains and subsurface dripline clean of dirt, rocks, etc. prior to the installation of automatic flush valves and automatic air release valves.

Test the drip system while Engineer observes. Do not begin backfilling operations without Engineer's authorization. Should any work be covered up before such observation and tests are completed, you must, at your own expense, uncover the work; and after system has been observed, tested, and accepted, you must make all repairs with such materials as required to restore all work disturbed to original and proper condition.

**Replace section 20-2.08D with:**

Not used.

**Add to section 20-2.09B:**

**20-2.09B(5) Tree Well Deep Water Bubbler Assemblies**

Each tree well deep water bubbler assembly must include a body, riser, bubbler nozzle, swing joint, perforated drainpipe, and drain grate.

Bubbler quantity and distribution amount must be as shown on plans.

The perforated drainpipe must be commercial-grade, rigid PVC pipe, 36 inch length minimum, with holes spaced not more than 4 inches on center on 2 sides of the pipe.

The drain grate must be a commercially-available, 1-piece, injection-molded grate manufactured from structural foam polyolefins with UV light inhibitors. Drain grate must be black and vandal resistant.

Gravel for filling the drainpipe must be graded such that 100 percent passes the 3/4-inch sieve and 100 percent is retained on the 1/2-inch sieve. Gravel must be clean, washed, dry, and free from clay or organic material.

**Add to section 20-2.09C:**

Install deep water bubbler assembly just outside backfilled planting pit.

**Replace item 2 in the list in section 20-2.10B(10)(a) with:**

1. Be bronze or brass.

**Add to the list in section 20-2.10B(10)(a):**

12. Include pressure regulating module capable of regulating up to 100 psi.

**Add to section 20-2.10B(10)(a):**

Remote control valve assemblies must include:

1. Remove control valve with pressure regulator

2. Ball valve complying with section 20-2.10B(2)
3. Schedule 80 PVC pipes and fittings

**Replace section 20-2.10C(2) with:**

Install control valves 2 feet from curbs and or tree wells.

Valve box must be in paved area.

Include valve box locations on concrete paving shop drawings required by section 73-1.01.

**Add to section 20-3.01A(3):**

Determine the quantities required to complete the work.

Provide a schedule of values for each lump sum bid item.

Do not include costs for the traffic control system in the schedule of values.

**Add to section 20-3.01A(3)(c):**

Provide (3) three copies of certificates of compliance for pre-selection list of plant material indicating quantities, botanical names, size as specified herein and source location.

Provide certificates of inspection as required by law and herein. Inspection by governmental agencies or others does not preclude rejection of plant material at project site by the City.

Submit for acceptance documentation of qualifications for plant nurseries, installers and specialized experts in arboriculture and plant pathology. Documentation must include name, address, registration number, resume, list of comparable projects and references.

**Add to section 20-3.01A(3):**

**20-3.01A(3)(d) Bioretention Media**

Submit to the Engineer for approval:

1. A 1-quart sample of bioretention mix.
2. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil Mix meets the requirements of this specification.
3. Grain size analysis results of the fine sand component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
4. Quality analysis results for compost performed in accordance with Seal of Testing Assurance (STA) standards.
5. Organic content test results of Bioretention Soil Mix. Organic content test shall be performed in accordance with Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
6. Grain size analysis results of compost component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
7. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil Mix.
8. Provide the following information about the testing laboratory(ies) name of laboratory(ies) including:
  - a. Contact person(s)
  - b. Address(es)
  - c. Phone contact(s)
  - d. E-mail address(es)
  - e. Qualifications of laboratory(ies) and personnel, including date of current certification by STA, ASTM, or approved equal.

**20-3.01A(3)(e) Miscellaneous Planting Materials**

Submit for acceptance one pound washed sand.

Submit for acceptance the following product information:

1. Digital photographs or hard copy 4 x 6 color photographs for each variety of plant material to be reviewed and accepted by the Engineer. Label each photograph with the following information: date, genus, species and variety of plant material, container size, height and spread, nursery name and location with phone number.
2. Tree stakes and ties.

**Replace section 20-3.01A(4) with:**

**20-3.01A(4) Quality Assurance**

**20-3.01A(4)(a) General**

Plants must comply with federal and State laws requiring inspection for diseases and infestations. Inspection certificates required by law must accompany each shipment of plants.

The Engineer inspects the roots of container-grown sample plants by removing earth from the root ball of not less than 2 plants, nor more than 2 percent of the total number of plants of each species or variety. If container-grown plants are purchased from several sources, the Engineer inspects the roots of not less than 2 of each sample plant species or variety from each source. The root ball of container grown plants must not show evidence of having been restricted, or being under-developed or deformed.

If the Engineer finds noncompliant plants, the entire lot represented by the noncompliant sample plants is rejected.

Cuttings with mature or brown stems and cuttings that have been trimmed will be rejected.

You are responsible for soil testing and reporting of lab results. Submit a copy of the soil specifications to the lab with the samples for review.

Forward a 1-quart sample (minimum) of proposed import topsoil to certified, independent testing laboratory in sealed container to prevent contamination.

You are responsible for the lab analysis of sample to ascertain percentages of nitrogen, phosphorus, potash, soluble salt and organic matter, pH value, texture and deleterious substances or conditions that would affect the ongoing health of the plant material. Test results must be accompanied by recommendations for corrective measures for each sample.

Notify the Engineer when soil corrective measures, if any, have been taken, and when on-site subsoil is ready for topsoil placement. After topsoil placement, the Engineer may randomly collect soil samples to be tested by an independent soil-testing laboratory, to ascertain that the soil conforms to specifications as specified herein.

**20-3.01A(4)(b) Testing Laboratory**

Testing laboratory must be a recognized local laboratory for plant disease analysis of ornamental horticulture accepted by the City. Testing laboratory to perform all work in accordance with the current methods of the Association of Official Agricultural Chemists.

Testing Laboratory must be a recognized local laboratory for evaluation of soils.

Provide periodic scheduled inspections as noted herein. Inspections are to be performed by the same individual throughout the selection process specializing in the particular species of plant material as accepted by the City. Boxed plant material must be certified by a California state licensed arborist, familiar with the site conditions and tree species. Inspection costs are your responsibility.

All trees to be selected and supplied by a nursery that guarantees procurement and timely delivery of healthy, uniformly sized trees.

**20-3.01A(4)(c) Palm Tree Selection, Inspection and Certification:**

1. Palm Specialist: Palm trees must be pre-selected by the Engineer and inspected by a Palm Specialist, an individual recognized by the nursery industry as specializing in palm trees.
2. Palm trees must be inspected and accepted by a recognized palm specialist.
3. Palms must be supplied by a nursery that guarantees procurement and timely delivery of healthy, uniformly sized palms.
4. Palm trees shall be subject to the specifications set forth, regardless of the time of planting.

It is required that the work specified herein be observed by the Engineer. Request observance at least 24 hours in advance of the time such observance is required. Observance is required on the following portions of the work:

1. During preliminary grading and soil preparation.
2. When trees, palms and plant locations have been staked and/or identified for planting, before planting holes are excavated.
3. When finish grading has been completed, tree and palm planting holes have been excavated and before installation of plants.
4. When planting and other work has been completed.

**20-3.01A(4)(d) Qualifications**

Palm supplier must be a company specializing in growing, cultivating and harvesting large-sized palm trees.

Nursery must be a company specializing in growing and cultivating the plants specified in this Section with minimum five years' documented experience.

Installer must be a company specializing in installing and planting the plants specified in this Section with minimum eight years documented experience in performing landscape work of comparable size, scope, quality and dollar value, involving specimen trees. Company must demonstrate a record of successful landscape installation. Provide at least one person who must be present at all times during execution of this portion of the work, who is thoroughly familiar with the type of materials being installed and the proper materials and methods for their installation. This individual must direct all work performed under this Section. This individual shall have a minimum of five years' experience with work of equal or greater type and scale of project.

**20-3.01A(4)(e) Field Sample, Palm Pruning**

A palm will be selected by the Engineer prior to start of any pruning work (as required). The selected tree shall be used to demonstrate the type, extent and quality of pruning operations, which may be considered typical, in consideration of the species, age, condition and future growth of the individual trees to be pruned. Sample palm will be used as a standard for pruning work.

**Add to 20-3.01A:**

**20-3.01A(5) Warranties**

**20-3.01A(5)(a) General**

Be familiar with the anticipated growing conditions prior to commencement of work. Notify the City immediately in writing of any conditions, which will prevent the proper execution of the warranty responsibilities specified. Failure to notify the City constitutes acceptance of the growing conditions. Any removal, repair or replacement of plant material required for unsuitable conditions found after work has begun shall be done at no additional cost to the City.

Any delay in completion of planting operations which extends the planting into more than one planting season shall extend the Warranty Period correspondingly.

You will not be held responsible for failure due to neglect by City, vandalism, etc., during Warranty Period. Report such conditions to the Engineer in writing.

**20-3.01A(5)(b) One Year Warranty Period**

Warrant that all plant material other than palms under this Contract will be vigorous, healthy, free of dead or dying branches and branch tips, bearing foliage of normal density and color, and will otherwise comply with the contract requirements, for a period of one year from date of final acceptance. Replacements shall be provided within 30 days of Notification of Rejection. Any delay in the completion of planting operations, which extends the planting into more than one growing season, shall extend the warranty period correspondingly.

**20-3.01A(5)(c) Two Year Warranty Period (Palm Trees)**

In a manner similar to the one-year warranty, warrant palm plantings for a period of two years.

**Add to section 20-3.01B(2)(a):**

Plants must be as specified in the plant list shown, and shall be healthy, vigorous stock, free of insects and disease. Use only plants materials that are first class representations of the species and cultivars specified and that conform to all state and local laws governing the sale, transportation, and inspection of plant materials. Only healthy and shapely plants of the size and type indicated and only plants with a normal plant and root structure will be acceptable.

All plants shall be nursery grown in accordance with good horticultural practices, and shall be grown under climatic conditions similar to those in the locality of the project for at least one year unless otherwise authorized by the Engineer.

Suggested sources for plant material are:

1. Palms:
  - a. Valley Crest Tree Company, Filmore, CA, (805) 524-3939
  - b. The Landscape Center, Riverside, CA, (951) 352-8383
  - c. W.D. Young and Sons, Indio, CA, (760) 347-7906
  - d. International Palm Growers, Calexico, CA, (760) 722-7075
  - e. T.C. Palm Nursery, Inc.;
  - f. The Palm Tree Company;
  - g. Or Approved Equal
  
2. Trees:
  - a. Valley Crest Tree Company, Sunol, CA, (925) 802-2485;
  - b. Boething Tree Land, Portola, CA, (650) 851-4770;
  - c. Pacific Nursery, Colma, CA, (650) 755-2330;
  - d. Norman's Nursery, San Gabriel, CA, (626) 285-9795;
  - e. Baron Brothers, Camarillo CA, (805) 484-0085;
  - f. Or Approved Equal

You are responsible for supplying plant material that has been properly acclimated and conditioned, in accordance with good horticultural practices, for the exposure, wind and humidity levels, soil conditions, etc. encountered at the project site and in the proposed plant locations.

Plants must be superior in form, compactness and symmetry; sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of pests and insects, insect eggs or larvae, diseases, sunscald injuries, abrasions or disfigurements, and free from physical damage of adverse conditions that would prevent thinning growth. They shall have healthy, well-developed root systems to outside of each box without being rootbound in their containers.

Tree canopies must be such that each tree has a single straight trunk that has not been headed with a well-developed central leader, upright and of columnar character. All trunks are to be straight and of

uniform taper, larger at the bottom unless otherwise specified. Plants with damaged or crooked leaders or multiple leaders will be rejected.

Canopy density must be such that tree will be able to develop a scaffold of uniformly spaced lateral branches with good wind resistance.

Tree branches must be at least 6 inches apart vertically, radially distributed around the trunk and not be more than two-thirds the diameter of the trunk, measured at one inch above the branch. Branch attachments shall be free of included bark (bark embedded between the trunk and the lateral). No lateral branches below the lowest potential scaffold shall be larger than one-fourth the trunk diameter at point of attachment.

Plants sizes must conform to the dimensions specified.

1. Measure plants when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not branch tip to tip. Take caliper measurements at a point on the trunk 6 inches above natural ground line for trees up to 4 inches in caliper and at a point 12 inches above the natural ground line for trees over 4 inches in caliper.
2. If a range of size is given, no plant shall be less than the minimum size and not less than 40% of the plants shall be as large as the maximum size specified.
3. The measurements specified are the measurements after pruning, where pruning is required. Plants that meet the measurements specified, but do not possess a normal balance between height, spread and caliper, shall be rejected.
4. Plants larger than specified may be used if authorized by the City and if provided at no additional cost to the City. If larger plants are authorized, the root ball shall be increased in proportion to the size of the plant; irrigation system shall also be adjusted as required to accommodate larger plants.

All plant material shall be pre-selected and identified by tagging as specified herein prior to delivery to the site. Any plants not so identified will be subject to rejection by the Engineer. Replace all plant materials, determined by the Engineer within one year following the final acceptance of the project, to be untrue to the species, clone, and/or variety specified, to the equal condition of adjacent plants at the time of replacement, at no additional cost to the City.

Do not prune plants before delivery. All trunks are to be straight and of uniform taper, larger at the bottom unless otherwise specified. Plants with damaged or crooked leaders, or multiple leaders, unless specified, will be rejected. Plants with abrasions of the bark, sunscalds, disfiguring knots, or fresh cuts of limbs over 3/4 inch, which have not completely calloused, will be rejected. Any plant unable to stand upright without support will be rejected.

Root ball conditions:

1. Do not supply any bare root or ball and burlapped stock unless authorized by the City.
2. Sizes: As specified on the plans. Where no root ball dimensions have been specified, supply material in container sizes specified.
3. Material: Root ball shall consist of a soil or soil mix that is compatible with the soil or soil mix into which the plant will be planted, and that provides for thorough drainage, aeration, and adequate moisture and nutrient retention. The root ball must be firm and well-rooted. It shall have sufficient density and firmness that when planted, the plant will stand upright and stable without the need for additional support.
4. Containers: All plant material shall have been grown in the containers in which delivered for at least six months, but not over two years. Containers for trees shall be constructed to the specified dimensions in such a manner that the resultant root ball will approximate the slopes into which the individual tree(s) is to be planted.
5. Root Pruning: Where root pruning is required to provide material of the specified size or for planting in the confined planters, the pruning is to be done under the direction of a Certified Arborist. No root pruning is to be done within one year of installation unless authorized by the City.
6. The trees shall be free of roots greater than one-fifth the trunk diameter visibly circling the trunk and free of "knees" (roots) protruding the soil.

Plant material that has been reviewed and selected at place of growth by the Engineer does not constitute waiver of the requirements of this Section, nor does it waive your warranty responsibilities. The Contractor does not have the option to substitute for selected material unless selected material is rejected by the Engineer during the course of the work.

Do all work necessary to bring and maintain material in conformance with the requirements of this Section.

Confirm availability of all plant materials within 60 days after award of Contract.

**Replace section 20-3.01B(2)(b) with:**

**20-3.01B(2)(b) Ordering, Review and Acceptance of Plant Material**

You are responsible for locating all plant material and coordinating all required inspections/observations in accordance with plans and specified herein. You are responsible for expenses associated with travel to locations for the Engineer and the Landscape Architect. Your bid price must include payment for consulting services required by this Contract for required plant inspections. These items are to be executed at no additional cost to the City.

1. Within 60 days after award of Contract, submit written certification to the City of the quantity and species of plant material ordered, and the nurseries supplying the material.
2. Provide all plant material in the quantities and sizes specified on the plans. If any material specified will be unavailable at the time of planting, submit written notice to the City.

Plant materials will be reviewed for conformance to the design intent of the Contract Documents by the Engineer and the Landscape Architect. Submit a written request for review of plant material at least 10 days prior to commencement of planting operations. Review by the City does not waive the City's right of rejection after delivery to the site, during planting or any time thereafter.

**Nursery Inspections:**

1. All trees over 24" box size and all palms shall be tagged at the place of growth by the Engineer and the Landscape Architect. All such material shall be governed by the requirements set forth herein and such pre-selection does not constitute waiver of these requirements.
2. Inspect and accept preselected/reserved material.
3. Each tree shall be individually identified with waterproof identification tags bearing the project name and buyer.

The City reserves the right to review and reject plant materials at any time and at the place of growth for non-conformance to the plans and Specifications. Do not install plant material which has not been reviewed at the on-site by the Engineer.

**Add to section 20-3.01B(2):**

**20-3.01B(2)(d) Palms**

Palm trees must be inspected and accepted by the Engineer at time of pre-selection/reservation prior to moving.

Palms not inspected and accepted by the Engineer shall be immediately removed from the project site at no cost to the City.

Palm trees shall be identified by a unique number tagged on the trunk for reference on the acceptance report by the Engineer.

Specified height of palm trees is brown trunk feet, as measured from the ground line to the base of the heart leaf.

*Phoenix dactylifera* 'Medjool' – shall:

1. Be matched to a minimum height of 25-foot brown trunk height (BTH) and shall be matched in height. Brown trunk heights should not vary more than one foot.
2. Have a minimum root ball equal to width of trunk size plus 6 inches all around beyond truck dimension as well as minimum 4 feet deep. You must know conditions at planting pits and coordinate root ball size accordingly.

Overall height of trees as measured from the ground to the top of the arc made by the uppermost arching frond shall be within a two-foot range throughout tree selections.

Palm trees shall have a straight, fully skinned trunk and dead leaf frond bases removed to ensure uniformity in aesthetic appearance. Palms should have a minimum trunk diameter typical to species. Trunks shall be free from all defects including decay, abrasion, climbing spike holes, sunscald, disease and pests, or any objectionable disfigurements.

Palms shall be fully headed with fronds hanging no less than a 10:00/2:00 position or greater. All date palms are to match quantity of fronds and size of head. Fronds shall be tied up with cord and left on tree for first 60 days after planting, as directed by the Engineer. Foliage shall be well developed, healthy and free from disfigurement and cosmetic and other injuries.

All trunks shall match at the base and crown with no more than 2 inches of variation in diameter allowed.

Trees are to be fully hydrated at time of removal. Root ball shall consist of a soil type that is compatible with the planting pit soil mix and that provides sufficient density and firmness that when planted, the tree will stand upright and stable without the need for additional support.

Skinning of palm trunks shall be done prior to planting. Skinning should be done in a manner that minimizes the damage to the trunk.

Trees without noticeable aerial roots are preferred. Where this is not possible for total quantity of matching palms, aerial roots may be permitted as follows:

1. Exposed aerial roots are symmetrical around base of trunk, and do not exceed 6" beyond the trunk.
2. Exposed aerial roots do not bulge out at any one side, but appear uniform from all directions.

### **20-3.01B(2)(d)(ii) Palm Harvesting and Transport**

Tree shall be dug by hand. Take care to keep root ball intact and to retain soil pressure at roots.

A trencher may be used adhering to the following conditions: a double wide trench must be dug and cleaned out, eliminating the potential to bend tree causing disintegration of the root ball.

Move trees by crane only. Nylon straps (4 inch minimum width) shall be used at all times in the handling of trees. No steel or metal cables of any kind must touch the tree. Trees touched by steel or metal cables will be subject to rejection.

Lay trees gently and all green fronds shall be retained at the point they exit horizontally from the trunk.

After tying the head, load palm onto a flatbed truck with the head elevated three to four feet above the deck to protect the fronds from breakage. The trees must be covered by tarps to prevent dehydration of the root ball and crown during transport. Limit quantity of trees to be shipped together, such that trees do not sustain damage during transport. Cord used to bind fronds shall remain on palm for 60 days after planting, or until directed by the Engineer.

After the palm is prepared for harvesting, lift the tree from the growing site, transport and replant within 48 hours.

Do not bind or handle palm trees in such a way that would result in damage of the tree.



**Replace 20-3.01B(3) with:**

Soil amendment must comply with the provisions in the Food & Agri Code. Soil amendment must be one or a combination of the following:

1. Sphagnum peat moss
2. Nitrogen Stabilized Fir Bark
3. Vermiculite
4. Perlite

Nitrogen Stabilized Fir Bark must conform to the following:

1. Particle Size (Dry Weight Basis)

<b>Sieve size</b>	<b>Percent passing</b>
1/4 inch	95-100
no. 8, 8 mesh	80-100
no. 35, 32 mesh	0-30
2. Organic Content: Determined by ash analysis. Minimum 325 pounds per cubic yard.
3. Nitrogen: 0.8-1.2% nitrogen based on dry weight.
4. Salinity: Maximum saturation extract conductivity 3.5 ds/m at 25 degrees Centigrade.
5. Iron: Minimum 0.08% dilute acid soluble Iron based dry weight, if iron treated.

**Replace section 20-3.01B(6) with:**

**20-3.01B(6) Washed Sand at Palms**

Washed sand backfill for palm planting pits and other areas as required must be must be 100 percent commercial-quality washed plaster sand, fully washed and free of salts.

**Add to section 20-3.01B(10):**

Wood tree stakes must be 3 inch diameter x 12-foot length (for 36" box size trees) and 2 inch diameter x 10-foot length (for 24" box size trees) Lodgepole Pine with tapered driving point and chamfered top.

Wood braces must be 2" diameter Lodgepole Pine.

Tree ties must be black, 100% recycled corded rubber straps.

Nails, wire and fasteners for tree staking must be hot-dip galvanized steel.

**Add to section 20-3.01B:**

**20-3.01B(13) Import Topsoil**

Import topsoil shall be used to produce topsoil meeting requirements and amended as necessary. Clean all topsoil of roots, plants, sods, stones, clay lumps and other extraneous materials harmful to plant growth.

Import topsoil must be from one source, such as supplied by Tri County Landscape Supply, Watsonville, CA, Phone (831) 728-0111; or Ciardella Garden Supply, Palo Alto, CA, Phone (415) 321-5913; or Lyngso Garden Materials, Inc., Redwood City, CA, Phone (415) 364-1730; or approved equal.

Topsoil shall be ASTM D 5268, free of stones 1 inch or larger in any dimension, and other extraneous materials harmful to plant growth. Texture: Sandy loam, fertile, agricultural soil, capable of sustaining plant growth, weeds or plants.

Import topsoil shall meet the following minimum requirements:

- a. Must have a pH of Saturated Paste between 5.5 – 7.8 without high lime content.

- b. Salinity: Saturation Extract Conductivity (E Ce) less than 3.0 dS/m @ 25° C.
- c. Sodium absorption ratio (SAR) of less than 6.0.
- d. Chloride of less than 5.0 meq/L or 150 ppm
- e. Boron content less than 1.0 part per million Saturation Extract Concentration.

Soil must contain sufficient quantities of available nitrogen, phosphorous, potassium, calcium, magnesium and organic matter to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials prior to planting.

USDA classification of fraction passing 2.0-mm sieve: sandy loam and conforming to the following:

Make all arrangements for obtaining and testing import topsoil. Submit test results of a representative sample of the proposed supply for acceptance by the Engineer well in advance of its scheduled delivery to the site. The accepted sample will establish the standards to which all import topsoil used on the job must conform.

Transport import topsoil directly from source to final position. If stockpiling is required, locations and amounts of stockpiles will be designated by the Engineer.

Engineer reserves the right to take additional samples of import topsoil at the site. If subsequent testing proves material to be at variance with the accepted sample, remove rejected soil from the site and replace immediately, at no additional cost to the City.

**20-3.01B(14) Bioretention Media**

Bioretention Soil Mix shall achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Bioretention Soil Mix shall support vigorous plant growth.

Bioretention Soil Mix shall be a mixture of fine sand and compost, measured on a volume basis:

- 1. 60%-70% Sand
- 2. 30%-40% Compost

**Sand for Bioretention Soil Mix**

- 1. General: Sand shall be free of wood, waste, coating such as clay, stone dust, carbonate, etc., or any other deleterious material. All aggregate passing the No. 200 sieve size shall be non-plastic.
- 2. Sand for Bioretention Soil Mix Texture: Sand for Bioretention Soil Mix shall be analyzed by an accredited lab using #200, #100, #40, #30, #16, #8, #4, and 3/8 inch sieves (ASTM D 422 or as authorized by municipality), and meet the following gradation:

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>	
	<i>Min</i>	<i>Max</i>
3/8 inch	100	100
No. 4	90	100
No. 8	70	100
No. 16	40	95
No. 30	15	70
No. 40	5	55
No. 100	0	15
No. 200	0	5

All sands complying with ASTM C33 for fine aggregate comply with the above gradation requirements.

Compost shall be a well decomposed, stable, weed free organic matter source derived from waste materials including yard debris, wood wastes or other organic materials not including manure or biosolids meeting the standards developed by the U.S. Composting Council (USCC). The product shall be certified through the USCC Seal of Testing Assurance (STA) program.

Compost Quality Analysis: Before delivery of the soil, the supplier shall submit a copy of lab analysis performed by a laboratory that is enrolled in the US Composting Council's Compost Analysis Proficiency (CAP) program and using accepted Test Methods for the Evaluation of Composting and Compost (TMECC). The lab report shall verify:

Feedstock Materials: Shall be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.

Organic Matter Content: 35%-75% by dry wt.

Carbon and Nitrogen Ratio: C:N<25:1 and C:N>15:1

Maturity/Stability: 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 (120°F) upon delivery or rewetting is not acceptable. In addition, any one of the following is required to indicate stability:

1. Oxygen Test < 1.3 O<sub>2</sub>/unit TS/hr
2. Specific Oxy. Test < 1.5 O<sub>2</sub>/unit BVS
3. Respiration Test < 8 C/unit VS/day
4. Dewar Test < 20 Temp. rise (°C) e.
5. Solvita® > 5 Index value

Toxicity: Any one of the following measures is sufficient to indicate non-toxicity.

1. NH<sub>4</sub><sup>-</sup> : NO<sub>3</sub>-N < 3
2. Ammonium < 500 ppm, dry basis
3. Seed Germination > 80% of control
4. Plant Trials > 80% of control
5. Solvita® > 5 Index value

Nutrient Content: Provide analysis detailing nutrient content including N-P-K, Ca, Na, Mg, S, and B.

1. Total Nitrogen content 0.9% or above preferred.
2. Boron: Total shall be < 80 ppm; Soluble shall be < 2.5 ppm

Salinity: Must be reported; <6.0 mmhos/cm

pH shall be between 6.5 and 8. May vary with plant species.

Compost for Bioretention Soil Mix Texture: Compost for Bioretention Soil Mix shall be analyzed by an accredited lab using #200, ¼ inch, ½ inch, and 1 inch sieves (ASTM D 422 or as authorized by City), and meet the following gradation:

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>
-------------------	------------------------------------

	<i>Min</i>	<i>Max</i>
1 inch	99	100
½ inch	90	100
¼ inch	40	90
No. 200	2	10

Shall be between 500 and 1,100 dry lbs/cubic yard.

Shall be between 30%-55% of dry solids.

Compost shall be relatively free of inert ingredients, including glass, plastic, and paper, < 1% by weight or volume.

Provide proof of process to further reduce pathogens (PFRP). For example, turned windows must reach min. 55°C for 15 days with at least 5 turnings during that period.

Select Pathogens: Salmonella < 3 MPN/4 grams of TS, or Coliform Bacteria < 10,000 MPN/gram.

Trace Contaminants Metals (Lead, Mercury, etc.) Products: Must meet US EPA, 40 CFR 503 regulations.

Compost products shall be tested within 120 calendar days prior to application. Samples will be taken using the STA sample collection protocol (the sample collection protocol can be obtained from the U.S. Composting Council, 4250 Veterans Memorial Highway, Suite 275, Holbrook, NY 11741, (631) 737-4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program-approved lab. You are responsible for the bioretention soil media testing costs.

**20-3.01B(15) Plant-Pit and Plant Bed Backfill Mix**

Prepare and amend plant-pit backfill mixture for planting areas as specified by the soils report using suitable site soil or accepted import material.

**Replace section 20-3.01D with:**

Payment for furnishing plant media complying with the requirements of this section is included in payment for import topsoil, washed sand at palms, bioretention media and soil amendments.

Payment for furnishing 1 and 5 gallon plants and 24" box tree is included in payment for 1 and 5 gallon plants and 24" box tree.

Payment for selection, inspection, harvest and transport of palm trees in compliance with the requirements of this section is included in payment for Medjool date palm, (48" box).

**Replace section 20-3.02C(2) with:**

**20-3.02C(2) Prepare Planting Areas**

**20-3.02C(2)(a) General**

The Engineer may designate a planting location other than that shown, in which case, the Engineer marks the location by a stake, flag, or other marker.

Conduct work such that the existing drainage flow line is maintained. Material displaced by your activity that interferes with drainage must be removed.

Excavate each planting hole by manual or machine method to size shown. The bottom of each planting hole must be flat. Do not use water to excavate the hole.

Where rock or other hard material prohibits the hole from being excavated, a new hole must be excavated and the abandoned hole backfilled.

Remove and dispose of soil to 24 in below finish grade in tree wells and planters. Place 30 ml liner at bioretention planters as shown.

Backfill excavated planters with specified import topsoil and/or bioretention soil.

**20-3.02C(2)(b) Preparation of Subsoil**

Prepare subsoil to eliminate uneven areas and allow placement of back fill as indicated on the plans. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

Planting areas shall be loosened by cross-ripping or equivalent means to a minimum 10-inch depth, and the soil amendments shall then be evenly spread and thoroughly incorporated.

Remove and dispose of foreign materials, weeds, undesirable plants and their roots. Remove and dispose of all soil on the site that contains any deleterious substances such as oil, plaster, concrete, gasoline, paint, solvents, etc., removing the soil to a minimum depth of six inches or to the level of dryness in the affected areas.

Do not work soil when it is so wet or so dry as to cause excessive compaction or the forming of hard clods or dust. Any disturbed subsoil below trees and palms shall be compacted to 90% as required.

**20-3.02C(2)(c) Drainage of Soils**

Notify the City in writing of all soil or drainage conditions considered to be detrimental to growth of plant material. Excavated plant pits which do not drain completely within 8 hours shall be considered detrimental, and require City notification.

**20-3.02C(2)(d) Spreading of Import Topsoil**

Import topsoil must have minimum depths as shown on the plans. Place in eight inch (8") lifts.

In bioretention planter, allow for compost mulch to conform to finish grades and elevations after natural settlement and light rolling as shown on plans.

In tree wells, allow for decomposed granite mulch to conform to finish grade.

Do not place import topsoil under muddy or frozen conditions.

**20-3.02C(2)(e) Amendment of Soil**

Remove all soil within the planting pit or planting trench to a depth as depicted in the plans and replace with specified backfill.

After finish grading operations are completed, cultivate as required in at least 2 perpendicular directions, and with soil at the proper moisture content, so that all clods greater than 1 inch diameter are broken up resulting in a homogenous blend of amended soil.

The following recommendation is to be used for bidding purpose only, all final amendment procedures are to be in accordance with recommendations based on testing, at no additional cost to the City. Any changes would likely be a reduction in materials. Amend the surface 6 inches by thoroughly blending the following amendments per 1000 square feet:

<u>Amount</u>	<u>Ingredient</u>
6 cubic yards	Nitrogen stabilized 0 to 1/4 inch maximum fir bark.
20 pounds	6-20-20 complete fertilizer
8 pounds	Potassium Sulfate (0-0-50)
15 pounds	Soil Sulfur for pH adjustment

**20-3.02C(2)(f) Excavation of Planting Pits**

Pit or trench shall be the depth and width as shown on plans and shall be larger if necessary to permit handling and planting without injury or breakage of the root ball or root system. Any plant with a broken or cracked root ball before or during planting shall not be planted.

Under no circumstances shall any plant pit or bed remain open overnight, unless properly barricaded.

All excess material shall be transported and disposed of offsite in a legal manner.

**20-3.02C(2)(g) Finish Grading and Final Contouring**

All areas to be planted shall be free of rocks over one inch in diameter, and free of foreign debris, sub-soil, refuse, plants or roots, clods, weeds, sticks, solvents, petroleum products, concrete, base rock, or other deleterious or extraneous material. Areas to be planted shall be free of soil-borne diseases, and capable of sustaining healthy plant life. Do all work necessary to bring site soil, import soil and plant pit back fill to compliance with these requirements. Remove from the site and dispose of in a legal manner any soils and material not meeting these requirements. Subject to acceptance of the Engineer, all soil and material not meeting these requirements shall be the property of the Contractor.

You are responsible for proper surface drainage of planted areas. Report in writing to the Engineer any discrepancies in the Contract Documents, obstructions on the site, or any other conditions which the you believe prevent the establishment of proper drainage, and obtain the Engineer's instructions prior to proceeding with the work affected.

Handle and place the soil, and plant-pit back fill to required depths shown.

Work soil sufficiently so that after rolling, and after full settlement has occurred, the site will be graded to within +0.10 of a foot from the lines, grades and elevations shown, and as may be directed by the Engineer. Finished surface shall be smooth and uniform, and shall be free of depressions that retain standing water, or any surface irregularities that would impede proper drainage. Unless otherwise noted, all soil finish grades shall be one and one-half inches (1-1/2") below finish grade of adjacent walks, pavements and curbs, and top of wall elevations.

Repair all erosion damage that occurs until Final Acceptance. Take all measures necessary to prevent erosion occurring during work under this Section. Provide and amend replacement soil and plant-pit back fill mix in accordance with this section.

**Replace fourth paragraph in section 20-3.02C(3)(a) with:**

Install root barriers as shown on plans, if shown. Install panels flush with finished grade and join with locking strips or integral male-female sliding locks. Install barriers with root deflectors facing inward.

**Replace section 20-3.02C(3)(b) with:**

**20-3.02C(3)(b) Trees**

**20-3.02C(3)(b)(i) General**

After preparing holes, thoroughly mix soil amendment at the rate shown with native soil to be used as backfill material. Remove containers from plants in a way that the ball of earth surrounding the roots is not broken. Do not cut plant containers before delivery of the plants to the planting area. Plant and water plants immediately after removal from their containers.

Place fertilizer packets in the backfill within 6 to 8 inches of the ground surface and approximately 1 inch from the root ball. If more than 1 tab is required per plant, distribute the packets evenly around the root ball.

Apply any root stimulant under the manufacturer's instructions.

Ensure roots are not restricted or distorted.

Distribute backfill uniformly throughout the entire depth of the plant hole without clods or lumps. After the planting holes have been backfilled, jet water into the backfill with a pipe or tube inserted into the bottom of the hole until the backfill material is saturated for the full depth. If the backfill material settles below this level, add additional backfill to the required level. If a plant settles deeper than shown, replant it at the required level.

Remove nursery stakes after planting.

Install 2 plant stakes for each plant to be staked immediately after planting. Ensure the root ball is not damaged.

Tie the plant to the stakes with 2 plant ties, 1 tie to each stake. Each tie must form a figure 8 by crossing the tie between the plant and the stake. Install ties at the lowest position that will support the plant in an upright position. Ties must provide trunk flexibility but not allow the trunk to rub against the stakes. Wrap each end of the tie 1-1/2 turns around the stake and securely tie.

Construct a watering basin around each plant unless otherwise noted on plans. Do not construct a watering basin where area is shown to receive decomposed granite mulch.

**20-3.02C(3)(b)(ii) Placement of Sand Backfill at Palms**

Place backfill mix to the depths specified to obtain finish grades shown on the plans. Mix shall be handled in a manner so as to prevent segregation of ingredients. Deposit mix into the planting pits in 6-inch lifts and thoroughly water each lift after placing mix in place to compact and settle mix. Jet wash to compact and settle sand around palms, while crane is still holding onto palm with choker collar.

**20-3.02C(3)(b)(iii) Planting**

Plant only in moist but friable, never wet or soggy soil.

Soil shall be to properly amended per soil testing laboratory specifications.

Plant in favorable weather conditions.

When back fill is approximately one-half in place drop fertilizer packets alongside root ball according to manufacturer's application rates. No organic amendment shall be included in soil backfill except for top 12" layer.

The following recommendation is to be used for bidding purpose only, all final fertilizing will be in accordance to soil testing lab and manufacturer's application rates.

1 Gallon plant	3 packets
5 Gallon plant	5 packets
24 Inch box	8 packets

Thoroughly water all plants immediately after planting, taking care to avoid erosion. If automatic irrigation is not in operation, continue hand watering daily (or as required) to maintain plants until irrigation system is turned on.

**20-3.02C(3)(b)(iv) Palm Planting**

Set palms in pits already filled with a minimum of 6 inches of fully saturated sand. Add sand in 6-inch layers and alternately water jet to settle and compact sand.

To degree possible, adjust root ball depth such that final height of palms match, and create an even and uniform line. Root crowns of palms shall not be buried more than eight inches deeper than originally planted, and not above trunk aerial root zone. Accommodate any settlement that may occur.

Set tree plumb; readjust after installation as necessary.

Thoroughly water palms at a rate to provide constant moisture to the root ball without over saturating root ball. Take all necessary measures to ensure proper watering as recommended by the accepted palm specialist and supplier under the direction of the Engineer, at no additional cost to the City.

The Engineer may reject palm trees which do not conform to the specifications herein at both the shipping and receiving points at any time during the assembly and shipment of the order.

Take all precautions necessary to prevent the spread of disease such as Fusarium Wilt, "Pink Rot". Transmissions of the disease can occur during unsafe pruning practices. Use of chain saws shall be prohibited. Use of reciprocal saws is recommended. All blades are to be sterilized between cuts on individual trees for a period of no less than five minutes in a solution of one part water to one part household bleach.

Do not fertilize palms until three months after planting and thereafter at spring, summer and fall.

**20-3.02C(3)(b)(v) Planting 24-in Box Trees**

Take precautions to protect tree and tree trunk from damage when placing tree in planting pit/trench. For boxed stock, remove bottom of box prior to placement of plant in planting pit. Cut bands and remove box sides just prior to back filling. For container stock, do not lift or handle container plants by tops, stems, or trunks at any time.

Set trees vertical on undisturbed subgrade. Set plumb and brace rigidly in position until planting soil has been tamped solidly around the ball and roots. When plant pits have been back filled approximately 2/3 full, water thoroughly saturated root ball, before installing remainder of the planting soil to top of pit, eliminating all air pockets. No organic amendment shall be included in soil backfill except for top 12" layer.

Smooth planting areas to conform to specified grades after full settlement has occurred.

**20-3.02C(3)(b)(vi) Staking**

Complete staking of boxed trees immediately after planting. Securely stake all trees planted on the site. The Engineer reserves the right to make modifications to staking procedures as required to accommodate field conditions, at no additional cost to the City.

Stake trees as shown.

**Replace section 20-3.02C(3)(c) with:**

**20-3.02C(3)(c) Groundcover, Perennials and Ornamental Grasses**

Each groundcover, perennials and ornamental grass planting area irrigated by a single control valve must be completely planted and watered before planting other groundcover, perennials and ornamental grass planting areas.

Plant groundcover, perennials and ornamental grasses in moist soil, and in neat, straight rows parallel to the nearest roadway. Stagger plants in adjacent rows.

Apply fertilizer to groundcover, perennials and ornamental grass plants and water into the soil immediately after planting.

**Replace section 20-3.02D with:**

**20-3.02D Payment**

Payment for the work of section 20-3.02 is included in payment for related items of work.

**Add to section 20-4.01A:**

Plant establishment work is Type 2.

You are responsible for protection of planting from damage during plant establishment period, including damage from your own forces.

**Add to section 20-4.01C:**

**20-4.01C(3) Protection Plan**

Submit a plan for protection of new planting from damage during construction.

**Add to section 20-4.01D:**

Request regular progress inspections for observing the completion of work of this Section from the Engineer at least 48 hours in advance of an anticipated inspection. A minimum of six (3) separate field visits must occur as follows:

1. Maintenance observation at the commencement of the PEW.
2. 45-day Progress Maintenance Observation.
3. 90-day Final Progress Maintenance Observation.



**Add to section 20-4.02:**

**20-4.02C Fungicide**

Palm fungicide must contain thiophanate methyl and mancozeb.

**Replace sections 20-4.03A and B with:**

**20-4.03A General**

Dispose of surplus earth..

Remove nursery-supplied support stakes within 30 days before the completion of the plant establishment period.

Keep plant basin walls well formed.

Clean new wye strainers and existing wye strainers that are a part of the new irrigation system annually until the completion of the plant establishment period. The last cleaning must be done within 10 days before the completion of the plant establishment period.

Remove, clean, and reinstall new filters and existing filters that are a part of the new irrigation system annually until the completion of the plant establishment period. The last cleaning must be done within 10 days before the completion of the plant establishment period.

**20-4.03B Plant Growth Control**

Prune plants planted as part of the Contract as authorized.

Remove plant growth that extends within 2 feet of sidewalks, curbs, dikes, shoulders, walls or fences.

Vines adjacent to walls and fences must be kept staked and tied. Train vines on fences and walls or through cored holes in walls.

Prune palms as authorized.

Fertilize palms at end of PEW, as authorized.

Prune trees to select and develop permanent scaffold branches that are smaller in diameter than the trunk or branch to which they are attached and which have a vertical spacing of from 18" to 48" and radial orientation so as not to overlay one another; to eliminate diseased or damaged growth; to eliminate narrow V-shaped branch forks that lack strength; to reduce toppling and wind damage by thinning out crowns; to maintain growth within space limitations; to maintain a natural appearance; to balance crown with roots.

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). Lower branches can be cut flush with the trunk only after tree is able to stand erect without staking or other support.

Evergreen trees shall be thinned out and shaped when necessary to prevent wind and storm damage. The primary pruning of deciduous trees shall be done during the dormant season. Damaged trees or those that constitute health or safety hazards shall be pruned at any time of the year as required.

**Add to section 20-4.03:**

**20-4.03H Palm Fungicide**

Dilute fungicide per manufacturer's recommendation and apply as directed by Engineer.

**Replace section 20-5.03A(3)(c) with:**

Not used.

**Replace section 20-5.03D(1)(a) with:**

Section 20-5.03D includes specifications for placing decomposed granite mulch.

**Add after the 5th paragraph of section 20-5.03D(3):**

After satisfactory completion of the decomposed granite work, apply a topcoat of solidifying emulsion to the surface per the manufacturer's instructions.

**Replace section 20-5.04 with:**

**20-5.04 FENCE (2' HEIGHT)**

**20-5.04A General**

Fence (2' Height) materials (including ornamental metal posts and hardware) are covered by these specifications.

Provide a complete, installed 2' fencing system including all components (fence panels, posts, hardware and footings) defined herein.

**20-5.04C Quality Assurance**

Provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

**20-5.04D Submittals**

Accepted shop drawings shall become the basis for the factory-finished surfaces and must therefore be submitted before installation.

Submit vendor information for 8-stage corrosion-resistant powder coating.

Submit manufacturer's warranty.

**20-5.04E Delivery, Storage and Handling**

Deliver materials to the job site in good condition and providing proper protection from damage to factory-finished surfaces. Materials will be stored with a covering of protective material in a clean-dry location in such a way as to avoid damage, especially damage caused by dust, chemicals and moisture found in the air. Materials shall also be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

**20-5.04F Materials**

All materials shall be fabricated from square tube steel stock, except as noted on plans.

Pickets, rails, and posts shall be manufactured from iron tubing, meeting the requirements of ASTM A 500-93 with an in-line hot dipped galvanized exterior zinc coating and a clear organic exterior coating and gray interior rust preventing coating. This material must have a minimum yield of 46,000 psi.

Minimum gauge/wall thickness shall be as follows:

1. 1" pickets shall have a minimum gauge of 14.
2. 2" pickets shall have a minimum gauge of 11.
3. 2" rails shall have a minimum gauge of 11.
4. 3" posts shall have a minimum gauge of 3/16".

Finish shall be an eight stage pre-treatment and a four stage corrosion resistant powder coating process. The finish shall conform to local environmental air quality standards. Color shall be as shown on plans or equal. Submit 40 sq. inch sample to Engineer for acceptance prior to fabrication.

**20-5.04G Fabrication**

New prime material / galvanized steel, conforming to specified ASTM standards, shall be used in the manufacture of panels and posts.

Panels and flanged posts shall be of welded construction by the gas metal arc method. Pickets shall be attached to rails in the same manner. No wire rods, screws or rivets will be accepted. The layout and welding shall be carried out by experienced craftsmen, making sure all welds are neat, clean and of sizes matching those indicated on the drawing. Any and all flush welds shall be ground smooth.

After fabrication all posts and panels shall be pre-treated to insure optimum coating adherence to the metal per the following 12-step process:

1. Hot alkaline cleaner
2. Clear water rinse
3. Hot iron phosphate application
4. clear water rinse
5. Z-153 sealer application
6. Ring rinse
7. De-ionized water rinse
8. Dry oven heat at 425 degrees
9. Zinc enriched epoxy primer powder coat at 2-4 mils.
10. Gel oven heat at 400 degrees
11. Ultra polyester finish powder coat at 2-4 mils.
12. Final curing oven at 450 degrees

All welds must be rejuvenated with 2-4 mils. of a dry zinc primer which is a zinc rich powder coating based on an epoxy resin for superior corrosion protection. This primer coat must be applied at 2-4 mils. and oven cured at 350 degrees for 20 minutes. The finish coat must be applied at 2-4 mils. dry-film thickness and must be a T.G.I.C. polyester powder coating that combines hardness and durability and can also be touched up in the field.

Contact between dissimilar metals will not be allowed. Dissimilar metals must be galvanically insulated using methods authorized by the Engineer.

#### **20-5.04H Execution**

##### **20-5.04H(1) Preparation**

Layout the fence in accordance with the fence construction plans and shop drawings.

Place post footings in accordance with the fence construction drawings. Footings must be minor concrete.

Verify and grade any changes or surface irregularities.

Any discrepancies between accepted shop drawings and field conditions must be approved, prior to proceeding with installation, by Engineer.

##### **20-5.04H(2) Installation**

Fence (2' Height) posts shall be set according to the spaces shown on the drawings. All posts shall be set plumb and level. Footing sizes shall be as indicated on the drawings as well as post caps.

Fence (2' Height) panels shall be welded or bolted to the posts. All field welding, of rail to post, shall be a complete 360 degree (all four sides) weld and shall be of the same size as indicated on the drawings. The same day as the welding is done, all welds shall be cleaned and coated with a zinc-rich primer coating and color-matching finish coat. Any bolts and tabs used for connections shall be of the same size indicated on the drawings. Bolt threads shall be peened after tightening of bolt.

Any abrasions or field welds that cause damage to factory coatings shall be thoroughly cleaned, reprimed, and touched up by the contractor. The paint used must be of the same quality, color and gloss, in order to provide a match to the manufacturer's finish.

#### **20-5.04I Cleaning**

Clean-up excess materials from the job site.

Post-hole excavations shall be scattered uniformly away from the posts or removed as directed.

Concrete splatter shall be cleaned from exposed posts.

#### **20-5.04J Payment**

Not Used.

### **Replace section 20-5.05 with:**

#### **20-5.05 SITE FURNISHINGS**

##### **20-5.05A General**

Section 20-5.05 includes specifications for installing benches, litter/recycling receptacles, and bike racks.

##### **20-5.05B Submittals**

Submit product data for products specified.

Submit manufacturer's installation and assembly instructions.

##### **20-5.05C Materials**

##### **20-5.05C(1) Bench**

Bench must be option A1, A2 or A3, or approved equal.

Option #A1: 'World's Fair Bench', Product No. 6737, 6'-0" long bench, as manufactured by Kenneth Lynch & Sons, 114 Willenbrock Road, Oxford, Connecticut, 06478, (203) 264-2831, [www.klynchandsons.com](http://www.klynchandsons.com).

1. Legs and braces: Two cast ductile iron legs, ground smooth, free of burrs and snags. Two 5/8" diameter bolt holes per leg. Steel back braces.
2. Connectors: Five-eighths inch diameter stainless steel tie rod with four stainless steel nuts. Furnish tie rods, copper rivets, and stainless steel carriage bolts, washers, and nuts for field assembly.
3. Slats: IPE FEQ, Mazsa Quality (Tabebuia) (Non-Tropical), also known as Bethabarra, Milled to 1-1/4 x 2-1/2 inches, net S4S, E4E. Moisture content not to exceed 15 percent. Factory sand after fabrication.
4. Finish: Factory-applied powder coat all metal surfaces. No finish at wood. Enlarge holes slightly, if necessary, to fit fasteners at sidewalk, and then touch up paint.
5. Powdercoating Color: Central Park Green, Spraylat PPL956L-50 light standard green polyester low cure full gloss.

Option #A2: Model No. FB-324, 6'-0" long bench, as manufactured by Victor Stanley, PO Box 330., Dunkirk, MD 20754, (800) 368-2573, [www.victorstanley.com](http://www.victorstanley.com).

1. Legs and braces: Two cast ductile iron legs, ground smooth, free of burrs and snags. Two 5/8" diameter bolt holes per leg. Steel back braces.

2. Connectors: Five-eighths inch diameter stainless steel tie rod with four stainless steel nuts. Furnish tie rods, copper rivets, and stainless steel carriage bolts, washers, and nuts for field assembly.
3. Slats: IPE FEQ, Mazsa Quality (Tabebuia) (Non-Tropical), also known as Bethabarra, Milled to 1-1/4 x 2-1/2 inches, net S4S, E4E. Moisture content not to exceed 15 percent. Factory sand after fabrication.
4. Finish: Factory-applied powder coat all metal surfaces. No finish at wood. Enlarge holes slightly, if necessary, to fit fasteners at sidewalk, and then touch up paint.
5. Powdercoating Color: Tavern Square Green

Option #A3: Model 'Plainwell' 72" bench, as manufactured by Landscape Forms, 431 Lawndale Ave., Kalamazoo, MI 49048, (800) 521-2546, [www.landscapeforms.com](http://www.landscapeforms.com).

1. Legs and braces: Two cast ductile iron legs, ground smooth, free of burrs and snags. Two 5/8" diameter bolt holes per leg. Steel back braces.
2. Connectors: Five-eighths inch diameter stainless steel tie rod with four stainless steel nuts. Furnish tie rods, copper rivets, and stainless steel carriage bolts, washers, and nuts for field assembly.
3. Slats: IPE FEQ, Mazsa Quality (Tabebuia) (Non-Tropical), also known as Bethabarra, Milled to 1-1/4 x 2-1/2 inches, net S4S, E4E. Moisture content not to exceed 15 percent. Factory sand after fabrication.
4. Finish: Factory-applied powder coat all metal surfaces. No finish at wood. Enlarge holes slightly, if necessary, to fit fasteners at sidewalk, and then touch up paint.
5. Powdercoating Color: Ivy

#### **20-5.05C(2) Litter/Recycling Receptacle**

Litter/Recycling Receptacle must be option B1, B2 or B3, or approved equal. The trash receptacle and recycling receptacle shall be dedicated use and shall be the same model and manufacturer.

Option #B1: Model SLURB-36SO "Urban Renaissance" litter and recycling receptacle; side-door opening, recycled-content, stainless steel frame and perforated patterned stainless steel sheet with powder-coat finish; as manufactured by Forms + Surfaces, 30 Pine Street, Pittsburg, PA 15223, (800) 451-0410, [www.forms-surfaces.com](http://www.forms-surfaces.com).

1. Grillwork Pattern: Vertical.
2. Lid: Standard (without ash lid).
3. Liners: Standard black polyethylene liners without drain holes.
4. Finish: Factory-applied powder coat in Evergreen Texture
5. latch: Standard
6. Mounting: Surface Mount
7. Recycling Can: Same as trash receptacle, but with custom side opening for recycled containers.

Option #B2: Chase Park litter and recycling receptacle; side-door opening, recycled-content, cast aluminum and perforated patterned stainless steel sheet with powder-coat finish; as manufactured by

Landscape Forms, 431 Lawndale Ave., Kalamazoo, MI 49048, (800) 521-2546,  
[www.landscapeforms.com](http://www.landscapeforms.com).

1. Grillwork Pattern: Standard.
2. Lid: Standard (without ash lid).
3. Liners: Standard black polyethylene liners without drain holes.
4. Finish: Factory-applied powder coat in Ivy
5. latch: Standard
6. Mounting: Surface Mount
7. Recycling Can: Same as trash receptacle, but with #10 signage option

Option #B3: Model SDC-36 litter and recycling receptacle; side-door opening, recycled-content, cast aluminum with powder-coat finish; as manufactured by Victor Stanley, PO Box 330., Dunkirk, MD 20754, (800) 368-2573, [www.victorstanley.com](http://www.victorstanley.com).

1. Grillwork Pattern: Standard.
2. Lid: Standard (without ash lid).
3. Liners: Standard black polyethylene liners without drain holes.
4. Finish: Factory-applied powder coat in Tavern Square Green
5. latch: Standard
6. Mounting: Surface Mount
7. Recycling Can: Same as trash receptacle, but with custom recycling plaque.

### **20-5.05C(3) Bike rack**

Bike rack must be option C1, C2 or C3, or approved equal.

Option #C1: Model WU 20-E-SS 'Inverted "U" Racks', 2-inch inside diameter by 36-inch tall by 30-inch wide stainless steel pipe bike rack, as manufactured by Creative Pipe Inc., P.O. Box 2458, Rancho Mirage, CA 92270 (800) 644-8467, (760) 340-5555; [www.creativepipe.com](http://www.creativepipe.com).

1. Capacity: 1 loop – 2 bike.
2. Finish: Stainless Steel - #4 Satin Finish.
3. Anchoring: In-ground embedded mount, use 3/8-inch diameter by 6-inch long galvanized steel anchor rod through hole in pipe at footing.

Option #C2: Model 2178-84 'Cycloops Arch', 2-inch inside diameter by 36-inch tall by 30-inch wide stainless steel pipe bike rack, as manufactured by Columbia Cascade Company, 1300 SW Sixth Avenue, Suite 310, Portland OR 97201-3464 U.S.A.

1. Capacity: 1 loop – 2 bike
2. Finish: Polished Stainless Steel

3. Anchoring: In-ground embedded mount, use 3/8-inch diameter by 6-inch long galvanized steel anchor rod through hole in pipe at footing.

Option #C3: Model U/2-12714 'Classic', 2-inch round inside diameter by 36-inch tall by 30-inch wide stainless steel pipe bike rack, as manufactured by CycleSafe, Inc - [www.cyclesafe.com](http://www.cyclesafe.com) - TF: 888.950.6531- PH: 616.954.9977 - FX: 616.954.0290

1. Capacity: 1 loop – 2 bike.
2. Finish: Satin Finished Stainless Steel
3. Anchoring: In-ground embedded mount, use 3/8-inch diameter by 6-inch long galvanized steel anchor rod through hole in pipe at footing.

#### **20-5.05D Construction**

Deliver products to site in manufacturer's standard packaging.

Store products to protect them from damage, impacts and abrasion and comply with manufacturer's storage instructions.

Coordinate this work as required with other site work.

Verify that surfaces or openings are ready to receive work.

Verify field measurements are as shown on the plans or shop drawings, as applicable.

Install in conformance with applicable ADA Guidelines and established accessibility policies.

#### **20-5.05D(1) Bench**

Install in accordance with manufacturer's instructions. Accurately locate furniture and anchors as shown on the plans.

Touch-up paint any damage to the bench finish using matching paint applied in accordance with the manufacturer's directions.

Adjust level as required to accommodate uneven surfaces.

#### **20-5.05D(2) Litter/Recycling Receptacle**

Install in accordance with manufacturer's instructions and as shown on the plans.

Surface-mount to concrete paving using anchors, levelers and stainless steel mounting screws furnished by manufacturer.

Touch-up paint any damage to the metal finish using matching paint applied in accordance with the manufacturer's directions.

#### **20-5.05D(3) Bike rack**

Install in accordance with manufacturer's instructions. Accurately locate bike racks as shown on the plans.

Embed and anchor pipe ends in concrete footing per manufacturer's instructions and as shown on the plans.

Install level and true.

#### **20-5.05D Payment**

Not Used.

**Replace section 20-6 with:  
20-6 LANDSCAPE LIGHTING**

**20-6.01 GENERAL**

**20-6.01A Summary**

Landscape lighting includes pedestrian lights and LED tree-mounted palm accent light assemblies.

Tree-mounted palm accent light assembly includes operational installation of all components from mounted light to pull box installed with Signal and Lighting (Broadway Avenue Signal Interconnect Plan) at base of tree.

Pedestrian light work includes installation of standard foundations and operational installation of standard and luminaire to pull box installed with Signal and Lighting (Broadway Avenue Signal Interconnect Plan) at base of tree.

**20-6.01B Submittals**

**20-6.01B(1) General**

Submit manufacturer's materials and installation data for pedestrian light assembly and tree-mounted light assembly.

Submit manufacturer's warranties for pedestrian light and tree-mounted light.

Submit shop drawings of palm-mounting details, including fixture support, attachment methods, conduit and cable runs, finishes, etc. Include plan and section views indicating all structural members being used for support.

Submit one operational sample of tree-mounted luminaire. Sample must be an exact match for the luminaire type proposed for installation on the project. Accepted samples may be used in the construction of this project if authorized by the Engineer.

Submit operating and maintenance manual for pedestrian light and tree-mounted light assemblies, which must include the following minimum information:

1. Name, telephone number, and mailing address for the authorized parts and service distributor.
2. Pictorial parts list and replacement part numbers.
3. Instructions for routine maintenance and care.
4. A detailed explanation of the operation and control of the fixture.

**20-6.01C Quality Assurance**

**20-6.01C(1) General**

Comply with operational testing requirements in section 87-1.01D(2).

**20-6.01C(2) Field Quality Control**

Perform visual and mechanical inspection of tree-mounted LED lights:

1. Inspect for physical damage, defects, alignment and fit.
2. Perform operational test of each lighting fixture after installed, circuited and energized.

Prior to installation of the light fixtures, install a sample tree-mounted fixture on the project for Engineer's review. Provide labor and materials for the field mock-up including special rigging or scaffolding, and adjusting fixtures in field, as directed by the Engineer.

**20-6.01C(3) Delivery and Receiving of Pedestrian Lighting and Tree-Mounted Lighting**

Pedestrian and tree-mounted lighting materials shall not be delivered to the site until protected storage space is available. Storage outdoors covered by rainproof material is not acceptable. Equipment damaged during shipment shall be replaced and returned to manufacturer at no cost to City.



Arrange deliveries to avoid any limitation on storage space, availability of personnel, or of materials handling equipment and use of the premises.

Receive products in undamaged, dry condition, in original unopened containers or packaging with identifying labels intact and legible.

Clearly mark partial deliveries of component parts of equipment to identify equipment and contents to permit easy accumulation of parts and to facilitate assembly.

Immediately upon delivery, inspect shipment to assure:

1. Containers and packages are intact and labels are legible.
2. Products are protected and undamaged.
3. Product complies with contract requirements.
4. Quantities are correct.
5. Accessories and installation hardware are included and correct.

#### **20-6.01C(4) Storage of Pedestrian Lighting and Tree-Mounted Lighting**

1. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
2. Store in a clean, dry, ventilated space free from temperature extremes.
3. Maintain factory wrapping or provide a heavy canvas/plastic cover to protect units from dirt, water, construction debris, and traffic.
4. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering. Provide ventilation and or heat where required to avoid condensation.
5. Arrange storage so as to provide access for inspection. Periodically inspect to assure products are undamaged and are maintained under required conditions.
6. Damaged units shall not be installed. Pay for and replace any goods damaged following receipt and acceptance of shipment.

#### **20-6.01C(5) Warranty**

Pedestrian lighting and tree-mounted lighting components shall be covered by a minimum one year parts and labor warranty for malfunctions resulting from defects in materials and workmanship. Warranty shall begin upon acceptance by the City.

Solid state light engines and power components (drivers) shall be warranted for a period of not less than 6 years from date of purchase.

#### **20-6.02 MATERIALS**

##### **20-6.02A General**

Comply with general requirements of section 86 and 87.

##### **s 86 and 87.20-6.02B LED Tree-Mounted Palm Accent Light Assembly**

Conduit and accessories for tree-mounted LED lights must be as shown.

Tree-mounted LED luminaires must be:

1. Hydrel model# 4640 22LEDWHT30K MVOLT MFL KM LPI SND  
Contact: 44 Deering Avenue, Second Floor, Chatsworth, CA 91311  
Phone: 866.533.9901
2. B-K Lighting model# DE LED x34 FL MDS 9

Contact: 40429 Brickyard Drive, Madera, CA 93636

Phone: 559.438.5800

3. WAC Landscape Lighting model# 5012-30BZ  
Contact: 44 Harbor Park Drive, Port Washington, NY 11050  
Phone: 800.526.2588
4. Or approved equal

### **20-6.02C Pedestrian Lighting**

Poles for pedestrian lighting must be Sentry Lighting product, as shown.

LED luminaires for pedestrian lighting must be Sentry Lighting product, as shown.

### **20-6.03 CONSTRUCTION**

#### **20-6.03A Pedestrian Lights**

Construct foundations for standards under section 56-3.

Install pedestrian light standards in accordance with manufacturer's written instructions, and as follows:

Fixtures shall be plumb, level, square, in straight lines, and without distortion. Remedy light leaks that may develop after installation of recessed or enclosed fixtures.

Splices in exterior fixtures or fixture outlet boxes in wet locations shall be made watertight, using epoxy resin splicing kits.

Portions of exterior cast aluminum fixtures, ballast boxes, junction or outlet boxes buried directly in earth or embedded in concrete in contact with earth shall be coated with coal-tar epoxy compound, applied in conformance to manufacturer's instructions.

Turn over project with all lamps in new and operating condition. Lamps that are burned less than 100 hours at project closeout are considered new.

Contact between dissimilar metals will not be allowed. Dissimilar metals must be galvanically insulated using methods authorized by the Engineer.

Comply with details and manufacturer's recommendations for reinforcing, anchor bolts, nuts, and washers.

Pole Setting:

1. Metal poles: Retain factory-applied pole wrappings until just before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.
2. Handle poles with canvas slings or use similar authorized methods to avoid damage to pole finishes.
3. Hand pack any void beneath the base plate with non-metallic non-shrinking, epoxy grout. Provide weep hole beneath base plate from pole center to daylight.
4. Set pole to anchor bolts and adjust for plumb and level using leveling nuts and lock down nuts.

Touch-up paint any damage to pole finish using specified paint applied in accordance with manufacturer's directions.

#### **20-6.03B LED Tree-Mounted Palm Accent Light Assembly**

Install LED tree-mounted palm accent light assembly in accordance with manufacturer's written instructions.

Provide supports, hangers and hardware necessary for a complete installation.

Contact between dissimilar metals will not be allowed. Dissimilar metals must be galvanically insulated using methods authorized by the Engineer.

Aim and lamp the tree-mounted lighting fixtures shown in the fixture schedule.

Perform aiming at night under the direction of the Engineer.

Provide labor and materials for field aiming of tree-mounted lighting. This may include, but is not limited to, special lifts, hoists or boom trucks for access of adjusting fixtures in field, and the testing of various lamps with each fixture, and/or testing of various lenses or louvers with fixtures, as directed by the Engineer.

Clean tree-mounted lighting fixtures prior to project closeout using manufacturer's recommended materials and methods.

#### **20-6.04 PAYMENT**

Payment for electrical system for pedestrian lights and tree-mounted palm accent light assembly from pull box to controller is included in payment for Signal and Lighting (Broadway Avenue Signal Interconnect Plan).

### **Replace section 20-7 with: 20-7 EXISTING LANDSCAPE ELEMENTS**

#### **20-7.01 General**

##### **20-7.01A General**

Section 20-7 includes specifications for performing work on existing landscape elements. Work performed on existing landscape elements must comply with section 15.

Removed landscape elements become your property.

##### **20-7.01B Remove Bollard**

Remove bollards and their foundations.

##### **20-7.01C Remove Trash Receptacle**

Remove trash receptacles and their hardware.

Provide trash receptacles for the public during construction.

##### **20-7.01D Remove Bench**

Remove benches and their hardware.

##### **20-7.01E Remove Tree Well**

Remove AC dikes and excavate to allow temporary paving at existing tree wells on Broadway. Comply with section 39 for AC removal.

##### **20-7.01F Payment**

Not Used

### **Add to section 20-10.03C:**

#### **20-10.03C(5) Remove Tree**

Remove existing trees shown as to be removed and as flagged by the City.

Remove trees in their entirety, including stumps and root system, to a depth of 3 feet below finished grade.

Trees not shown on the plans or flagged by the City as to be removed and that are within the limits of excavation and embankment slopes must be removed in accordance with the provisions in Section 17.

Remove root systems of individual trees in their entirety.

Grade cavities created by removal of the root systems immediately to prevent an individual or animal from being trapped in the cavity or depression. Soil from the surrounding area may be used to backfill these holes. Grade the backfill to conform with the adjacent existing grade.





Measure added water either by weight or volume in compliance with section 9-1.02 or you may use water meters from water districts, cities, or counties. If you measure water by volume, apply a conversion factor to determine the correct weight.

With each dilution, submit:

1. Weight ratio of water to bituminous material in the original asphaltic emulsion
2. Weight of asphaltic emulsion before diluting
3. Weight of added water
4. Final dilution weight ratio of water to asphaltic emulsion

**39-1.02C Asphalt Binder**

Asphalt binder in HMA must comply with section 92.

The grade of asphalt binder for HMA Type A must be PG 64-10.

**39-1.02D Aggregate**

Unless otherwise indicated in contract documents, the ratio of HMA lift thickness to nominal maximum aggregate size must be a minimum of 3:1. If the aggregate gradations for HMA is not specified, it must comply with the requirements shown in the following table:

**Aggregate Gradation Requirements**

HMA pavement thickness shown	Gradation
0.10 foot	3/8 inch
Greater than 0.10 to less than 0.20 foot	1/2 inch
0.20 to less than 0.25 foot	½ or 3/4 inch
0.25 foot or greater	3/4 inch

Aggregate must be clean and free from deleterious substances.

The specified aggregate gradation must be determined before the addition of asphalt binder and includes supplemental fine aggregate. The Department tests for aggregate grading under California Test 202, modified by California Test 105 if there is a difference in specific gravity of 0.2 or more between the coarse and fine parts of different aggregate blends.

Choose sieve size TV within each TV limit presented in the aggregate gradation tables.

The proposed aggregate gradation must be within the TV limits for the specified sieve sizes shown in the following tables:

**Aggregate Gradation  
(Percentage Passing)  
HMA Type A**

3/4-inch HMA Type A

Sieve sizes	TV limits	Allowable tolerance
1"	100	--
3/4"	90–100	TV ± 5
1/2"	70–90	TV ± 6
No. 4	45–55	TV ± 7
No. 8	32–40	TV ± 5
No. 30	12–21	TV ± 4
No. 200	2.0–7.0	TV ± 2

1/2-inch HMA Type A

Sieve sizes	TV limits	Allowable tolerance
3/4"	100	—
1/2"	95–99	TV ± 6
3/8"	75–95	TV ± 6
No. 4	55–66	TV ± 7
No. 8	38–49	TV ± 5
No. 30	15–27	TV ± 4
No. 200	2.0–8.0	TV ± 2

3/8-inch HMA Type A

Sieve sizes	TV limits	Allowable tolerance
1/2"	100	--
3/8"	95–100	TV ± 6
No. 4	58–72	TV ± 7
No. 8	34–48	TV ± 6
No. 30	18–32	TV ± 5
No. 200	2.0–9.0	TV ± 2

Before the addition of asphalt binder, aggregate must have the values for the quality characteristics shown in the following table:

### Aggregate Quality

Quality characteristic	Test method	HMA type			
		A	Not Used	Not Used	Not Used
Percent of crushed particles Coarse aggregate (% min.) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90 75 70			
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	California Test 211	12 45			
Sand equivalent (min.) <sup>a</sup>	California Test 217	47			
Fine aggregate angularity (% min.) <sup>b</sup>	California Test 234	45			
Flat and elongated particles (% max. by weight @ 5:1)	California Test 235	10			

<sup>a</sup> Reported value must be the average of 3 tests from a single sample.

<sup>b</sup> The Engineer waives this specification if HMA contains less than 10 percent of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

#### 39-1.02E Reclaimed Asphalt Pavement

You may produce HMA Type A using RAP. HMA produced using RAP must comply with the specifications for HMA, except aggregate quality specifications do not apply to RAP. You may substitute RAP aggregate for a part of the virgin aggregate in HMA in a quantity not exceeding 15.0 percent of the aggregate blend.

Assign the substitution rate of RAP aggregate for virgin aggregate with the JMF submittal. The JMF must include the percent of RAP used. If you change your assigned RAP aggregate substitution rate by more than 5 percent (within the 15.0 percent limit), submit a new JMF.

Process RAP from asphalt concrete. You may process and stockpile RAP during the entire project. Prevent material contamination and segregation. Store RAP in stockpiles on smooth surfaces free of debris and organic material. Processed RAP stockpiles must be only homogeneous RAP.

#### 39-1.03 HOT MIX ASPHALT MIX DESIGN REQUIREMENTS

##### 39-1.03A General

The mix design process consists of performing California Test 367 and laboratory procedures on combinations of aggregate gradations and asphalt binder contents to determine the OBC and HMA mixture qualities. The results become the proposed JMF.

Use the *Contractor Hot Mix Asphalt Design Data* form to record aggregate quality and mix design data. Use the *Contractor Job Mix Formula Proposal* form to present the JMF.

Laboratories testing aggregate qualities and preparing the mix design and JMF must be qualified under the Department's Independent Assurance Program. Take samples under California Test 125.

The Engineer reviews the aggregate qualities, mix design, and JMF and verifies and authorizes the JMF.

You may change the JMF during production. Do not use the changed JMF until it is authorized. Except if adjusting the JMF as specified in section 39-1.03E, perform a new mix design and submit a new JMF submittal if you change any of the following:

1. Target asphalt binder percentage



2. Asphalt binder supplier
3. Combined aggregate gradation
4. Aggregate sources
5. Substitution rate for RAP aggregate of more than 5 percent
6. Any material in the JMF

### 39-1.03B Hot Mix Asphalt Mix Design

Perform a mix design that produces HMA with the values for the quality characteristics shown in the following table:

**HMA Mix Design Requirements**

Quality characteristic	Test method	HMA type		
		A	Not Used	Not Used
Air void content (%)	California Test 367	4.0		
Voids in mineral aggregate (% min.)	California Test 367		E	
No. 4 grading		17.0		
3/8" grading		15.0		
1/2" grading		14.0		
3/4" grading		13.0		
Voids filled with asphalt (%)	California Test 367			
No. 4 grading		76.0–80.0		
3/8" grading		73.0–76.0		
1/2" grading		65.0–75.0		
3/4" grading		65.0–75.0		
Dust proportion	California Test 367			
No. 4 and 3/8" gradings		0.9–2.0		
1/2" and 3/4" gradings		0.6–1.3		
Stabilometer value (min.) <sup>b</sup>	California Test 366			
No. 4 and 3/8" gradings		30		
1/2" and 3/4" gradings		37		

<sup>a</sup> Not Used

<sup>b</sup> California Test 304, Part 2.13.

Report the average of 3 tests. If the range of stability for the 3 briquettes is more than 8 points, prepare new briquettes and test again. The average air void content may vary from the specified air void content by  $\pm 0.5$  percent.

### 39-1.03C Job Mix Formula Submittal

Each JMF submittal must consist of:

1. Proposed JMF on a *Contractor Job Mix Formula Proposal* form
2. Mix design records on a *Contractor Hot Mix Asphalt Design Data* form dated within 12 months of submittal
3. Form CEM-3513 for mixes that have been verified within last 12 months.
4. MSDS for the following:
  - 4.1. Asphalt binder
  - 4.2. Supplemental fine aggregate except fines from dust collectors

If the Engineer requests, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 lb each:

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must be at least 120 lb for each coarse aggregate, 80 lb for each fine aggregate, and 10 lb for each type of supplemental fines. The City combines these aggregate samples to comply with the JMF TVs submitted on a *Contractor Job Mix Formula Proposal* form.

2. RAP from stockpiles or RAP system. Samples must be at least 60 lb.
3. Asphalt binder from the binder supplier. Samples must be in two 1-quart cylindrical-shaped cans with open top and friction lids.

For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 2 parts and keep 2 parts. You and the Engineer must each keep 1 part in the event of dispute resolution.

### **39-1.03D Job Mix Formula Review**

The Engineer reviews each mix design and proposed JMF within 5 business days from the complete JMF submittal. The review consists of reviewing the mix design procedures and comparing the proposed JMF with the specifications.

The Engineer may verify aggregate quality characteristics during this review period.

### **39-1.03E Job Mix Formula Verification**

If you cannot submit a verified JMF on a *Caltrans Hot Mix Asphalt Verification* form dated within 12 months before HMA production, coordinate JMF verification with the Engineer. The JMF may be verified using the procedure specified in this section, at the Engineer's option.

Based on your testing and production experience, you may submit an adjusted JMF on a *Contractor Job Mix Formula Proposal* form before verification testing. JMF adjustments may include a change in the:

1. Asphalt binder content TV up to  $\pm 0.6$  percent from the OBC value submitted on a *Contractor Hot Mix Asphalt Design Data* form; do not adjust the TV for asphalt rubber binder below 7.0 percent
2. Aggregate gradation TVs within the TV limits specified in the aggregate gradation tables

For HMA Type A, , the Engineer verifies the JMF from samples taken from HMA produced by the plant to be used. Notify the Engineer at least 2 business days before sampling materials.

In the Engineer's presence and from the same production run, take samples of:

1. Aggregate
2. Asphalt binder
3. RAP
4. HMA

Sample aggregate from cold feed belts or hot bins. Sample RAP from the RAP system. Sample HMA under California Test 125, except if you request and if authorized, you may sample from any of the following locations:

1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. Mat behind the paver

You may sample from a different project, including a non-City project, if you make arrangements for the Engineer to be present during sampling.

For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 2 parts and keep 2 parts . You and the Engineer must each keep 1 part in the event of dispute resolution.

The Engineer verifies each proposed JMF within 20 days of receiving all verification samples and the JMF submittal has been accepted. Verification is testing for compliance with the specifications for:

1. Aggregate quality
2. Aggregate gradation TVs within the TV limits
3. Asphalt binder content TV within the TV limit
4. HMA quality specified in the table HMA Mix Design Requirements except:

- 4.1. Air void content, design value  $\pm 2.0$  percent
- 4.2. Voids filled with asphalt, report only if an adjustment for asphalt binder content TV is less than  $\pm 0.3$  percent from OBC
- 4.3. Dust proportion, report only if an adjustment for asphalt binder content TV is less than  $\pm 0.3$  percent from OBC

The Engineer prepares 3 briquettes from a single split sample. To verify the JMF for stability and air void content, the Engineer tests the 3 briquettes and reports the average of 3 tests. The Engineer prepares new briquettes if the range of stability for the 3 briquettes is more than 8 points.

The Engineer may use the briquettes used for stability testing to determine bulk specific gravity under California Test 308. If the same briquettes are used and the tests using bulk specific gravity fail, the Engineer prepares 3 new briquettes and determines a new bulk specific gravity.

If the JMF is verified, the Engineer provides you a *Caltrans Hot Mix Asphalt Verification* form.

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF submittal or submit an adjusted JMF based on your testing. JMF adjustments may include a change in:

1. Asphalt binder content TV up to  $\pm 0.6$  percent from the OBC value submitted on a *Contractor Hot Mix Asphalt Design Data* form except do not adjust the TV for asphalt rubber binder for RHMA-G below 7.0 percent
2. Aggregate gradation TVs within the TV limits specified in the aggregate gradation tables

You may adjust the JMF only once due to a failed verification test. An adjusted JMF requires a new *Contractor Job Mix Formula Proposal* form and verification of a plant-produced sample.

The Engineer re verifies the JMF if HMA production has stopped for longer than 30 days and the verified JMF is older than 12 months.

For each HMA type and aggregate size specified, the Engineer verifies at the City's expense up to 2 proposed JMF, including a JMF adjusted after verification failure. The Engineer deducts \$3,000 from payments for each verification exceeding this limit. This deduction does not apply to verifications initiated by the Engineer or if a JMF expires while HMA production is stopped longer than 30 days.

### **39-1.03F Job Mix Formula Renewal**

You may request a JMF renewal by submitting:

1. Proposed JMF on a *Contractor Job Mix Formula Proposal* form
2. Previously verified JMF documented on a *Caltrans Hot Mix Asphalt Verification* form dated within 12 months
3. Mix design documentation on a *Contractor Hot Mix Asphalt Design Data* form used for the previously verified JMF

If the Engineer requests, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 lb each:

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 120 lb for each coarse aggregate, 80 lb for each fine aggregate, and 10 lb for each type of supplemental fines. The Department combines these aggregate samples to comply with the JMF TVs submitted on a *Contractor Job Mix Formula Proposal* form.
2. RAP from stockpiles or RAP system. Samples must be at least 60 lb.
3. Asphalt binder from the binder supplier. Samples must be in two 1-quart cylindrical-shaped cans with open top and friction lids.

For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 2 parts and keep 2 parts. You and the Engineer must each keep 1 part in the event of dispute resolution.

The Engineer reviews each complete JMF renewal submittal within 5 business days.

The Engineer may verify aggregate qualities during this review period.

The Engineer verifies the JMF under section 39-1.03E except:

1. Engineer retains samples until you provide test results for your part on a *Contractor Job Mix Formula Renewal* form.
2. Department tests samples of materials obtained from the HMA production unit after you submit test results that comply with the specifications for the quality characteristics in section 39-1.03E.
3. Engineer verifies each proposed JMF within 30 days of receiving verification samples.
4. You may not adjust the JMF due to a failed verification.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the Department's expense 1 proposed JMF.

If the Engineer verifies the JMF renewal, the Engineer provides you a *Caltrans Hot Mix Asphalt Verification* form.

### **39-1.03G Job Mix Formula Acceptance**

You may start HMA production if:

1. Engineer's review of the JMF shows compliance with the specifications
2. Department has verified the JMF within 12 months before HMA production
3. Engineer authorizes the verified JMF

### **39-1.04 CONTRACTOR QUALITY CONTROL**

#### **39-1.04A General**

Establish, maintain, and change a quality control system to ensure materials and work comply with the specifications.

You are not required to submit quality control test results. However, if quality control test results are not submitted to the Engineer within 3 days of paving, you waive the right to dispute the Engineer's results.

You must identify the HMA sampling location in your QC plan. During production, take samples under California Test 125, except if you request and if authorized, sample HMA from any of the following locations:

1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. Mat behind the paver

#### **39-1.04B Prepaving Conference**

Hold a prepaving conference with the Engineer at a mutually agreed time and place. Discuss methods of performing the production and paving work.

#### **39-1.04C Aggregate**

Determine the aggregate moisture content and RAP moisture content in continuous mixing plants at least twice a day during production and adjust the plant controller. Determine the RAP moisture content in batch mixing plants at least twice a day during production and adjust the plant controller.

#### **39-1.04D Reclaimed Asphalt Pavement**

Perform RAP quality control testing each day.

Sample RAP once daily and determine the RAP aggregate gradation under California Test 367, appendix B, and submit the results with the combined aggregate gradation.

### **39-1.04E Density Cores**

To determine density for Standard construction process projects, take 4- or 6-inch diameter density cores at least once every 5 business days. Take 1 density core for every 250 tons of HMA from random locations the Engineer designates. Take density cores in the Engineer's presence and backfill and compact holes with authorized material. Before submitting a density core, mark it with the density core's location and place it in a protective container.

If a density core is damaged, replace it with a density core taken within 1 foot longitudinally from the original density core. Relocate any density core located within 1 foot of a rumble strip to 1 foot transversely away from the rumble strip.

### **39-1.04F Briquettes**

Prepare 3 briquettes for each stability and air void content determination. Report the average of 3 tests. Prepare new briquettes and test again when the range of stability for the 3 briquettes is more than 8 points.

You may use the same briquettes used for stability testing to determine bulk specific gravity under California Test 308. If you use these briquettes and tests using bulk specific gravity fail, you may prepare 3 new briquettes and determine a new bulk specific gravity.

### **39-1.05 ACCEPTANCE CRITERIA**

HMA acceptance is specified in the sections for each HMA construction process.

The Department samples materials for testing under California Test 125 and the applicable test method, except samples may be taken:

1. At the plant from a truck or an automatic sampling device
2. From the mat behind the paver

Sampling must be independent of Contractor quality control, statistically based, and random.

If you request, the Department splits samples and provides you with a part.

HMA acceptance is based on:

1. Authorized JMF
2. Accepted QC plan for Standard construction process
3. Compliance with the HMA acceptance tables
54. Visual inspection

The City prepares 3 briquettes for each stability and air void content determination. The average of 3 tests is reported. If the range of stability for the 3 briquettes is more than 8 points, new briquettes are prepared and tested.

The City may use the briquettes used for stability testing to determine bulk specific gravity under California Test 308. If the Engineer uses the same briquettes and the tests using that bulk specific gravity fail, the Engineer prepares 3 new briquettes and determines a new bulk specific gravity.

### **39-1.06 DISPUTE RESOLUTION**

Work with the Engineer to avoid potential conflicts and to resolve disputes regarding test result discrepancies. Notify the Engineer within 5 days of receiving a test result if you dispute the test result.

If you or the Engineer dispute each other's test results, submit quality control test results and copies of paperwork including worksheets used to determine the disputed test results. An independent third party performs referee testing. Before the independent third party participates in a dispute resolution, the party must be accredited under the Department's Independent Assurance Program. The independent third party must be independent of the project. By mutual agreement, the independent third party is chosen by mutual agreement.

If split quality control or acceptance samples are not available, the independent third party uses any available material representing the disputed HMA for evaluation.

### **39-1.07 PRODUCTION START-UP EVALUATION**

The Engineer evaluates HMA production and placement at production start-up.

Within the first 750 tons produced on the 1st day of HMA production, in the Engineer's presence and from the same production run, take samples of:

1. Aggregate
2. Asphalt binder
3. RAP
4. HMA

Sample aggregate from cold feed belts or hot bins. Take RAP samples from the RAP system. Sample HMA under California Test 125, except if you request and if authorized, you may sample HMA from any of the following locations:

1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. Mat behind the paver

For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 2 parts and keep 2 parts. You and the Engineer must each keep 1 part in the event of dispute resolution.

You and the Department must test the split samples and report test results within 3 business days of sampling. If you proceed before receipt of the test results, the Engineer may consider the HMA placed to be represented by these test results.

Take 4- or 6-inch diameter density cores within the first 750 tons on the 1st day of HMA production. For each density core, the Department reports the bulk specific gravity determined under California Test 308, Method A, in addition to the percent of maximum theoretical density. You may test for in-place density at the density core locations and include them in your production tests for percent of maximum theoretical density.

### **39-1.08 PRODUCTION**

#### **39-1.08A General**

Do not start HMA production before JMF is authorized

Produce HMA in a batch mixing plant or a continuous mixing plant. Proportion aggregate by hot or cold feed control.

Before production, the HMA plant must have current qualification under the Caltrans' Materials Plant Quality Program or be approved by the Engineer.

During production, you may adjust:

1. Hot or cold feed proportion controls for virgin aggregate and RAP
2. Set point for asphalt binder content

#### **39-1.08B Mixing**

Mix HMA ingredients into a homogeneous mixture of coated aggregates.

Asphalt binder must be from 275 to 375 degrees F when mixed with aggregate.

When mixed with asphalt binder, aggregate must not be more than 325 degrees F. These aggregate temperature specifications do not apply if you use RAP.

HMA with or without RAP must not be more than 325 degrees F.

### 39-1.09 SUBGRADE AND TACK COAT

#### 39-1.09A General

Prepare subgrade or apply tack coat to surfaces receiving HMA.

#### 39-1.09B Subgrade

Subgrade to receive HMA must comply with the compaction and elevation tolerance specifications in the sections for the material involved. Subgrade must be free of loose and extraneous material. If HMA is paved on existing base or pavement, remove loose paving particles, dirt, and other extraneous material by any means including flushing and sweeping.

#### 39-1.09C Tack Coat

Apply tack coat:

1. To existing pavement, including planed surfaces
2. Between HMA layers
3. To vertical surfaces of:
  - 3.1. Curbs
  - 3.2. Gutters
  - 3.3. Construction joints

Before placing HMA, apply tack coat in 1 application. The application rate must be the minimum residual rate specified for the underlying surface conditions shown in the following tables:

**Tack Coat Application Rates for HMA Type A**

HMA overlay over:	Minimum residual rates (gal/sq yd)		
	CSS1/CSS1h, SS1/SS1h and QS1h/CQS1h asphaltic emulsion	CRS1/CRS2, RS1/RS2 and QS1/CQS1 asphaltic emulsion	Asphalt binder and PMRS2/PMCRS2 and PMRS2h/PMCRS2h asphaltic emulsion
New HMA (between layers)	0.02	0.03	0.02
PCC and existing HMA (AC) surfaces	0.03	0.04	0.03
Planed PCC and HMA (AC) surfaces	0.05	0.06	0.04

If you dilute asphaltic emulsion, mix until homogeneous before application.

For vertical surfaces, apply a residual tack coat rate that will thoroughly coat the vertical face without running off.

If you request and if authorized, you may:

1. Change tack coat rates
2. Omit tack coat between layers of new HMA during the same work shift if:
  - 2.1. No dust, dirt, or extraneous material is present
  - 2.2. Surface is at least 140 degrees F

Immediately in advance of placing HMA, apply additional tack coat to damaged areas or where loose or extraneous material is removed.

Close areas receiving tack coat to traffic. Do not track tack coat onto pavement surfaces beyond the job site.

Asphalt binder tack coat must be from 285 to 350 degrees F when applied.

### **39-1.10 SPREADING AND COMPACTING EQUIPMENT**

Paving equipment for spreading must be:

1. Self-propelled
2. Mechanical
3. Equipped with a screed or strike-off assembly that can distribute HMA the full width of a traffic lane
4. Equipped with a full-width compacting device
5. Equipped with automatic screed controls and sensing devices that control the thickness, longitudinal grade, and transverse screed slope

Install and maintain grade and slope references.

The screed must produce a uniform HMA surface texture without tearing, shoving, or gouging.

The paver must not leave marks such as ridges and indentations, unless you can eliminate them by rolling.

Rollers must be equipped with a system that prevents HMA from sticking to the wheels. You may use a parting agent that does not damage the HMA or impede the bonding of layers.

In areas inaccessible to spreading and compacting equipment:

1. Spread the HMA by any means to obtain the specified lines, grades, and cross sections.
2. Use a pneumatic tamper, plate compactor, or equivalent to achieve thorough compaction.

### **39-1.11 TRANSPORTING, SPREADING, AND COMPACTING**

Submit material delivery tickets daily.

Do not pave HMA on wet pavement or a frozen surface.

You may deposit HMA in a windrow and load it in the paver if:

1. Paver is equipped with a hopper that automatically feeds the screed
2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
3. Activities for deposit, pickup, loading, and paving are continuous
4. HMA temperature in the windrow does not fall below 260 degrees F

You may pave HMA in 1 or more layers on areas less than 5 feet wide and outside the traveled way, including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture.

HMA handled, spread, or windrowed must not stain the finished surface of any improvement, including pavement.

Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.

HMA must be free of:

1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

Longitudinal joints in the top layer must match specified lane edges. Alternate the longitudinal joint offsets in the lower layers at least 0.5 foot from each side of the specified lane edges. You may request other longitudinal joint placement patterns.

Until the adjoining through lane's top layer has been paved, do not pave the top layer of:



1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Turn pockets

If the number of lanes changes, pave each through lane's top layer before paving a tapering lane's top layer. Simultaneous to paving a through lane's top layer, you may pave an adjoining area's top layer, including shoulders. Do not operate spreading equipment on any area's top layer until completing final compaction.

If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material.

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving. Complete finish rolling activities before the pavement surface temperature is:

1. Below 150 degrees F for HMA with unmodified binder

If a vibratory roller is used as a finish roller, turn the vibrator off.

Construct temporary pavement transitions at transverse paving joints greater than 1 inch before allowing traffic onto the paved surface. Temporary pavement transitions must have a maximum slope of 20:1 or as approved by the engineer and be constructed on a 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.

Maintain the temporary pavement until final paving. Inspect each temporary transition and repair as necessary to comply with these provisions at the end of each day including weekends and holidays.

Failure to comply with temporary pavement transition 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.

Have hand-compaction equipment immediately available for compacting areas inaccessible to rollers. Perform hand-compaction concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, suspend placement of hot mix asphalt until hand-compaction is caught up. Hand-compaction includes vibraplates and hand tampers. Hand torches must be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas must match the surface texture of the machine placed mat. Correct coarse or segregated areas immediately upon discovery. The Engineer may suspend HMA placement until coarse or segregated areas are corrected.

Do not allow traffic on new HMA pavement until its mid-depth temperature is below 160 degrees F.

If you request and if authorized, you may cool HMA Type A with water when rolling activities are complete. Apply water under section 10-6.

No deviation from the above requirements will be allowed without written authorization.

### **39-1.12 SMOOTHNESS**

#### **39-1.12A General**

Determine HMA smoothness with a profilograph and a straightedge.

### **39-1.12B Straightedge**

The top layer of HMA pavement must not vary from the lower edge of a 12-foot straightedge:

1. More than 0.01 foot when the straightedge is laid parallel with the centerline
2. More than 0.02 foot when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane
3. More than 0.02 foot when the straightedge is laid within 24 feet of a pavement conform

### **39-1.12C Profilograph**

For the top layer of HMA Type A pavement, determine the  $PI_0$  and must-grinds under California Test 526. Take 2 profiles within each traffic lane, 3 feet from and parallel with the edge of each lane.

must-grind is a deviation of 0.3 inch or more in a length of 25 feet. You must correct must-grinds.

Profile the pavement in the Engineer's presence.

On tangents and horizontal curves with a centerline radius of curvature of 2,000 feet, the  $PI_0$  must be at most 3 inches per 0.1-mile section.

On horizontal curves with a centerline radius of curvature from 1,000 to 2,000 feet, including pavement within the superelevation transitions, the  $PI_0$  must be at most 6 inches per 0.1-mile section.

The following HMA pavement areas do not require a  $PI_0$ . You must measure these areas with a 12-foot straightedge and determine must-grinds with a profilograph:

1. New HMA with a total thickness less than 0.25 foot
2. HMA sections of city or county streets and roads, turn lanes, and collector lanes less than 1,500 feet in length

The following HMA pavement areas do not require a  $PI_0$  and you must measure them with a 12-foot straightedge:

1. Horizontal curves with a centerline radius of curvature less than 1,000 feet, including pavement within the superelevation transitions of those curves
2. Within 12 feet of a transverse joint separating the pavement from:
  - 2.1. Existing pavement not constructed under the same project
3. Turn lanes
4. Areas within 15 feet of manholes or drainage transitions
5. Acceleration and deceleration lanes for at-grade intersections
6. Shoulders and miscellaneous areas
7. HMA pavement within 3 feet from and parallel to the construction joints formed between curbs, gutters, or existing pavement

### **39-1.12D Smoothness Correction**

If the top layer of HMA Type A pavement does not comply with the smoothness specifications, grind the pavement to within specified tolerances, remove and replace it, or place an overlay of HMA. Do not start corrective work until your choice of methods is authorized.

Smoothness corrections must leave at least 75 percent of the specified HMA thickness. If ordered, core the pavement at the locations selected by the Engineer. Remove and replace deficient pavement areas where the overlay thickness is less than 75 percent of the thickness specified.

Corrected HMA pavement areas must be uniform rectangles with edges:

1. Parallel to the nearest HMA pavement edge or lane line
2. Perpendicular to the pavement centerline

Measure the corrected HMA pavement surface with a profilograph and a 12-foot straightedge and correct the pavement to within specified tolerances. If a must-grind area or straightedged pavement cannot be corrected to within specified tolerances, remove and replace the pavement.

### **39-1.14 MISCELLANEOUS AREAS AND DIKES**

The following specifications in section 39 do not apply to miscellaneous areas and dikes:

1. HMA construction process
2. HMA mix design requirements
3. Contractor quality control
4. Production start-up evaluation

Miscellaneous areas are outside the traveled way and include:

1. Median areas not including inside shoulders
2. Island areas
3. Sidewalks
4. Gutters
5. Gutter flares
6. Ditches
7. Overside drains
8. Aprons at the ends of drainage structures

Spread miscellaneous areas in 1 layer and compact to the specified lines and grades.

For miscellaneous areas and dikes:

1. Do not submit a JMF.
2. Choose the 3/8-inch or 1/2-inch HMA Type A and Type B aggregate gradations.
3. Minimum asphalt binder content must be 6.8 percent for 3/8-inch aggregate and 6.0 percent for 1/2-inch aggregate. If you request and if authorized, you may reduce the minimum asphalt binder content.
4. Choose asphalt binder Grade PG 70-10 or the same grade specified for HMA.

### **39-1.15 MINOR HOT MIX ASPHALT**

#### **39-1.15A GENERAL**

##### **39-1.15A Summary**

The following specifications in section 39 do not apply to minor HMA:

1. HMA construction process
2. HMA mix design requirements
3. Contractor quality control
4. Production start-up evaluation

##### **39-1.15B MATERIALS**

The minimum asphalt binder content must be 6.8 percent for 3/8-inch aggregate gradation and 6.0 percent for 1/2-inch aggregate gradation.

Choose asphalt binder Grade PG 64-10, PG 64-16, or PG 70-10.

If you request and if authorized, you may reduce the minimum asphalt binder content.

Choose the 3/8-inch or 1/2-inch HMA Type A or Type B aggregate gradation.

##### **39-1.15C CONSTRUCTION**

Produce HMA at a central mixing plant.

Choose any method and equipment to spread and compact.

The surface must be:

1. Textured uniformly
2. Compacted firmly
3. Without depressions, humps, and irregularities

Smoothness specifications do not apply.

### **39-3 METHOD CONSTRUCTION PROCESS**

#### **39-3.01 GENERAL**

Section 39-3 includes specifications for HMA produced and constructed under the Method construction process.

#### **39-3.02 ACCEPTANCE CRITERIA**

##### **39-3.02A Testing**

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

**HMA Acceptance—Method Construction Process**

Quality characteristic	Test method	HMA type			
		A	Not Used	Not Used	Not Used
Aggregate gradation <sup>a</sup>	California Test 202	JMF ± tolerance <sup>b</sup>			
Sand equivalent (min) <sup>c</sup>	California Test 217	47			
Asphalt binder content (%)	California Test 379 or 382	JMF ± 0.45			
HMA moisture content (% max)	California Test 226 or 370	1.0			
Stabilometer value (min) <sup>c, d</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	30 37			
Percent of crushed particles Coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90 75 70			
Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.	California Test 211	12 45			
Air void content (%) <sup>c, e</sup>	California Test 367	4 ± 2			
Fine aggregate angularity (% min)	California Test 234	45			
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only			
Voids filled with asphalt (%) <sup>f</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	76.0–80.0 73.0–76.0 65.0–75.0 65.0–75.0			
Voids in mineral aggregate (% min) <sup>f</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	17.0 15.0 14.0 13.0			
Dust proportion <sup>f</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367	0.9–2.0 0.6–1.3			
Smoothness	Section 39-1.12	12-foot straight-edge and must-grind			
Asphalt binder	Various	Section 92			

<sup>a</sup> The Engineer determines combined aggregate gradations containing RAP under California Test 367.

<sup>b</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

° The Engineer reports the average of 3 tests from a single split sample.

ᵈ California Test 304, Part 2.13.

ᵉ The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

ᶠ Report only if the adjustment for the asphalt binder content TV is less than or equal to ±0.3 percent from the OBC value submitted on a *Contractor Hot Mix Asphalt Design Data* form.

No single test result may represent more than 750 tons or 1 day's production, whichever is less.

For any single quality characteristic except smoothness, if 2 consecutive acceptance test results do not comply with the specifications:

1. Stop production.
2. Take corrective action.
3. Take samples and split each sample into 4 parts in the Engineer's presence. Test 1 part for compliance with the specifications and submit 3 parts to the Engineer. The Department tests 1 part for compliance with the specifications and reserves and stores 2 parts.
4. Demonstrate compliance with the specifications before resuming production and placement.

### 39-3.03 SPREADING AND COMPACTING EQUIPMENT

Each paver spreading HMA Type A must be followed by 3 rollers as follows:

1. One vibratory roller specifically designed to compact HMA. The roller must be capable of at least 2,500 vibrations per minute and must be equipped with amplitude and frequency controls. The roller's gross static weight must be at least 7.5 tons.
2. One oscillating type pneumatic-tired roller at least 4 feet wide. Pneumatic tires must be of equal size, diameter, type, and ply. The tires must be inflated to 60 psi minimum and maintained so that the air pressure does not vary more than 5 psi.
3. One steel-tired, 2-axle tandem roller. The roller's gross static weight must be at least 7.5 tons.

Each roller must have a separate operator. Rollers must be self-propelled and reversible.

### 39-3.04 TRANSPORTING, SPREADING, AND COMPACTING

Pave HMA in maximum 0.25-foot thick compacted layers.

If the surface to be paved is both in sunlight and shade, pavement surface temperatures must be taken in the shade.

Spread HMA Type A at the atmospheric and surface temperatures shown in the following table:

**Minimum Atmospheric and Surface Temperatures**

Compacted layer thickness, feet	Minimum Atmospheric and Surface Temperatures			
	Atmospheric, °F		Surface, °F	
	Unmodified asphalt binder	Not Used	Unmodified asphalt binder	Not Used
< 0.15	55		60	
0.15–0.25	45		50	

If the asphalt binder for HMA Type A is unmodified asphalt binder, complete:

1. First coverage of breakdown compaction before the surface temperature drops below 250 degrees F
2. Breakdown and intermediate compaction before the surface temperature drops below 200 degrees F
3. Finish compaction before the surface temperature drops below 150 degrees F

HMA compaction coverage is the number of passes needed to cover the paving width. A pass is 1 roller's movement parallel to the paving in either direction. Overlapping passes are part of the coverage being made and are not a subsequent coverage. Do not start a coverage until completing the prior coverage.

Start rolling at the lower edge and progress toward the highest part.

Perform breakdown compaction of each layer of HMA Type A with 3 coverages using a vibratory roller. The speed of the vibratory roller in miles per hour must not exceed the vibrations per minute divided by 1,000. If the thickness of the HMA layer is less than 0.08 foot, turn the vibrator off. The Engineer may order fewer coverages if the thickness of the HMA layer is less than 0.15 foot.

Perform intermediate compaction of each layer of HMA Type A with 3 coverages using a pneumatic-tired roller at a speed not exceeding 5 mph.

Perform finish compaction of HMA Type A with 1 coverage using a steel-tired roller.

No deviation from the above requirements will be allowed without written authorization.

## **39-4 EXISTING ASPHALT CONCRETE**

### **39-4.01 GENERAL**

#### **39-4.01A General**

Section 39-4.01 includes general specifications for performing work on existing asphalt concrete facilities.

Work performed on existing asphalt concrete facilities must comply with section 15.

#### **39-4.01B Materials**

Not Used

#### **39-4.01C Construction**

Before removing a portion of an asphalt concrete facility, make a 2-inch deep saw cut to a true line along the limits of the removal area.

#### **39-4.01D Payment**

Not Used

### **39-4.02 REPLACE ASPHALT CONCRETE SURFACING**

#### **39-4.02A General**

Section 39-4.02 includes specifications for replacing asphalt concrete surfacing.

#### **39-4.02B Materials**

HMA to be used for replacing asphalt concrete surfacing must be Type A HMA.

Tack coat must comply with section 39-1.02A.

#### **39-4.02C Construction**

Where replace asphalt concrete surfacing is shown, remove the full depth of the existing asphalt concrete surfacing and replace with HMA. The Engineer determines the exact limits of asphalt concrete surfacing to be replaced.

Replace asphalt concrete in a lane before the lane is specified to be opened to traffic.

Before removing asphalt concrete, outline the replacement area and cut neat lines with a saw or grind to full depth of the existing asphalt concrete. Do not damage asphalt concrete and base remaining in place.

If you excavate the base beyond the specified plane, replace it with HMA.

Do not use a material transfer vehicle for replacing asphalt concrete surfacing.

Before placing HMA, apply a tack coat as specified in section 39-1.09.

Place HMA using method compaction.

#### **39-4.02D Payment**

The payment quantity for replace asphalt concrete surfacing is the volume determined from the dimensions shown.

#### **39-4.03 REMOVE ASPHALT CONCRETE DIKES**

##### **39-4.03A General**

Section 39-4.03 applies to removing asphalt concrete dikes outside the limits of excavation.

##### **39-4.03B Materials**

Not Used

##### **39-4.03C Construction**

Reserved

##### **39-4.03D Payment**

Not Used

#### **39-4.04 COLD PLANING ASPHALT CONCRETE PAVEMENT**

##### **39-4.04A General**

Section 39-4.05 includes specifications for cold planing asphalt concrete pavement.

Cold planing asphalt concrete pavement includes the removal of pavement markers, traffic stripes, and pavement markings within the area of cold planing.

##### **39-4.04B Materials**

HMA for temporary tapers must be Type A HMA.

##### **39-4.04C Construction**

###### **39-4.04C(1) General**

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:
  - 2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
  - 2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation
4. Operated such that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

If you do not complete placing the HMA surfacing before opening the area to traffic, you must:

1. Construct a temporary HMA taper to the level of the existing pavement.
2. Place HMA during the next work shift.
3. Submit a corrective action plan that shows you will complete cold planing and placement of HMA in the same work shift. Do not restart cold planing activities until the corrective action plan is authorized.

###### **39-4.04C(2) Grade Control and Surface Smoothness**

Install and maintain grade and transverse slope references.





## 40 CONCRETE PAVEMENT

### Add to section 40-1.01A:

10" concrete pavement work must comply with the requirements of section 73, except that concrete for 10" pavement must be minor concrete containing at least 550 pounds of cementitious material per cubic yard. The specifications for reducing cementitious material content in section 90-1.02E(2) do not apply.

AA

## DIVISION VI STRUCTURES

### 51 CONCRETE STRUCTURES

#### Add to section 51-1.03B:

You may use PC drainage inlets and manholes as an alternative to CIP drainage inlets and manholes.

#### Add to section 51-4.01C(1):

For PC drainage inlets and manholes, submit field repair procedures and a patching material test sample before repairs are made. Allow 10 days for the Engineer's review.

#### Add to section 51-4.01C(2)(a):

For drainage inlets and manholes with oval or circular cross sections, submit shop drawings with calculations. Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State. Allow 15 days for the Engineer's review.

#### Add to section 51-4.01D(3):

The Engineer may reject PC drainage inlets or manholes exhibiting any of the following:

1. Cracks more than 1/32 inch wide
2. Nonrepairable honeycombed or spalled areas of more than 6 square inches
3. Noncompliance with reinforcement tolerances or cross sectional area shown
4. Wall, inlet floor, or lid less than minimum thickness
5. Internal dimensions less than dimensions shown by 1 percent or 1/2 inch, whichever is greater
6. Defects affecting performance or structural integrity

#### Add to section 51-4.02C:

Materials for PC drainage inlets and manholes must comply with the following:

1. Preformed flexible joint sealant must be butyl-rubber complying with ASTM C990
2. Resilient connectors must comply with ASTM C923
3. Sand bedding must comply with section 19-3.02F(2)
4. Bonding agents must comply with ASTM C1059/C1059, Type II

#### Add to section 51-4.02D:

##### 51-4.02D(8) Drainage Inlets and Manholes

PC units for drainage inlets must be rectangular, round, or oval in cross section, or any combination. Transitions from a rectangular grate opening to a round or oval basin must be made in not less than 8 inches. Provide means for field adjustment to meet final grade, paving, or surfacing.

PC units for manholes must be round.

If oval or circular shape cross-sections are furnished, they must comply with *AASHTO LRFD Bridge Design Specifications, Sixth Edition with California Amendments*.

Wall and slab thicknesses may be less than the dimensions shown by at most 5 percent or 3/16 inch, whichever is greater.

Reinforcement placement must not vary more than 1/2 inch from the positions shown.

**Add to section 51-4.03:**

**51-4.03H Drainage Inlets and Manholes**

Repair PC drainage inlet and manhole sections to correct damage from handling or manufacturing imperfections before installation.

Center pipes in openings to provide a uniform gap. Seal gaps between the pipe and the inlet opening with nonshrink grout under the grout manufacturer's instructions. For systems designated as watertight, seal these gaps with resilient connectors.

Match fit keyed joints to ensure uniform alignment of walls and lids. Keys are not required at the structure floor level if the floor is precast integrally with the structure wall. Seal keyed joint locations with preformed butyl rubber joint sealant. You may seal the upper lid and wall joint with nonshrink grout.

Clean keyed joint surfaces before installing sealant. Joint surfaces must be free of imperfections that may affect the joint. Use a primer if surface moisture is present. Use a sealant size recommended by the sealant manufacturer. Set joints using sealant to create a uniform bearing surface.

Flat drainage inlet floors must have a field-cast topping layer at least 2 inches thick with a slope of 4:1 (horizontal:vertical) toward the outlet. Use a bonding agent when placing the topping layer. Apply the bonding agent under the manufacturer's instructions.

**Replace the second item in paragraph 2 of section 51-7.01A with:**

2. Drainage inlets, hydrodynamic separator, and storm or sanitary sewer manholes

**Add to section 51-7.01B:**

Waterproofing for sanitary sewer manhole must be cementitious, with acrylic additive.

**Add to section 51-7.01C:**

Clean and prepare sanitary sewer manhole surface and apply cementitious waterproofing to inside and outside of manholes according to manufacturer's instructions for a guaranteed product application. Apply primer if recommended by manufacturer, and apply manufacturer's recommended number of waterproofing product coats.

**Replace the last sentence in section 51-7.01D with:**

Payment for metal frames and covers or frames and grates is included in the payment for inlets and manholes.

No unit price adjustment will be made for changes in drainage structure sizes resulting from alterations to storm retention system design shown.



3. Include fittings necessary to connect storage to 18-inch HDPE pipe
4. Include inspection ports (minimum number as shown)
5. Have a minimum H-20 load rating
6. Use chambers designed in accordance with ASTM F 2787
7. Include stone, filter fabric, and all components for a complete and functional system
8. Meet AASHTO section 12.12 safety factors
9. Have continuous, unobstructed internal space with no internal support panels.

## **62-2.02 SUBMITTALS**

### **62-2.02A General**

Submit product information in compliance with section 7.03 of special provision volume I.

Submit a certificate of compliance for each delivery of polypropylene chamber and endcap used in the retention system.

Submit a certificate of compliance stating that the designed system complies with AASHTO LRFD Bridge Design Specifications, Section 12.12.

Submit a letter certifying that installation complies with manufacturer's warranty conditions.

Submit inspection and maintenance procedures, and upon request, three references for verifying successful completion of the maintenance procedures and associated costs.

### **62-2.02B Shop Drawings**

Submit shop drawings electronically in pdf format.

Shop drawing submittal must:

1. Be signed by an engineer who is registered as a civil engineer in the State of California.
2. Include a layout plan of the chambers, end caps and manifolds with dimensions and elevations for installation.
3. Show details necessary for the installation of the chambers including: proper joining of chamber and end caps, pipe connections, placement of screws, and proper installation of all appurtenances provided required for complete storage system.
4. Include instructions for the installation and backfill of chambers, end caps and appurtenances
5. Include all documents referenced in the shop drawings
6. Show resulting changes to drainage structure designs shown on contract plans, if any.
7. Include a design summary by the manufacturer that demonstrates that the system will convey peak flow rates without scour of foundation stone.

## **62-2.03 MATERIALS**

### **62-2.03A General**

The subsurface stormwater retention structure must be:

1. Stormtech MC-3500

2. Prinsco HydroStor
3. Contech ChamberMaxx
4. Or approved equal

Stone, geotextile fabric, and other components required to complete the storage system must be per manufacturer's recommendation.

Alternative "Equal" system must have three successful installations in the State of California within the last five years, and three references as to the successful maintenance of the system.

#### **62-2.03B Handling**

Check materials upon delivery for damage and to assure that the proper chamber size and plastic pipe and pipe fittings have been received. Do not install damaged units.

Chambers may be left palletized until the units are ready to be installed. Chambers, pipe and pipe fittings must be delivered to the site and unloaded with handling that conforms to the manufacturer's instructions for reasonable care. Protect chamber and chamber fittings from dirt and damage. Protect pipe and chambers against impact, shock and free fall, and use only equipment of sufficient capacity and proper design in the handling of the pipe.

Storage of the pipe on the job site shall be in accordance with the pipe manufacturer's recommendations. Refer to the fabric manufacturer's guidance for handling and storage of fabric products on site.

#### **62-2.04 CONSTRUCTION**

Schedule and attend a pre-installation conference with Engineer and manufacturer to discuss installation. Give manufacturer at least 30 days notice.

Installation of the system must be supervised by an individual with previous experience installing the specific system.

Involve the manufacturer's representative as necessary to meet the warranty requirements. Provide safe access for the manufacturer's representative.

Complete the installation in accordance with the manufacturer's requirements such that the installed project meet the manufacturer's warranty requirements. Your failure to follow the manufacturer's requirements or to rectify deficiencies that are cause to void the manufacturer's warranty may result in withheld payment.

Earthwork must comply with section 19. Control water as needed.

Protect inlets to the stormwater retention system during construction. Pipe plugs may be used in the inlet manhole pipes to prevent construction sediments from clogging the system. Once construction has ceased, remove pipe plugs to allow normal system functionality. Protect all inlet and outlet structures against construction sediments.

#### **62-2.05 PAYMENT**

Payment for stormwater retention structure includes payment for adjustments to earthwork or proposed connecting drainage structures resulting from revisions you make to the stormwater retention structure design shown.

### **62-3 HYDRODYNAMIC SEPARATOR**

#### **62-3.01 GENERAL**

Section 62-3 includes requirements for constructing a hydrodynamic separator upstream of the stormwater retention structure.

The hydrodynamic separator must:

1. Be self-activating with no mechanical parts or external power requirements.

Earthwork must comply with section 19.

### **62-3.02 SUBMITTALS**

Submit:

1. Product information in compliance with section 7.03 of special provision volume I.
2. A letter certifying that installation complies with manufacturer's warranty conditions.
3. A site plan showing location and orientation of proposed pipes, connections and excavation limits.
4. Product installation drawings showing plan and elevation views with water elevations for the flow conditions specified herein.
5. Performance data as required in Performance section.
6. Inspection and maintenance procedures and upon request, three references for verifying successful completion of the maintenance procedures and associated costs.
7. Upon request, a list of at least two successful installations and operations with reference contacts completed within the State of California. The referenced units shall have a minimum treatment flow capacity equal to the specified hydraulic performance requirements of this project and have demonstrated their nonclogging characteristics during normal operation.

### **62-3.03 MATERIALS**

#### **62-3.03A Manufacturers**

Hydrodynamic separator must be manufactured by:

1. Hydro International
2. ConTech
3. BaySavers
4. Or approved equal.

The manufacturer must be a Stormwater Equipment Manufacturer Association (SWEMA) member.

Reinforcement must comply with section 52.

#### **62-3.03B Performance**

Performance of the hydrodynamic separator must be based on independent full-scale laboratory and/or field testing and must adhere to the Performance Specifications in Table 1. The laboratory testing used to verify product performance must be undertaken in accordance with testing protocols approved or endorsed by SWEMA or acceptable State agency.

Performance of the hydrodynamic separator must be based on treating the Peak Treatment Flow rate (PTF) of 3 cfs without internally bypassing and without re-suspension and washout of captured pollutants (scour).

The hydrodynamic separator must:

1. Remove greater than or equal to 80% of TSS based on the Target Particle Size (TPS) of 50 microns and/or 100 microns at MTFR-50 and MTFR-100, respectively.
2. Treat all flows without internally bypassing up to the Peak Treatment Flow Rate (PTFR).
3. Be capable of capturing and retaining fine silt and sand size particles. Analysis of captured sediment from full-scale field installations must demonstrate particle sizes predominately in the 20-micron range.







**Add to section 73-1.04:**

Payment for sidewalk drain is included in payment for related items of work.

**Add to section 73-1.02:**

**73-1.02C Quality Assurance**

Submit a color sample from the manufacturer of the concrete coloring compound.

Construct a test panel of sidewalk paving with adjacent curb and gutter at the job site before placing any permanent integrally colored concrete.

The test panel must be:

1. At least 4 by 6 feet
2. Constructed with the same materials as the permanent work
3. Finished and cured using the same methods as the permanent work

If the test panel is rejected, construct another test panel.

Color the concrete by mixing in a fine ground, synthetic mineral oxide. The synthetic mineral oxide must be specifically manufactured for coloring concrete. After curing and when air dry, the integrally colored concrete must match the referee sample. The color is similar to color no. 36081 of FED-STD-595.

**Replace section 73-1.03A with:**

Construct contraction sawcut joints by making two sawcuts, as shown. Immediately apply curing compound to the exposed surfaces of saw cut joints.

Construct decorative sawcut joints by saw cutting hardened concrete to a depth of ¼ inch as shown.

Construct expansion joints at the ends of curb returns and as shown. Fill expansion joints with 1/4-inch-thick preformed joint filler. Finish the concrete adjacent to expansion joints with an edger tool. Do not construct expansion joints within 20 feet of an island nose. Shape the preformed joint filler to match the surface contour of the concrete.

**Replace section 73-3.01B:**

**Sidewalk:** Pedestrian area; integrally colored 4" and 6" concrete paving between private properties and curb.

**Add to section 73-3.01C:**

Within 2 business days of performing the surveys, submit preconstruction and post-construction surveys sealed and signed by one of the following:

1. Land surveyor licensed in the State
2. Civil engineer licensed in the State before January 1, 1982

Submit shop drawings for sidewalk paving indicating detailed conform grades at adjacent private property frontages, and proposed location of decorative, expansion and contraction joints.

**Replace Reserved in section 73-3.01D(3) with:**

For new sidewalk paving and curb ramp locations, perform a preconstruction survey to verify that forms and site constraints will allow the design dimensioning and slope requirements to be achieved. Upon completing construction of these facilities, perform a post-construction survey and verify that design dimensioning and slope requirements were achieved. The post-construction survey must include a



## **77 LOCAL INFRASTRUCTURE**

**Replace reserved section 77 with:**

### **77-1 SANITARY SEWER**

#### **77-1.01 GENERAL**

Section 77-1 includes specifications for constructing and modifying sanitary sewer facilities.

Work includes providing a temporary sanitary sewer diversion.

Comply with requirements for minor structures in section 51.

#### **77-1.02 SUBMITTALS**

Submit a temporary sanitary sewer diversion plan.

#### **77-1.03 MATERIALS**

PVC gravity sewer pipe and fittings shall conform to ASTM D3034 and have integral bell gasket joints.

Inside of pipe must be smooth.

Rubber gaskets must be factory installed and conform to ASTM F477.

Pipe joints shall conform to ASTM D3212.

Locator wire must be a minimum of 12 gauge THW or 12 gauge THWN.

Sanitary sewer manholes must be sound, water-tight structures, constructed with pre-cast concrete sections with concentric or eccentric cone sections, as shown. Manholes must comply with section 51-7.

Manhole frames and covers must comply with the requirements of section 75.

Reinforcement must comply with the requirements of section 52.

Controlled density fill must comply with the requirements of section 19-3.02G.

Filter fabric for sanitary sewer manhole must be Class A and comply with section 88.

Drain rock for sanitary sewer manhole must comply with section 19-3.02D.

#### **77-1.04 CONSTRUCTION**

Modify sanitary sewer manhole as shown.

Comply with section 51 requirements for storm drain manholes for construction of sanitary sewer manhole using pre-cast components.

Structural backfill around sanitary sewer manhole must be controlled density fill complying with the requirements of section 19-3.02G for controlled low-strength material.

Install PVC pipe in compliance with ASTM D 2321. Install locator wire with pipe, continuously for the entire length of pipe laid between manholes. Secure the wire to the pipe by tape wrapped completely around pipe every 12 feet, or less. Leave neatly bound in manhole an excess wire length sufficient to extend 2 feet beyond manhole rim.

Provide a temporary sanitary sewer diversion system with the capacity to divert the anticipated peak flow during construction until the permanent system is constructed and functional. All sewers and lateral connections shall remain in continuous and full operation. Take the necessary precautions to prevent any leakage or sewage spills of any kind onto adjacent property, public or private roadway, drainage systems, or waterways. You are liable for any and all cleanup costs or any fines or penalties that may be levied in the event that any such leakage or spill occurs.

The lateral locations shown on the plans are approximate locations of the laterals. Field verify the exact locations of the laterals.





**Add to section 84-2.01D:**

The manufacturer for bike lane (green) markings must be ISO 9001:2008 certified and provide proof of current certification. The scope of the certification shall include manufacture of reflective highway markings.

**Replace reserved section 84-2.02I with:**

**84-2.02I Bike Lane (Green)**

Bike Lane (Green) marking must be composed of an ester modified rosin resistant to degradation by motor fuels, lubricants, etc. in conjunction with aggregates, pigments, binders, abrasives, and glass beads which have been factory produced as a finished product, and meets the requirements of the current edition of the Manual of Uniform Traffic Control Devices for Streets and Highways. The thermoplastic material conforms to AASHTO designation M249-79 (98), with the exception of the relevant differences due to the material being supplied in a preformed state.

**84-2.02I(1) Graded Glass Beads**

The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall be clear and transparent. Not more than twenty percent (20%) consists of irregular fused spheroids, or silica. The index of refraction shall not be less than 1.50.

The material must have factory applied coated surface beads and abrasives in addition to the intermixed beads at a rate of ½ lb. (±20%) per 11 square feet. The surface beads and abrasives must be applied in an alternating arrangement across the surface of the material so that the surface is covered in what is best described as a “checkerboard” pattern of glass beads and abrasive materials. The abrasive material must have a minimum hardness of 7 (Mohs scale). These factory applied coated surface beads shall have the following specifications:

- a) Minimum 80% rounds
- b) Minimum refractive index of 1.5
- c) Minimum SiO2 Content of 70%;
- d) Maximum iron content of 0.1%

Size Gradation		Retained, %	Passing, %
US Mesh	Um		
12	1700	0 - 2%	98 – 100%
14	1400	0 - 6%	94 – 100%
16	1180	1 – 21%	79 – 99%
18	1000	28 – 62%	38 – 72%
20	850	62 – 71%	29 – 38%
30	600	67 – 77%	23 – 33%
50	300	86 – 95%	5 – 14%
80	200	97 – 100%	0 – 3%

**84-2.02I(2) Pigments**

Green: The material shall be manufactured with sufficient pigment to meet FHWA Docket No. FHWA-99-6190 Table 1 and Table 2 as revised and corrected. The pigments must be heavy-metal free.

The color of the pavement marking material must comply with FHWA Memorandum dated April 15, 2011: Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14).

#### **84-2.02I(3) Heating Indicators**

The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have been followed.

#### **84-2.02I(4) Skid Resistance**

The surface of the preformed thermoplastic material shall contain factory applied non-skid material with a minimum hardness of 7 (Mohs scale). Upon application the material shall provide a minimum skid resistance value of 60 BPN when tested according to ASTM E 303.

#### **84-2.02I(5) Thickness**

The material must be supplied at a minimum thickness of 90 mils (2.29 mm) or 125 mils (3.15 mm).

#### **84-2.02I(6) Retroreflective**

The preformed retroreflective marking materials upon application shall exhibit adequate and uniform nighttime retroreflectivity. The marking materials shall have the following retroreflectivity as measured using a Delta LTL 2000 or LTL-X Retroreflectometer:

White preformed reflective marking materials – minimum of 275 mcd m-2 lx-1

#### **84-2.02I(7) Environmental Resistance**

The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to oil and gasoline.

#### **84-2.02I(8) Abrasives**

The abrasives and surface beads must be applied in an alternating arrangement across the surface of the material so that the surface is covered in what is best described as a “checkerboard” pattern of glass beads and abrasive materials. The abrasive material must have a minimum hardness of 7 (Mohs scale).

#### **Add to section 84-2.03C(2):**

##### **84-2.03C(2)(e) Bike Lane (Green) Marking**

On asphalt, apply bike lane (green) marking using the propane torch method recommended by the manufacturer. The material must be able to be applied without minimum requirements for ambient and road temperatures and without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. Supplier must enclose application instructions with each box/package.

On concrete surfaces, use the same application procedures shall be used as described as Asphalt. However, a compatible primer sealer shall be applied before application to assure proper adhesion.

The preformed thermoplastic markings shall be placed in protective plastic film with cardboard stiffeners where necessary to prevent damage in transit. Linear material must be cut to a maximum of 3 feet long pieces. Legends and symbols must also be supplied in flat pieces. The cartons in which packed shall be non-returnable and shall not exceed 40” in length and 25” in width, and be labeled for ease of identification. The weight of the individual carton must not exceed seventy (70) pounds. A protective film around the box must be applied in order to protect the material from rain or premature aging.

#### **Replace *Reserved* in section 84-9.03C with:**

Residue from the removal of painted or thermoplastic traffic stripes and pavement markings contains lead from the paint or thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste





Controller cabinet shall be provided with an 18 inch fluorescent lighting fixture mounted on the inside top of the cabinet near the front edge. Fixture shall be provided with an F15T8, cool white lamp operated from a normal power factor UL or ETL listed ballast.

The "On-Off" switch for the lighting fixture shall be either of the following:

- (a) A toggle switch mounted on the inside control panel.
- (b) A door-actuated switch that turns the light on when the door is open, and off when the door is closed.

## **87 ELECTRICAL SYSTEMS**

**Replace the 1st sentence of the 9th paragraph of section 87-1.03A with:**

You may shut down the traffic signal system between the hours of 9 AM and 4 PM.

**Add to section 87-1.03B(1):**

Sweeps in HDPE conduit for future fiber optics must have minimum radii of 30 inches.

**Add to the beginning of section 87-1.03B(3)(a):**

Use Type 3 conduit for underground installation.

**Add to the list in section 87-1.03B(3)(a):**

- 5. 36 inches minimum and 42 inches maximum below grade for future fiber optics conduit

**Replace 5 minutes in item 2 in the list in the 2nd paragraph of section 87-1.03B(3)(b) with: 15 minutes**

You are not required to install a no. 7 pull box adjacent to each soffit luminaire.

**Replace the 1st paragraph of section 87-1.03F(2)(c)(ii) with:**

Install a Type B loop detector lead-in cable in conduit.

**Replace the 1st paragraph of section 87-1.03F(3)(c)(ii) with:**

Use a Type 2 loop wire. Use only Type 2 loop wire for Type E loops detectors.

**Replace the 2nd paragraph of section 87-1.03H(2) with:**

Use Method B to insulate a splice.

**Replace the 1st sentence in the 2nd paragraph of section 87-1.03V(2) with:**

Saw the slots to allow a minimum of 2 inches of sealant above the top of the uppermost loop wire in the slot.

**Add between the 11th and 12th paragraphs of section 87-1.03V(2):**

Use elastomeric sealant or hot-melt rubberized sealant to fill slots.

**Add to the end of section 87-21.03C:**

Modify Signal and Lighting (Broadway Avenue Signal Interconnect Plan) includes removing, adjusting, or adding:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Standards
6. Luminaires
7. Service equipment enclosure
8. Photoelectric control
9. Fuse splice connectors
10. Signal interconnect cables

Modifying a signal and lighting system includes removing, adjusting, or adding:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Cables
6. Standards
7. Signal heads
8. Internally illuminated street name signs
9. Service equipment enclosure
10. Detectors
11. Accessible pedestrian signals
12. Push button assemblies
13. Pedestrian signal heads
14. Luminaires
15. Photoelectric control
16. Fuse splice connectors

**Add to the end of section 87-21.03D of the RSS for section 87:**

Removing streetlight includes removing and disposing of:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Standards
6. Luminaires

Removal must comply with section 15.



## APPENDIX A – SUBMITTAL REGISTER