DEPARTMENT OF PUBLIC WORKS

CITY OF BURLINGAME

COUNTY OF SAN MATEO, CALIFORNIA

NOTICE TO BIDDERS

INSTRUCTION TO BIDDERS
PROPOSAL AND AGREEMENT

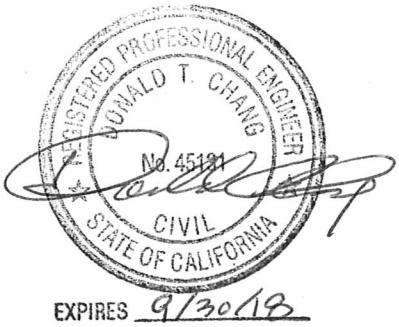
SPECIAL PROVISIONS

FOR

CALIFORNIA DRIVE ROUNDABOUT
CITY PROJECT NO. 83920

FOR USE IN CONNECTION WITH
STANDARD SPECIFICATIONS DATED 2010
AND STANDARD PLANS DATED 2010
OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

MAYOR:	MICHAEL BROWNRIGG, MAYOR
CITY COUNCIL:	DONNA COLSON, VICE MAYOR EMILY BEACH ANN KEIGHRAN RICARDO ORTIZ
CITY MANAGER:	LISA GOLDMAN
CITY CLERK:	MEAGHAN HASSEL-SHEARER



DONALD CHANG, P.E.
SR. CIVIL ENGINEER
RCE 45131
EXP. 9-30-18

BIDS WILL BE OPENED AT 2:00 P.M. ON FEBRUARY 13, 2018
IN CONFERENCE ROOM "B" OF THE BURLINGAME CITY HALL

INDEX

……..
City Standard details are available upon request or found on the City webpage at:
http://www.burlingame.org/index.aspx?page=161
Burlingame.org/departments/engineering/city standard details.

The City of Burlingame

PUBLIC WORKS DEPARTMENT
(650) 558-7230

CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997

CORPORATION YARD
(650) 558-7670

NOTICE TO BIDDERS

Sealed proposals will be received at the office of the City Clerk, City Hall, 501 Primrose Road, Burlingame, California, until 2:00 P.M., on Tuesday, February 13, 2018, and will, at 2:00 P.M. on that date, be publicly opened and read at the City Hall, in Conference Room B for: **CALIFORNIA DRIVE ROUDNABOUT PROJECT, CITY PROJECT NO. 83920**, within the City of Burlingame, San Mateo County, California.

Plans and Specifications covering the work may be obtained by prospective bidders upon application and a cash or check, non-refundable deposit of $125.00, or $150.00 if contract documents are mailed (USPS only), at Public Works Engineering, 501 Primrose Road, Burlingame, CA 94010.

The project consists of reconfiguration of the California Drive/Lorton Avenue/Bellevue Avenue intersections into a single roundabout. This includes removal of existing roadway, grass median island, curb, and sidewalk, and construction of new roundabout, including full roadway reconstruction, overlay, new medians, curb, sidewalk, and curb ramps, storm drain improvements including bioswales, landscaping, irrigation, street lighting improvements, installation of RRFBs, utility adjustment, and temporary pedestrian access.

Special Provisions, Specifications and Plans, including minimum wage rates to be paid in compliance with Section 1773.2 of the California Labor Code and related provisions, may be inspected in the office of the City Engineer during normal working hours at City Hall, 501 Primrose Road, Burlingame, California, and are also available for review at the State of California Department of Industrial Relations' Web site.

There will a **mandatory pre-bid meeting** on Tuesday, January 23, 2018, at 10:00 A.M. in Conference Room A at City Hall.

The Contractor shall possess a Class A license prior to submitting a bid.

No contractors and subcontractor may be listed on the bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under labor Code section 1771.5(a)]. **All contractors and subcontractors will be required to furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement).**

All work specified in this project, shall include the base bid and alternate bids (if shown in Proposal), and shall be completed within **170 Working Days (WD) (one hundred seventy working days)** from date of the Notice to Proceed.

Donald Chang, P.E.
Senior Civil Engineer

DATE OF POSTING: January 3, 2018

(THIS PAGE LEFT BLANK INTENTIONALLY)

INSTRUCTIONS TO BIDDERS

CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

Proposals shall be made in accordance with the provisions of Sections 2 and 3 of the Special Provisions *and these Instructions*.

General Instructions

A. Bids shall be made upon the form provided therefore, properly executed and with all items filled out; the signature of all persons signing shall be in longhand.

B. Bids shall not be unbalanced. Any apparent unbalancing of Bids may be considered sufficient grounds for rejection of a proposal.

C. A proposal shall cover all items of the bidding schedule. Blank spaces in the bid shall be properly filled in, and the phraseology thereof must not be changed. Additions shall not be made to the items mentioned therein. Any unauthorized conditions, limitations or provisions attached to a proposal may cause its rejection. Alterations by erasures or interlineation shall be explained or noted in the bid over the signature of the bidder.

D. Late bids will be returned to the bidder unopened.

E. Each bid shall be addressed to the City Clerk of the City of Burlingame, and shall be delivered to the office of the City Clerk of the City of Burlingame, 501 Primrose Road, Burlingame, California 94010, on or before the day and hour set for the opening of bids. The bid shall be enclosed in a sealed envelope bearing the title of the project, the name of the bidder, and the date and hour of the opening. It is the sole responsibility of the bidder to see that the bid is received in proper time at the office of the City Clerk.

F. Cash deposits for Plans and Specifications will not be refunded to bidders.

Contractor's License

Contractor shall have the class of license(s) listed in the Notice Inviting Sealed Bids prior to submitting the bid.

Bidder's Bond

Each bid shall be accompanied by cash, a certified or cashier's check, or a bidder's bond in the sum of not less than ten percent (10%) of the total aggregate of the bid, and such a check or bond shall be made payable to the order of the City of Burlingame as set forth in Section 3 of the Special Provisions. In case the successful bidder fails to file the bonds or to provide the insurance required by the Contract Documents, or refuses to enter into a contract within the specified time, it shall be liable for any difference by which the cost of procuring the work exceeds the amount of its bid and the bond or the amount of cash or check shall be available to offset such difference.

Examination of Plans, Specifications and Site Work

Before submitting a bid, each bidder shall carefully read the Specifications and all other Contract Documents. The bidder shall visit the site of the Project and shall fully inform itself as to all existing conditions and limitations under which the work is to be performed, and it shall include in its bid a sum to cover the cost of all items necessary to perform the work as set forth in the Contract Documents. No allowance of any kind whatsoever will be made to any bidder because of lack of such examination or knowledge. The submission of a bid shall be conclusive evidence that the bidder has made such an examination. *Bidders shall report any discrepancies in the field conditions or Contract Documents that they discover to the City before bids are opened.*

Competency of Bidder

Any bidder may be required to furnish evidence satisfactory to City that it and its proposed subcontractors have sufficient means and experience in the type of work called for to insure completion of the contract in a satisfactory manner.

Withdrawal of Bid

Any bidder may withdraw its bid, either personally or by a written request, at any time prior to the scheduled time for opening of bids.

Award or Rejection of Bids

The Contract, if awarded, will be awarded to the lowest responsible bidder subject to City's right to reject any or all bids and to waive any informality in the bids or the bidding.

Withdrawal of Bids after Opening

No bidder may withdraw its bid for a period of sixty (60) calendar days after the date set for the opening thereof, and the same shall be subject to acceptance by the City during this period.

Execution of Agreement

The form of agreement which the successful bidder, as Contractor, will be required to execute is included in the Contract Documents and must be carefully examined by each bidder. The bidder to whom the contract is awarded by City shall, within ten (10) calendar days after notice of award, execute and deliver to City one original and one counterpart of the Contract Agreement.

Performance Bond, Labor and Materials Bond, Deposit of Securities

At or prior to the delivery of the signed Contract Agreement, Contractor shall deliver to City the Performance Bond and Labor and Material person's Bond as are required by the Special Provisions. All bonds shall be in the general forms designated by City, and each shall be in an amount equal to one hundred percent (100%) of the contract price. All bonds shall be approved by the Director of Public Works before the successful bidder may proceed with the work. Failure or refusal to furnish bonds in the form satisfactory to the Director shall subject the bidder to penalties for delay in commencement of the work or revocation of the Award of Contract.

Pursuant to Section 22300 of the California Public Contract Code, the Contractor will be permitted, at its request and sole expense, to substitute securities for any monies withheld by the City as provided in the Special Provisions.

Insurance

At or prior to the delivery of the signed Contract Agreement, Contractor shall deliver to the City the policies of insurance or insurance certificates as are required by the Special Provisions. All policies or certificates of insurance shall be approved by the Director of

Public Works before the successful bidder may proceed with the work. Failure or refusal to furnish insurance policies or certificates in the form satisfactory to the Director shall subject the bidder to penalties for delay in commencement of the work or revocation of the Award of Contract.

Interpretation of Drawings and Documents Prior to Bidding

If any person contemplating submitting a bid for the construction of the Project is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in, or omissions from the Plans or Specifications, it may submit to the City Engineer a written request for an interpretation or correction thereof not later than five working days before the date bids will be opened. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by addendum. It is the responsibility of the bidder to confirm the existence of any and all addenda. City will not be responsible for any other explanation or interpretation of the Contract Documents.

Addenda

Addenda issued during the time of bidding shall become a part of the documents furnished to bidders for the preparation of bids, shall be covered in the bids and shall be made a part of the Contract. Each bid shall include specific acknowledgement in the space provided of receipt of all Addenda issued during the bidding period. Failure to do so may result in the bid being rejected and labeled as nonresponsive. Failure of any bidder to receive such Addenda shall not be grounds for non-compliance with the terms of the instructions. It is the responsibility of the Contractor to contact the City to determine the existence of any and all addenda.

Bidders Interested in More than One Bid

No person, firm or corporation shall be allowed to make or file or be interested in more than one bid for the same work, unless alternate bids are called for. A person, firm or corporation submitting a sub-proposal to a bidder, or who has quoted prices on materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

Special Notice

Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the work will be or is now performed, and, so far as possible, the successful bidder must employ such methods and means in carrying out his/her work as will not cause any interruption or interference with any other Contractor.

List of Subcontractors

Bidders shall submit a list of their proposed subcontractors in compliance with Sections 4100-4113 of the Public Contract Code of the State of California. A form for this designation is furnished in the set of Contract Documents.

Additional Sureties

If at any time during the continuance of the contract the Sureties, or any of them, shall, in the opinion of City, be no longer responsible, the City shall have the right to require additional and sufficient Sureties which Contractor shall furnish to the satisfaction of City within ten (10) working days after notice.

Definition of Contract Documents

The term "Contract Documents" is defined in section 1-1.03 Definitions and Terms and in the AGREEMENT FOR PUBLIC IMPROVEMENT in the Bid Book and the submission of any bid shall be deemed a thorough and complete understanding of all provisions of the Contract Documents.

Business License

All Contractors, whether they are general Contractors or subcontractors, who transact or carry on business in the City, shall acquire a Business License in conformance with the Burlingame Municipal Code.

Wages

Workers employed in the work must be paid at rates at least equal to the then current prevailing wage scale as determined by the State Director of the Department of Industrial Relations. A copy is on file in the City Department of Public Works, and are also available for review at the State of California Department of Industrial Relations' Web site at www.dir.ca.gov/DLSR/PWD.

Pursuant to Section 1770 and following of the California Labor Code, any Contractor who is awarded a public works project and intends to use a craft of classification not shown on the general prevailing wage determinations, may be required to pay the wage rate of that craft of classification most closely related to it as shown in the general determinations effective at the time of the calls for bids.

Unit Prices

Because unit prices are key elements of bid award and contract administration, in case of discrepancy between the unit price and the total set for a unit basis item, the unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible, or uncertain for any cause, or is omitted, or is the same amount as set forth in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

PROPOSAL

CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

_____ _____, 2018

TO THE CITY OF BURLINGAME, CALIFORNIA:

Pursuant to the foregoing Notice to Contractors, the undersigned bidder herewith submits its proposal on the Bid Form, Designation of Subcontractors, and Statement of Experience Qualifications, Non-Collusion Declaration, and Statement under Public Contract Code Section 10285.1 attached hereto and made a part hereof, and binds itself on award by the City of Burlingame under this proposal to execute in accordance with such award, a contract, of which this Proposal and the Notice to Contractors, Instructions to Bidders, Special Provisions, Standard Specifications, and Plans and Specifications are hereby made a part of this Proposal and all provisions thereof are hereby accepted.

In submitting this proposal, the bidder has confirmed the existence of any and all addenda and accepts the changes to the contract included in all addenda.

The bidder further agrees that in case of its default in executing the contract, and providing the required bonds and insurance, the cash, check or Bidder's Bond, accompanying its proposal and the money payable thereon shall be and remain the property of the City of Burlingame, as provided in the Instructions to Bidders and the Special Provisions.

Company name: _____

_____

(Corporate Seal)

Signature _____

Address _____

Contractor’s license number: _____

Contractor’s telephone no. _____

Contractor’s fax No. _____

If corporation, organized under the laws of the state of:_____,
Nature of firm (corporation, partnership, etc.) and names of individual members of the firms, or names and titles of officers of the corporation:

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

DESIGNATION OF SUBCONTRACTORS

(Public Contract Code Sections 4100 and following)
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID PROPOSAL
CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

As a bidder on the above-entitled project, the undersigned hereby designates the subcontractors that will perform work or labor or render services to the Contractor in or about the construction of the project in an amount in excess of one-half (1/2) of one percent (1%) of the Contractor's total bid or $10,000 whichever is greater.

The undersigned understands and agrees that should it fail to specify a subcontractor for any portion of the work as above stated, it agrees that the undersigned is fully qualified to perform that portion of the work itself, and that it shall perform that portion itself. Penalties for failure to comply with this provision are provided in the Subletting and Subcontracting Fair Practices Act commencing with Section 4100 of the Public Contract Code.

Pursuant to Public Contract Code Section 6109, Contractor shall not allow or permit any subcontractor that is ineligible to perform work on a public works project pursuant to Labor Code Section 1777.1 or 1777.7, to perform any work on this Project.

The undersigned agrees that it shall not, without written consent of the City Council, make any substitution, assignment or sublet to or of the following list of subcontractors which is made a part of this proposal and then only after compliance with the provisions of the Subletting and Subcontracting Fair Practices Act. [ATTACH ADDITIONAL PAGES IF NECESSARY]

LIST OF SUBCONTRACTORS

NAME OF SUBCONTRACTOR	ADDRESS OF SUBCONTRACTOR	STATE CONTRACTORS LICENSE #	DIR REGISTRATION #	WORK TO BE DONE BY SUBCONTRACTOR

NAME OF BIDDER: _____

Signature: _____

STATEMENT OF EXPERIENCE QUALIFICATIONS
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID PROPOSAL
CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

The following statement as to experience qualifications of the bidder are submitted in conjunction with the Proposal, as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Bidder.

The bidder has been engaged in the contracting business, under the present business name, for ten (10) years. Experience in work of a nature similar to that covered in the proposal extends over a period of five (5) years.

The bidder, as a contractor, has never failed to satisfactorily complete a contract awarded to it, except as follows:

The following contracts have been satisfactorily completed in the last three years for the persons, firm or authority indicated, and to whom reference is made:

YEAR	TYPE OF WORK	CONTRACT AMOUNT	LOCATION	FOR WHOM PERFORMED CONTACT INFO

The following is a list of plant and equipment owned by the bidder, which is definitely available for use on the proposed work as required:

QUANTITY	NAME, TYPE, CAPACITY	CONDITION	LOCATION

NAME OF BIDDER: _____

Signature: _____

NON-COLLUSION DECLARATION
(PUBLIC CONTRACT CODE SECTION 7106)
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID PROPOSAL
CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

I, _____, declare under penalty of perjury that I am
(sole owner, partner, president, etc.) of _____, the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly, or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury that the foregoing is true and correct and this was executed on the date shown below at _____.
(City, State)

Dated: _____

NAME OF BIDDER: _____

Signature _____

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has_____, has not _____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1. [NOTE: THE BIDDER MUST PLACE A CHECK MARK AFTER "HAS" OR "HAS NOT" IN ONE OF THE BLANK SPACES PROVIDED.]

The above Statement is part of the Proposal. Bidders are warned that making a false certification may subject the certifier to criminal prosecution.

I declare under penalty of perjury that the foregoing is true and correct and this was executed on the date shown below at _____.
(City, State)

Dated: _____

NAME OF BIDDER: _____

Signature _____

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID PROPOSAL

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

No_____ Yes_____

If the answer is yes, explain the circumstances in the following space:

I declare under penalty of perjury that the foregoing is true and correct and this was executed on the date shown below at _____.
(City, State)

Dated: _____

NAME OF BIDDER: _____

Signature _____

Public Contract Code 10232 Statement

In accordance with Public Contract Code Section 10232; the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National labor Relations Board.

Note: The above Statement a Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920
BID SHEET

BID SCHEDULE:

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ITEM TOTAL
1	Mobilization	1	LS		
2	Lead Compliance Plan	1	LS		
3	Soil Testing	1	LS		
4	Progress Schedule (Critical Path Method)	1	LS		
5	Prepare Storm Water Pollution Prevention Plan	1	LS		
6	Storm Water Annual Report	1	EA	$2,000.00	$2,000.00
7	Storm Water Sampling and Analysis Day	9	EA		
8	Rain Event Action Plan	15	EA	$500.00	$7,500.00
9	Construction Area Signs	1	LS		
10	Construction Project Funding Sign	2	EA		
11	Utility Potholing	10	EA		
12	Construction Staking (Contractor Provided)	1	LS		
13	Record of Survey	1	LS		
14	Survey Monument	1	EA		
15	Resident Engineer's Field Office	1	LS		
16	Clearing and Grubbing	1	LS		
17	Traffic Control System	1	LS		
18	Portable Changeable Message Sign (Ea)	2	EA		
19	Channelizer (Surface Mounted)	126	EA		
20	Temporary Railing (Type K)	940	LF		
21	Crash Cushion (In-Line)	5	EA		
22	Temporary Safety Lightiing	1	LS		
23	Roadway Excavation (F)	2,100	CY		
24	Roadway Excavation (Contaminated Material)	200	CY		
25	Furnish and Install Irrigation System	1	LS		
26	Furnish and Install Landscaping and Biofiltration Areas	1	LS		
27	Plant Establishment Work (Type 2, 365 Days)	1	LS		
28	Remove Concrete (Curb And Gutter)	1,365	LF		
29	Remove Concrete (Sidewalk)	6,725	SQFT		
30	Remove Concrete (Median Curb And Paving)	235	SQFT		
31	Remove Inlet	2	EA		

32	Remove Pipe (Lf)	6	LF		
33	Modify Inlet To Manhole	1	EA		
34	Modify Inlet (Cap)	2	EA		
35	Adjust Manhole to Grade (Storm Drain)	4	EA		
36	Adjust Manhole to Grade (Sewer)	5	EA		
37	Adjust Fire Hydrant to Grade	2	EA		
38	Furnish and Install Utility Box (City-Owned)	6	EA		
39	Salvage Parking Meter	12	EA		
40	Salvage Street Light	5	EA		
41	Relocate Decorative Street Light	1	EA		
42	Salvage Rrfb System	2	EA		
43	Salvage Roadside Sign	24	EA		
44	Adjust Water Valve Box to Grade	8	EA		
45	Replace Roadside Sign Panel on Existing Post	3	EA		
46	Cold Plane Asphalt Concrete Pavement	7,220	SQYD		
47	Lower and Raise Manhole	10	EA		
48	Lower and Raise Utility Cover	9	EA		
49	Aggregate Base (Class 2)	1,325	TON		
50	Pavement Failure Repair	500	TON		
51	Hot Mix Asphalt (Type A)	1,900	TON		
52	12" Pvc C900 Pipe	500	LF		
53	Channel Drain	16	LF		
54	Drainage Inlet (Type I)	8	EA		
55	Drainage Inlet (Type Go)	5	EA		
56	Storm Drain Manhole	2	EA		
57	Minor Concrete (Mountable Curb)	10	CY		
58	Minor Concrete (Curb And Gutter)	580	LF		
59	Minor Concrete (Median Curb On Pcc Slab, Type A1-6)	22	CY		
60	Minor Concrete (Median Curb, Type A1-6)	695	LF		
61	Minor Concrete (Sidewalk)	11,960	SQFT		
62	Minor Concrete (Truck Apron)	2,070	SQFT		
63	Minor Concrete (Bus Pad)	2,525	SQFT		
64	Minor Concrete (Cut-Off Wall)	590	LF		
65	Minor Concrete (Planter Wall)	25	LF		
66	Minor Concrete (Deepened Curb And Gutter)	416	LF		
67	Pedestrian Railing	85	LF		
68	Roadside Sign - One Post (Metal)	50	EA		
69	Thermoplastic Traffic Stripe (Detail 9)	2,915	LF		
70	Thermoplastic Traffic Stripe (Detail 22)	360	LF		
71	Thermoplastic Traffic Stripe (Detail 25)	750	LF		

72	Thermoplastic Traffic Stripe (Detail 27b)	1,005	LF		
73	Thermoplastic Traffic Stripe (Detail 29)	560	LF		
74	Thermoplastic Traffic Stripe (Detail 32)	560	LF		
75	Thermoplastic Traffic Stripe (Detail 38)	290	LF		
76	Thermoplastic Traffic Stripe(Detail 38a)	1,095	LF		
77	Thermoplastic Traffic Stripe (Detail 39a)	615	LF		
78	Thermoplastic Traffic Stripe (Detail 40)	50	LF		
79	Thermoplastic Pavement Marking (White)	1,755	SQFT		
80	Paint Curb (Red)	190	LF		
81	Paint Curb (Yellow)	85	LF		
82	Object Marker (Type P)	11	EA		
83	Traffic Signal Loop Detectors	16	EA		
84	Lighting and Electrical System	1	LS		
85	Rectangular Rapid Flashing Beacon Assemblies	1	LS		
				TOTAL BID	

The successful lowest responsible bidder will be determined on the basis of the lowest Total Bid amount.

BIDDING CONTRACTOR'S SIGNATURE: _____

BIDDING CONTRACTOR'S NAME: _____

_____ _____

CONTRACTOR'S LICENSE NUMBER EXPIRATION DATE

_____

CONTRACTOR'S ADDRESS

_____

CONTRACTOR'S TELEPHONE NO.

_____

DATE

(THIS PAGE LEFT BLANK INTENTIONALLY)

AGREEMENT FOR PUBLIC IMPROVEMENT

CALIFORNIA DRIVE ROUNDABOUT PROJECT

CITY PROJECT NO. 83920

THIS AGREEMENT, made in duplicate and entered into in the City of Burlingame, County of San Mateo, State of California on _____, 2018 by and between the CITY OF BURLINGAME, a Municipal Corporation, hereinafter called "City", and _____, a [State of incorporation] [Corporation or other form of business], hereinafter called "Contractor."

WITNESSETH:

WHEREAS, City has taken appropriate proceedings to authorize construction of the public work and improvements herein provided for and to authorize execution of this Contract; and

WHEREAS, pursuant to State law and City requirements, a notice was duly published for bids for the contract for the improvement hereinafter described; and

WHEREAS, on _____, after notice duly given, the City Council of Burlingame awarded the contract for the construction of the improvements hereinafter described to Contractor, which the Council found to be the lowest responsive, responsible bidder for these improvements; and

WHEREAS, City and Contractor desire to enter into this Agreement for the construction of said improvements.

NOW, THEREFORE, IT IS AGREED by the parties hereto as follows:

1. Scope of work.

Contractor shall perform the work described in those Contract Documents entitled: CALIFORNIA DRIVE ROUNDABOUT , CITY PROJECT NO. 83920.

2. The Contract Documents.

The complete contract between City and Contractor consists of the following documents: this Agreement; Notice Inviting Sealed Bids, attached hereto as Exhibit A; the accepted Bid

Proposal, attached hereto as Exhibit B; the specifications, provisions, addenda, complete plans, profiles, and detailed drawings contained in the bid documents titled "California Drive Roundabout , Burlingame Project No. 83920" attached as Exhibit C; the State of California Standard Specifications 2010, as promulgated by the California Department of Transportation; prevailing wage rates of the State of California applicable to this project by State law; and all bonds; which are collectively hereinafter referred to as the Contract Documents. All rights and obligations of City and Contractor are fully set forth and described in the Contract Documents, which are hereby incorporated as if fully set forth herein. All of the above described documents are intended to cooperate so that any work called for in one, and not mentioned in the other, or vice versa, is to be executed the same as if mentioned in all said documents.

3. Contract Price.

The City shall pay, and the Contractor shall accept, in full, payment of the work above agreed to be done, the sum of _____ dollars ($_____), called the "Contract Price". This price is determined by the lump sum and unit prices contained in Contractor's Bid. In the event authorized work is performed or materials furnished in addition to those set forth in Contractor's Bid and the Specifications, such work and materials will be paid for at the unit prices therein contained. Said amount shall be paid in progress payments as provided in the Contract Documents.

4. Termination

At any time and with or without cause, the City may suspend the work or any portion of the work for a period of not more than 90 consecutive calendar days by notice in writing to Contractor that will fix the date on which work will be resumed. Contractor will be granted an adjustment to the Contract Price or an extension of the Time for Completion, or both, directly attributable to any such suspension if Contractor makes a claim therefor was provided in the Contract Documents.

The occurrence of any one or more of the following events will justify termination of the contract by the City for cause: (1) Contractor's persistent failure to perform the work in accordance with the Contract Documents; (2) Contractor's disregard of Laws or Regulations of any public body having jurisdiction; (3) Contractor's disregard of the authority of the Engineer; or (4) Contractor's violation in any substantial way of any provision of the Contract Documents. In the case of any one or more of these events, the City, after giving Contractor and Contractor's sureties seven calendar days written notice of the intent to terminate Contractor's services, may initiate termination procedures under the provisions of the Performance Bond. Such termination will not affect any rights or remedies of City against Contractor then existing or that accrue thereafter. Any retention or payment of moneys due Contractor will not release Contractor from liability. At the City's sole discretion, Contractor's services may not be terminated if Contractor begins, within

seven calendar days of receipt of such notice of intent to terminate, to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 calendar days of such notice.

Upon seven calendar days written notice to Contractor, City may, without cause and without prejudice to any other right or remedy of City, terminate the Contract for City's convenience. In such case, Contractor will be paid for (1) work satisfactorily completed prior the effective date of such termination, (2) furnishing of labor, equipment, and materials in accordance with the Contract Documents in connection with uncompleted work, (3) reasonable expenses directly attributable to termination, and (4) fair and reasonable compensation for associated overhead and profit. No payment will be made on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

5. Provisions Cumulative.

The provisions of this Agreement are cumulative and in addition to and not in limitation of any other rights or remedies available to the City.

6. Notices.

All notices shall be in writing and delivered in person or transmitted by certified mail, postage prepaid.

Notices required to be given to the City shall be addressed as follows:

Mr. Donald Chang, PE
Senior Civil Engineer
City of Burlingame
501 Primrose Road
Burlingame, California 94010

Notices required to be given to Contractor shall be addressed as follows:

Name
Company Name
Address

7. Interpretation

As used herein, any gender includes the other gender and the singular includes the plural and vice versa.

8. Waiver or Amendment.

No modification, waiver, mutual termination, or amendment of this Agreement is effective unless made in writing and signed by the City and the Contractor. One or more waivers of any term, condition, or other provision of this Agreement by either party shall not be construed as a waiver of a subsequent breach of the same or any other provision.

9. Controlling Law.

This Agreement is to be governed by and interpreted in accordance with the laws of the State of California.

10. Successors and Assignees.

This Agreement is to be binding on the heirs, successors, and assigns of the parties hereto but may not be assigned by either party without first obtaining the written consent of the other party.

11. Severability.

If any term or provision of this Agreement is deemed invalid, void, or unenforceable by any court of lawful jurisdiction, the remaining terms and provisions of the Agreement shall not be affected thereby and shall remain in full force and effect.

12. Indemnification.

Contractor shall indemnify, defend, and hold the City, its directors, officers, employees, agents, and volunteers harmless from and against any and all liability, claims, suits, actions, damages, and causes of action arising out of, pertaining or relating to the actual or alleged negligence, recklessness or willful misconduct of Contractor, its employees, subcontractors, or agents, or on account of the performance or character of the services, except for any such claim arising out of the sole negligence or willful misconduct of the City, its officers, employees, agents, or volunteers. It is understood that the duty of Contractor to indemnify and hold harmless includes the duty to defend as set forth in section 2778 of the California Civil Code. Notwithstanding the foregoing, for any design professional services, the duty to defend and indemnify City shall be limited to that allowed by state law. Acceptance of insurance certificates and endorsements required under this Agreement does not relieve Contractor from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall apply whether or not such insurance policies shall have been determined to be applicable to any of such damages or claims for damages.

IN WITNESS WHEREOF, two identical counterparts of this Agreement, consisting of five pages, including this page, each of which counterparts shall for all purposes be deemed an original of this Agreement, have been duly executed by the parties hereinabove named on the day and year first hereinabove written.

CITY OF BURLINGAME,
a Municipal Corporation

By _____
Lisa K. Goldman, City Manager

"CONTRACTOR"

By _____
Print Name:
Company Name:

Approved as to form:

_____
Kathleen Kane, City Attorney

ATTEST:

_____
Meaghan Hassel-Shearer, City Clerk

(THIS PAGE LEFT BLANK INTENTIONALLY)

CITY OF BURLINGAME

DEPARTMENT OF PUBLIC WORKS

SPECIAL PROVISIONS

FOR: CALIFORNIA DRIVE ROUNDABOUT PROJECT
CITY PROJECT NO. 83920

SECTION 1 GENERAL CONDITIONS

SUBSECTION 1-1. DEFINITIONS AND TERMS

1-1.01 General

The following shall be added to Section 1-1.01 of the Standard Specifications:

The work embraced herein shall be done in accordance with these Specifications as defined in Section 1.03 of these Special Provisions, , and the Municipal Code of the City of Burlingame insofar as the same may apply and in accordance with the following special provisions.

In the case of conflict between the Standard Specifications and these Special Provisions, the Special Provisions shall take precedence over and be used in lieu of such conflicting portions.

1-1.02 Abbreviations

Abbreviations of the Standard Specifications shall be amended to include:

AIA	American Institute of Architects
APWA	American Public Works Association
ASA	American Standard Association
CSI	Construction Specifications Institute
IAMPO	International Association of Mechanical & Plumbing Officials
ICBO	International Conference of Building Officials
UBC	Uniform Building Code
UPC	Uniform Plumbing Code

1-1.03 Definitions and Terms

The definitions in Section 1-1.07B of the Standard Specifications are amended as follows:

As used herein, unless the context otherwise requires, the following terms have the following meanings:
Agency: The legal entity for which the work is being performed.

Authorized Laboratory: The laboratory authorized by the Engineer to test materials and work involved in the contract.

Bid Book: The Proposal and Agreement in these Special Provisions..

Contract Documents: The Notice to Bidders or the Request for Proposals, Instruction to Bidders, Proposal and Bid Forms (including the Bid and Bid Schedules, Information Required of Bidder, and all certificates and affidavits), Agreement for Public Improvement, Bid Bond, Labor and Materials Bond, Special Provisions (General Conditions, Supplementary General Conditions, Technical Specifications), Plans, , Standard Specifications, Revised Standard Specifications, and all Addenda and Change Orders executed pursuant to the Contract Documents.

Contract Acceptance: The formal written contract acceptance of an entire contract by the City Council at a regularly scheduled meeting, recorded in the County of San Mateo Recorder's Office, titled "Notice of Completion," signed by an authorized official of the City of Burlingame, which has been completed in all respects in accordance with the plans and specifications and any modification thereof previously approved.

City: The City of Burlingame, State of California.
The Department of Public Works of the City of Burlingame.

Director: The Director of Public Works of the City of Burlingame, California.
The City Engineer of the City of Burlingame, State of California, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Inspector: An inspector employed or retained by the City to perform inspection during construction of the work under the direction of the Director.

Legal Holiday: A holiday as specified in Section 5.04 of these Special Provisions.

Plans: Standard plans, revised standard plans and project plans.

1. Standard plans**:** *2010 California Department of Transportation Standard Plans*, *City of Burlingame Standard Details*, and any other local agency or district standard plans or details referenced in project plans.
2. Revised standard plans**:** New or revised standard plans issued by California Department of Transportation.
3. Project plans: Drawings specific to the project, including authorized shop drawings.

The California Department of Transportation standard plans and revised standard plans are available at:

http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

The City of Burlingame Standard Details are available at:

http://www.burlingame.org/index.aspx?page=161

Burlingame.org/departments/engineering/city standard details.

Owner: The City of Burlingame, a political subdivision of the State of California.

State: In references where context applies to "State" as the owner of the Project, the City of Burlingame.

Specifications: Standard specifications, revised standard specifications, and special provisions, as follows:

1. **Standard Specifications:** Specifications standard to City construction projects. These specifications are in a book titled State of California Department of Transportation *Standard Specifications 2010* (Standard Specifications or SS). These standard specifications are available at:

   http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

2. **Revised Standard Specifications:** New or revised standard specifications (Revised Standard Specifications or RSS) issued by the State of California Department of Transportation. These revised standard specifications, dated March 3, 2017, are available at:

   http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

3. **Special Provisions:** Specifications specific to the project. These specifications are in a section titled *Special Provisions* of a book titled *Notice to Bidders/Proposal and Agreement/Special Provisions*.

Any reference therein to the State of California or a State agency, office or officer, acting under the Standard Specifications shall be interpreted to refer to the City or its corresponding agency, office or officer acting under this contract.

SUBSECTION 1-2. BIDDING

1-2.01 General

The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Revised Standard Specifications and these Special Provisions for the requirements and conditions which it shall observe in the preparation of the proposal form and the submission of the bid.

The following Sections in the Revised Standard Specifications are deleted:

2-1.15, "Disabled Veterans Business Enterprises".
2-1.18, "Small Business and Non-small Business Subcontracting Preferences".
2-1.27, "California Companies"
2-1.29, "Opt Out of Payment Adjustments for Price Index Fluctuations"

1-2.02 Subcontractor List

Section 2-1.10, "Subcontractor List," of the Revised Standard Specifications is replaced by the following:

2-1.10 SUBCONTRACTOR LIST

On the Subcontractor List form, list each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid or $10,000, whichever is greater (Pub Cont Code § 4100 et seq.).

For each subcontractor listed, the Subcontractor List form must show:

1. Business name and the location of its place of business.
2. California contractor license number for a non-federal-aid contract.
3. Public works contractor registration number
4. Portion of work it will perform.

1-2.03 Proposal Pages

Section 2-1.33, "Bid Document Completion and Submittal" of the Revised State Standard Specifications is amended to provide that the bid documents shall include the required proposal pages or copies thereof completed and signed, including Proposal to the City of Burlingame, Designation of Subcontractors, Experience Qualifications, Non-Collusion Declaration, Public Contract Code Compliance Statement, and Bid Schedule (Bidding Sheet) in these Special Provisions..

1-2.04 Compliance Statement

The Contractor shall complete a statement indicating compliance with Public Works Contracts Code Section 10285.1 and Public Contract Code Section 10162 Questionnaire. These documents shall be completed and included in the Proposal.

1-2.05 Bidder's Security

The 1st and 2nd paragraphs of section 2-1.34, “Bidder’s Security” of the Revised Standard Specifications are replaced with:

> If your bid is greater than $25,000, submit your bid with one of the following forms of bidder's security equal to at least 10 percent of the bid:
>
> 1. Cashier's check
> 2. Certified check
> 3. Signed bidder’s bond by an admitted surety insurer

A sample bid bond is provided at the end of this Section.

The bidder's security shall be made payable to the City of Burlingame.

Submit cashier’s check, certified check, or bidder’s bond to the City before the bid opening time.

BIDDER'S BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____ as Principal, and _____ as Surety, are held and firmly bound unto the City of Burlingame, a municipal corporation of the State of California (hereinafter called "City") in the penal sum of ten percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to the City for the work described below, for the payment of which sum in lawful money of the United State, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of _____($_____) Dollars.

The condition of this obligation is such that a bid to the City for certain construction specifically described as follows, for which bids are to be opened on _____, _____, 20___, at ___:_____, has been submitted by Principal to City:

NOW THEREFORE, if the Principal is awarded the Contract and within the time and manner required under the Specifications, after the prescribed forms are presented to the Principal for signature, enters into a written contract, in the prescribed form, in accordance with the bid, and files two bonds with the City, one to guarantee faithful performance of the Contract and the other to guarantee payment for labor and materials as provided by law as well as files insurance certificates and equal employment opportunity documentation required under the bid, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon said bond by City, and judgment is recovered, the Surety shall pay all costs incurred by City in such suit, including a reasonable attorney's fee to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this day of _____, 20 ____.

_____(Seal)

_____(Seal)

_____(Seal)

_____(Seal)

_____(Seal)

_____

_____

NOTE: Attach notary acknowledgment for signatures of those executing for Principal and Surety

SUBSECTION 1-3. AWARD AND EXECUTION OF CONTRACT

1-3.01 General

The bidder's attention is directed to the provisions of Section 2, "Bidding," of the Revised Standard Specifications and Section 3 "Contract Award and Execution," of the Standard Specifications, and to "Proposal Requirements and Conditions," of these Special Provisions for the requirements and conditions concerning award and execution of the contract, with the following clarifications, changes and additions.

The 2nd paragraph of Section 3-1.02A, “General,” of the Revised Standard Specifications are replaced with:

In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.
In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

(a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;

(b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentagewise the unit price or item total in the Agency's Engineer Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

Section 3-1.02B, “Tied Bids,” of the Revised Standard Specifications is replaced with:

3-1.02B Tied Bids

The Department breaks a tied bid with a coin toss.

Sections 3-1.08, "Small Business Participation Report," and 3-1.11, "Payee Data Record," of the Standard Specifications are deleted.

1-3.02 Award of Contract

The City reserves the right to waive any irregularities and/or informalities in any bid received.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed. Such award, if made, will be made within forty-five (45) days after the opening of the proposals. If the lowest responsible bidder refuses or fails to execute the contract, the City may award the contract to the second lowest responsible bidder. Such award, if made, will be made within sixty (60) days after the opening of proposals. If the second lowest responsible bidder refuses or fails to execute the contract, the City may award the contract to the third lowest responsible bidder. Such award, if made, will be made within seventy-five (75) days after the opening of the proposals. The periods of time specified above within which the award of contract may be made shall be subject to extensions for such further periods as may be agreed upon in writing between the City and the bidder concerned.

All bids will be compared on the basis of the Engineer's Estimate of the quantities of work to be done.

1-3.03 Contract Bonds

Section 3-1.05, "Contract Bonds (Pub Cont Code Sections 10221 and 10222)," of the Standard Specifications is replaced with the following:

The surety or sureties on all bonds furnished must be approved by the City. Any modifications or alteration made in the plans or specifications shall not operate to release any surety from liability on any bond or bonds herein required to be given. All contract bonds shall be payable to the City of Burlingame and shall reference the project name and number.

All alterations, extensions of time, extra and additional work, and other changes authorized by these specifications or any part of the contract may be made without securing the consent of the surety or sureties on the contract bonds.

(a) Labor, Material and Performance Bond

Contractor shall provide, at the time of the execution of the contract for the work, and at its own expense, a surety bond in an amount equal to at least one hundred percent (100%) of the

contract price as security for the faithful performance of the contract. Contractor shall also provide, at the time of the execution of the contract for the work, and at its own expense, a separate surety bond in an amount equal to at least one hundred percent (100%) of the contract price as security for the payment of all persons performing labor and furnishing materials in connection with this contract; a sample is attached at the end of this section.

(b) Maintenance Bond

The Contractor shall furnish a Corporate Surety Maintenance Bond for faulty workmanship and materials in the amount of ten percent (10%) of the total contract cost. This bond shall be for the term of one year after completion and acceptance of the work and shall be delivered to the Engineer before acceptance of the contract.

1-3.04 Agreement Execution

The Contractor shall sign and return the contract agreement and furnish required bonds and insurance certificates within ten (10) working days after the date of the letter of Notice of Contract Award. If the insurance and bonds are not provided within this time period, the City may proceed to declare the bid bond forfeited and award the bid to another bidder or may begin running the working days under the Agreement.

1-3.05 Return of Proposal Guaranties

Attention is directed to Section 3-1.19, “Bidders’ Securities,” of the Standard Specifications.

1-3.06 Insurance

BIDDERS' ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW AND IN SECTIONS 3-1.07, “INSURANCE POLICIES,” and 7-1.06, “INSURANCE,” OF THE STANDARD SPECIFICATIONS

IT IS HIGHLY RECOMMENDED THAT BIDDERS CONFER WITH THEIR RESPECTIVE INSURANCE CARRIERS OR BROKERS TO DETERMINE IN ADVANCE OF BID SUBMISSION THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS AS PRESCRIBED AND PROVIDED HEREIN. IF AN APPARENT LOW BIDDER FAILS TO COMPLY STRICTLY WITH THE INSURANCE REQUIREMENTS, THAT BIDDER MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT OR THE AWARD MAY BE REVOKED AND SUFFER LOSS OF BID BOND.

Contractor shall procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, Contractor's agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

Section 7-1.06, “Insurance,” of the Standard Specifications is amended to include the following:

(a) Minimum Scope of Insurance

Coverage shall be at least as broad as:

(1) Insurance Services Office form number GL 0002 (Ed. 1/73) covering Comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability; or Insurance Services Office Commercial General Liability coverage ("occurrence" form GC 0001).

(2) Insurance Services Office form number CA 0001 (Ed. 1/78) covering Automobile Liability, code 1 "any auto" and endorsement CA 0025.

(3) Worker's Compensation insurance as required by the Labor Code of the State of California and Employers Liability insurance.

(b) Beginning of Work

Contractor shall maintain limits no less than:

(1) General Liability: $2,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this Project/location or the general aggregate limit shall be twice the required occurrence limit.

(2) Automobile Liability: $1,000,000 combined single limit per accident for bodily injury and property damage.

(3) Workers' Compensation and Employers Liability: Worker's compensation limits as required by the Labor Code of the State of California and Employers Liability limits of $1,000,000 per accident.

(c) Deductibles and Self-insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

(d) Other Insurance Provision

The policies are to contain, or be endorsed to contain the following provision:

(1) General Liability and Automobile Liability Coverages

(A) The City of Burlingame, its officers, officials, employees and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City of Burlingame, its officers, officials, employees, or volunteers. The endorsement providing this additional insured coverage shall be equal to or broader than ISO Form CG 20 10 11 85 and must cover joint negligence, completed operations, and the acts of subcontractors.

(B) The Contractor's insurance coverage shall be primary insurance as respects the City of Burlingame, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City of Burlingame, its officers, officials, employees, or volunteers shall be excess of the Contractor's Insurance and shall not contribute with it.

(C) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City of Burlingame, its officers, officials, employees, or volunteers.

(D) The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(2) Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the City of Burlingame, its officers, officials, employees, or volunteers for losses arising from work performed by the Contractor for the City of Burlingame.

(3) All Coverages

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty days prior written notice by certified mail, return receipt required, has been given to the City of Burlingame.

(e) Acceptability of Insurers

Insurance is to be placed with insurers with a Best's rating of no less than A-:VII and be authorized to conduct business with regard to the profferred lines of insurance in the State of California.

(f) Verification of Coverage

Contractor shall furnish the City with certificates of insurance and with original endorsements effecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on forms approved by the City. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, at any time.

(g) Subcontractors

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

CONTRACTOR'S PAYMENT (LABOR AND MATERIALS) SURETY BOND

Sample

WHEREAS, the City Council of the City of Burlingame, State of California ("City") and _____, (hereinafter designated as "Principal") have entered into an agreement dated _____, and identified as _____("Agreement"), which is hereby referred to and made a part here of, whereby Principal agrees to install and complete certain designated public improvements; and

WHEREAS, under the terms of said agreement, Principal is required before entering upon the performance of the work to file a good and sufficient payment surety bond with City to secure the claims to which reference is made in Titles 1 and 3 (commencing with Section 8000) of Part 6 of Division 4 of the Civil Code of the State of California.

NOW, THEREFORE, Principal and _____, as Surety, incorporated under the laws of the State of _____, and duly authorized to transact business as an admitted surety, under the Laws of the State of California, are held and firmly bound unto City in the penal sum of _____ dollars ($_____), this amount being not less than one hundred percent of the total amount payable by the terms of the Agreement per Civil Code section 9554, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that if Principal, Principal's subcontractors, heirs, executors, administrators, successors, or assigns shall fail to pay any of the persons, companies, or corporations, referred to in Section 9100 of the California Civil Code, as amended, with respect to any work of labor performed or materials supplied by any such persons, companies, or corporations, which work, labor, or materials are covered by the above-mentioned agreement and any amendments, changes, change order, additions, alterations, or modifications thereof, or any amounts due under the California Unemployment Insurance Code with respect to such work or labor, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, as amended, with respect to such work and labor, the Surety will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, the Surety will pay reasonable attorney's fees in an amount to be fixed by the court.

It is hereby expressly stipulated and agreed that this surety bond shall inure to the benefit of any and all persons, companies, and corporations entitled named in Section 9100 of the California Civil Code, as amended, so as to give a right of action to them or their assigns in any suit brought upon this surety bond.

The Surety hereby stipulates and agrees that no amendment, change, change order, addition, alteration, or modifications to the terms of the agreement of the work to be performed thereunder or the specifications accompanying the same, shall in any way affect its obligations on this surety

bond, and it does hereby waive notice of any such amendment, change, change order, addition, alteration, or modification to the terms of the agreement or to the work performed thereunder or to the specifications accompanying the same. Surety hereby waives the provisions of California Civil Code Sections 2845 and 2849.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20___.

PRINCIPAL SURETY

By:_____ By: _____

_____ _____
Address Address

NOTE: Attach notary acknowledgement for signatures of those executing for Principal and Surety

FAITHFUL PERFORMANCE BOND
Sample

WHEREAS, the City Council of the City of Burlingame, State of California, and _____ (herein designated as "Principal") have entered into an Agreement whereby Principal agrees to construct and complete certain designated public improvements, which said agreement, dated_____, 20_____, and identified as **PROJECT** # _____, is hereby referred to and made a part hereof: and

WHEREAS, said Principal is required under the terms of said Agreement to furnish a bond of the faithful performance of said Agreement.

NOW, THEREFORE, we, the Principal and _____, as Surety, are held and firmly bound unto the City of Burlingame (hereinafter called "City"), in the penal sum of _____dollars ($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, formally by these presents.

The condition of this obligation is such that if the above bounded Principal, his/her or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said Agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless City, its offices, agents and employees, as therein stipulated, and this obligation shall become null and avoid; otherwise it shall be and remain in full force and effect.

Principal and Surety further agree that upon City's final acceptance of the work, ten percent (10 %) of this bond shall remain in effect to guarantees the repair and/or replacement of defective materials and/or workmanship, one years after City's final acceptance of the work.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligations on this bond, and it

does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on_____20_____.

PRINCIPAL	SURETY
By:_____	By:_____
_____	_____
Address	Address

NOTE: Attach notary acknowledgement for signatures of those executing for Principal and Surety.

SUBSECTION 1-4. SCOPE OF WORK

1-4.01 General

Attention is direction to Section 4, “Scope of Work”, of the Standard Specifications and these Special Provisions.

1-4.02 Value Engineering

The last paragraph of Section 4-1.07C, “Value Engineering.” is replaced with:

> The Contractor will be responsible for all workshop costs. The Department will not reimburse you for any associated costs with conducting a value analysis workshop.

Attention is directed to the provisions in Section 8-1.04, "Start of Jobsite Activities," Section 8-1.05, "Time,” and in Section 8-1.10, "Liquidated Damages," of the Standard Specifications and these Special Provisions.

1-4.03 Increases of More than Twenty-Five Percent (25%) of Engineer’s Estimate

The provisions of Section 9-1.06B, “Increases of More Than 25 Percent,” and 9-1.06C, “Decreases of More Than 25 Percent,” of the Standard Specifications shall apply only to major items of work as defined herein.

A major item of work is any item for which the cost, computed on the basis of contract unit price and the quantity shown in the proposal, is equal to or greater than ten (10) percent of the original total contract amount.

1-4.04 Changes Initiated by the City

The City reserves the right to change the scope of this contract in order to align the contract price to the monies available. The City shall have full authority and discretion to determine the decrease or increase in quantities required as well as the sub-projects that will be altered, added, or deleted. The Contractor shall not be entitled to any additional compensation or adjustment in the unit prices bid because of the above-stated alternation of this project.

SUBSECTION 1-5. CONTROL OF WORK

1-5.01 General

The control of the work shall be in conformance with Section 5, “Control of Work,” of the Standard Specifications, except as herein amended.

The following sections in the Standard Specifications are deleted:

Section 5-1.09, "Partnering”
Section 5-1.13C, "Disabled Veteran Business Enterprises"
Section 5-1.13D, "Non-Small Businesses"
Section 5-1.27E "Change Order Bills"
Section 5-1.43E "Alternative Dispute Resolution"

1-5.02 Coordination and Interpretation of Plans, Specifications and Special Provisions

Section 5-1.02, “Contract Components,” of the Standard Specifications is replaced with:

5-1.02 CONTRACT COMPONENTS

A component in one Contract part applies as if appearing in each. The parts are complementary and describe and provide for a complete work.

If a discrepancy exists:

1. The governing ranking of Contract parts in descending order is:
   - 1.0 Proposal, and Agreement
   - 1.1 Supplementary Conditions of the Special Provisions
   - 1.2 General Conditions of the Special Provisions
   - 1.3 Technical Specifications of the Special Provisions
   - 1.4 Project plans
   - 1.5 Standard Specifications
   - 1.6. City of Burlingame Standard Details
   - 1.7 Revised (State) Standard Plans
   - 1.8 (State) Standard Plans
   - 1.9 Supplemental project information
2. Written numbers and notes on a drawing govern over graphics
3. A detail drawing governs over a general drawing
4. A detail specification governs over a general specification
5. A specification in a section governs over a specification referenced by that section

In the event of a discrepancy between units shown on plans, in the special provisions and in the proposal, the units shown in the proposal shall govern.

If a discrepancy is found or confusion arises, submit an RFI.

1-5.03 Superintendence

Section 5-1.16, “Representative,” of the Standard specifications is amended to include the following:

The Contractor's representative shall be available to personally talk to the Engineer within any eight (8) hour period when work is being performed on the project. A telephone number for such purpose shall be given to the Engineer at the start of the project.
The Contractor shall furnish to the Engineer the telephone number of a representative or answering service which will be responsible for responding to emergency calls (e.g., barricade replacement) from the Engineer during non-scheduled working hours.

If the Contractor fails to respond and correct the emergency condition within three (3) hours, and if, in the judgment of the Engineer, correction of the emergency condition should not be deferred until the next regularly scheduled working day, then the Engineer shall have the right to make appropriate arrangements to correct such emergency condition and charge the cost thereof to the Contractor.

1-5.04 Inspection

The following is added to Section 5-1.01, “General.” of the Standard Specifications:

The Contractor shall pay for all inspections required to be performed by City employees due to the scheduling of work by the Contractor between 5:00 P.M. and 8 A.M. on weekdays, and anytime on Saturdays, Sundays and City Holidays, and shall include travel time of the inspector.

City holidays are as follows:

*New Year's Day
*Martin Luther King’s Birthday
*Washington's Birthday
*Memorial Day
*Independence Day
*Labor Day
*Columbus Day
*Veteran's Day
*Thanksgiving Day
Day After Thanksgiving
½ Day Christmas Eve
*Christmas Day
½ Day New Year's Eve

*Indicates holidays covered by "Construction Hours" restrictions of Section 7.02 of these Special Provisions.

Contact the City of Burlingame to determine the specific holiday dates for the current calendar year.

Holidays falling on Saturday or Sunday will be observed on Friday or Monday, respectively. Should Christmas or New Year's fall on a weekday, Tuesday through Friday, the one-half day will be taken on the day preceding the holiday. Should Christmas or New Year's fall on a Saturday, Friday being the one day off, the one-half day would be taken on Thursday. Should Christmas or New Year's fall on Sunday or Monday, Monday being the one day off, the one-half day would be taken on Friday.

1-5.05 Payments to Subcontractors

The following is added to Section 5-1.13A, "General," of the Standard Specifications:

Comply with the provisions in Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

The Contractor shall furnish a written statement showing all work to be subcontracted, giving the names and addresses of all subcontractors and a description of each portion of the work to be subcontracted. The statement shall be on the form furnished by the City as part of the Bid documents and shall be considered an integral part of those documents.

Pursuant to Public Contract Code section 6109, no contractor or subcontractor that is ineligible under Labor Code section 1777.1 or 1777.7 may bid or work on this project. Any contract entered into between the Contractor and such an ineligible subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on this project, and any public money that may have been paid to a debarred subcontractor by the Contractor on the project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

1-5.06 Permits

The Contractor is responsible for obtaining all permits, licenses, bonds, pay all charges and fees (including inspection fees); and other authorization required by all affected jurisdictions involved in this job, at its own expense, unless otherwise specified in Section 2-5.01 "Permits," of these Special Provisions. The obtaining of permits by the City shall not relieve the Contractor of its responsibility as described by this section.

City permits, if required, shall have all fees waived, except for City business licenses. All subcontractors performing work within the limits of the City of Burlingame shall also obtain a City Business Licenses in accordance with Section 1-5.07, "City Business License," of these special provisions

Compliance with NPDES Permit. The Contractor shall comply with all requirements of the permit and shall not, directly or indirectly, cause a Sanitary Sewer Overflow or prevent the City from complying with the requirements of the permit. Penalties imposed on the City as a result of any discharge violation caused by the actions of the Contractor, or its employees, or subcontractors shall be borne in full by the Contractor, including fines, legal

fees, and other expenses to the City resulting directly or indirectly from such discharge violations. The City may recover such sums by deduction from the construction progress payments.

1-5.07 City Business License

The Contractor and all Subcontractors are required to have City business licenses in accordance with the City Municipal Code. Business license information can be obtained at:

https://www.burlingame.org/index.aspx?page=3307

1-5.08 Engineering Submittals

The following shall be added to Section 5-1.23A, General," of the Standard Specifications:

Contractor's failure to make submittals in a timely manner will not be a basis for any time extensions and shall count against the Contractor's work days.

1-5.09 Project Appearance

The following shall be added to Section 5-1.31, "Job Site Appearance," of the Standard Specifications:

"PROJECT APPEARANCE. The Contractor shall maintain a neat appearance to the work.

In any area visible to the public, the following shall apply: when practical, broken concrete and debris developed during the clearing and grubbing shall be disposed of concurrently with its removal. If stockpiling is necessary, the material shall be removed or disposed of weekly, unless otherwise granted by the City.

The Contractor shall furnish portable toilets for workmen and trash bins for all debris from structure construction. All debris shall be placed in trash bins daily. Forms or false work that are to be reused shall be stacked neatly concurrently with their removal. Forms and false work that are not to be reused shall be recycled concurrently with their removal.

1-5.10 Lines and Grades

Section 5-1.26, "Construction Surveys," of the Standard Specifications is replaced with:

Contractor shall perform all necessary construction surveys. Construction surveys shall be done in accordance with Chapter 12, "Construction Surveys," of the California Department of Transportation's *Survey Manual.*

All work shall be constructed to the lines and grades shown on the contract drawings. Unless authorized by the Engineer, any work done without construction survey line and grade will be done at the Contractor's risk.

1-5.11 Project Plans

Four (4) full-size sets of the project plans will be supplied to the successful bidder without charge. Additional sets will be supplied at the cost of reproduction.

1-5.12 Construction Area Lighting

All working areas utilized by the Contractor to perform work during the hours of darkness, shall be lighted to conform to the minimum illumination intensities established by California Division of Occupational Safety and Health Construction Safety Orders. In addition, the Contractor shall ensure that the lighting provides adequate safety to pedestrians in permitted portions of the construction area.

All lighting fixtures shall be mounted and directed in a manner precluding glare to approaching traffic.

1-5.13 Areas for Contractor's Use

The 2nd and 3rd paragraphs of section 5-1.32, "Areas of Use," of the Standard Specifications are replaced with:

> If no City-owned or City secured area is designated on the plans for the Contractor's use, you will be responsible to secure additional staging/stockpiling areas at your own expense in order to perform the work.
>
> Defend, indemnify, and hold the City harmless for any damage to or loss of materials or equipment in conformance with the indemnification requirements in the County's construction contract agreement.

1-5.14 Nonhighway Facilities

Section 5-1.36D, "Nonhighway Facilities." Of the Standard Specifications is amended to include the following:

> Unless otherwise permitted by the Engineer, the Contractor shall conduct its operations in a manner which will permit continuous operation of all utility facilities. The Contractor shall contact Underground Services Alert (USA) at 811 or 800-642-2444 at least forty-eight (48) hours before excavation so that underground facilities may be marked in the field. Locations of existing utility mains and utility connections, if shown on the plans, are only approximate. The Engineer assumes no responsibility for accuracy or completeness of said data, which is offered solely for the convenience of the Contractor. If the Contractor finds that a known utility has not marked the job site with either locations or no facilities, Contractor shall be responsible for contacting the utility, or USA regarding the discrepancy before proceeding with work.
>
> Attention is directed to the possible existence of underground main or trunk line facilities not indicated on the plans or in the special provisions. The Contractor shall ascertain the

exact location of underground main or trunk lines whose presence is indicated on the plans or in the special provisions, the location of their service laterals or other appurtenances and of existing service lateral or appurtenances of any other underground facilities which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage any of such facilities or interfere with their service.

If the Contractor discovers underground main or trunk lines not indicated on the Plans or in the special provisions, it shall immediately give the Engineer and the Utility Company written notification of the existence of such facilities. Such mains or trunk lines shall be located and protected from damage as directed by the Engineer and the cost of such work will be paid for as extra work as provided in Section 4-1.05. Damage due to the Contractor's failure to exercise reasonable care shall be repaired at its cost and expense.

1-5.15 Acceptance of Contract

Section 5-1.46, “Inspection and Contract Acceptance,” of the Standard Specifications is amended to include the following:

However, nothing in this Section 5-1.46 shall be construed to relieve the Contractor of full responsibility for correcting or replacing defective work or materials found at any time before the expiration of the one-year maintenance bond required under Section 3.03 of these Special Provisions.

1-5.16 Availability of Plans

Contractor shall maintain on the job site at a specific location an official set of Contract Documents, readily available at all times to the Engineer or Inspector.

SUBSECTION 1-6. CONTROL OF MATERIALS

1-6.01 General

Attention is directed to Section 6, "Control of Materials," of the Standard Specifications and these special provisions.

1-6.02 City-Furnished Materials

City-furnished materials shall be furnished in conformance to Section 6-1.02 of the Standard Specifications and as described herein.

The City-furnished materials on this project, if any, are listed in Section 2, “Supplementary General Conditions,” of these special provisions.

1.

The Contractor shall submit a written request to the Engineer for materials at least forty-eight (48) hours in advance of the date and time of their intended use. The request shall state the quantity and type of each material. Unless otherwise specifically provided in the Special Provisions, City-furnished materials will be stored at the City Corporation Yard at 1361 North Carolan Avenue, Burlingame. Materials will be available for pickup on weekdays, holidays excepted, from 8:00 a.m. to 9:00 a.m. and from 3:30 p.m. to 4:30 p.m.

All City-furnished material that is not used on the project shall remain the property of the City and shall be returned to the City in as-furnished condition at the locations designated by the Engineer.

Any water use from fire hydrants shall be metered. A cash deposit shall be posted at the City Water Department Office at 501 Primrose Road, Burlingame, California, as assurance that the meter is returned in good condition. Meters shall be obtained from and returned to the Water Department Repair Shop at the City Corporation Yard at 1361 North Carolan Avenue. If the meter is returned in good condition, a refund shall be mailed to the Contractor. Contractor shall also pay for the amount of water used. Water drawn from the City-furnished meter shall only be used for this project.

Any damages to the meters while in the possession of the Contractor shall be its responsibility and deductions will be made from the deposit for repairs to the meters. Meters must be returned to the City within 10 working days after work is completed and payment made for water used prior to final payment.

1-6.03 Local Materials

The 2nd paragraph of Section 6-2.04, “Local Materials,” of the Standard Specifications is replaced with:

> Testing of local materials to be used in the work for compliance with the specifications will be at your expense.

1-6.04 Steel and Iron Materials

Section 6-2.05C, "Steel and Iron Materials,” of the Revised Standard specifications is deleted, unless this is a Federal-aid funded contract.

1-6.05 Specific Brand or Trade Name and Substitution

Section 6-3.02, “Specific Brand or Trade Name and Substitution,” of the Standard Specifications is amended to include the following:

> Engineer’s decision to accept substitution is final.

SUBSECTION 1-7. LEGAL RELATIONS AND RESPONSIBILITY

1-7.01 General

This section shall conform to Section 7, “Legal Relations and Responsibility to the Public,” of the Standard Specifications with the following clarifications and amendments.

The Contractor is responsible for protecting both its work and the public.

1-7.02 Construction Hours

For any work within California Drive, Contractor shall not (including excavation and grading) work other than between the hours of 7:00 A.M. and 10:00 P.M. on Monday through Thursday, and 7:00 A.M. and 4:00 P.M. on Friday (see Section 5.04 of these specifications), except in the case of urgent necessity in the interest of public health and safety, and then only with express permission of the Engineer. In the vicinity of any schools, the contractor shall not begin any operation until after 9:00 A.M. when school is in session.

No work on weekends will be allowed unless written approval from the Engineer.

1-7.03 Excavation Safety

Section 7-1.02K(6)(b), “Excavation Safety, “ or the Standard Specifications is amended to include the following:

Replace "65" with "30" in the 2nd paragraph of section 7-1.02K(6)(b), “Excavation Safety.”

If required the Contractor shall submit a trenching and shoring plan signed and stamped by a license civil engineer or licensed geotechnical engineer for approval by the City. The plan shall include trenching and shoring support calculations.

Designate a competent person to be on site at all times while trench excavation work is being performed. The competent person shall be certified and make daily inspection in accordance with all OSHA requirements. A competent person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

Additionally, the Contractor shall provide upon request by the Engineer calculations and details proving the adequacy of any proposed steel plate trench or excavation bridging to carry traffic loads.

Comply with Public Contract Code § 7104, as shown below, while excavating.

§ 7104. Any public works contract of a local public entity which involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause which provides the following:

(a) That the contractor shall promptly, and before the following conditions are disturbed, notify the local public entity, in writing, of any:
(1) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
(2) Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
(3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
(b) That the local public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
(c) That, in the event that a dispute arises between the local public entity and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

1-7.04 Assignment of Antitrust Actions

The Contractor's attention is directed to Section 7-1.02L(2), “Antitrust Claims,” of the Standard Specifications.

1-7.05 Highway Construction Equipment

Attention is directed to Section 7-1.02O, "Vehicle Code," of the Standard Specifications.

1-7.06 Sound Control Requirements

Sound control shall conform to the provisions of Section 14-8, "Noise and Vibration," of the Standard Specifications and these special provisions.

It shall be the Contractor's responsibility to keep noise pollution due to construction activities as low as possible. In no case shall noise levels produced by the Contractor exceed either of the following maximums:

A. No individual piece of equipment shall produce a noise level exceeding 85dBA at a distance of 25 feet.

B. The noise level at any point outside of the property line or temporary construction area shall not exceed 85dBA. No equipment violating these standards will be allowed to operate.

In no case shall the Contractor's operations violate the noise ordinance (Chapter 10.40) of the Municipal Code.

This noise level requirement shall apply to all equipment on the job or related to the job, including, but not limited to, trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud signals shall be avoided in favor of light warnings, except those required by safety laws for the protection of personnel.

1-7.07 Relations with Property Owners

The Contractor shall notify, in writing, property owners or residents at least forty eight (48) hours in advance of all work affecting access into and out of their property or place of business.

Forms for such notices will be provided to the Contractor at start of construction and shall be distributed to the property owners by the Contractor throughout the length of the Contract whenever appropriate.

Closed driveways shall be re-opened within seventy-two (72) hours after being closed for any trenching, backfilling, paving, forming and concrete pouring scheduled accordingly.

Access to any place of business shall be maintained at all times and shall be coordinated with the business owner. Complete closure of any business access shall be only as approved in writing by the Engineer.

1-7.08 Public Convenience

Section 7-1.03 "Public Convenience" shall be amended by adding the following:

> Compensation for doing any work under this section shall be included in the various items of work, and no additional payment shall be made. Attention is directed to Section 7 of the Standard Specifications regarding the fact that the Contractor is responsible for protecting both its work and the public.

The Contractor shall conduct his operations in a manner to minimize inconvenience to the homeowners, residents and the traveling public.

Closed driveways shall be re-opened for safe passage of vehicle and pedestrians by end of the each work shift after being closed for any trenching, backfilling, paving, forming and concrete pouring scheduled accordingly.

Closed driveways during working hours shall be reopened temporarily as requested by property owners or residents to allow access to their driveways. The Contractor shall re-open the closed driveway within ten minutes (10) of such request.

Access to any place of business shall be maintained at all times and shall be coordinated with the business owner. Complete closure of any business access shall be only as approved in writing by the Engineer.

The Contractor shall conduct his operations in a manner to minimize inconveniences to property owners and residents and to avoid damage on private property. The Contractor shall maintain property owner and resident access to the homes at all times. The Contractor shall keep the work site on the private property in a tidy and neat manner. The Contractor shall remove all tools, equipment and material from the property at the end of each workday.

SUBSECTION 1-8. PROSECUTION AND PROGRESS

1-8.01 General

Prosecution and progress shall conform to Section 8, “Prosecution and Progress,” of the Standard Specifications and these special provisions.

1-8.02 Progress Schedule

The work to be done shall be performed in stages to minimize the inconvenience to the public.

Develop and maintain the appropriate level critical path method schedule for this project in compliance with Section 8-1.02, “Schedule,” of the Standard Specifications. In addition to the required schedule reports to be submitted to the City in accordance with Section 8-1.02, “Schedule” of the Standard Specifications, the Contractor is to maintain and furnish to the Engineer on a weekly basis a “three week look ahead” report detailing planned work for the following three weeks, highlighting critical path items of work.

1-8.03 Start of Job Site Activities

The Contractor shall sign and return the contract agreement and furnish required bonds and insurance certificates within ten (10) working days after the date of the letter of Notice of Contract Award. If the insurance and bonds are not provided within this time period, the City may proceed to declare the bid bond forfeited and award the bid to another bidder or may begin running the working days under the Agreement.

The Contractor shall begin work within fifteen (15) calendar days after receiving notice that the Contract has been approved by the City Council of the City of Burlingame and shall diligently prosecute the same to completion before the expiration of the number of working days as set forth in the "Notice to Bidders." The letter "Notice to Proceed" will indicate the "Beginning of Work" date to be used to determine the date of completion unless the Contractor fails to provide the final contract bonds and insurance as provided above.

The “Notice to Proceed” will be given at the preconstruction meeting and indicate the “Beginning of Work” date to be used to calculate the date of completion. If the Contractor fails to provide the final contract bonds and insurance as provided above, then the “Beginning of Work” will start Twenty-five (25) working days after the date of the “Notice of Contract Award.”

Even though the counting of working days may have begun, do not begin work before the preconstruction conference is held. Furnish all specified submittals to the Engineer at, or prior to, the preconstruction conference. Obtain all specified approvals contained in the Standard Specifications and these Special Provisions prior to the beginning of job site activities.

1-8.04 Liquidated Damages

Contractor's attention is directed to Section 8-1.10, "Liquidated Damages," of the Standard Specifications.

1-8.05 Termination of Control

Attention is directed to Section 8-1.13, "Contractor's Control Termination" of the Standard Specifications and these Special Provisions.

If the Contractor's control of the work is terminated or it abandons the work and the contract work is completed in conformance with the provisions of Section 10255 of the State Contract Act, any dispute concerning the amount to be paid to the City by the Contractor or its surety, under the provisions of Section 10258 of said Act, shall be subject to arbitration in accordance with the section of these special provisions entitled "Arbitration." The surety shall be bound by the arbitration award and is entitled to participate in such arbitration proceedings.

1-8.06 As-Built Data

The Contractor shall submit to the Engineer all information, including legible marked up plans of what was constructed, as required by the Engineer to verify as-built drawings for all permanent Contract work.

SUBSECTION 1-9. MEASUREMENT AND PAYMENT

1-9.01 General

Measurement and payment shall be in conformance with these specifications in Section 9, "Payment," of the Standard Specifications and these Special Provisions.

Contractors' attention is directed to Section 9-1.03, "Payment Scope," of the Standard Specifications and as amended herein.

The fourth paragraph in Section 9-1.03, "Payment Scope," of the Standard Specifications is as follows:

> Full compensation for work specified in divisions I, II and X of the Standard Specifications, and in Sections 1 and 2 of these special provisions is included in the payment for the bid items unless:
>
> 1. Bid item for the work is shown on the Bid Item List.
> 2. Work is specified as change order work.

When an (F) is included after a bid item name on the Bid List, that bid item quantity is a final pay item.

It shall be understood by the Contractor that the approximate quantities shown in the Bid Item List are solely for the purpose of comparing bids. The Contractor's compensation will be computed upon the basis of the actual quantities of work marked by the Engineer and completed, whether they be more or less than those shown in the Bid Item List.

Linear measurement shall be determined from measurements of bid items complete and in place. Unit counts will be made of the unit items complete and in place. Weight measurements will be based on weight receipts issued by a qualified weight master. Any other method of establishing the quantities not listed specifically herein, or defined in other portions of the contract provisions, shall be determined by referring to the applicable section of the Standard Specifications.

1-9.02 Payment Adjustments for Price Index Fluctuations

Section 9-1.07, "Payment for Adjustments for Price Index Fluctuations," of the Standard specifications is deleted, unless otherwise specified in the Supplementary Conditions.

1-9.03 Lump Sum Bid Item Progress Payments

The 1st paragraph of section 9-1.16B, "Schedule of Values," of the Standard Specifications are amended to include the following:

> If a schedule of values is not specified to be submitted or a payment breakdown is not provided in the payment clause of the applicable Standard Specifications or these Special

Provisions, progress payments for lump sum bid items will be a percentage of the lump sum bid item price based on the Engineer's determination of the amount of lump sum work already performed. At your option, submit a lump sum breakdown that provides sufficient detail for the Engineer to determine the value of work performed. The Engineer may consider but not exclusively base the determination of progress payments on your lump sum breakdown. The Engineer's determination of progress payments for lump sum bid items under the Contract will be final in accordance with Section 5-1.03 of the Standard Specifications.

1-9.04 Materials On-Hand

Section 9-1.16C, "Materials on Hand, "of the Standard Specifications is replaced by the following:

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

1-9.05 Mobilization

Section 9-1.16D, "Mobilization," of the Standard Specifications is replaced with the following:

9-1.16D Mobilization

Mobilization is eligible for partial payments if the Contract includes a bid item for mobilization. If the Contract does not include a mobilization bid item, mobilization is included in the payment for the various bid items.

Mobilization is defined in Public Contract Code § 10104 and the Department will make partial payments no less often than as specified under Public Contract Code § 10264. Both of these public contract code sections are duplicated below for your convenience.

10104. *As used in this part, "mobilization" includes preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site, for the establishment of all offices, buildings and other facilities necessary for work on the project, and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.*

10264. ***(a)****……., the department may make partial payments for the mobilization costs of a* ***contract*** *subject to this chapter, not to exceed the following:*

(1) When 5 percent of the original ***contract*** *amount is earned, 50 percent of the amount bid for mobilization, or 5 percent of the original* ***contract*** *amount, whichever is lesser, may be paid.*

(2) When 10 percent of the original ***contract*** *amount is earned, 75 percent of the amount bid for mobilization or 7.5 percent of the original* ***contract*** *amount, whichever is lesser, may be paid.*

*(3) When 20 percent of the original **contract** amount is earned, 95 percent of the amount bid for mobilization, or 9.5 percent of the original **contract** amount, whichever is lesser, may be paid.*

*(4) When 50 percent of the original **contract** amount is earned, 100 percent of the amount bid for mobilization, or 10 percent of the original **contract** amount, whichever is lesser, may be paid.*

*(5) Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent of the original **contract** amount will be paid.*

1-9.06 Retentions

Section 9-1.16F, "Retentions," of the Standard Specifications is replaced with the following:

9-1.16F Retentions

The City shall retain 5 percent of the estimated value of the work done and 5 percent of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for your fulfillment of the contract.

Pursuant to Section 22300 of the California Public Contract Code, the Contractor will be permitted, at its request and sole expense, to substitute securities for any monies withheld by the City to ensure performance under the contract. Said securities will be deposited either with the City or with the state or federally chartered bank as escrow agent. Securities eligible for this substitution are those listed in section 16430 of the California Government Code or bank or savings and loan certificate of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other mutually agreed to by Contractor and the City. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

1-9.07 Progress Payments

On or before the first day of every month the Contractor and Engineer shall meet and prepare a written estimate. From this amount, five percent (5%) will be deducted and, from the remaining ninety five percent (95%), there will be deducted any amounts due City from Contractor for supplies, materials, services, damages or otherwise deductible under the terms of the contract and the amount of all payments previously made to Contractor. The remainder will be paid by the City to the Contractor as a progress payment by the 20th day of the month. The remaining five percent (5%) thereof shall be paid to Contractor thirty-five (35) days after the recording of the Notice of Completion.

Pursuant to Public Contract Code section 20104.50, the City will promptly process all requests for progress payments pursuant to this contract. As to any undisputed payments that are made more than thirty (30) days after receipt of an undisputed and properly submitted payment request from the Contractor, the City will pay interest equivalent to the legal rate set forth in Code of Civil Procedure section 685.10.

1-9.08 Final Payment After Contract Acceptance

Section 9-1.17D (1), "General" of the Standard Specifications is amended to include the following:

Upon satisfactory completion of the entire work, the Engineer will recommend the acceptance of the work to the City Council. If the City Council accepts the completed work, it will cause a Notice of Completion to be recorded with the County Recorder.

Thirty-five days after the filing of the Notice of Completion, the Contractor will be entitled to the balance due for the completion and acceptance of the work, if certification is made by sworn written statement that all claims have been filed with the City based upon acts or omissions of the Contractor and that no liens or withhold notices have been filed against said work or the property on which the work was done.

1-9.09 Claim Resolution

Any claim by the contractor in connection with this project shall be resolved pursuant to Section 9204 of the Public Contract Code; the full text of which is as follows:

SECTION 1. Section 9204 is added to the Public Contract Code, to read:

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)

(A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d)

(1)

(A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days

or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)

(A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

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

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

1-9.10 Adjustment of Overhead Costs

Irrespective of the final payment to be made to the Contractor under this contract, there will be no adjustment of overhead costs.

1-9.11 Damages

Any provision in the Contract which limits the City's liability to an extension of time for delay for which the City is responsible and which delay is unreasonable under contemplation of the circumstances involved, and not within the parties', shall not be construed to preclude the recovery of damages by the Contractor or subcontractor. This section shall not be construed to void any provision in this Contract which requires notice of delays, provides for arbitration or other procedure for settlement, or provides for liquidated damages.

*** END OF SECTION ***

SECTION 2 SUPPLEMENTARY GENERAL CONDITIONS

SUBSECTION 2-2. BIDDING

2-2.01 Supplemental Project Information

Section 2-1.06B, "Supplemental Project Information," of the Revised Standard Specifications is replaced with the following:

2-1.06B Supplemental Project Information

The Agency makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in Appendix of these Special Provisions.	City of Burlingame Water and Sewer Specifications

SUBSECTION 2-7. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

2-7.01 Homeowners, Residents, Businesses and Traveling Public

Section 7-1.03 "Public Convenience," of the Standard Specifications shall be amended by adding the following:

The Contractor shall conduct his operations in a manner to minimize inconvenience to the homeowners, residents and the traveling public.

(A) Property Resident Notices

The Contractor shall notify property residents in writing within 2 weeks of award of contract (herein referred to as the "Project 1st Notice") and again 48 hours (herein referred to as the "48-Hour Notice") in advance of the start of construction activites. Note that distribution of the Project 1st Notice and 48-Hour Notices shall include all homes and businesses, which may be impacted by Contractors performance of Work, along with homes and businesses within 750-feet of the construction area.

(i) Project 1st Notice

The following information shall be provided to the property residents in the Project 1st Notice:

- Type of Notice (e.g., Project 1st Notice)
- Description of Work affecting property
- Work Start Date and Construction Schedule
- Duration of Work and anticipated impacts to traffic and pedestrians
- Contractor's day-time and after-hours emergency contact information

City will provide Contractor with templates for the Project 1st Notice at start of construction. Contractor shall assume the Project 1st Notice will be in the form of a door hanger that can be left on property owner's front door. Alternatively the notice can be mailed. Contractor shall prepare all notices utilizing the template provided by the City.

(ii) Forty-eight-Hour Notice

After Contractor has delivered or had delivered the Project 1st Notice and no sooner than 48 hours prior to the start of work, Contractor shall provide property residents and businesses with a 48-Hour Notice. The following information shall be provided to the property resident in the 48-Hour Notice:

- Type of Notice (e.g., 48-Hour Notice)
- Description of Work affecting property
- Work Start Date
- Duration of Work and anticipated impacts to traffic and pedestrians
- Contractor's day-time and after-hours emergency contact information

City will provide Contractor with templates for the 48-Hour Notices at start of construction. Contractor shall assume the 48-Hour Notice will be in the form of a door hanger that can be left on property owner's front door. Alternatively the notice can be mailed. Contractor shall prepare all notices utilizing the template provided by the City.

(B) Business and Driveway Access

Closed driveways shall be re-opened for safe passage of vehicle and pedestrians by end of the each work shift after being closed for any trenching, backfilling, paving, forming and concrete pouring scheduled accordingly.

Closed driveways during working hours shall be reopened temporarily as requested by property owners or residents to allow access to their driveways. The Contractor shall re-open the closed driveway within ten minutes (10) of such request.

Access to any place of business shall be maintained at all times and shall be coordinated with the business owner. Complete closure of any business access shall be only as approved in writing by the Engineer.

(C) Coordination with Property Owners

The Contractor shall conduct his operations in a manner to minimize inconveniences to property owners and residents and to avoid damage on private property. The Contractor shall maintain property owner and resident access to the homes at all times. The Contractor shall keep the work site on the private property in a tidy and neat manner. The Contractor shall remove all tools, equipment and material from the property at the end of each workday.

Section 7-1.03 "Public Convenience," of the Standard Specifications shall be amended by adding the following:

When individual streets or groups of streets are being surface treated, you may close those streets to traffic, subject to the following conditions:

1. Ensure that sufficient parking is available on adjacent streets not being surface treated or overlaid to provide parking for residents on streets subject to closure. Residents or business traffic shall not be required to walk distances exceeding 500 feet.

2. Notify in writing all residents and businesses fronting that street and all streets requiring use of the closed street at least two business days in advance of any street closure. The Notice to Residents shall clearly state your plans for lane closures or any special handling of the traffic if less than complete closure of the street will occur. The notice shall include the name of all streets to be closed, the date and times of closure, state the reason for closure and the purpose of the surface treatment. The notice shall include the Engineer's name and phone number, the Contractor's name, day and night

telephone number and contact person, additionally, residents shall be requested not to do outdoor watering, immediately prior or during the period of the street closure. Notify residents any towed vehicles will be relocated to adjacent streets outside of the active surface treatment area. Hand deliver or securely attach to the door of each residence or business in the event that no one is available to personally accept the notice. Do not leave notices in mailboxes. Notices shall be typed and on the Contractor's stationery (letterhead). A Friday that occurs prior to a holiday (three day) weekend shall not be considered as a business day for the purpose of this section. If any street identified in the Notice to Residents is not treated on the date and time identified, residents of that street and all streets requiring use of that street shall be re-notified of the new date and time of closure or limited access.

3. Obtain the Engineer's approval of the Notice to Residents prior to distribution.

4. Furnish and erect "No Parking Signs" on portable barricades a minimum of 24 hours prior to surface treatment or overlay. The signs shall include the date and times of closure. Discreetly write the exact date and time the notices were placed. The "No Parking" signs shall be removed within two hours of the street being re-opened for public traffic.

5. Provide 2 portable changeable message boards to be used throughout the length of the contract along California Drive. The message boards shall be moved to the various sites and to key locations approved by the Engineer to notify local residents of project work. See additional details in the Technical Specifications.

Arrange for towing and removal of any vehicles which interfere with construction operations in accordance with California Vehicle Code Section 22651. Tow vehicles to the nearest street with available parking which is not subject to that day's work. Do not tow any vehicles to the towing companies impound lot.

No towing will be done or allowed unless the Contractor has given the full 48-hour notice to the residents and/or businesses adjoining the streets to be under construction.

Provide a 5 foot wide pedestrian path over the wet surface treatment in order to maintain pedestrian access through the construction zone and to all adjacent homes and businesses, as directed by the Engineer, or as indicated on the plans. The path shall be placed with construction paper or sand blotted and shall be well marked with barricades, traffic cones and signs as directed by the Engineer.

At driveways serving businesses, emergency and public facilities, provide at least a 16 foot wide vehicle access strip across the surface treatment area. The access strip shall be constructed using aggregate material in such a manner that the vehicles are protected from damage from the treatment and the surface treatment is not damaged by the vehicle traffic. The access strip shall be well marked with barricades, traffic cones and signs as directed by the Engineer.

Emergency vehicles shall be permitted to pass through the work area without delay at all times.

Full compensation for complying with this special provision is included in the contract lump sum price paid for Traffic Control, and no separate payment will be made therefor.

2-7.02 Public Safety

In addition to any other measures taken by the Contractor pursuant to the provisions of Section 7-1.04, "Public Safety," of the Standard Specifications, 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:

(1) Excavations.--Any excavation, the near edge of which is 12 feet or less from the edge of the lane, except:

   (a) Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public. Trench plates subject to public traffic shall be the non-skid type (coefficient of friction of 0.35 or higher) and chocked. If more than one plate is required, the plates shall be tack welded together. Plates greater than 0.15 feet thick, placed within any paved portion of the roadway, including shoulders, shall have a temporary HMA taper at a slope of 20:1 (horizontal:vertical) from the top of plate to all paved surfaces. Plates placed entirely outside existing pavement shall be properly delineated in a manner subject to the approval of the Engineer.

   (b) Excavations less than one foot in diameter a minimum of 5 feet from edge of travel way to the nearest edge of excavation.

(2) Temporarily Unprotected Permanent Obstacles.—Whenever the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle prior to installing the protective system; or whenever you, for your convenience and with permission of the Engineer, remove a portion of an existing protective railing at an obstacle and do not replace such railing complete in place during the same day.

(3) Storage Areas.—Whenever material or equipment is stored within 12 feet of the lane and such storage is not otherwise prohibited by the Standard Specifications and these special provisions.

At the end of each working day if a difference in excess of 0.15 feet exists between the elevation of the existing pavement and the elevation of excavations within 12 feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the structural section commences, structural material shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 4:1 (horizontal:vertical) or flatter to the bottom of the excavation. Treated base shall not be used for the taper. Full compensation for placing the material on a 4:1 slope, regardless of the number of times the material is required, and subsequent removing or reshaping of the material to the lines and grades shown on the plans shall be considered as included in the contract price paid for

the materials involved and no additional compensation will be allowed therefor. No payment will be made for material placed in excess of that required for the structural section.

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 specifications:

Approach speed of public traffic (Posted Limit) (Miles Per Hour)	Work Areas
Over 45	Within *six* feet (6') of a traffic lane but not on a traffic lane
35 to 45	Within *three* feet (3') of a traffic lane but not on a traffic lane

When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane; however, the Contractor shall not reduce the width of an existing lane to less than *ten* feet (10') without written approval from the Engineer. The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When work is not in progress on a trench or other excavation that required a lane closure, 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 less than the spacing used for the lane closure. Full compensation for complying with this special provision is included in the contract prices paid for various items of work, and no separate payment will be made therefor.

2-7.03 Additional Insureds

Section 7-1.06D(2), "Liability Limits/Additional Insureds," of the Standard Specifications is amended to include the following:

Name the following agencies/entities as additional insured and defend, hold harmless, and indemnify:

1. SamTrans
2. Caltrain

Full compensation for complying with this special provision is included in the contract prices paid for various items of work, and no separate payment will be made therefor.

SUBSECTION 2-9. PAYMENT

2-9.01 Payment for Adjustments for Price Index Fluctuations

Adjustment in payment in accordance with Section 9-1.07, "Payment for Adjustments for Price Index Fluctuations," of the Standard specifications shall only apply to Hot Mix Asphalt.

*** END OF SECTION ***

The Technical Specifications contained herein have been prepared under the direction of and approved for use by the following Registered Engineer:

Project Manager: John Pulliam, P.E.

Registered Civil Engineer

SECTION 3 TECHNICAL SPECIFICATIONS

Applicable Standard Plans and Details

The following list of standard plans and details is applicable to this work.

APPLICABLE STANDARD PLANS/DETAILS 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.

STATE STANDARD PLANS

ABBREVIATIONS, LINES, SYMBOLS AND LEGEND

A10A	**Abbreviations (Sheet 1 of 2)**
RSP A10B	**Abbreviations (Sheet 2 of 2)**
A10C	**Lines and Symbols (Sheet 1 of 3)**
A10D	**Lines and Symbols (Sheet 2 of 3)**
A10E	**Lines and Symbols (Sheet 3 of 3)**

PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS

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

CURBS, DRIVEWAYS, DIKES, CURB RAMPS AND ACCESSIBLE PARKING

RSP A87A	**Curbs and Driveways**
RSP A88A	**Curb Ramp Details**
RSP A88B	**Curb Ramp and Island Passageway Details**

GUTTER AND INLET DEPRESSIONS

D78A	**Gutter Depressions**

TEMPORARY CRASH CUSHIONS, RAILING AND TRAFFIC SCREEN

T3A	**Temporary Railing (Type K)**
T3B	**Temporary Railing (Type K)**

TEMPORARY TRAFFIC CONTROL SYSTEMS

RSP T11	**Traffic Control System for Lane Closure on Multilane Conventional Highways**

TEMPORARY WATER POLLUTION CONTROL

T59	**Temporary Water Pollution Control Details (Temporary Concrete Washout Facility)**
T61	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T62	**Temporary Water Pollution Control Details (Temporary Drainage Inlet**

	Protection)
T63	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T64	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
	ROADSIDE SIGNS
RS1	**Roadside Signs, Typical Installation Details No. 1**
	ELECTRICAL SYSTEMS - LEGEND AND ABBREVIATIONS
RSP ES-1A	**Electrical Systems (Legend and Abbreviations)**
RSP ES-1B	**Electrical Systems (Legend and Abbreviations)**
RSP ES-1C	**Electrical Systems (Legend and Abbreviations)**
	ELECTRICAL SYSTEMS - DETECTORS
RSP ES-5C	**Electrical Systems (Accessible Pedestrian Signal and Push Button Assemblies)**
	ELECTRICAL SYSTEMS - FLASHING BEACONS
RSP ES-7K	**Electrical Systems (Flashing Beacon with Type 9, 9A and 9B Sign)**
RSP ES-7L	**Electrical Systems (Flashing Beacon with Type 9, 9A and 9B Sign)**
	ELECTRICAL SYSTEMS - SIGNAL AND LIGHTING STANDARD DETAILS
RSP ES-7M	**Electrical Systems (Signal and Lighting Standard, Detail No. 1)**
RSP ES-7N	**Electrical Systems (Signal and Lighting Standard, Detail No. 2)**
	ELECTRICAL SYSTEMS - PULL BOX
RSP ES-8A	**Electrical Systems (Non-Traffic Pull Box)**
RSP ES-8B	**Electrical Systems (Traffic Pull Box)**

CITY OF BURLINGAME STANDARD DETAILS

SW-1	Sidewalk, Driveway, Curb and Gutter
G-10	Typical Sanitary Sewer and Water Trench Section

SAN MATEO COUNTY

B-1	Inlet (Type GO) Details
B-12	Storm Drain Manhole Details
B-15	Standard Trench Backfill and Bedding Detail Storm Drain pipes

General

Technical specifications are under headings that correspond with the main-section headings of the *Caltrans 2010 Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Caltrans 2010 Standard Specifications*.

Each technical specification begins with a revision clause that describes or introduces a revision to the *Caltrans 2010 Standard Specifications* as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Caltrans 2010 Standard Specifications* for any other reference to a paragraph of the *Caltrans 2010 Standard Specifications*.

Revisions to Standard Specifications and Revised Standard Specifications

DIVISION I GENERAL PROVISIONS

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to section 10-1.02:

The first day of construction will be no later than Monday, April 2, 2018.

Before beginning any excavation, contact USA (Underground Service Alert) to have the location of all utilities marked. Promptly after utility markings are completed, review in the field with the Engineer the markings for possible conflicts with the planned improvements.

Where possible conflicts with existing utilities are indicated, you are to promptly pothole to find the exact locations of the utilities at these locations to determine if modifications to the planned work is necessary before doing any excavation in the area. Potholing must be performed using non-mechanical vacuum-type excavation and resulting holes properly backfilled and compacted.

Sequence curb and sidewalk work such that parking is not concurrently impacted on both sides of a street, directly opposite one another.

Do not place the uppermost layer of new pavement until all underlying conduits and storm drains are installed.

Do not remove existing traffic stripes/markers and pavement markings more than 5 days prior to restriping existing pavement, unless approved by the Engineer.

Construct concrete driveways in 2 stages if necessary to maintain vehicular access to all adjoining properties.

Do not remove and salvage the RRFB system any sooner than two (2) working days prior to work that requires its removal.

Construct the improvements in conformance with the Plans' Traffic Handling and Stage Construction plan sheets, unless otherwise approved by the Engineer.

Submit a Traffic Control Plan for Engineer's review and acceptance, fifteen (15) days prior to start of work. The traffic control plan must include details for, but not limited to, your proposed staging concepts, if different from the plans; construction area signage; traffic control systems to facilitate staging in compliance with maintaining traffic requirements in section 12 and as shown, temporary pedestrian access to businesses, and shielding of downtown businesses and sidewalks from construction areas with temporary noise and dust fence. Provide signage to direct pedestrians and cyclists through the construction area; include these items in your Traffic Control Plan.

Maintain pedestrian access around and through the project site as shown on the traffic handling and stage construction plans. You must maintain pedestrian access at all times to business adjacent to the construction area. Deviations from this plan must be approved by the City, and must maintain similar or better pedestrian access than shown on the plans.

Temporary pedestrian walkway surface must be an ADA-compliant, non-skid, all weather plywood surface, or approved equal. All joints must be taped and maintained throughout the life of the temporary walkway.

Payment for temporary pedestrian walkway is included in the payment for Traffic Control System.

Construction Storage Area

An off-site construction storage area may be available. Coordinate with the Engineer. The City does not compensate you if no off-site construction storage is available

Employee Parking

Employees working on the project should park within the construction area, or at other locations that do not include the immediately adjacent streets.

SamTrans Coordination

Coordinate with SamTrans to schedule the removal of their bus improvements from the bus stops being demolished. Coordinate with SamTrans a minimum of 2 weeks prior to starting work that impacts the use of their bus stops. Sam Trans will also be establishing temporary bus stops outside the work zone.

Invite SamTrans to the preconstruction conference.

A SamTrans contractor will be installing shelter foundations at the new northbound bus stop. Coordinate with SamTrans contractor and sequence your work to provide opportunity for SamTrans contractor to perform their work within the project area.

SamTrans contact is Ana Rivas, (650) 508-6461.

Stacks Coordination

Stacks' restaurant at the corner of Lorton Avneue and California Drive maintains furniture and landscape planters along the sidewalk adjacent to their property. The Contractor shall coorindate with Stacks' a minimum of two (2) weeks prior to the start of demolition activites to provide time for Stacks' to remove their furniture and planters from the impacted sidewalk areas.

Scope of Payment

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced under the contract whose payment is not clearly embraced in the various contract bid items or payment clauses shall be considered as included in the various contract items of work and no additional compensation will be allowed.

Construction Hours

Construction hours are contained in section 1-7.02. Extended hours beyond these ranges may be permissible. Submit your request in writing to the Engineer. Provide schedule savings due to use of extended hours.

Weekend work will not be permitted.

Weekly Construction Meetings

Participate in regularly scheduled weekly construction meetings with the Engineer. Hold the meeting in the construction trailer or on-site. Provide an updated schedule at each weekly meeting.

Construction Staking

You are responsible for providing all construction staking necessary to complete the work. See 1-5.10. This work is paid for as Construction Staking (Contractor Provided).

Record of Survey

The project includes the installation of a survey monument. Provide a Registered California Land Surveyor to perform, have reviewed, and record a record of survey for the new monument with the County. This work is paid for as Record of Survey.

Add to section 10-3

10-3 RESIDENT ENGINEER'S FIELD OFFICE

Furnish a field office (modular building) conforming to these Special Provisions for the use by the City at a location not further than one (1) mile from the project site. The field office shall be well constructed, properly ventilated, lighted, heated, and air conditioned.

The overall size of the field office shall be 500 square feet minimum, and shall be furnished with doors and windows capable of being locked. The field office shall be partitioned to provide one private office of not less than 120 square feet and a conference area of not less than 300 square feet. The doors shall have new galvanized or zinc coated stairs with landings as required. The Contractor is to provide to the Engineer a floor plan for review and approval prior to commencement of work.

Provide (2) keys for the main door to the Engineer. You retain title to the trailer and provided contents.

Perform any preparatory work necessary at the office site, including any site grading necessary. Provide parking spaces for a minimum of four vehicles on an all-weather surface.

The field office shall be furnished with 2 desks capable of being locked; 3-foot by 6-foot conference table; 8 standard chairs; 2 desk chairs with arms; one (1) dry plain paper copying machine with automatic feed and collator similar to Xerox 1012 or Sharp 815 capable of making letter size (8-1/2 x 11), legal size (8-1/2 x 14), and ledger size (11 x 17) copies; 2 x four drawer legal size filing cabinets; a fire extinguisher and a safety kit (bandages, gauze, etc.).

The private office shall be provided with a lockable closet and at least 25 feet of 12-inch wide shelving located as directed and two (2) portable book cases, each with a minimum of three four-foot long shelves.

Provide garbage collection service at least once per week.

The modular building shall be new or in like-new condition, and be less than 5 years old. You are responsible for all aspects of site preparation, delivery, set up, electrical plan and wiring, fire alarm system, and including all code compliance, applications, permitting and fees.

Provide all labor, materials and equipment required to provide adequate power to the office.

Provide toilet and wash station facilities that are at a minimum equivalent to the facilities that they provide for themselves at the project site and in accordance with State and local requirements. The toilet facilities may be portable facilities and shall be separate from the Contractor's facilities. The Contractor shall provide for the maintenance of any portable toilet and wash station facilities throughout the term of the project.

Fire extinguishers shall be provided and mounted as required by the Fire Marshall.

The office shall be provided with necessary electrical service to accommodate, at a minimum, the following items: 1 copier, and other standard office equipment. All electrical outlets to contain receptacles shall be wired and ready for use, and be installed not less than 6 feet apart.

Office shall have a functioning HVAC system. Provide all repairs and maintenance, including replacement of HVAC filters every 90 days, replacement of ballasts, and replacement of fluorescent light bulbs. Any maintenance requests are to be addressed within 48 hours.

You are responsible for meeting all State and local codes, including applicable building code requirements in accordance with Title 24 of the California Code of Regulations, Department of Housing and Community Development (DOH), Division of the State Architect (DSA), and Department of Motor Vehicles (DMV).

Equipment furnished shall be of standard quality and new, or like new in appearance and function. The office shall be installed, prepared, and ready for occupancy no later than twenty (20) calendar days after award of contract. For each day thereafter that the office is not ready for occupancy, you will be assessed damages in the amount of $500.00 per calendar day.

The office and all furnished equipment shall remain for use by the City and shall continue to be maintained until notified in writing by the Resident Engineer that all required final paperwork for project closeout, except paperwork related to progress payments, has been submitted and accepted by the Resident Engineer.

Post your contact information on a large sign outside the trailer, at a location easily visible to the public. Include the foreman's name and phone number and the Engineer's name and phone number.

Payment shall be made at the lump sum price bid for Resident Engineer's Field Office and shall include full compensation for furnishing, installing, maintaining, and removing the office, furnishings, office equipment, furnishing and maintaining the toilet and wash station facilities, electrical service, garbage service, general maintenance, any preparatory work, and restoring the area to its original state as specified in these Special Provisions and as directed by the Engineer.

Payment for Resident Engineer’s field office will be made in increments of the contract lump sum price for this item of work in the following manner:

Initial Increment:	25 percent of the lump sum price upon satisfactory completion of installation and setup (ready to occupy).
Progress Payment:	50 percent of the lump sum price upon satisfactory completion of fifty percent of the contract work.
Final Increment:	Balance of the lump sum price when contract work is completed and accepted.

Add to section 10-4

10-4 UTILITY POTHOLING

Where possible conflicts with existing utilities are indicated on the plans, you are to promptly pothole to find the exact locations of the utilities at these locations to determine if modifications to the planned work is necessary. Potholing must be performed using non-mechanical vacuum-type excavation and resulting holes properly backfilled and compacted.

If additional potential conflicts are identified after notifying and reviewing USA markings, immediately bring those to the attention of the Engineer.

Pothole work is measured and paid for as Utility Potholing.

You must have an approved traffic control work to proceed with potholing. Payment for any traffic control required for pothole work is included in payment for potholing utility.

^^

12 TEMPORARY TRAFFIC CONTROL

Add to section 12-1.01:

All temporary traffic control work not associated with a separate bid item is paid for as Traffic Control System. This includes all costs for flaggers, for furnishing, installing, and maintaining, solar RRFBs, and for furnishing, installing, maintaining, and removing temporary pedestrian walkway and temporary noise and dust fence. This also includes all other work associated with moving pedestrian and cyclists through the work area, including any temporary surfaces that may be necessary, including temporary HMA ramps. Work associated with providing for temporary lighting is paid for as Temporary Safety Lighting.

Quantities of Channelizers, Temporary Railing, and Crash Cushion will not be paid past the quantities shown on the bid list. If your work will lead to an increase in a quantity of one or more of these items, you must have those quantity changes approved in advance by the Engineer. The City does not pay for increased quantities to these bid items associated with work not approved in advance.

Traffic handling and stage construction plans have been approved for use by the City. You are required to provide a traffic control and stage construction plan to the City based on these plans. These plans must be approved by the City before you can begin work. If you desire to modify these plans, provide written plan that includes justification on why modified plan(s) will either reduce the number of working days or reduce the impact to the traveling public.

Replace section 12-2 with:

12-2 CONSTRUCTION PROJECT FUNDING SIGNS

12-2.01 GENERAL

Section 12-2 includes specifications for installing construction project funding signs.

Construction project funding signs shall be color sign with dimensions of 96" x 60" .

Keep construction project funding signs clean and in good repair at all times.

12-2.02 MATERIALS

Construction project funding signs must be mounted on wood posts complying with section 56-4.

Sign panels for construction project funding signs must be single sheet aluminum panels complying with section 56-2.

The background on construction project funding signs must be Type II retroreflective sheeting on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective, except for nonreflective black letters and numerals. The colors blue and orange must comply with PR Color no. 3 and no. 6, respectively, as specified in the Federal Highway Administration's *Color Tolerance Chart*.

The Engineer will provide you with the layout graphic for the construction project funding signs. Furnish and install a sign overlay for the year of completion within 10 working days of notification.

The size of the legend on construction project funding signs must be as described. Do not add any additional information unless authorized.

12-2.03 CONSTRUCTION

Install 2 construction project funding signs at the locations designated by the Engineer before starting major work activities visible to highway users.

When authorized, remove and dispose of construction project funding signs upon completion of the project.

12-2.04 PAYMENT

All work associated with the construction project funding sign is paid for as Construction Project Funding Sign.

Replace section 12-3.01B with:

Temporary in-line crash cushion shall be furnished, installed, maintained, and remove temporary in-line crash cushions as shown on the plans, in conformance with the manufacturer's instructions and these special provisions, and as directed by the Engineer.

The temporary in-line crash cushion must be a Category 3 temporary traffic control device and be on the Department's Highway Safety Features list. This list is maintained by the Division of Engineering Services and can be found at:

http://www.dot.ca.gov/hq/esc/approved_products_list/

Furnish the Engineer one copy of the manufacturer's plan and parts list of the selected temporary in- line crash cushion.

Provide the Engineer with a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-3.05E, "Certificates of Compliance," of the Standard Specifications. The Certificate of Compliance must certify that the temporary in-line crash cushion conforms to the prequalified design and material requirements, and was manufactured in conformance with the approved quality control program.

A Type R or P marker panel must be attached to the front of the temporary in-line crash cushion when the closest point of the crash cushion is within 12 feet of the traveled way. The marker panel, when required, must be firmly fastened to the crash cushion with commercial quality hardware or by other methods determined by the Engineer. Marker panel or other delineation used with temporary in-line crash cushion must conform to the provisions in "Prequalified and Tested Signing and Delineation Materials" of these special provisions.

Temporary in-line crash cushion may be removed during a work period for access to the work provided that the exposed fixed obstacle is 12 feet or more from a lane carrying public traffic and that the temporary in-line crash cushion is reset or relocated to protect the obstacle prior to the end of the work period in which the fixed obstacle was exposed.

If the Engineer orders a lateral move of the temporary in-line crash cushion and the repositioning is not shown on the plans, moving the temporary in-line crash cushion will be paid for as extra work and this temporary in-line crash cushion will not be counted for payment in the new position.

Immediately repair temporary in-line crash cushion damaged due to your operations at your expense. Remove and replace temporary in-line crash cushion damaged beyond repair due to your operations, as determined by the Engineer, at your expense.

Repairing temporary in-line crash cushion damaged by public traffic will be paid for as extra work. Immediately remove and replace temporary in-line crash cushion damaged beyond repair by public traffic, when ordered by the Engineer. Temporary in-line crash cushion replaced due to damage by public traffic will be paid for as extra work.

At the completion of the project, temporary in-line crash cushion become your property and must be removed from the site of the work.

Replace item #4 of the 1st paragraph of section 12-3.06C(2) with:

4. Post embedment must be 2.5 feet and backfilled with native material. Compact by tamping.

Add to section 12-3.06D:

Payment for construction area signs will be made in increments of the contract lump sum price for this item of work in the following manner:

1. Initial Increment: 60 percent of the lump sum price upon satisfactory completion of installation of signs.
2. Final Increment: Balance of the lump sum price upon satisfactory completion of removal of signs.

Add to section 12-3.08D:

Temporary Railing (Type K) will be measured for payment each time it is installed at a new work location as shown. Adjustments to barrier location after it has been placed at a work location will not be paid for, even if ordered by the Engineer.

Payment for temporary railing (Type K) included in your traffic control plan not specifically shown to be placed on the plans is included in payment for Traffic Control System.

Add to section 12-3.15D:

Temporary in-line crash cushion will be measured for payment each time it is installed at a new work location as shown. Adjustments to temporary in-line crash cushion location after it has been placed at a work location will not be paid for, even if ordered by the Engineer.

Payment for temporary crash cushions included in your traffic control plan not specifically shown to be placed on the plans is included in the payment for Traffic Control System.

Add to section 12-3.12C:

Place portable changeable message signs (PCMS), one in each direction along California Drive, two (2) weeks prior to the start of construction. Maintain both PCMS until project work is completed.

Relocate the PCMS to accommodate the following scenarios. Place the portable changeable message sign in advance of the 1st warning sign for each:

1. Stationary lane closures on California Drive.
2. New roundabout approaches once open to traffic on California Drive

Add to section 12-3.12D:

No additional payment is made when the PCMS is moved to a new location.

Add section 12-3.18:

12-3.18 TEMPORARY SAFETY LIGHTING

Provide tempoary safety lighting throughout the duration of construction to light the project area. Temporary safety lighting must be installed to maintain lighting at pre-project levels, and to increase lighting at critical locations, including termpoary pedestrian crossing locations and beginning/ends of construction zones.

Temporary safety lighitng is paid for as a lump sum item. Provide a cost breakdown for temporary safety lighting.

Add to section 12-4.01:

Local authorities are defined as, but not limited to, City Police Department, local Fire Department, United States Post Office, local waste management companies, local transit agencies, Emergency Response Companies and/or all businesses or regular users whose ability to perform their daily job will be affected by road closures, detours or general work by the Contractor.

No construction equipment or construction materials shall be parked or stockpiled within 10 feet of a traffic lane along California Drive when construction operations are not actively in progress.

Add to section 12-4.02A:

A minimum of 1 paved traffic lane not less than 11 feet wide must be open for use by traffic in each direction of travel during construction activities on California Drive. When not closed to traffic per the Traffic Handling & Stage Construction plans, a minimum of one traffic lane not less than 11 feet must be opened for use by traffic during construction activities on Lorton and Bellevue.

Do not perform work on City streets between 10 pm and 7 am, Monday through Thursday, and after 4 pm on Friday.

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic on California Drive.

During Stage 1, you will be permitted to close one of the two southbound lanes for up to 20 working days to allow for the complete construction of the roundabout. Maintain a minimum of one (1) 12-foot wide southbound lane.

For work on any City street if work vehicles or equipment are parked within 6 feet of a traffic lane not separated by temporary railing (type k) or channelizers, 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. Use a W20-1, "Road Work Ahead," W21-5b, "Right/Left Shoulder Closed Ahead," or C24(CA), "Shoulder Work Ahead," sign mounted on a crashworthy, portable sign support with flags. Place as ordered by the Engineer. If a cone or delineator is displaced or overturned, immediately restore the device to its original position or location.

Delete the 2nd, 3rd and 4th paragraphs of section 12-4.02A.

Replace the word "Freeway" with "Road" in all instances in the 5th paragraph of section 12-4.02A.

Add to section 12-4.02A:

Do not make lane closures if the atmospheric visibility is less than 1,000 feet.

If a lane is closed for construction activities and opening the lane becomes necessary for use by traffic in the opinion of the Engineer, immediately stop active construction activities and start clearing the lane.

Delete section 12-4.03A

Replace section 12-5 with:

12-5 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

12-5.01 GENERAL

Section 12-5 includes specifications for closing traffic lanes with stationary and moving lane closures within the project site.

Traffic control system includes signs and flaggers. You are responsible for all costs associated with flaggers; the City does not split the cost with you.

12-5.03 CONSTRUCTION

12-5.03A General

During traffic striping and pavement marker placement using bituminous adhesive, control traffic with a stationary or a moving lane closure. During other activities, control traffic with stationary lane closures.

Replace section 12-8 with:

12-8 TEMPORARY PAVEMENT DELINEATION

12-8.01 GENERAL

Section 12-8 includes specifications for placing, applying, maintaining, and removing temporary pavement delineation.

Painted traffic stripe used for temporary delineation must comply with section 84-3. Apply 1 or 2 coats.

Temporary signing for no–passing zones must comply with section 12-3.06.

12-8.02 MATERIALS

12-8.02A General

Not Used

12-8.02B Temporary Lane Line and Centerline Delineation

Temporary pavement markers must be the same color as the lane line or centerline markers being replaced. Temporary pavement markers must be one of the temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less.

12-8.03 CONSTRUCTION

12-8.03A General

Whenever work activities obliterate pavement delineation, place temporary or permanent pavement delineation before opening the traveled way to traffic. Place lane line and centerline pavement delineation for traveled ways open to traffic. On multilane roadways, freeways, and expressways, place edge line delineation for traveled ways open to traffic.

Establish the alignment for temporary pavement delineation, including required lines or markers. Surfaces to receive an application of paint or removable traffic tape must be dry and free of dirt and loose material. Do not apply temporary pavement delineation over existing pavement delineation or other temporary pavement delineation. Maintain temporary pavement delineation until it is superseded or you replace it with a new striping detail of temporary pavement delineation or permanent pavement delineation.

Place temporary pavement delineation on or adjacent to lanes open to traffic for a maximum of 14 days. Before the end of the 14 days, place the permanent pavement delineation. If the permanent pavement delineation is not placed within the 14 days, replace the temporary pavement markers with additional temporary pavement delineation equivalent to the striping detail specified for the permanent pavement delineation for the area. The City does not pay for the additional temporary pavement delineation.

When the Engineer determines the temporary pavement delineation is no longer required for the direction of traffic, remove the markers, underlying adhesive, and removable traffic tape from the final layer of surfacing and from the existing pavement to remain in place. Remove temporary pavement delineation that conflicts with any subsequent or new traffic pattern for the area.

12-8.03B Temporary Lane Line and Centerline Delineation

Whenever lane lines or centerlines are obliterated, the minimum lane line and centerline delineation must consist of temporary pavement markers placed longitudinally at intervals not exceeding 24 feet. The temporary pavement markers must be temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less. Place temporary pavement markers under the manufacturer's instructions. Cement the markers to the surfacing with the adhesive recommended by the manufacturer, except do not use epoxy adhesive to place pavement markers in areas where removal of the markers will be required.

For temporary lane line or centerline delineation consisting entirely of temporary pavement markers, place the markers longitudinally at intervals not exceeding 24 feet.

Where no-passing centerline pavement delineation is obliterated, install the following temporary no-passing zone signs before opening lanes to traffic. Install a W20-1, "Road Work Ahead," sign from 1,000 feet to 2,000 feet in advance of a no-passing zone. Install a R4-1, "Do Not Pass," sign at the beginning of a no-passing zone and at 2,000-foot intervals within the no-passing zone. For continuous zones longer than 2 miles, install a W7-3a or W71(CA), "Next ___ Miles," sign beneath the W20-1 sign. Install a R4-2, "Pass With Care," sign at the end of the no-passing zone. The Engineer determines the exact location of temporary no-passing zone signs. Maintain the temporary no-passing zone signs in place until you place the permanent no-passing centerline pavement delineation. Remove the temporary no-passing zone signs when the Engineer determines they are no longer required for the direction of traffic.

12-8.03C Temporary Edge Line Delineation

The Engineer determines the lateral offset for traffic cones, portable delineators, and channelizers used for temporary edge line delineation. If traffic cones or portable delineators are used for temporary pavement delineation for edge lines, maintain the cones or delineators during hours of the day when the cones or delineators are being used for temporary edge line delineation.

Channelizers used for temporary edge line delineation must be an orange surface-mounted type. Cement channelizer bases to the pavement as specified in section 85 for cementing pavement markers to pavement except do not use epoxy adhesive to place channelizers on the top layer of the pavement. Channelizers must be one of the 36-inch, surface-mounted types on the Authorized Material List.

Remove the temporary edge line delineation when the Engineer determines it is no longer required for the direction of traffic.

12-8.04 PAYMENT

Temporary pavement markings and temporary traffic stripes will not be measured and paid for separately. Payment for temporary pavement markings and temporary traffic stripes, including those shown on the plans and those included in your traffic control plan, are included in the payment for Traffic Control System.

Temporary lane line and centerline delineation and markings used between placement of various lifts of HMA is considered as included in the payment for Traffic Control System.

Removal of temporary pavement markings and traffic stripes is considered as included in payment for Traffic Control System.

^^

13 WATER POLLUTION CONTROL

Add to section 13-1.01A:

This project requires the development and implementation of a SWPPP.

Add to section 13-1.03D:

You are responsible for penalties assessed or levied on you or the City as a result of your failure to comply with the provisions in this section “Water Pollution Control,” including, but not limited to, compliance with the applicable provisions of the Manuals, and Federal, State, and local regulations and requirements as set forth therein. See “Retention of Funds” sub-section later in this special provision.

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

Add to section 13-3.01A:

The project is risk level 2.

The City has submitted a Notice of Intent (NOI) to the Regional Water Quality Control Board (RWQCB) which references and incorporates by reference the Permit.

Notify the Engineer immediately upon request from the regulatory agencies to enter, inspect, sample, monitor, or otherwise access the project site or your records pertaining to water pollution control work. Provide copies of correspondence, notices of violation, enforcement actions or proposed fines by regulatory agencies to the requesting regulatory agency.

The City does not have an agency-specific SWPPP template.

A qualified SWPPP developer (QSD) must develop the SWPPP.

Replace "15" in the third sentence of the 1st paragraph of section 13-3.01B(2)(a) of the RSS with:

5

Replace item 3 in the list in the 2nd paragraph of section 13-3.01B(2)(a) with:

3. CSMRP

Replace the 3rd paragraph of section 13-3.01B(2)(a) with:

Include the following items in the SWPPP:

1. Schedule
2. CSMRP
3. REAP
4. Adherence to effluent standards for NALs and NELs

Replace section 13-3.01B(2)(b) with:

13-3.01B(2)(b) Construction Site Monitoring and Reporting Program

The QSD must prepare a CSMRP as part of the SWPPP. The CSMRP must be developed before starting job site activities and be revised to reflect current construction activities as necessary.

The CSMRP must include:

1. Purpose
2. Visual monitoring inspections including procedures
3. Water quality sampling and analysis including:
   - 3.1. Visual monitoring procedures
   - 3.2. SAP for nonvisible pollutants
   - 3.3. SAP for nonstormwater discharges
   - 3.4. SAP for monitoring required by RWQCB
   - 3.5. SAP for pH and turbidity
   - 3.6. SAP for temporary active treatment systems
4. Watershed monitoring option
5. Quality assurance and quality control
6. Reporting requirements and records retention
7. Noncompliance reporting
8. Annual report
9. Final report

Replace the 1st and 2nd paragraphs in section 13-3.01B(7) with:

Submit a REAP whenever the National Weather Service is predicting a storm event in the form of rainfall with at least a 30 percent probability in the project area within 72 hours.

The WPC manager must submit a REAP at least 24 hours before a forecasted storm event for construction activities occurring:

1. Between May 1 and October 1
2. During periods when construction activity is conducted under a variance to the land disturbance prohibition of the Permit

Replace the 1st sentence in the 1st paragraph of section 13-3.01B(8) with:

Submit the storm water annual report before October 31st if construction occurs from October 16th through October 15th or within 15 days after Contract acceptance if construction ends before October 15th.

Delete the 6th paragraph of section 13-3.01C(1).

Replace the 1st paragraph in section 13-3.01C(2) with:

NALs must comply with the values shown in the following table:

Numeric Action Levels

Parameter	Test method	Detection limit (min)	Unit	Value
pH	Field test with calibrated portable instrument	0.2	pH	Lower NAL = 6.0 Upper NAL = 9.0

The daily average sampling results must not exceed the NAL for pH.

Replace the paragraphs in section 13-3.01C(3) with:

NELs comply with the values shown in the following table:

Numeric Effluent Limits

Parameter	Test method	Detection limit (min)	Unit	Value
Turbidity	Field test with calibrated portable instrument	1	NTU	20 NTU max

The storm event daily average for storms up to the 20-year, 1-hour storm must not exceed the NEL for turbidity.

Add to section 13-3.04

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

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

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

A. The City will give you 30 days notice of the City’s intention to retain funds from partial payments which may become due to you prior to acceptance of the contract. Retention of funds from payments made after acceptance of the contract may be made without prior notice to you.

B. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 9-1.16 of the Standard Specifications and these special provisions.

C. If the City has retained funds, and it is subsequently determined that the City is not subject to the entire amount of the Costs and Liabilities assessed or proposed in connection with the matter for which the retention was made, the City shall be liable for interest on the amount retained for the period of the retention. The interest rate payable shall be 6 percent per annum.

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

^^

14 ENVIRONMENTAL STEWARDSHIP

Replace the 2nd paragraph of section 14-8.02A with:

Do not operate construction equipment or run the equipment engines from 10:00 p.m. to 7:00 a.m. or on Sundays except you may operate equipment within the project limits during these hours to:

1. Service traffic control facilities
2. Service construction equipment

Delete section 14-10.02 "SOLID WASTE DISPOSAL AND RECYCLING REPORT"

Add to the 1st paragraph of section 14-11.02B:

Nothing in these special provisions shall relieve the Contractor of the responsibility for compliance with Federal, State, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.

^^

15 EXISTING FACILITIES

Add to 15-1.01:

Prior to starting demolition work and in the presence of the Engineer, take pictures of buildings and private property adjacent to the construction limits to document their existing condition.

Take proactive measures to protect building and private property during demolition work. Prepare and submit a plan for protecting private improvements to the Engineer for approval. Do not begin demolition work adjacent to private property without an approved plan.

Schedule demolition of sidewalk to occur during non-business hours. Coordinate demolition schedule with businesses and Engineer.

Utility Adjustments

Adjust utilities and coordinate with other owners to have their utilities adjusted, as shown on the plans.

Utilities will need to be temporary adjusted to an elevation equal to final grade minus the final overlay. You are responsible for temporarily adjusting the utilities shown to be adjusted by you on the plans, and you are responsible for coordinating with other owners to have them temporarily adjust their utilities.

Depending on your approved traffic handling or stage construction plans, additional temporary adjustments may be necessary. These are done at your cost; the City does not reimburse you for additional temporary adjustments necessary due to changes in the traffic handling or stage construction plans.

You are responsible for adjusting the following utilities (not including storm drain):

- Sewer manholes
- Fire hydrant

You are responsible for furnishing and installing new utility boxes for City-owned utilities located within the limits of removed and replaced sidewalk, including:

- Water meter boxes
- Water valve boxes
- Street light boxes
- Sewer lateral cleanout boxes
- Interconnect boxes

Perform all utility work on City sewer and water facilities in accordance with the City's Sewer and Water Specifications, included in the Appendix to these special provisions.

Replace section 15-2.02B(3) with:

15-2.02B(3) Cold Planing Asphalt Concrete Pavement

15-2.02B(3)(a) General

Not used.

15-2.02B(3)(b) Materials

Use the same quality of HMA for temporary tapers that is used for the permanent HMA or comply with the specifications for minor HMA in section 39.

15-2.02B(3)(c) Construction

15-2.02B(3)(c)(i) 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. If the cutter head width is wider than the cold plane area shown, submit to the Engineer a request for using a wider cutter head. Do not cold plane unless the Engineer approves your request.
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 so that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

You are responsible for lowering City owned utilities within the areas to be cold planned, and then for raising them back to grade as part of paving. This is paid for as either Lower and Raise Manhole, or Lower and Raise Utility

Cover. Payment for each includes the work of both lowering and raising the utility; you are paid only once for each manhole or utility cover requiring adjustment work.

15-2.02B(3)(c)(iii) Temporary HMA Tapers

If a drop-off between the existing pavement and the planed area at transverse joints cannot be avoided before opening to traffic, construct a temporary HMA taper. The HMA temporary taper must be:

1. Placed to the level of the existing pavement and tapered on a slope of 30:1 (horizontal:vertical) or flatter to the level of the planed area
2. Compacted by any method that will produce a smooth riding surface

Completely remove temporary tapers before placing permanent surfacing.

15-2.02B(3)(c)(iv) Remove Planed Material

Remove cold planed material concurrent with planing activities so that removal does not lag more than 50 feet behind the planer.

Asphalt concrete pavement removed during cold planning may contain pavement fabric, engineered paving mat or other hazardous materials. Remove and dispose of these materials.

15-2.02B(3)(d) Payment

Payment for removal of pavement markers, thermoplastic traffic stripe, painted traffic stripe, and pavement marking within the area of cold planing is included in the payment for cold plane asphalt concrete pavement.

Payment for removal, handling, and disposal of pavement fabric, engineered paving mat or other hazardous material within the area of cold planing is included in the payment for Cold Plane Asphalt Concrete Pavement.

Replace section 15-2.02C(2) with:

15-2.02C(2) Remove Traffic Stripes and Pavement Markings Containing Lead

Residue from removing 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
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii). The lead compliance plan must address the possibility that the yellow stripes and markings are hazardous materials.

Payment for a lead compliance plan is not included in the payment for existing facilities work.

Payment for handling, removal, and disposal of pavement residue that is a nonhazardous waste is included in the payment for the type of removal work involved.

Replace section 15-2.02C(3) with:

15-2.02C(3) Payment

Payment for remove traffic stipes and pavement markings, including any containing lead, is included in payment for the various contract items of work.

Add to section 15-2.02D:

Install temporary lane line and center line pavement delineators if more than two calendar days will pass between removal of existing pavement markers and resurfacing of the roadway surface or placement of temporary traffic control improvements shown on the Traffic Handling & Stage Construction Plans.

Payment for removing pavement markers is included in payment for the various contract items of work.

Payment for installing and removing temporary lane line and center line pavement delineators is included in payment for the various contract items of work.

Replace the 3rd paragraph in section 15-2.02K with:

Do not reuse frames and grates from removed drainage facilities.

Add to section 15-2.03A(2)(a):

Salvage on the following materials and equipment:

1. Parking meter heads.
2. Street light poles and heads
3. RRFB poles, signs, beacons and solar panels.
4. Sign panels

Remove and dispose of the remaining materials associated with the parking meters, street lights, RRFB system, and roadside signs.

Replace section 15-2.03A(2)(b) with:

15-2.03A(2)(b) Department Salvage Location

A minimum of 2 business days before hauling salvaged material to the City salvage storage location, notify:

1. Engineer
2. City Maintenance Division at telephone number (650) 558-7670.

The salvage storage location is the City of Burlingame Corporation Yard at 1361 N. Carolan Avenue, Burlingame, CA.

Replace section 15-2.07D with;

15-2.07D Modify Inlets

Modify inlets as shown. Concrete must conform to section 90-2. Frames, grates and covers must comply with the associated standard plan details.

Excavate only as necessary to make the modifications.

Replace the second paragraph in section 15-2.09C with:

Use new metal sign posts in accordance with section 56-4.02B.

Replace section 15-2.09E with:

15-2.09E Relocate Decorative Street Light

Use new pull box, conductors and conduits conforming to section 86. The new concrete cast-in-drilled-hole foundation must conform to section 86-2.03B.

Remove the entire existing concrete pile foundation.

Add to section 15-2.10B:

Adjustment of storm drain and sewer manhole frames and covers to new finished pavement grade may be accomplished by using manhole riser rings. You are responsible for temporary adjustment as described in 10-1.02.

Payment for adjusting storm drain manholes and sewer manholes frames and covers to grade is paid as Adjust Manhole to Grade. Adjustment of each manhole will only be paid for one. Payment for temporary adjustment is considered as included in the price paid to adjust.

Replace section 15-2.10E with:

15-2.10E Adjust Precast Utility Boxes to Grade (Sidewalk Area)

Adjust various small precast utility boxes (water meter, street light, sewer lateral cleanout and water lateral valve boxes) to new finished grades in sidewalk areas. Boxes must be adjusted to new grade without any difference in elevation to adjoining surfaces by placing them on well compacted aggregate base and must be well-seated, not rocking. Adjustment work must occur prior to placing adjoining concrete.

Payment for adjusting the various precast utility boxes to grade is included in the payment for minor concrete (sidewalk).

Replace section 15-2.10F with:

15-2.10F Adjust Water Valve Box to Grade

Work consists of raising water valve boxes to conform to finished pavement grade. Use new frame and covers set in minor concrete per section 90-2 and as shown on City of Burlingame Standard Drawing #W-1809. Cut or raise valve access sleeve (8” diameter non-metallic) as required to comply with top of sleeve being 6” +/- 1” of new finished grade.

Replace section 15-2.10G with:

15-2.10G Adjust Fire Hydrant to Grade

Adjust fire hydrant to grade. Work must conform to the City’s Water System Specifications and Standard Drawings, esp. Drawing No. W-2610. These City specifications and drawings can be viewed at:

https://www.burlingame.org/index.aspx?page=161

Coordinate the shutdown with the City Water Department.

Replace section 15-2.13 with:

15-2.13 Replace Roadside Sign Panel

Replace existing roadside sign panels with new roadside sign panels with same content as existing. Sign panel materials must conform to section 56.

Salvage the existing sign panels being replaced by a new sign on the existing post. Deliver the old sign panels to the City corporation yard as specified in section 15-2.03A(2)(b).

Replace the 4th paragraph in section 15-3.01 in the RSS with:

Dispose of all removed concrete by removing it from the job site.

Delete the 4th paragraph of section 15-3.01 in the RSS for section 15-3.01.

^^

DIVISION III GRADING

16 CLEARING AND GRUBBING

Add to section 16-1.03A:

Do not remove trees and shrubs unless they are shown and noted on the plans to be removed or conflict with the proposed improvements. Remove or trim all trees and shrubs conflicting with grading, utilities or other improvements, or overhanging the sidewalk or pavement so as to form a nuisance or hazard to the public. Removal of trees and shrubs not shown and noted on the plans to be removed must be approved by the Engineer prior to removal.

Replace the 4th paragraph in section 16-1.03A with:

Clear and grub vegetation only within the excavation and embankment slope lines.

Replace 1st sentence of the 2nd paragraph of section 16-1.03B with:

Trim tree branches that extend and hang over the road right of way to provide clearance for your equipment to operate, and provide a minimum of 8’ of vertical clearance over all new sidewalk areas. Undercut limbs to prevent breaks or tearing of bark and flush with parent branch or trunk leaving a callus ring. Treat fresh cuts over 1.5-inches in diameter with commercial type tree sealer.

Add to section 16-1.03C:

Cut roots exposed in trench and roadway excavation at the excavation line in accordance with recognized standards of good arboricultural practices

^^

19 EARTHWORK

Add to section 19-1.01A:

Earthwork activities also include sawcutting asphalt concrete, removing asphalt concrete, excavating for bioretention areas and all other earthwork excavation, developing a water supply and finishing the roadway. Comply with sections 15-3, 17-2, and 22.

Add to section 19-1.03B:

The soil to be removed from the median island park area at the intersection of Bellevue Avenue, Lorton Avenue, and California Drive requires testing prior to handling. Sequence your work and provide for the testing of this material to determine handling and disposal requirements. Testing to include for herbicides, pesticides, hydrocarbons, and ADL.

If this material is contaminated and requires special handling and disposal, its removal and disposal is paid for as Roadway Excavation (Contaminated Material).

If this material does not require special handling or disposal, its removal and disposal is paid for as Roadway Excavation.

Roadway Excavation (Contaminated Material) is a revocable bid item and is not subject to the increase or decrease payment adjustment requirements of section 9-1.06.

Replace the 2nd, 3rd, and 4th paragraphs of section 19-2.03B with:

Dispose of surplus material. Ensure enough clean earthy material is available to complete the embankments before disposing of it.

Add to section 19-2.04:

Removing asphalt concrete, PCC slab, aggregate base, and soil is paid for as roadway excavation.

Excavating bioretention areas are paid for as roadway excavation.

Payment for sawcutting asphalt concrete is included in payment for roadway excavation.

The asphalt concrete pavement removed during roadway excavation may contain pavement fabric, engineered paving mat or other hazardous materials. Remove and dispose of these materials. Payment for the removal and disposal of these materials is included in the price paid for Roadway Excavation.

Roadway excavation is a final pay item.

Replace Section 19-10 of the RSS for section 19 with:

19-10 BIORETENTION SOIL

Soils for bioretention areas must meet two objectives:

1. Be sufficiently permeable to infiltrate runoff at a minimum rate of 5" per hour during the life of the facility, and

2. Have sufficient moisture retention to support healthy vegetation.

Achieving both objectives with an engineered soil mix requires careful specification of soil gradations and a substantial component of organic material (typically compost).

Local soil products suppliers have expressed interest in developing ‘brand-name’ mixes that meet these specifications. At their sole discretion, municipal construction inspectors may choose to accept test results and certification for a ‘brand-name’ mix from a soil supplier.

Tests must be conducted within one-hundred and twenty (120) days prior to the delivery date of the bioretention soil to the project site.

Batch-specific test results and certification will be required for projects installing more than one-hundred (100) cubic yards of bioretention soil.

Install bioretention soil in a manner that ensures adequate infiltration. Bioretention soil must not be placed when the ground or soil is excessively wet or in a condition detrimental to the work. Place bioretention soil in two equal lifts. Lifts should be placed in a manner to reduce excessive erosion or settlement. Lifts must not be mechanically compacted. Lifts may be lightly watered to encourage natural compaction. Bring grading conflicts to the Engineer prior to proceeding with the work. Hand grading and final refinement of the finish grade must be as directed. After completion of finished grading, soil compaction must not exceed 85% maximum density. The Engineer will have final approval of all grading and contouring.

Bioretention Soil Mix

Bioretention soils must meet the following criteria.

1. General Requirements – Bioretention soil shall:

   a. Achieve a long-term, in-place infiltration rate of at least 5 inches per hour.

   b. Support vigorous plant growth.

   c. Consist of the following mixture of fine sand and compost, measured on a volume basis:
      60%-70% Sand

      30%-40% Compost

2. Submittal Requirements – The Contractor must submit to the Engineer for approval:

   a. A sample of mixed bioretention soil.

   b. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.

   c. 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.

   d. Quality analysis results for compost performed in accordance with Seal of Testing Assurance (STA) standards, as specified in 4.

   e. Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, “Loss-On-Ignition Organic Matter Method”.

   f. Grain size analysis results of compost component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.

   g. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.

   h. Provide the name of the testing laboratory(s) and the following information:
      (1) Contact person(s)
      (2) Address(s)
      (3) Phone contact(s)
      (4) E-mail address(s)
      (5) Qualifications of laboratory(s), and personnel including date of current certification by STA, ASTM, or approved equal

3. Sand for Bioretention Soil

   a. Sand must 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 nonplastic.

   b. Sand for Bioretention Soils must be analyzed by an accredited lab using #200, #100, #40, #30, #16. #8, #4, and 3/8 inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	Max
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
Note: all sands complying with ASTM C33 for fine aggregate comply with the above gradation requirements.		

4. Composted Material

Compost must 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 US Composting Council (USCC).

The product shall be certified through the USCC Seal of Testing Assurance (STA) Program (a compost testing and information disclosure program).

a. Compost Quality Analysis – Before delivery of the soil, the supplier must 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 approved Test Methods for the Evaluation of Composting and Compost (TMECC). The lab report shall verify:

(1) Feedstock Materials must be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
(2) Organic Matter Content: 35% - 75% by dry wt.
(3) Carbon and Nitrogen Ratio: C:N < 25:1 and C:N >15:1
(4) 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 (120F) upon delivery or rewetting is not acceptable. In addition any one of the following is required to indicate stability:
    (i) Oxygen Test < 1.3 O2 /unit TS /hr
    (ii) Specific oxy. Test < 1.5 O2 / unit BVS /
    (iii) Respiration test < 8 C / unit VS / day
    (iv) Dewar test < 20 Temp. rise (°C) e.
    (v) Solvita® > 5 Index value
(5) Toxicity: any one of the following measures is sufficient to indicate non-toxicity.
    (i) NH4- : NO3-N < 3
    (ii) Ammonium < 500 ppm, dry basis

(iii) Seed Germination > 80 % of control

(iv) Plant Trials > 80% of control

(v) Solvita® > 5 Index value

(6) Nutrient Content: provide analysis detailing nutrient content including N-P-K, Ca, Na, Mg, S, and B.
(i) Total Nitrogen content 0.9% or above preferred.

(ii) Boron: Total shall be <80 ppm; Soluble shall be <2.5 ppm

(7) Salinity: Must be reported; < 6.0 mmhos/cm
(8) pH shall be between 6.5 and 8. May vary with plant species.

b. Compost for Bioretention Soil Texture – Compost for bioretention soils must be analyzed by an accredited lab using #200, 1/4 inch, 1/2 inch, and 1 inch sieves ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	Max
1 inch	99	100
1/2 inch	90	100
1/4 inch	40	90
No. 200	2	10

c. Bulk density shall be between 500 and 1100 dry lbs/cubic yard

d. Moisture content must be between 30% - 55% of dry solids.

e. Inerts – compost must be relatively free of inert ingredients, including glass, plastic and paper, < 1 % by weight or volume.

f. Weed seed/pathogen destruction – provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.

g. Select Pathogens – Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <10000 MPN/gram.

h. Trace Contaminants Metals (Lead, Mercury, Etc.) – Product must meet US EPA, 40 CFR 503 regulations.

i. Compost Testing – The compost supplier will test all compost products within 120 calendar days prior to delivery. 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 Phone: 631-737-4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program approved lab. The compost supplier will pay for the test.

Verification of Alternative Bioretention Soil Mixes

Bioretention soils not meeting the above criteria must be evaluated on a case by case basis. Alternative bioretention soil must meet the following specification: “Soils for bioretention facilities must be sufficiently

permeable to infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility, and provide sufficient retention of moisture and nutrients to support healthy vegetation."

Alternative soil mixes must comply with the following:

1. General Requirements – Bioretention soil must achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Bioretention soil must also support vigorous plant growth.

    a. Submittals – The Contractor must submit to the Engineer for approval:
        (1) A sample of mixed bioretention soil.
        (2) Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.
        (3) Certification from an accredited geotechnical testing laboratory that the Bioretention Soil has an infiltration rate between 5 and 12 inches per hour as tested according to Section 1.b.(2)(ii).
        (4) Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
        (5) Grain size analysis results of mixed bioretention soil performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
        (6) A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.
        (7) The name of the testing laboratory(s) and the following information:
            (i) contact person(s)
            (ii) address(s)
            (iii) phone contact(s)
            (iv) e-mail address(s)
            (v) qualifications of laboratory(s), and personnel including date of current certification by STA, ASTM, or approved equal

    b. Bioretention Soil

        (1) Bioretention Soil Texture - Bioretention Soils must be analyzed by an accredited lab using #200, and 1/2" inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	Max
1/2 inch	97	100
No. 200	2	10

        (2) Bioretention Soil Permeability testing - Bioretention Soils must be analyzed by an accredited geotechnical lab for the following tests:

            (i) Moisture – density relationships (compaction tests) must be conducted on bioretention soil. Bioretention soil for the permeability test shall be compacted to 85 to 90 percent of the maximum dry density (ASTM D1557).

(ii) Constant head permeability testing in accordance with ASTM D2434 must be conducted on a minimum of two samples with a 6-inch mold and vacuum saturation.

Payment

Bioretention soil will not be measured or paid for separately. Payment for bioretention soil is included in the payment for Furnish and Install Landscaping and Bioretention Areas.

^^

20 LANDSCAPE

Replace section 20 of the RSS with:

20 LANDSCAPE

20-1 GENERAL

Refer to the plans for landscape and irrigation specifications, and for bioretention areas.

Maintain plants from the time of planting until the start of the plant establishment period.

20-2 IRRIGATION

Furnish and Install Irrigation System shall be measured per Lump Sum.

The Contract lump sum price paid for Furnish and Install Irrigation System shall include, but not be limited to, full compensation for furnishing all labor, materials, tools, and equipment and performing all work necessary to complete, maintain, plant establishment work and guarantee the irrigation work described or specified in the contract documents including any temporary irrigation and permanent irrigation, reduced-pressure back-flow preventer, ball valves, drip valve assembly, electric control valves, quick couplers, control wires, pull boxes, valve boxes, all piping and sleeves, electrical conduits, irrigation heads, drip emitters, bubblers, drip irrigation equipment, connection from electrical service to irrigation electrical meter, connection from meter to irrigation controller(s), installation of controller enclosure, concrete pads, preparation, correction, reproduction and lamination of “as-built” drawings, controller charts, assembly and submittal of the check list and operation and maintenance manuals and all appurtenances to the aforementioned items, as well as, and project guarantees.

Provide a schedule of values for Furnish and Install Irrigation System within 10 days of notification of award of bid.

At a minimum, the schedule of values must include:

- Irrigation Meter
- Irrigation Backflow
- Irrigation Controller
- Drip Irrigation

20-3 PLANTING

Furnish and Install Landscaping and Bioretention Areas will be measured per Lump Sum.

Landscaping includes all preparation of landscaping areas including bioretention areas.

Excavation of landscape areas is measured and paid for as Roadway Excavation.

Cost for furnishing and installing Bioretention improvements within landscape areas, including 4” perforated drain pipe and drain rock wrapped in filter fabric is considered as included in the lump sum price paid for Furnish and Install Landscaping and Bioretention Areas and no separate payment will be made therefor.

Furnish and Install Landscaping and Bioretention Areas includes furnishing and installing all plants, including those in the bioretention area and not within the bioretention areas.

Areas to receive bioretention soil are shown on sheet D-01. All other planting areas to receive imported landscape backfill.

The Contract lump sum price paid for Furnish and Install Landscaping and Bioretention Areas shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for performing all work necessary to furnish and install landscaping and bioretention areas, complete in place, including preparing planting areas, furnishing and installing bioretention soil and landscape backfill, furnishing and installing plants, river rock cobble, streambed cobbles, boulders, and concrete pavers, PVC cleanout assembly, perforated polyvinyl chloride pipe, permeable material (class 2), impermeable liner, and for doing all work to install Furnish and Install Landscaping and Bioretention Areas, as described or specified in the contract documents.

Provide a schedule of values for Furnish and Install Landscaping and Bioretention Areas within 10 days of notification of award of bid.

At a minimum, the schedule of values must include:

- 24" Box Trees (Group K)
- 5 Gallon Shrubs (Group B)
- 1 Gallon Shrubs (Group A)
- Wood Bark Mulch at 3" Depth
- River Rock Cobble 8"-12" dia.
- River Rock Cobble 4"-6" dia.
- Boulders 2'-4' dia.
- Concrete Pavers
- Imported Landscape Backfill @ 2' depth (All Landscape areas except for bioretention areas)
- Bioretention Soil
- 4" Perforated Polyvinyl Chloride Pipe (SDR 35)
- PVC Cleanout Assembly
- Permeable Material (Class 2)
- Impermeable Liner
- Streambed Cobbles

20-4 PLANT ESTABLISHMENT WORK

20-4.01 GENERAL

20-4.01A Summary

Section 20-4 includes specifications for performing plant establishment work.

This project has a Type 2 plant establishment period.

Plant establishment consists of caring for the plants, including watering, fertilizing, pruning, replacing damaged plants, pest control, and operating and repairing of all existing irrigation facilities used and irrigation facilities installed as part of the new irrigation system.

Working days on which no work is required, as determined by the Engineer, will be credited as a plant establishment working day, regardless of whether or not you perform plant establishment work.

Working days whenever you fail to adequately perform plant establishment work will not be credited toward the plant establishment working days.

20-4.01B Definitions

Type 1 plant establishment: Plant establishment period with the number of working days specified for plant establishment beginning after all work has been completed except for plant establishment work and other bid items specified to be performed until Contract acceptance.

Type 2 plant establishment: Plant establishment period with the number of working days specified for plant establishment beginning after all planting work has been completed except for plant establishment work and other bid items specified to be performed until Contract acceptance, provided that the Contract must not be accepted unless the plant establishment work has been satisfactorily performed for at least the number of working days specified for plant establishment.

If maintenance and protection relief is granted for a completed portion of the work under section 5-1.38, Type 2 plant establishment period for the completed portion of the work is the time between completion of all planting work except for plant establishment work, and the granting of maintenance and protection relief, provided that the relief must not be granted unless the plant establishment work in the completed portion of the work has been satisfactorily performed for at least the number of working days specified for the plant establishment period.

20-4.01C Submittals

20-4.01C(1) General

Submit seasonal watering schedules for use during the plant establishment period within 10 days after the start of the plant establishment period. Remote irrigation control system watering schedule must utilize the remote irrigation control system software program.

Submit updated watering schedules within 5 business days after any changes have been made to the authorized schedules.

Submit a revised watering schedule for each irrigation controller not less than 30 days before completion of the plant establishment period.

20-4.01C(2) Notification

The Engineer will notify you in writing when the plant establishment period begins and will furnish statements regarding the number of working days credited to the plant establishment period after the notification.

Notify the Engineer at least 5 business days before applying each application of fertilizer.

20-4.01D Quality Control and Assurance

Provide training by a qualified person on the use and adjustment of the irrigation controllers installed, 30 days before completion of the plant establishment period.

Perform a final inspection of the plant establishment work in the presence of the Engineer between 20 and 30 days before Contract acceptance.

20-4.02 MATERIALS

20-4.02A General

Reserved

20-4.02B Fertilizers

Fertilizer must comply with section 20-3.01B(4).

20-4.03 CONSTRUCTION

20-4.03A General

Remove trash and debris.

Surplus earth accumulated in roadside clearing and planting areas must be removed.

Trim and mow turf areas as specified for sod in section 20-3.03C(3)(e). Dispose of trimmed and mowed material.

If irregular or uneven areas appear within turf areas, restore to a smooth and even appearance. Reseed turf seed areas.

Remove the tops of foliage protectors if plants become restricted.

Remove foliage protectors, including 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 15 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 15 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.

Remove proposed and existing ground cover from within the plant basins, including basin walls, turf areas, and planting areas within edging.

Vines next to walls and fences must be kept staked and tied. Train vines on fences and walls or through cored holes in walls.

20-4.03C Fertilizers

Apply fertilizer to the plants as specified and water into the soil after each application.

Apply fertilizer at the rates shown and spread with a mechanical spreader, whenever possible.

20-4.03D Weed Control

Control weeds under section 20-1.03C(3).

20-4.03E Plant Staking

Replace the plant stakes that are inadequate to support plants with larger stakes.

Remove plant stakes when the Engineer determines they are no longer needed.

20-4.03F Replacement Plants

Replacement plants must comply with section 20-3.01C(4).

Replacement of plants up to and including the 125th plant establishment working day must be with a plant of the same size as originally specified. Plants of a larger container size than those originally specified for replacement plants may be used during the first 125 working days of the plant establishment period.

Replacement of plants after the 125th plant establishment working day must comply with the following size requirements:

Plant size (Original)	Plant size (Replacement)
Pot/liner/plug/ seedling	No. 1 container
No. 1 container	No. 5 container
No. 5 container	No. 15 container

Other replacement plants must be the same size as originally specified.

Replacement ground cover plants must comply with the following spacing requirements:

Original spacing (inches)	On center spacing of replacement ground cover plants (inches)		
	Number of completed plant establishment working days		
	1–125	126–190	191–End of plant establishment period
9	9	6	6
12	12	9	6
18	18	12	9
24	24	18	12
36	36	24	18

20-4.03G Watering

Operate the electric automatic irrigation systems in the automatic mode unless authorized.

If any component of the electric automatic irrigation system is operated manually, the day will not be credited as a plant establishment working day unless the manual operation is authorized.

Water plants utilizing the remote irrigation control system software program unless authorized.

Implement the watering schedule at least 10 days before completion of the plant establishment period.

20-4.04 PAYMENT

Not Used

^^^

22 FINISHING ROADWAY

Replace "Not Used" in section 22-1.04 with:

Payment for finishing roadway is included in payment for hot mix asphalt.

^^^

DIVISION IV SUBBASES AND BASES

^^

26 AGGREGATE BASES

Add to Section 26-1.02A :

Aggregate Base must be Class 2.

Replace the 2nd paragraph of Section 26-1.02A General with:

Use 3/4 inch aggregate grading. Do not change selected aggregate grading without authorization.

^^

DIVISION V SURFACINGS AND PAVEMENTS

^^

Replace section 38 with:

38 PAVEMENT FAILURE REPAIR

38-1.01 GENERAL

Pavement Failure Repair shall consist of removal of existing asphalt concrete to a depth shown on the plans and replacement with hot mix asphalt concrete. Removal of asphalt concrete shall be by cold planning or sawcut and removal. Hot mix asphalt concrete must be placed with a maximum lift of three (3) inches. The final layer must not be less than one and one-half (1-1/2) inches in compacted thickness and no greater than three (3) inches. Each lift must be compacted to 95 percent relative compaction. Areas to be repaired must be marked by the Engineer.

Cold planning must comply with 15-2.02B(3) .

The Engineer marks out areas to be repaired in the field.

Surfacing and base must be removed without damage to surfacing that is to remain in place. Damage to pavement, which is to remain in place, must be repaired to a condition satisfactory to the Engineer. The damaged pavement must be removed and replaced with new asphalt concrete if ordered by the Engineer. Repairing or removing and replacing pavement damaged outside the limits of pavement to be replaced, must be at the Contractor's expense and will not be measured nor paid for.

The accumulation of water in excavated areas must be prevented by means of pumping or other approved methods. At no time will ground water or storm water be allowed to flow down sanitary sewer lines.

Excavation shall be carried to the exact depth indicated on the drawing or as specified. Should you through your negligence or other fault, excavate below the designated lines, you must replace such excavations with approved materials at your own expense.

No pavement failure repair shall take place until all material has been removed and the area prepped or until directed by Engineer. A tack coat must be applied to all surfaces prior to placement of new hot mix asphalt.

If significant cracking and deformation is observed that indicates base failure after the pavement is cold planed; such areas shall be marked by the Engineer and repaired as directed.

It is your responsibilities to field verify locations, elevations, etc. of existing underground utilities and to immediately notify the Engineer of any field conflicts.

All grindings and other waste material must be disposed of outside the highway right of way in conformance with specifications. Removal operations of cold planed material must be concurrent with planning operations.

38-1.02 MATERIALS

An asphaltic emulsion tack coat (paint binder) must be used consisting of emulsified asphalt, Type **SS1h** conforming to the requirements of Section 94.

Aggregate for asphaltic concrete for base and pavement repair must conform to the requirements of Section 39 and must be one-half (1/2) inch HMA-Type A grading.

Apply tack coat to all existing pavement or concrete surfaces prior to placing HMA for both base and pavement failure.

38-1.03 SUBMITTALS

Submit HMA design mix to the City.

Submit certificates from suppliers stating compliance of materials with the specifications.

38-1.04 PAYMENT

The contract price paid per ton for **Pavement Failure Repair** shall include full compensation for all labor, materials, tools, equipment, and incidentals and for doing all work involved in constructing pavement failure repair, including cold planing, sawcutting, removal of asphalt concrete, and off-site disposal, compaction, tack coat, and hot mix asphalt concrete, as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

^^

39 HOT MIX ASPHALT

Delete section 39 in the RSS.

Add to section 39-1.01:

Produce and place HMA Type A under the section 39-3, standard construction process.

Add to section 39-1.01B:

processed RAP: RAP that has been fractionated.

substitution rate: Amount of RAP aggregate substituted for virgin aggregate in percent.

binder replacement: Amount of RAP binder in OBC in percent.

surface course: Upper 0.2 feet of HMA exclusive of OGFC.

Add to section 39-1.02C:

Asphalt binder used in HMA Type A must be PG 64-10.

Add to section 39-1.02E:

Aggregate used in HMA Type A must comply with the 1/2-inch HMA Types A.

Replace "less than 10 percent" in note "b" in the table in the 5th paragraph of section 39-1.02E with:

10 percent or less

Replace the paragraphs in section 39-1.02F with:

39-1.02F(1) General

You may produce HMA Type A or B 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 at a substitution rate not exceeding 15 percent of the aggregate blend. Do not use RAP in OGFC and RHMA-G.

Assign the substitution rate of RAP aggregate for virgin aggregate with the JMF submittal. The JMF must include the percent of RAP used.

Provide enough space for meeting RAP handling requirements at your facility. Provide a clean, graded, well-drained area for stockpiles. Prevent material contamination and segregation.

If RAP is from multiple sources, blend the RAP thoroughly and completely. RAP stockpiles must be homogeneous.

Isolate the processed RAP stockpiles from other materials. Store processed RAP in conical or longitudinal stockpiles. Processed RAP must not be agglomerated or be allowed to congeal in large stockpiles.

AASHTO T 324 (Modified) is AASHTO T 324, "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)," with the following parameters:

1. Target air voids must equal 7 ± 1 percent
2. Specimen height must be 60 mm ± 1mm
3. Number of test specimens must be 4
4. Test specimen must be a 150mm gyratory compacted specimen
5. Test temperature must be set at:
   5.1. 122 ± 2 degrees F for PG 58
   5.2. 131 ± 2 degrees F for PG 64
   5.3. 140 ± 2 degrees F for PG 70 and above
6. Measurements for impression must be taken at every 100 passes
7. Inflection point defined as the number of wheel passes at the intersection of the creep slope and the stripping slope
8. Testing shut off must be set at 25,000 passes

39-1.02F(2) Substitution Rate of 15 Percent or Less

For a RAP substitution rate of 15 percent or less, you may stockpile RAP during the entire project.

Replace items 7 and 8 in the 5th paragraph of section 39-1.03A with:

7. Substitution rate by more than 5 percent if your assigned RAP substitution rate is 15 percent or less
8. Substitution rate by more than 3 percent if your assigned RAP substitution rate is greater than 15 percent
9. Average binder content by more than 2 percent from the average binder content of the original processed RAP stockpile used in the mix design
10. Maximum specific gravity of processed RAP by more than ±0.060 from the average maximum specific gravity of processed RAP reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form

11. Any material in the JMF

Replace the 1st paragraph of section 39-1.03B with:

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	B	RHMA-G
Air void content (%)	California Test 367	4.0	4.0	Section 39-1.03B
Voids in mineral aggregate (% min.)	California Test 367			
No. 4 grading		17.0	17.0	--
3/8" grading		15.0	15.0	--
1/2" grading		14.0	14.0	18.0–23.0
3/4" grading		13.0	13.0	18.0–23.0
Voids filled with asphalt (%)	California Test 367			Note a
No. 4 grading		65.0–75.0	65.0–75.0	
3/8" grading		65.0–75.0	65.0–75.0	
1/2" grading		65.0–75.0	65.0–75.0	
3/4" grading		65.0–75.0	65.0–75.0	
Dust proportion	California Test 367			Note a
No. 4 and 3/8" gradings		0.6–1.2	0.6–1.2	
1/2" and 3/4" gradings		0.6–1.2	0.6–1.2	
Stabilometer value (min.)	California Test 366			
No. 4 and 3/8" gradings		30	30	--
1/2" and 3/4" gradings		37	35	23

[a] Report this value in the JMF submittal.

For RAP substitution rate greater than 15 percent, the mix design must comply with the additional quality characteristics shown in the following table:

Additional HMA Mix Design Requirements for RAP Substitution Rate Greater Than 15 Percent

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)	AASHTO T 324 (Modified)[a]			
PG-58		10,000	10,000	--
PG-64		15,000	15,000	
PG-70		20,000	20,000	
PG-76 or higher		25,000	25,000	
Hamburg wheel track (inflection point minimum number of passes)	AASHTO T 324 (Modified)[a]			
PG-58		10,000	10,000	--
PG-64		10,000	10,000	
PG-70		12,500	12,500	
PG-76 or higher		15000	15000	
Moisture susceptibility (minimum dry strength, psi)	California Test 371[a]	120	120	--
Moisture susceptibility (tensile strength ration, %)	California Test 371[a]	70	70	--

[a]Test plant produced HMA.

For HMA with RAP, the maximum binder replacement must be 25.0 percent of OBC for surface course and 40.0 percent of OBC for lower courses.

For HMA with a binder replacement less than or equal to 25 percent of OBC, you may request that the PG asphalt binder grade with upper and lower temperature classifications be reduced by 6 degrees C from the specified grade.

For HMA with a binder replacement greater than 25 percent but less than or equal to 40 percent of OBC, you must use a PG asphalt binder grade with upper and lower temperature classifications reduced by 6 degrees C from the specified grade.

Replace item 4 in the list in the 1st paragraph of section 39-1.03C with:

4. JMF renewal on a *Caltrans Job Mix Formula Renewal* form, if applicable

Add to the end of section 39-1.03C:

For RAP substitution rate greater than 15 percent, submit with the JMF submittal:

1. California Test 371 tensile strength ratio and minimum dry strength test results
2. AASHTO T 324 (Modified) test results

For RAP substitution rate greater than 15 percent, submit California Test 371 and AASHTO T 324 (Modified) test results to the Engineer and to:

Moisture_Tests@dot.ca.gov

Replace the 2nd paragraph of section 39-1.03E with:

Use the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. No adjustments to asphalt binder content are allowed. Based on your testing and production experience, you may submit an adjusted aggregate gradation TV on a *Contractor Job Mix Formula Proposal* form before verification testing. Aggregate gradation TV must be within the TV limits specified in the aggregate gradation tables.

Add between the 3rd and 4th paragraphs of section 39-1.03E:

Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

$$\text{Asphalt Binder Set Point} = \frac{\dfrac{BC_{OBC}}{\left(1-\dfrac{BC_{OBC}}{100}\right)} - R_{RAP}\left[\dfrac{BC_{RAP}}{\left(1-\dfrac{BC_{RAP}}{100}\right)}\right]}{100+\dfrac{BC_{OBC}}{\left(1-\dfrac{BC_{OBC}}{100}\right)}}$$

Where:
BC_{OBC} = optimum asphalt binder content, percent based on total weight of mix
R_{RAP} = RAP ratio by weight of aggregate
BC_{RAP} = asphalt binder content of RAP, percent based on total weight of RAP mix

Replace item 4 in the list in the 8th paragraph of section 39-1.03E with:

4. HMA quality specified in the table titled "HMA Mix Design Requirements" except:
   4.1. Air void content, design value ±2.0 percent
   4.2. Voids filled with asphalt, report only

4.3. Dust proportion, report only

Replace the 12th paragraph of section 39-1.03E with:

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF or submit an adjusted JMF based on your testing. JMF adjustments may include a change in aggregate gradation TV within the TV limits specified in the aggregate gradation tables.

Replace the 14th paragraph of section 39-1.03E with:

A verified JMF is valid for 12 months.

Replace the last sentence in the 15th paragraph of section 39-1.03E with:

This deduction does not apply to verifications initiated by the Engineer or JMF renewal.

Replace the 16th paragraph of section 39-1.03E with:

Except for RAP substitution rate greater than 15 percent, for any HMA produced under the QC/QA process the City does not use California Test 371 test results for verification.

Add between the 1st and 2nd paragraphs of section 39-1.03F:

Target asphalt binder content on your Contractor *Job Mix Formula Proposal* form and the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form must be the same.

Delete the 4th paragraph of section 39-1.03F.

Replace items 3 and 5 in the list in the 6th paragraph of section 39-1.03F with:

3. Engineer verifies each proposed JMF renewal within 20 days of receiving verification samples.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the City's expense 1 proposed JMF renewal within a 12-month period.

Add between the 6th and 7th paragraphs of section 39-1.03F:

The most recent aggregate quality test results within the past 12 months may be used for verification of JMF renewal or the Engineer may perform aggregate quality tests for verification of JMF renewal.

Replace section 39-1.03G with:

39-1.03G Job Mix Formula Modification

For an accepted JMF, you may change asphalt binder source one time during production.

Submit your modified JMF request a minimum of 3 business days before production. Each modified JMF submittal must consist of:

1. Proposed modified JMF on *Contractor Job Mix Formula Proposal* form
2. Mix design records on *Contractor Hot Mix Asphalt Design Data* form for the accepted JMF to be modified
3. JMF verification on *Hot Mix Asphalt Verification* form for the accepted JMF to be modified
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on the *Contractor Asphalt Mix Design Data* form
5. If required, California Test 371 test results for the modified JMF.

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 5 business days of receiving all verification samples. If California Test 371 is required, the Engineer tests for California Test 371 within 10 days of receiving verification samples.

The Engineer verifies the modified JMF after the modified JMF HMA is placed on the project and verification samples are taken within the first 750 tons following sampling requirements in section 39-1.03E, "Job Mix Formula Verification." The Engineer tests verification samples for compliance with:

1. Stability as shown in the table titled "HMA Mix Design Requirements"
2. Air void content at design value ±2.0 percent
3. Voids in mineral aggregate as shown in the table titled "HMA Mix Design Requirements"
4. Voids filled with asphalt, report only
5. Dust proportion, report only

If the modified JMF is verified, the Engineer revises your *Hot Mix Asphalt Verification* form to include the new asphalt binder source. Your revised form will have the same expiration date as the original form.

If a modified JMF is not verified, stop production and any HMA placed using the modified JMF is rejected.

The Engineer deducts $2,000 from payments for each modified JMF verification. The Engineer deducts an additional $2,000 for each modified JMF verification that requires California Test 371.

Add to section 39-1.03:

39-1.03H Job Mix Formula Acceptance

You may start HMA production if:

1. The Engineer's review of the JMF shows compliance with the specifications.
2. The City has verified the JMF within 12 months before HMA production.
3. The Engineer accepts the verified JMF.

Replace "3 days" in the 1st paragraph of section 39-1.04A with:

3 business days

Replace the 2nd sentence in the 2nd paragraph of section 39-1.04A with:

During production, take samples under California Test 125. You may sample HMA from:

Replace "batch" in the 2nd sentence in the 2nd paragraph of section 39-1.04C with:

lot. Each asphalt binder lot consists of 1 or multiple batches of combined asphalt binder, asphalt modifier, and CRM proportioned under section 39-1.02D.

Replace the 2nd paragraph of section 39-1.04E with:

For RAP substitution rate of 15 percent or less, sample RAP once daily.

For RAP substitution rate of greater than 15percent, sample processed RAP twice daily.

Perform QC testing for processed RAP aggregate gradation under California Test 367, appendix B, and submit the results with the combined aggregate gradation.

Replace "5 days" in the 1st paragraph of section 39-1.06 with:

5 business days

Replace the 3rd paragraph of section 39-1.08A with:

During production, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

Add to section 39-1.08A:

During production, asphalt binder set point for HMA Type A, HMA Type B, HMA Type C, and RHMA-G must be the OBC shown in *Contractor Hot Mix Asphalt Design Data* form. For OGFC, asphalt binder set point must be the OBC shown on *Caltrans Hot Mix Asphalt Verification* form. If RAP is used, asphalt binder set point for HMA must be calculated as specified in section 39-1.03E.

For RAP substitution rate of 15 percent or less, you may adjust the RAP by -5 percent.

For RAP substitution greater than 15, you may adjust the RAP by -3 percent.

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average asphalt binder content. Do not adjust the HMA plant asphalt binder set point until authorized.

Replace the 3rd paragraph of section 39-1.08B with:

Asphalt rubber binder must be from 375 to 425 degrees F when mixed with aggregate.

Add to the beginning of section 39-1.08C:

Asphalt rubber binder blending plants must have current qualification under the Department's Material Plant Quality Program.

Add to the 1st paragraph of section 39-1.10:

6. Equipped with a sensor activated ski device not less than 30 feet long that controls the end of the screed nearest the centerline when placing the initial mat of hot mix asphalt on the existing pavement. The end of the screed farthest from centerline shall be controlled manually.

When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 0.01-foot tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same way it was controlled when placing the initial mat.

Replace section 39-1.11 with:

39-1.11 CONSTRUCTION

39-1.11A General

Do not place 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 place 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

Prior to obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers), that is to be replaced on the same alignment and location, reference the pavement delineation with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings.

Before placing a HMA overlay, cover manholes, valve and monument covers, grates, or other exposed facilities located within the area of application, using a plastic or oil resistant construction paper secured to the facility being covered by tape or adhesive. Reference the covered facilities with a sufficient number of control points to relocate the facilities after placing the HMA overlay.

Set the paver speed at a speed that matches the rate of HMA delivered to the project site to minimize stopping of the paver and to ensure a smooth and seamless paved surface. Prior to any paving operations, obtain the HMA plants' production rate for the proposed paving operation. Using this production rate and the number of trucks to be used for HMA delivery, calculate the average rate of HMA delivery to the project site and speed of the paver that conforms to the delivery rate to minimize the amount of stopping by the paver. At least 2 full working days prior to any paving operations, submit to the Engineer the paving rate and speed of the paver in tons per hour and feet per minute respectively. Include in the submittal to the Engineer the number of trucks that will be delivering HMA, the estimated round trip cycle time of the trucks from the HMA plant to the project site, and the calculations used to determine the paving rate and speed.

Wherever final placement of HMA is complete, place permanent traffic stripes and pavement markings within 10 days.

Hot mix asphalt placed in the top layer of the surfacing shall be obtained from only one hot mix asphalt plant.

The uppermost layer of new pavement shall not be placed until all frontage improvements, island curbs, trenching, and underlying conduits have been installed, and the entire project is ready to receive the final lift.

39-1.11B Longitudinal Joints

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.

Place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

39-1.11D Shoulders, Medians, and Other Road Connections

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. Chain control lanes
8. Turnouts
9. 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.

Pave shoulders and median borders adjacent to the lane before opening a lane to traffic.

Place shoulder conform tapers concurrently with the adjacent lane's paving.

Place additional HMA along the pavement's edge to conform to road connections and driveways. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

39-1.11E Leveling

If leveling with HMA is specified, fill and level irregularities and ruts with HMA before spreading HMA over the base, existing surfaces, or bridge decks. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture. HMA used to change an existing surface's cross slope or profile is not paid for as HMA (leveling).

If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material.

Use ½-inch HMA Type A for the HMA leveling course.

39-1.11F Compaction

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
2. Below 140 degrees F for HMA with modified binder
3. Below 200 degrees F for RHMA-G

If a vibratory roller is used as a finish roller, turn the vibrator off.

Do not use a pneumatic-tired roller to compact RHMA-G.

Spread and compact HMA under sections 39-3.03 and 39-3.04 if any of the following applies:

1. Specified paved thickness is less than 0.15 foot.
2. Specified paved thickness is less than 0.20 foot and 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
   3.1. Asphalt concrete surfacing replacement areas
   3.2. Leveling courses
   3.3. Areas for which the Engineer determines conventional compaction and compaction measurement methods are impeded

Do not open new HMA pavement to public traffic until its mid-depth temperature is below 160 degrees F.

If you request and if authorized, you may cool HMA Type A and Type B with water when rolling activities are complete. Apply water under section 17-3.

Spread sand at a rate from 1 to 2 lb/sq yd on new RHMA-G, RHMA-O, and RHMA-O-HB pavement when finish rolling is complete. Sand must be free of clay or organic matter. Sand must comply with section 90-1.02C(4)(c). Keep traffic off the pavement until spreading sand is complete.

While spreading the final lift of hot mix asphalt (wearing surface), all excess hot mix asphalt along cold joints shall be carefully removed and disposed. This excess material shall not be placed by any means over the hot mix asphalt being spread (i.e., no broadcasting of excess material over mat).

Delete section 39-1.12.

Replace item 2 of the last paragraph of section 39-1.14 with:

2. Use 1/2-inch HMA Type A for driveway/private street conforms, island areas, and sidewalks; for all other miscellaneous areas use 3/8-inch HMA Type A.

Add to section 39-1.14:

Prepare the area to receive HMA for miscellaneous areas and dikes, including any excavation and backfill as needed.

Replace "6.8" in item 3 in the list in the 4th paragraph of section 39-1.14 with:

6.4

Replace "6.0" in item 3 in the list in the 4th paragraph of section 39-1.14 with:

5.7

Replace the 1st paragraph of section 39-3.02A with:

The City 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	B	RHMA-G	OGFC
Aggregate gradation [a]	California Test 202	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]
Sand equivalent (min) [c]	California Test 217	47	42	47	--
Asphalt binder content (%)	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (%, max)	California Test 226 or 370	1.0	1.0	1.0	1.0
Stabilometer value (min) [c]	California				
No. 4 and 3/8" gradings	Test 366	30	30	--	--
1/2" and 3/4" gradings		37	35	23	--
Percent of crushed particles	California				
Coarse aggregate (% min)	Test 205				
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (% min)					
(Passing no. 4 sieve and retained on no. 8 sieve.)					
One fractured face		70	20	70	90
Los Angeles Rattler (% max)	California				
Loss at 100 rev.	Test 211	12	--	12	12
Loss at 500 rev.		45	50	40	40
Air void content (%) [c, d]	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Fine aggregate angularity (% min)[e]	California Test 234	45	45	45	--
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) [f]	California Test 367				
No. 4 grading		65.0–75.0	65.0–75.0	Report only	--
3/8" grading		65.0–75.0	65.0–75.0		
1/2" grading		65.0–75.0	65.0–75.0		
3/4" grading		65.0–75.0	65.0–75.0		
Voids in mineral aggregate (% min) [f]	California Test 367				
No. 4 grading		17.0	17.0	--	--
3/8" grading		15.0	15.0	--	
1/2" grading		14.0	14.0	18.0–23.0	
3/4" grading		13.0	13.0	18.0–23.0	
Dust proportion [f]	California				
No. 4 and 3/8" gradings	Test 367	0.6–1.2	0.6–1.2	Report only	--
1/2" and 3/4" gradings		0.6–1.2	0.6–1.2		
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)[g]	AASHTO T 324 (Modified)				
PG-58		10,000	10,000	--	--
PG-64		15,000	15,000		
PG-70		20,000	20,000		
PG-76 or higher		25,000	25,000		
Hamburg wheel track	AASHTO			--	--

(inflection point minimum number of passes)[g] PG-58 PG-64 PG-70 PG-76 or higher	T 324 (Modified)	 10,000 10,000 12,500 15000	 10,000 10,000 12,500 15000		
Moisture susceptibility (minimum dry strength, psi)[g]	California Test 371	120	120	--	--
Moisture susceptibility (tensile strength ration, %)[g]	California Test 371	70	70	--	--
Smoothness	Section 39-1.12	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92-1.01D(2) and section 39-1.02D	Section 92-1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] The Engineer reports the average of 3 tests from a single split sample.
[d] 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.
[e] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[f] Report only.
[g] Applies to RAP substitution rate greater than 15 percent.

Replace "280 degrees F" in item 2 in the list in the 6th paragraph of section 39-3.04 with:

285 degrees F

^^

51 CONCRETE STRUCTURES

Replace the 2nd and 3rd paragraphs of Section 51-7.01A with:

Drainage inlets, sidewalk cross drains, pipe headwalls, endwalls, junction boxes, and manholes are classified as minor structures.

Unless otherwise specified on the Plans, do not use precast inlet structures.

Replace the first paragraph of Section 51-7.01B with:

Comply with the specifications for minor concrete, except the following:

1. Minor Concrete must contain at least 590 pounds of cementitious material per cubic yard.

2. The maximum aggregate size must not be larger than 1 inch or smaller than 3/4 inch.

Add to Section 51-7.01C:

When a drainage inlet is constructed in two or more segments, with a construction joint at the pavement subgrade, and the portion of the inlet above the joint is constructed monolithically with the curb and sidewalk, the concrete for the upper portion of the inlet shall be the same class as is used for the curb and sidewalk.

Plastic drainage inlet markers must be installed on all newly constructed drainage inlets. Drainage inlet markers will be furnished by the Engineer. Mechanically clean the concrete surface before placing plastic drainage inlet markers. Apply a sufficient amount of Sika 11 polyurethane based elastomeric adhesive or approved equal around the perimeter of the marker itself to assure that there are no loose edges around the marker when it is attached to the inlet.

Replace the 2nd paragraph of 51-7.01D with:

Payment for metal frames and covers, frames, and grates is included in the payment for minor structures.

^^

56 SIGNS

Add to section 56-4.02B:

Metal posts shall be a 2” (12 gage) Unistrut telescoping square tube system or an approved equal which consists of square tube that is welded steel with perforations to adjust post height.

Add to section 56-4.03A:

Place sign posts in an 8-inch diameter holes, 30” deep, filled with minor concrete in compliance with section 90.

^^

64 PLASTIC PIPE

Replace paragraph 1 of Section 64-1.02A with:

Plastic pipe must be PVC C900 pipe with smooth interior. All references to corrugated interior walled plastic pipe are deleted.

Add to Section 64-1.02E:

All spigot ends of each pipe section must have the “home” position clearly marked around the circumference such that the Engineer can easily determine from the top of the trench that the pipe has been sufficiently seated into the bell end of the adjoining pipe section.

^^

68 SUBSURFACE DRAINS

Replace section 68-5 with:

68-5 PERMEABLE MATERIAL

68-5.01 GENERAL

Section 68-5 includes specifications for installing permeable material, impermeable liner and plastic pipe underdrain system at storm water basins.

68-5.02 MATERIALS

Permeable material for bioretention area must be Class 2 and must comply with section 68-2 except for payment.

Perforated and solid plastic pipe must be smooth wall PVC pipe conforming to section 68-2.02D.

Impermeable liner must conform to section 78-2.

68-5.03 CONSTRUCTION

Specified curves or any change of underdrain pipe and cleanout risers must be accomplished by a series of prefabricated elbows with tangent sections of pipe to duplicate the centerline radius of each pipe. Elbows shall be 22.5 degrees maximum and pipe ends must be manufactured at the plant with no field cutting allowed.

68-5.04 PAYMENT

Payment for permeable material, impermeable liner, plastic pipe underdrain is included in Furnish and Install Landscaping and Bioretention Areas.

^^

DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Replace section 72-12 with;

72-12 STREAMBED COBBLES

72-12.01 General

Section72-12 includes specifications for constructing rock slope protection dissipatorpads at curb inlets into the storm water planters. The rock pads consist of small diameter rock placed over RSP filter fabric as shown.

The rock must comply with section 13-7.02B for Type A rock and have a smooth (river run). Surface.

RSP fabric must comply with Section 72-2.02B for Class 8 fabric.

Payment for RSP fabric and streambed cobbles is included in Furnish and Install Landscaping and Bioretention Areas.

^^

73 CONCRETE CURBS AND SIDEWALKS

Add “truck aprons and median island walkways” after “including” in the first paragraph in section 73-1.01A of the RSS:

Replace 1st paragraph of section 73-1.02A with:

Comply with section 90-2 "Minor Concrete" except as follows:

1. For all miscellaneous concrete work except valley gutters, mountable curbs and truck aprons, cementitious material content of concrete must be at least 505 lb/cu yd.
2. For valley gutters mountable curbs and truck aprons, cementitious material content of concrete must be at least 590 lb/cu yd.
3. The maximum size of aggregate used for miscellaneous concrete construction shall be 1 inch.

Add to section 73-1.02A:

Class 2 Aggregate base must comply with section 26.

Add to section 73-1.02B:

Install prefabricated detectable warning surface under the requirements of the Department of General Services, Division of State Architect. The finished surfaces of the detectable warning surface shall be free from blemishes.

The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract.

Add to section 73-1.03A:

Construct sidewalk and curb monolithically. Construct sidewalk and retaining curbs monolithically.

Driveway construction at driveways that provide the sole access to businesses or multiple housing units must be constructed in two phases. Vehicular access must be maintained at all times to these properties. #4 reinforcing bars dowels on 18” c-c must be installed at the cold joint where driveways are constructed in two phases.

Install expansion joints in curbs and sidewalks at all curb returns unless directed by the Engineer. Extend expansion joints and weakened plane joints through adjoining curb and gutter and retaining curbs.

Do not deviate the shape and design of curb ramps and driveways with sidewalk from the standard plans unless noted on the project plans or approved by the Engineer. Do not free form these facilities.

Clean all sawcuts by abrasive blasting or other methods approved by the Engineer.

If new curb, sidewalk or driveway is constructed adjacent to existing curb, sidewalk or driveway, dowel the existing concrete to the new concrete with #4 reinforcing bars as shown.

For new curb ramps, detectable warning surfaces shall be prefabricated tiles set directly in newly poured concrete; surface applied tiles or stamped into surface detectable warning surfaces will not be allowed.

Remove and dispose of existing water meter boxes located within the limits of sidewalk removal. Furnish and install new water meter boxes as part of installing new sidewalk.

Replace 1st paragraph of section 73-1.03B with:

Prepare subgrade to required grade and cross section. Remove native material 6 inches below subgrade elevation for valley gutters and, unless shown otherwise, 3 inches below subgrade elevation for sidewalks curbs, gutter depressions, island paving, driveways and curb ramps. Backfill and compact with Class 2 aggregate base material to produce a stable foundation.

Add to section 73-1.04 with:

Payment for reinforcement in sidewalk, truck aprons, bus pad, and deepened curb and gutter as shown is included in payment for minor concrete (sidewalk),minor concrete (truck apron), minor concrete (bus pad), and minor concrete (deepened curb and gutter).

Payment for aggregate base placed under bus pad is included in payment for minor concrete (bus pad).

Add to section 73-2.03A:

Prior to final acceptance, as directed by the Engineer, water test curbs with gutters on slopes of 0.75% or flatter and paved surfaces to verify proper drainage. Any ponding of water greater than 0.25 inch depth will be considered as evidence of poor work techniques and shall be corrected by removing and replacing those portions of curb and gutter as necessary to comply with the requirements of this special provision, at no additional expense to the Agency.

Add to section 73-2.04:

Lengths of curbs and/or gutters at drainage structures, designated as aprons and transitions on the plans, will not be measured. Full compensation for constructing aprons and transitions is included in the payment of the minor concrete (minor structure).

Curbs and/or gutters measurements shall include curb transitions and depressions along driveways and curb ramps.

Curb inlets into bioretention areas are measured and paid as minor concrete of the type adjoining the curb type.

Retaining curb located adjacent to sidewalk shall be measured and paid for as minor concrete (sidewalk).

Add before the 1st paragraph in section 73-3.03:

Before placing concrete, verify that forms and site constraints allow the required dimensioning and slopes shown for sidewalks and curb ramps. Immediately notify the Engineer if you encounter site conditions that will not accommodate the design details. Modifications ordered by the Engineer are change order work.

Add to section 73-3.03:

At corner curb ramps place 6 inch depth of concrete within the curb radius including sidewalk areas.

At all median island walkways, place 6 inch depth of concrete.

Add to section 73-3.04:

Driveways, median island walkways/passageways, and curb ramps will be paid for as Minor Concrete (Sidewalk).

Driveways, island paving, curb ramps, and sidewalks which are contiguous with curb will be measured from a point 6 inches behind the face of curb.

Sidewalk and median island walkways with retaining curb shall be measured transverse from a point 6 inches behind the face of curb to the back of the retaining curb. No separate payment is made for retaining curb.

No deduction in quantities of minor concrete (sidewalk) will be made for utility covers and portions of inlets behind the projected back of curb line.

Payment for additional concrete thickness of sidewalks within curb return areas, driveways and median island walkways is included in the payment for minor concrete (sidewalk).

Payment for detectable warning surface is considered as included in the price paid for minor concrete (sidewalk).

^^

78 INCIDENTAL CONSTRUCTION

Replace 78-2 of the RSS with:

Impermeable liner must be recyclable black high density polyethylene (HDPE) sheet material and have a 30 mil thickness.

The properties of impermeable liner must be:

High Density Polyethylene (HDPE) Geomembrane Properties:		
Parameters	ASTM Test Method	Mean Value
MD Break Strength (psi)	D 638	2533 psi
TD Break Strength (psi)	D 638	3594 psi
MD Break Elongation (%)	D 638	211 %
TD Break Elongation (%)	D 638	328 %
Puncture Strength (lbs)	D 4833	93 lbs.
MD Tear Strength (lbs)	D 1004	29 lbs
TD Tear Strength (lbs)	D 1004	36 lbs
Hydrostatic Resistance (psi)	D 751, Procedure A	328 psi
Multi-Axial Tensile Properties		
Maximum Stress (psi)	D 5617. Test Method A: Centerpoint Deflection Versus Pressure	2361 psi
% Elongation @ Rupture	D 5617. Test Method A: Centerpoint Deflection Versus Pressure	20.8 %

Excavation and preparation must conform to the drawings.

Install the impermeable liner with appropriate length and depth, according to the manufacture's specifications and in the manner shown on the drawings.

Payment for impermeable liner is included in Furnish and Install Landscaping and Bioretention Areas.

^^

80 FENCES

Add to 80-3.01A:

Temporary noise and dust fence must be 6-foot temporary chain link fence with green fabric that is opaque and prevents the movement of dust. Fabric must extend across the complete extents of the chain link material.

Remove the temporary fence at the completion of the project. It becomes your property.

Add to 80-3.03:

Install temporary noise and dust fence as shown on the plans at each construction stage. Maintain and repair daily.

Add to 80-3.04:

Temporary noise and dust fence is considered as included in the lump sum price paid for Traffic Control System, and no separate payment will be made.

^^

81 MONUMENTS

Add to 80-1.01:

All survey monuments and references must be re-set and surveyed under the direction of a California Licensed Land Surveyor. You are responsible for having the surveyor on your team; the City does not provide them.

Replace 80-1.04 with:

Work associated with installing new monument is paid for Survey Monument.

^^^

DIVISION IX TRAFFIC CONTROL FACILITIES

^^

83 RAILINGS AND BARRIERS

Add to section 83-1.01

Pedestrian railing specifications and details are shown on the plans. Comply with the plans and this section for the pedestrian railing.

^^

84 TRAFFIC STRIPES AND PAVEMENT MARKINGS

Add to section 84-1.04

Full compensation for painting the median island noses is included in payment for all bid items.

Add to section 84-2.03A:

Do not apply thermoplastic striping using hand cart methods.

Replace section 84-2.04 with:

Thermoplastic traffic stripes will be measured by the linear foot regardless of the number of individual stripes comprising the detail (e.g. Detail 29 placed between Station 1+00 and Station 2+00 will be measured as 100 linear feet even though it consists of 400 linear feet of stripe).

^^

85 PAVEMENT MARKERS

Add to section 85-1.03A:

Reference and replace all existing blue reflective pavement markers that identify the location of fire hydrants. If an existing blue reflective pavement marker is missing or has been displaced, place a new blue reflective pavement marker as directed by the Engineer.

Replace section 85-1.04 with:

Payment for pavement markers is included in the payment of the traffic stripe work that requires them.

Payment for replacing blue reflectors is included in payment for the various bid items.

^^

86 ELECTRICAL SYSTEMS

Add new section 86-1.01C(12) in the RSS for Section 86:

86-1.01C(12) Rectangular Rapid Flashing Beacon Assembly

Submit manufacturer's Solar Energy Balance Report as an informational submittal.

Replace 86-1.01D(4) of the RSS for section 86 with:

Deliver the material and equipment for testing to the following location:

City of Burlingame Corporation Yard
1369 North Carolan Avenue
Burlingame, CA 94010

Allow 10 business days for testing. The City notifies you when testing is complete.

If the City accepts the material or equipment, you must pick it up from the test site and deliver it to the job site.

If the City rejects material or equipment, remove it within 5 business days after you are notified it is rejected. If it is not removed within that period, the City may remove it and ship it to you and deduct the costs of labor, material and shipping.

Resubmit a new sample and allow 10 business days for retesting. The retesting period starts when the replacement material or equipment is delivered to the City.

Replace 86-1.02K(1) of the RSS for section 86 with:

Luminaire must be LED. The luminaire shall be:

1. Leotek Model EC3 -10M2-MV-NW-3-GY-700 with 87 Watt LED assembly or approved equal.
2. Leotek Model EC3 -12M2-MV-NW-3-GY-700 with 107 Watt LED assembly or approved equal.

Replace first sentence of 86-1.02K(2) of the RSS for section 86 with:

Luminaire must be LED type.

Replace section 86-1.02X of the RSS for section 86 with:

86-1.02X Rectangular Rapid Flashing Beacon Assembly

86-1.02X(1) General

Rectangular Rapid Flashing Beacon (RRFB) shall comply with FHWA Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11), dated July 16, 2008. The assembly shall be pedestrian push button activated.

The system shall be rated for a minimum of 300, 20 second activations per day, year-round operations.

86-1.02X(2) Rectangular Rapid Flashing Beacons

The RRFB housing shall contain two primary light bars mounted in compliance with MUTCD requirements. The housing shall have side emitting pedestrian confirmation lights. The LEDs used shall be rated for a minimum 15-year life. The RRFB shall meet SAE J595 class 1 intensity and SAE J578 chromaticity.

The RRFB housing shall be made of powder-coated aluminum with a minimum thickness of 0.125”, and shall provide a mounting mechanism allowing for directional rotation of the primary light bars toward oncoming traffic at curves, corners, and roundabouts.

The controller shall auto-adjust RRFB brightness based on ambient light levels, and dim during night operations.

Flash duration shall be field-configurable to one second increments.

RRFB bars mounted on a pole shall be able to be independently aimed to optimize performance in each direction.

86-1.02X(3) Enclosure

The controller enclosure shall be a NEMA 3R enclosure with a dead front panel and a hasp with a 7/16-inch hole for a padlock. The enclosure shall be powder coated, hot-dip galvanized, or factory-applied rust resistant prime coat and finish coat.

86-1.02X(6) Push Buttons

Push buttons for RRFB assembly shall be accessible pedestrian signals.

Replace 86-1.04 with:

All work associated with RRFBs is paid for as Rectangular Rapid Flashing Beacon Assemblies. This includes all conduit, conductors, controllers, enclosures, poles, foundations, and all other items to install a complete working system. All other lighting and electrical work, including street lights and foundations, is paid for as Lighting and Electrical System.

Provide a schedule of values for the Lighting and Electrical System and Rectangular Rapid Flashing Beacon Assemblies within 10 days of notification of award of bid.

(THIS PAGE LEFT BLANK INTENTIONALLY)

APPENDIX

SECTION 02510

WATER SYSTEM PIPING AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Furnish and install all piping, including fittings, valves, and accessories as shown on the Project Engineer's Drawings, as shown on City's Standard Drawings and as described in the Specifications and as required to completely interconnect all piping for a complete and operable systems.

1.02 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO)

B. American National Standards Institute (ANSI)

C. American Society of Mechanical Engineers (ASME)

D. American Society for Testing and Materials (ASTM)

E. American Water Works Association (AWWA)

1.03 SUBMITTALS

A. Shop Drawings:
   1. Submit data to show that the following items conform to these Specification requirements:
      a. Pipe, fittings, and accessories.
      b. Flexible couplings and flanged coupling adapters.
      c. Restrained joints.
      d. Valves.
      e. Air release valves.

   2. Disinfection schedule and procedures including:
      a. "Normal" disinfection procedure.
      b. Emergency disinfection procedure for mains and services which must be returned to service immediately.
      c. Disinfection schedule including number and type of services and length of disruption of service.
      d. Disinfecting agent(s).
      e. Method of disposal of chlorinated water.

B. Publications: The Contractor shall furnish manufacturer's installation and operation manuals, bulletins, and spare parts lists for the following items:

1. All valves over 4-inch size.
2. Air release valves.

1.04 QUALITY ASSURANCE

A. All materials and equipment furnished under this Section shall: (1) be of an American manufacturer who has been regularly engaged in the design and manufacture of the materials and equipment and (2) be demonstrated to the satisfaction of the City that the quality is equal to the materials and equipment made by those manufacturers specifically named herein, if an alternate product manufacturer is proposed.

1.05 POTHOLING (CHECK ON LOCATIONS)

A. Do not begin any construction until all utilities in that section of pipeline have been exposed, as specified in paragraph 3.02 of Section 02315 and until such time as no interferences are found between said existing utilities and the proposed pipeline alignment. If interferences are found in any particular section of pipeline, do not begin construction for that particular section of pipeline until the pipeline alignment has been modified by the Project Owner's Engineer to eliminate all such interferences.

1.06 CONSTRUCTION SCHEDULING/SEQUENCING

A. Construction may involve expansion and/or modification of the existing water system which must continue to provide service to all customers during construction.

B. Connections and utilities changes must be programmed to provide the least possible interruptions of service. Prior to any shutdown all materials, fittings, supports, equipment and tools shall be on the site and all necessary labor scheduled prior to starting any connection work. The Contractor shall notify the City in writing at least 7 days in advance of any required shutdowns so that affected customers may be notified. In general, shutdowns shall not exceed four hours in duration unless specifically authorized or indicated in the suggested construction sequence.

C. All work shall be conducted in a manner which will minimize shutdowns, open roadways, or traffic obstructions caused by the construction. Shutdowns causing damage to adjacent public and private property shall not be permitted, and any damage resulting shall be the sole responsibility of the Contractor.

D. Planned water service shutdowns shall be accomplished during periods of minimum use. In some cases this will require night or weekend work. The Contractor shall program his work so that service will be restored in the minimum possible time, and shall cooperate with the City in reducing shutdowns of the water system to a minimum. No water interruption will be permitted without the prior approval of the City. The Contractor shall notify residents and businesses at least 48 hours in advance of any required shutdowns.

PART 2 – PRODUCTS

2.01 GENERAL

A. Pipe and valve sizes are nominal inside diameter unless otherwise noted.

B. All materials delivered to the job site shall be new, free from defects, and marked to identify the material, class, and other appropriate data such as thickness for piping.

C. Acceptance of materials shall be subject to strength and quality testing in addition to inspection of the completed product. Acceptance of installed piping systems shall be based on inspection and leakage and bacteriological tests as specified hereinafter.

D. Buried nuts and bolts for flanges and couplings shall be Type 316 stainless steel unless otherwise specifically specified herein.

E. Fusion Epoxy Coating: Materials and application shall be in accordance with AWWA C213, except application shall be by the fluid bed method only unless the greatest dimension of the article to be coated exceeds 10 feet, in which case electrostatic spray method may be used.

F. All brass components in contact with potable water shall be composed of either CDA/UNS Brass Alloys C89520 or C89833 with a maximum lead content of 0.25% by weight in accordance with ANSI/AWWA C-800. Brass alloys not listed in ANSI/AWWA C-800 Paragraph 4.1.2 are not approved. Brass saddles shall be composed of CDA/UNS C83600.

G. Polyethylene Protection:

1. Polyethylene encasement shall be per AWWA C105, black. Tape to seal seams and overlaps shall be plastic adhesive tape at least 4 mils thick and at least 2 inches wide.
   i. Single wrap ductile iron pipe.
   ii. Double wrap flanged fittings, mechanical joints, and other appurtenances with significantly different outside diameters from the pipe.

2.02 PIPING MATERIALS

A. Pipe Designation: New water transmission mains shall be either the ductile iron (DI) or polyvinyl chloride (PVC) pipe. Service connections shall be copper.
   1. PVC to be used in all locations except creek crossings, high pressure locations, soils containing permeable chemicals that could leech through PVC pipe, where top of pipe is less than 24-inch cover, or where called out otherwise on the plans.

B. Polyvinyl Chloride Pipe (PVC):
    1. Pipe shall conform to AWWA C900-07 for 4-inch to 12-inch and AWWA C905-10 for 14-inch to 36-inch, minimum pressure class 305, cast iron pipe outside dimensions (OD).
    2. Pipe shall be of domestic manufacture, UL listed or Factory Mutual Approved.
    3. No fusible PVC pipe allowed.
    4. PVC pipe joints shall have integral bell and spigot (push on) gasket.

C. Ductile Iron (DI):
    1. Pipe shall conform to AWWA C151, minimum pressure class 250, Push-on rubber gasket joints conform to AWWA C111.
    2. All ductile iron pipes shall be cement mortar lined in conformance with AWWA C104 and shall have a 1–mil thick exterior petroleum asphaltic coating.
    3. Restrained Joint Ductile Iron Pipe shall have an internal pipe joint restraint system per 2.04.C of this Section when specified on the drawings or requested by the City. Burlingame Water Department.

D. Copper Pipe:
    1. Pipe: Copper (Cu), ASTM B88, Type K.
    2. Joints: Compression, Flared or Solder.

2.03 FITTINGS

A. Fittings shall be Ductile Iron mechanical joint or flanged AWWA C153 or flanged AWWA C110, working pressure rated for 350 psi with type of pipe specified.

B. Fittings shall be cement mortar lined per AWWA C104. T-bolts shall be stainless steel 316.

C. Fittings and all accessories shall be of domestic manufacture; U.S. Pipe, Union Foundry, Tyler Union or approved equal.

D. Provide external fusion-bonded epoxy coating (12 mil thickness – minimum) and 316 stainless steel bolt up kits for all fittings.

2.04 MECHANICAL JOINT RESTRAINTS & PUSH ON JOINT RESTRAINTS

A. Mechanical joint restraints for Ductile iron pipe and PVC pipe shall be rated in accordance with the performance requirements of AWWA C111 Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings, meeting or exceeding the requirements of ASTM F1674.
    1. Mega-Lug type as manufactured by EBAA, Inc Series 1100 for ductile iron pipe and series 2000 PV for PVC pipe

B. Push on Joint Restraints (when shown on the plans or directed by the City)
    1. Ductile iron joint restraints with cor-ten rods and bolts. Pressure rating of at least 200 psi. Series 1500 by EBAA Iron for PVC pipe; equivalent by Uni-Flange; or equal for bell and spigot joints.

C. Restrained Joint Ductile Iron Pipe (when shown on the plans or directed by the City)
    1. Restrained Joint Ductile Iron Pipe shall be TR FLEX GRIPPER RING System by United States Pipe & Foundry Company; equivalent by American Cast Iron Pipe Company; or equal.
    2. Provide restrained joints capable of deflection after the restraint is installed.
    3. Joints shall be pressure rated over 200 psi minimum.

2.05 PIPE COUPLING

A. General:
    1. For typical pipe joints refer to pipe material specifications. Other joint devices shall be furnished where called for as specified below.
    2. Handle fusion epoxy coated material with care. If material is damaged before installation, the Contractor shall repair or replace at the direction of the City Engineer.

B. Flexible Couplings and Flange Coupling Adaptors:
    1. Sleeve: Cast iron or fabricated steel.

    2. Followers: Cast iron, ductile iron, or steel.

    3. Sleeve bolts: ASTM A325, Type 3; 316 stainless steel; or equivalent.

    4. Coating: Fusion-bonded epoxy line and coat sleeve and followers.

    5. Pressure rating: 200 psi.

    6. Buried flexible coupling sleeve: Long barrel

    7. Manufacturers:
        a. Flexible couplings:
            1) Connecting pipe with identical outside diameters: Smith-Blair 411 or 431, Dresser Style 38 or 53, or equal.
            2) Connecting pipe with slightly different outside diameters: Smith-Blair 413 or R 441, Dresser Style 162, or equal.
        b. Flange coupling adaptors:
            1) Connecting new pipe or new pipe to existing non-ferrous pipe: Smith-Blair 912 or 913, Dresser Style 127 or 128, or equal.
            2) Connecting new pipe to existing ferrous pipe: Insulating flange coupling adaptor with insulating boot: Smith-Blair 932 or 933, or equal.

b. Gaskets: Oil and grease resistant; Smith-Blair Grade 60; or equal.

C. Tapping Sleeves and Tapping Valves:

a. All bolts must be tightened to the manufacture's specifications. All bolts, nuts, and washers shall be Type 316 stainless steel coated with anti-seize. Contractor shall present City with all tapping coupons upon completion of tap. Coupons are to be tagged or marked as to location, date of tap and pipe size.

b. Mueller tapping gate valves shall be as specified in section 2.06 Valves and Accessories – Gate Valves.

c. Valve box and riser pipe shall conform to Drawing No. W-1809

2.06 VALVES AND ACCESSORIES

A. General Requirements for Valves:

1. All valves of each type shall be the product of one manufacturer.

2. All valves shall be of an American manufacturer.

3. All valves shall be furnished with control assembly, operators, handwheels, levers, or other suitable type wrench including handles as specified herein or as shown on City's Standard Drawings.

4. All threaded stem valves shall open by turning the valve stem counter-clockwise.

5. Provide bronze operating nuts, 316 stainless steel bolt up kits, and brass hand wheel for all valves.

6. Coating: All valves and valve operators shall be external fusion-bonded epoxy coated per AWWA C550. Thickness shall be 8 mils minimum.

B. Valves and Accessories:

1. Butterfly valves:
    a. Use on lines 10 inches or greater or where shown on the Drawings.
    b. Rating: 200 psi minimum. Leak tight in both directions.
    c. Type: Flanged body, or as shown on the Drawings, AWWA C504, geared operator, resilient seated, 90 degree seating.
    d. Connections: Flange or Mechanical joint, as shown on the Drawings.
    e. Materials: Cast iron body; cast iron or ductile iron disc with Ni-Chrome or Type 316 stainless steel edge; Type 316 stainless steel shaft; disc to be secured to shaft with Type 316 stainless steel taper pins.

f. Operator: Traveling-nut type, 2-inch standard AWWA nut, designed for buried service, watertight to 10 psi with extension stem.
g. Valve seat: Buna-N seat shall be applied to the valve body.
h. Bearings: Self-lubricating and corrosion resistant.
i. Manufacturers: Pratt Groundhog, equivalent by DeZurik, or equal.

2. Gate Valves:
   a. 4-inch through 8-inch: Mueller or City approved equal
   b. 2-inch: James Jones Co. (manufactured by Mueller), or City approved equal
   c. Rating: 200 psi minimum
   d. Type: Resilient seated, non-rising stem, AWWA C509
   e. Connection: Flanged or Mechanical joint, as shown on the Drawings.
   f. Materials: Ductile iron body
   g. Stem seal: O-ring

3. Air release valves: Combination air release valves, APCO Model 140C, equivalent by ValMatic, or equal.
   a. Materials: Cast iron body, Buna-N seat, and stainless steel float.
   b. Operating pressure: 200 psi.
   c. Enclosure shall be Pipeline Products #VCDD-1624 or Febco # BFE-SS-51M as determined by City.

4. Valve boxes, adjustable screw type:
   a. See Standard Drawing W -1809.

2.07 FIRE HYDRANT ASSEMBLIES

A. Hydrant assemblies shall use wet barrel type hydrants meeting AWWA C503 standards.

B. Hydrants shall be Clow/Rich No. MSG 76, Long Beach or City approved equal. Hydrant shall be supplied with (2) 2½ " and (1) 41/2" outlets. Outlets to have National Hose Threads.

C. Hydrant shall have a break off check valve as manufactured by Clow Valve, Model LBI 400A, or City approved equal.

D. Hydrant riser shall be flange by flange with integral snap-ring groove meeting, ANSI/AWWA C110/A21.10 and shall be 6 inches or longer in length to meet the 2 inch ground clearance.

E. Hydrant bury shall be Cast Iron and meet ANSI C110/A21.10 standards and joints shall be mechanical joint by flange conforming to ANSI/AWWA C111/A21.11-80

2.08 SERVICE CONNECTIONS

A. General:
   1. All corporation stops, service clamps or saddles, and service connection accessories shall be the product of one (1) manufacture. All components shall meet AWWA C800. See Drawing No. W-1779 for details.

   2. Rating: 300 psi minimum for all corporation stops, service clamps or saddles, and service connection accessories.

D. Service Saddles:
   1. Type:
      a. For Ductile Iron pipe: Bronze, double strap, Mueller BR 2 B, retained o-ring gasket, rolled strap threads, and tapping boss with full length AWWA threads.
      b. For Polyvinyl Chloride pipe: Mueller series H-13000
      c. IPS threads, except on 1 inch service.

   2. Manufacturer: Mueller Co. or City approved equal.

E. Corporation Stops:
   1. Type: AWWA thread inlet by compression or flared; compression connection outlet.
   2. Manufacturer: Mueller Co. or City approved equal.

F. Angle Stops:
   1. Type: Compression or flared inlet; Meter connection outlet. IPS threads are not permitted.
   2. Manufacturer: Mueller Co. or City approved equal.

G. Meter Box
   1. 1 inch Service - Christy B-16 with Christy FL16P-F reading lid, or City approved equal.
   2. 2 inch Service – Christy B-36 with FL36P-F reading lid, or City approved equal, separate City approval required.
   3. Detection Check – Christy B-16 for meter only with FL16P-F lid, or City approved equal.

H. Water Meter Bypass Meter
   1. To be furnished by City at owner's cost

2.09 APPURTENANCES

A. Provide all necessary assembly bolts, washers and nuts, thrust blocks, supports, gaskets, flanges, and all other appurtenant items shown on the Project Engineer's or City's Standard Drawings, specified or required for the proper installation and

operation of the piping, and devices included in or on the piping, equipment, and piping accessories.

PART 3 – EXECUTION

3.01 PIPING INSTALLATION

A. General Handling and Placing:

1. Exercise great care to prevent injury to or scoring of the pipe lining and coating, as applicable, during handling, transportation or storage; 10% of pipe thickness maximum allowed. Handle fusion epoxy coated pipe in accordance with AWWA C213. Pipe shall not be stored on rough ground and rolling of the pipe on the coating will not be permitted. Contractor shall be responsible for the repair of any damaged pipe sections, specials, or fittings or replace at the direction of the City.

2. Inspect each pipe fitting, valve and accessories carefully before installation. Inspect the interior and exterior protective coatings and patch all damaged areas in the field or replaced at the direction of the City.

3. Place or erect all piping to accurate line and grade and backfill, support, hang, or brace against movement as specified or shown on the Project Engineer's and City's Standard Drawings, or as required for proper installation. Remove all dirt and foreign matter from the pipe interior prior to installation and thoroughly clean all joints before joining. All exposed pipe ends shall be covered and sealed with plastic, and shall not be uncovered until just prior to completing the joint.

4. Use reducing fittings where any change in pipe size occurs. Bushings shall not be used. Use eccentric reducing fittings wherever necessary to provide free drainage of lines.

5. Connections between ferrous and non-ferrous piping and accessories shall be made using a dielectric coupling, union, or flange.

B. General Buried Piping Installation:

1. Trenching, bedding, and backfill for buried piping shall be as shown on the Project Engineer's and City's Standard Drawings and as specified in Section 02315.

2. Where no grade elevations are shown on the Drawings, buried piping shall have at least 3 feet of cover.

3. Provide each pipe with a firm, uniform bearing for its full length in the trench except at field joints. Do not lay pipe in water or when trench conditions or weather are unsuitable for such work.

4. Protect buried piping against thrust by use of restrained joints and thrust blocks at all fittings and valves. Securely brace all exposed free pipe ends.

5. Do not pull bell and spigot, gasketed joints more than 75% of the maximum deflection permitted by the pipe manufacturer.

6. Service connections shall be installed by open trench method, or using trenchless technologies. This applies for service connections ONLY.

C. Water Main Installation:

1. DO NOT MAKE ANY CONNECTIONS BETWEEN THE NEW MAIN AND THE OLD MAIN UNTIL THE NEW MAIN HAS BEEN DISINFECTED AND TESTED AND THE CITY DIRECTS THAT CONNECTIONS CAN BE MADE. MAXIMUM LENGTH BETWEEN OLD AND NEW MAIN SHALL BE 20 FEET.

2. The Contractor is advised that precautions taken to keep the pipeline clean during construction will facilitate achieving the disinfection requirements of this project with a minimum of effort and expense. Compliance with these suggested minimum procedures will not relieve the Contractor of the disinfection requirements.

3. Prior to installation, thoroughly clean the interior of each length of pipe and each fitting or valve and inspect to ensure that no foreign material remains. All exposed pipe ends shall be covered and sealed with plastic, and shall not be uncovered until just prior to completing the joint.

4. Pipe laying shall begin at the low end of the project and proceed uphill, unless authorized by the City. Pipe bells shall face uphill.

5. Whenever pipe laying is discontinued for short periods, or whenever work is stopped at the end of the day, close the open ends of the pipe with watertight plugs or bulkheads.

6. Provide adequate trench pumping to ensure against groundwater contacting the inside of the pipeline at any time. Do not lower any pipe or fitting into a trench where groundwater is present and may enter the pipe. When necessary, pump the water from trenches and keep the trench dry until the joints have been completed and the open ends of the pipe have been closed with a watertight plug. Do not remove the plug until the trench has again been pumped dry.

7. Keep new pipe sections clean and dry.

8. When making the connection between a new pipeline and an existing pipeline, or when repairing a damaged pipe, take the following extra precautions:
    a. Clean the exterior of the existing pipeline of all dirt and debris, and spray or swab with a standard 5.25% or stronger chlorine solution (as specified) in the immediate vicinity of the work. Clean equipment and materials, including new pipe and fittings, to be used in making these connections of all dirt and debris and disinfect them. Allow at least 30 minutes contact time for disinfection before the chlorine solution is diluted or rinsed off. Provide sufficient trench pumps to prevent flooding of the trench.
    b. When an old line is opened, either by accident or by design, the excavation may be wet or badly contaminated from groundwater. Apply liberal quantities of standard chlorine solution or tablets to the open trench areas to lessen the danger from such pollution. Tablets are recommended because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation. Scatter liberally around and locate the tablets so that flow entering the work site will contact the disinfecting agent. Trench application should be done very carefully to avoid contact by skin and clothing with chlorine solution.

9. Water Department personnel must be present during hot tap and inspection of materials and installation. The location of hot tap to be verified by the Contractor to insure a minimum of 2 feet is kept from tap location and a bell end or end of pipe on a dead end.

D. Installation Specifics:

1. Ductile Iron Pipe:
    a. Buried pipe shall be installed in accordance with AWWA C600.
    b. Where required by the City, wrap buried pipe with 8 mil polyethylene film in accordance with AWWA C105. Continuously seal seams and overlaps with tape. Seal circumferential overlaps with two turns of tape, half lapped. Gather excess polyethylene on top of pipe so as not to block backfill material from getting under bottom of pipe. Use caution so as not to rip or cut the polyethylene film. Seal any rips or cuts in the film with tape.
    c. Wherever the pipeline crosses over or under a sewer main or house service lateral, center a standard length pipe, 18-foot minimum, on said sewer main or lateral so as to have the pipeline joints as far as possible away from the sewer. This may require field cutting of some pipe pieces.
    d. Flanged Joints: Flanged joints shall be made up tight with care being taken to avoid undue strain in the flanges, fittings, and other

accessories. Bolt holes shall be aligned for each flanged joint. Bolts shall be full size for bolt holes; use of undersize bolts to make up for misalignment of bolt holes or for any other purpose will not be permitted. Adjoining flange faces shall not be out of parallel to such a degree that the flanged joint cannot be made watertight without over-straining the flange. Replace any flanged pipe or fitting whose dimensions do not allow the making of a proper flanged joint as specified herein by one of proper dimensions. Clean flanges prior to making joints.

e. Restrained Joints: Install in accordance with manufacturer's instructions. Pull slack out of joint after makeup.

2. Polyvinyl Chloride Pipe: Installation shall conform to AWWA M23, Chapters 6 and 7.

3. Copper Pipe:
   a. Bends shall be made in a manner that does not crimp or flatten pipe.
   b. Dielectric unions shall be installed at connections with ferrous piping.
   c. Pipe shall have joints squarely cut clean, properly fluxed and heated before solder is placed in the joint. Joints must be driven up tight before solder is added. Compression and flared joints shall be made up in accordance with the manufacturer's instructions.

3.02 COUPLING INSTALLATION

A. Flexible Couplings and Flange Coupling Adaptors: Prior to installation, thoroughly clean oil, scale, rust, and dirt from the pipe to provide a clean seat for the gasket. Care shall be taken that the gaskets are wiped clean before they are installed. If necessary, flexible couplings and flanged coupling adapter gaskets may be lubricated with soapy water or manufacturer's standard lubricant before installation on the pipe ends. Install in accordance with the manufacturer's recommendations. Bolts shall be tightened progressively, drawing up bolt on opposite sides a little at a time until all bolts have a uniform tightness. Workers tightening bolts shall be equipped with torque-limiting wrenches or other favorably reviewed type. Anchor studs on restrained flanged coupling adapters shall be installed so as to lock into holes drilled through pipe wall in accordance with manufacturer's recommendation.

3.03 INSTALLATION OF VALVES AND ACCESSORIES

A. Wrap buried valve bodies as specified for flexible couplings and flanged coupling adapters.

B. Use reducing fittings where any change in pipe size occurs between valves or accessories and the attached pipeline. Bushings shall not be used, unless Use eccentric reducing fittings wherever necessary to provide free drainage of lines.

C. Inspect each piece of pipe and each fitting carefully to see that there is no defective workmanship on pipe, or obstructions in pipes and fittings.

3.04 FIELD QUALITY CONTROL

A. Factory Quality Control: The Contractor shall test all products as required herein and by the reference specifications.

B. The Contractor shall:
   1. Perform leakage tests.
   2. Be responsible for the costs of additional inspection and retesting by the City resulting from non-compliance.
   3. Perform bacteriological analysis for pipelines to be disinfected.

3.05 CLEANING

A. Prior to testing, the inside of each completed pipeline shall be thoroughly cleaned of all dirt, loose scale, sand and other foreign material. Cleaning shall be by sweeping, flushing with water internal cleaning device or "pig" or blowing with compressed air, as appropriate for the size and type of pipe. Flushing shall achieve a velocity of at least 3 feet per second. The Contractor shall install temporary strainers, temporarily disconnect equipment or take other appropriate measures to protect equipment while cleaning piping. Cleaning shall be completed after any repairs.

B. The Contractor shall comply with the Municipal Regional Stormwater Permit (MRP) for discharge water.

3.06 FIELD TESTING

A. General: Perform leakage tests on all pipe installed in this project. Furnish all equipment, material, personnel, test media and supplies to perform the tests and make all taps and other necessary temporary connections. The test pressure, allowable leakage and test medium shall be as specified. Perform leakage tests on all piping at a time agreed upon and in the presence of the City.

B. Buried Piping: Perform the leakage test for buried piping after all pipe is installed and backfilled. However, preliminary tests may be conducted prior to backfill. If preliminary tests are conducted, provide any necessary temporary thrust restraint.

C. Accessories: It is the responsibility of the Contractor to block off or remove equipment, valves, gauges, etc., which are not designed to withstand the full test pressure.

D. Testing Apparatus: Provide pipe taps, nozzles and connections as necessary in piping to permit testing, addition of test media, and draining lines and disposal of water, as is

necessary. Plug these openings in a manner favorably reviewed by the Engineer after use. Provide all required temporary bulkheads.

E. Correction of Defects: If leakage exceeds the allowable, repair or replace the installation and repeat leakage tests as necessary until conformance to the leakage test requirements specified herein have been fulfilled. All visible leaks shall be repaired even if the pipeline passes the allowable leakage test.

F. Reports: Keep records of each piping test, including:
    1. Description and identification of piping tested.
    2. Test pressure.
    3. Date of test.
    4. Witnessing by Contractor and City.
    5. Test evaluation.
    6. Remarks, to include such items as:
        a. Leaks (type, location).
        b. Repairs made on leaks.
        c. Submit test reports to the City.

G. Venting: Where not shown on the Drawings, the Contractor may install corporation stops with saddles or "TEES" with shutoff valves at high points on piping to permit venting of air. Valves shall be capped after testing is completed.

H. Testing Specifics:
    1. Water Transmission Mains:
        a. Method: AWWA C600, as modified herein.
        b. Duration: Two hours.
        c. Pressure: Hydrostatic test equal to 200 psi.
        d. Medium: Potable water.
        e. Allowable Leakage: Leakage shall be defined as the quantity of test medium that must be added to the section of pipeline being tested to maintain the specified test pressure for the specified test duration. Maximum allowable leakage shall be as specified in AWWA C600.

3.07 DISINFECTION OF POTABLE WATER SYSTEMS

A. Disinfect all water mains and interconnected piping after testing and before being placed into service to ensure their bacteriological safety. Disinfection shall be accomplished under the supervision of the Contractor by a person skilled and experienced in the operation of water systems. Following disinfection and flushing, the Contractor will take water samples for bacteriological analysis of the water. If the specified bacteriological requirements are not satisfied, the disinfection procedure must be repeated until the requirements are met.

B. Mains, Services, Hydrants, and related material:
    1. Standard: AWWA C651 as amended herein.
    2. Forms of Chlorine: Sodium hypochlorite or calcium hypochlorite.

3. Method: Continuous-Feed.

C. Chlorine Residual Testing: AWWA C651, Appendix A, DPD Drop Dilution Method, except where otherwise specified.

D. Bacteriological Analyses of Water: After the completion of disinfecting procedure, including the final flushing as described heretofore, the Engineer will obtain water samples from this system for bacteriological analyses. Requirements for satisfactory disinfection of water supply are that bacteriological analyses (Heterotrophic plate count) indicate that water samples are negative for coliformnerogenes organisms, and that total plate count is less than 100 bacteria per cubic centimeter. If bacteriological analyses do not satisfy the above requirements, then disinfection procedure must be repeated until these requirements are met.

E. Disposal of Disinfection Solution: Dechlorinate and dispose of disinfection solution in accordance with applicable regulations and Section 01140. Take special measures to prevent chlorinated water from entering the ground, surface water, or sanitary sewer and storm drainage systems. Dechlorinate chlorinated water prior to discharge.

3.08 ABANDONMENT OF EXISTING WATERLINES AND APPURTENANCES

A. Valves: Cut existing valves riser 12 inches (12”) below surface and fill riser with concrete. Repair surface. See plans for details.

B. Fire Hydrants: Remove hydrant and cut hydrant bury 12 inches (12”) below surface and fill bury with concrete. Install concrete plug. See plans for details.

END OF SECTION

SECTION 02511

FIRE SYSTEM PIPING AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Furnish and install all piping, including fittings, valves, and accessories as shown on the Project Engineer's and City's Standard Drawings, and as required to completely connect the structure's fire protection system with the City's water distribution system.

B. Includes work within the City's public right-of-way and on Project Owner's private property.

1.02 REFERENCES

A. Include those listed on Section 02510, Paragraph 1.02

1.03 SUBMITTALS

A. Include those listed in Section 02510, Paragraph 1.03.

B. Detector Check Valve

C. Double Detector Check Valve

D. Valve Vaults

1.04 OTHER

A. Section 02510, Paragraphs 1.04, 1.05 and 1.06 shall apply.

PART 2 - PRODUCTS

2.01 GENERAL

A. Include those listed in Section 02510, Paragraphs 2.01, 2.02, 2.03, 2.04, and 2.06.

B. All underground Ductile Iron material shall be fusion epoxy coated (12 mil thickness – minimum) and 316 stainless steel bolt up kits.

C. Tapping Sleeves and Tapping Valves:

D. Tapping sleeves shall be all stainless steel with Type 316 stainless steel body and bolts.

E. Tapping sleeves shall be Mueller tapping gate valves as specified in Section 02510 of these standard specifications.

F. Valve box and riser pipe shall conform to Drawing No. W-1809

G. Detector Check Valve.

1. Detector check will be positive sealing with no backflow allowed.
2. Detector check main valve seat must be bronze or stainless steel.
3. Detector clapper or flapper will be on bronze or stainless steel construction with neoprene rubber face. No metal-to-metal seating allowed.
4. Contact Water Department for City-approved units.
5. Shall be of American manufacturer.
6. Shall meet the requirements of the San Mateo County and State Health Department.
7. Shall be approved by the University of Southern California (USC).

PART 3 - EXECUTION

3.01 FIRE SYSTEM GENERAL

A. For commercial and retail areas:

1. All new installations are the responsibility of and shall be installed by private contractor and/or owner after plans have been approved by the Water Department.
2. All new installations shall be double detector check valve assemblies constructed above ground in accordance with Drawing No. W-2780 unless a variance is granted.
    a. Variances may be granted on a case-by-case basis
    b. If a variance is granted, the installation shall conform to Drawing No. W-2779 or W-2781.
3. The piping for sprinkler services shall be designed to connect at the main and extend to a point adjacent to two property lines. These locations will be as approved by the City.

4. No part of the fire system in the public right-of-way shall be placed above ground.

5. Sprinkler service piping shall be six inches (6") minimum in diameter and shall meet Fire Department requirements to provide adequate fire sprinkler service for both properties. The sprinkler service piping shall consist of the connection at the main, the pipe run, and terminate in a tee fitting, complete with valve for the currently proposed fire service and having a blind flange for future connection.

6. Whether the fire system piping serves a single parcel or is somehow manifolded to serve two adjoining properties, the downstream flange of the gate valve just prior to the detector check valve is the limit of the City's maintenance responsibility, except for the detector check meter and it's trimming. The maintenance of the rest of the underground system, with the exception of the bypass meter and trim, is the responsibility of the private property owner. City maintenance shall begin at the end of the one-year warranty period.

B. For areas that are not commercial or retail areas:

1. All new installations are responsibility of and shall be installed by private contractor and/or owner after plans have been approved by Water Department.

2. All new installations shall be double detector check valve assemblies constructed above ground in accordance with Drawing No. W-2780

C. Construction of a fire service shall be installed by owner or owner's contractor upon obtaining a street encroachment permit and building permit. Water department does not install fire services. Water department to be contacted to arrange for service and for payment of fees.

D. Connections to existing water main shall be made by hot tap method.

E. Water Department personnel must be present during hot tap and inspection of materials and installation. The location of hot tap to be verified by the Contractor to insure a minimum of 2 feet is kept from tap location and a bell end or end of pipe on a dead end.

F. Any maintenance or repair work done on existing fire services shall meet Building and Water Department Specifications.

3.02 REQUIRED TYPES OF BACK FLOW PROTECTION DEVICES

A. A double detector check valve shall be used in fire sprinkler systems serving buildings unless approval for alternative system is granted by City.

B. A double-check detector check valve, reduced pressure principle device, or other backflow protection as approved by the University of Southern California shall be used in all fire sprinkler systems.

C. Except for commercial and retail areas, detector checks shall be epoxy coated (minimum 12 mil thickness) and placed above ground. Nuts and bolts that connect detector check to pipe run shall be stainless steel. Detector check body nuts and bolts do not have to be stainless steel. (For detector check requirements for Burlingame Avenue and Broadway Commercial and Retail areas see below.)

D. In retail and commercial areas, single check detector checks shall be epoxy coated (minimum 12 mil thickness) or stainless steel and shall be buried directly in ground after Water Department has installed bypass meter and trim. Contractor shall supply and set B-16 Box and FL16P-F Lid to finished grade after backfilling and compacting ground to City of Burlingame specifications. All nuts and bolts on detector check, including body bolts, shall be stainless steel. Any unused test plugs in detector check shall be changed to bronze plugs. Nuts and bolts that connect detector check to pipe run shall be 316 stainless steel.

3.03 INSTALLATION

1. All backflow prevention devices on fire system or domestic system will be installed as per City of Burlingame Engineering and/or Water Department requirements.
2. All devices shall be tested and approved by a San Mateo County Certified Device Tester before City approval of water system.
3. The Water Department shall inspect and approve all underground installations.
4. The type of pipe entering the building from underground shall meet all Building Department, Fire Department, and Water Department specification and cods as required.

END OF SECTION

SECTION 02535

SANITARY SEWER LATERALS AND CLEANOUTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Furnish and install all piping, including fittings, caps, and accessories as shown on the Project Engineer's Drawings, as shown on City's Standard Drawings and as described in the Specifications and as required to perform the replacement of publicly owned portion (from the City cleanout to the main) service laterals using the pipe bursting method. In public street areas, open-cut construction may also be required. All service laterals and cleanouts that connect to the existing sewer main which are to be rehabilitated shall be replaced, and shortened or lengthened as required. The Contractor must install lateral and cleanouts as per Contract Drawings

1.02 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO)

B. American National Standards Institute (ANSI)

C. American Society of Mechanical Engineers (ASME)

D. American Society for Testing and Materials (ASTM)

E. American Water Works Association (AWWA)

F. UNI-Bell PVC Pipe Association (UNI-B)

G. Section 2315 Excavation and Fill

H. Section 2530 Sanitary Sewer Main Open Trench

I. Section 2531 Sanitary Sewer Main Pipe Bursting

J. Section 2605 Sanitary Sewer Manholes

1.03 SUBMITTALS

A. Method for Fusion of HDPE laterals to main.

B. Butt Fusion Machine to be used for fusion of HDPE laterals to main.

C. Cleanout

D. Lamphole

E. Manufacture’s data sheets:

1. Submit data to show that the following items conform to these Specification requirements:

a. Open cut: SDR 26 Polyvinyl Chloride pipe (SDR 26 PVC), fittings, and accessories.

b. Pipe bursting: DR 17 HDPE white pipe, fittings, and accessories.

c. Flexible couplings and flanged coupling adapters.

B. Publications: The Contractor shall furnish manufacturer's requirements, installation and operation manuals, and bulletins for the following items:

1. Requirements of ASTM D3034, Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.

2. Sanitary Sewer pipe SDR 26 PVC shall be green in color.

3. All pipe bedding and backfill material per Section 02315 & City standard details.

1.04 QUALITY ASSURANCE

A. All materials and equipment furnished under this Section shall: (1) be of an American manufacturer who has been regularly engaged in the design and manufacture of the materials and equipment and (2) be demonstrated to the satisfaction of the City that the quality is equal to the materials and equipment made by those manufacturers specifically named herein, if an alternate product manufacturer is proposed.

1.05 UTILITY LOCATING (CHECK LOCATIONS)

A. Do not begin any construction until all utilities in the region of the replacing sewer laterals and cleanouts have been located, as specified in paragraph 3.02 of Section 02315 and until such time as no interferences are found between said existing utilities and the proposed sewer lateral and cleanout. If interferences are found in any particular section of the proposed sewer lateral or cleanout, do not begin construction for that particular section of sewer lateral/cleanout until the sewer lateral alignment has been modified by the Project Owner’s Engineer to eliminate all such interferences.

PART 2 - PRODUCTS

2.01 GENERAL

A. Pipe and fitting sizes are nominal inside diameter unless otherwise noted.

B. All materials delivered to the job site shall be new, free from defects, and marked to identify the material, class, and other appropriate data such as thickness for piping.

C. Acceptance of materials shall be subject to strength and quality testing in addition to inspection of the completed product. Acceptance of installed piping systems shall be based on inspection and leakage and bacteriological tests as specified hereinafter.

D. Certification by the manufacturer that all pipe and fittings furnished under this specification were manufactured, sampled, tested, and inspected in accordance with ASTM D3034 and ASTM F679.

E. Pipe and fittings shall meet extra strength minimum for SDR 26 of the requirements of ASTM D3034 and ASTM F679.

F. Watertight manhole adapter shall be provided on each connection at a manhole or other structure. Manhole adapter shall be as manufactured by GPK Products Inc. or approved equal.

G. Minimum "pipe stiffness" at 5 percent deflection shall be 46 psi for all sizes when tested in accordance with ASTM Method of Test D2412, External Loading Properties of Plastic Pipe by Parallel-Plate Loading.

2.02 PIPING MATERIALS

A. Pipe Designation: New sanitary sewer laterals and cleanouts shall be either High-density polyethylene (HDPE) DR 17 or polyvinyl chloride (PVC) SDR-26 pipe.

1. PVC SDR-26 pipe to be used in all locations using open cut trench method or as directed by the City and shall be green in color.

2. High-density polyethylene (HDPE) DR 17 pipe to be used in all locations using pipe bursting method or as directed by the City.

B. Contractor shall refer to the following sections related to materials;

1. 02530 Sanitary Sewer Main Open-Cut

2. 02531 Sanitary Sewer Main Pipe Bursting

PART 3 - EXECUTION

3.01 PIPING INSTALLATION

A. The exact location and depth of each sewer lateral is not known. It is the responsibility of the Contractor to verify the exact location, size, material and type of sewer lateral. All associated costs such as obstruction due to utilities and clearance of tree roots etc. shall be included in the bid price for lateral and cleanout replacement.

B. Where the plans indicate for a new lateral and cleanout to be constructed the lateral replacement will be made from the sewer main to a cleanout located near or at the property line (in the City's Right-of-way) including riser, new boxes and frames. The contractor shall excavate and remove the existing sanitary sewer lateral up to and including the cleanout and install a new lateral, cleanout, boxes and frames. If concrete flatwork is removed for this operation, contractor shall construct a temporary AC sidewalk and curb and when installation is finished, replace sidewalk in kind.

C. When pipe bursting or open cut is used, sewer lateral shall be connected perpendicular to the sewer main from the city owned cleanout unless specified on the contract drawings. If pipe-bursting installation is selected, Contractor shall do a pre-TV inspection prior to sewer lateral replacement. The lateral shall follow the existing sewer lateral alignment.

D. Contractor shall replace all sewer laterals with the same size. Typical size for residential is 4" diameter and for apartment complex/buildings and restaurants is 6" diameter sewer lateral. When installation of new lateral is done, Contractor shall take care not to damage the sewer main or the lateral/main connection.

E. The inside portion of the fused HDPE pipe shall be smoothed thoroughly following fusion. No beads or strings should be present when construction is complete. Based upon the type of connection and its condition, Engineer may require a section of main be removed and a wye section installed.

F. Where the plans indicate the Contractor to verify in the field existing abandoned sanitary sewer cleanouts, the contractor shall field investigate prior to construction. The cleanout shall be removed and the sidewalk repaired to City standards or existing conditions. If the cleanout is connected to the main or additional cleanouts are found not shown on the plans, the engineer shall be notified immediately.

G. All excavated materials and existing pipe materials shall be immediately off-hauled and the new trench backfilled per the City of Burlingame Standard Drawing SS-6 and in accordance with Section 02315 of these Technical Specifications.

H. Replacement laterals constructed following the alignment of the existing laterals shall be inspected prior to and after reconstruction using CCTV methods conforming to Section 02536, "Post Television Inspection." Relocated laterals shall be inspected after reconstruction, also using CCTV methods conforming to Section 02536.

I. Where shown on the plans to replace the sanitary sewer lateral at a different alignment from the existing condition, the proposed lateral will be installed perpendicular to the proposed main. The existing lateral will be abandoned in place and the new lateral will connect to the existing lateral at the cleanout. The existing lateral in the street will be abandoned.

J. Cleanouts shall include the riser, new boxes and frames. If the cleanout is located in an area that is not accessible, the lateral shall be reconnected at the main sewer and a new sewer cleanout shall be installed at an accessible area. Accessible areas shall either be one of the following locations: planting strip or behind the sidewalk (away from foot traffic).

3.02 FIELD QUALITY CONTROL

A. Factory Quality Control: The Contractor shall test all products as required herein and by the reference specifications.

B. The Contractor shall:

   a. Perform leakage tests.

   b. Be responsible for the costs of additional inspection and retesting by the City resulting from non-compliance.

3.03 CLEANING

A. The Contractor shall comply with the Municipal Regional Stormwater Permit (MRP) for discharge water.

3.04 FIELD TESTING

A. General: Perform leakage tests on all pipe installed in this project. Furnish all equipment, material, personnel, test media and supplies to perform the tests and make all taps and other necessary temporary connections. The test pressure, allowable leakage and test medium shall be as specified. Perform leakage tests on all piping at a time agreed upon and in the presence of the City.

B. Contractor shall refer to the following sections related to filed testing;

   1. 02530 Sanitary Sewer Main Open-Cut

   2. 02531 Sanitary Sewer Main Pipe Bursting

END OF SECTION

SECTION 02536

POST TELEVISION INSPECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Pertains to: Television inspection of the new sewer mains and laterals after pipe installation, and rehabilitated sewer pipe following either pipe bursting and open-cut as described in other sections.

1. The Contractor shall furnish all labor, materials, and equipment necessary to perform closed circuit television inspection of the rehabilitated or newly installed sewer mains and laterals constructed under this Contract. The inspection shall be done one section at a time and the flow in the section being inspected shall be suitably controlled as specified.

2. The Contractor, after installing approximately every fifteen hundred linear feet (1,500') of new sewer main, shall perform post-TV inspection and submit the DVDs to the Engineer for review.

PART 2 - PRODUCTS

2.01 TELEVISION EQUIPMENT

A. Camera: The television camera used for the inspection shall be one specifically designed and constructed for operation in connection with sewer inspection.

1. It shall be operative in one hundred percent (100%) humidity conditions and shall have a 360-degree radial view rotating head. Lighting and camera quality (3 lux) shall be suitable to allow a clear in-focus picture of a minimum of six lineal feet of the entire inside periphery of the sewer pipe.

2. Lighting for the camera shall minimize reflective glare. To insure peak picture quality throughout all conditions encountered during the survey, a variable intensity control of the camera lights and remote control adjustments for focus and iris shall be located at the monitoring station. New sanitary sewer laterals and cleanouts shall be either High-density polyethylene (HDPE) DR 17 or polyvinyl chloride (PVC) SDR-26 pipe.

3. Focal distance shall be adjustable through a range from six inches to infinity. Continuously displayed on the monitors shall be;

a. Date of the survey.

b. Number designation of the upstream and downstream manholes corresponding to the line section being surveyed.

c. A continuous forward and reverse readout of the camera distance from the manhole of reference.

4. The remote reading footage counter shall be accurate to two-tenths of a foot (2/10'). The camera, television monitor, and other components shall be capable of producing a minimum 500-line resolution color video picture.

PART 3 - EXECUTION

3.01 INSPECTION METHOD

A. Television equipment specified in this section shall be used to perform television inspection on one manhole-to-manhole segment at a time. The inspection shall be performed by pulling the television camera through the line along the axis of the pipe at a uniform rate, stopping when necessary to ensure proper documentation of the sewer's condition and the exact location of each service connection.

B. The camera should also inspect the condition of the lateral connection to the sewer main. Offsets, breaks or any defect on the sewer main, lateral or connection shall be noted on the preliminary post-TV inspection and be submitted to the City.

C. The inspection shall be performed in a forward and/or backward direction, according to the line condition at the time the inspection is made.

3.02 CAMERA OPERATION

A. The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to permit proper documentation of the sewer condition. In no case will the television camera be pulled at a speed greater than thirty feet (30') per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. A self-propelled tractor unit may be necessary for lines with only one entrance access or to prevent set up at high traffic intersections. As the camera approaches a lateral connection, the camera progress shall be halted and the camera lens panned to further view the lateral pipe and connection to thoroughly evaluate its condition.

1. When manually operated winches are used to pull the television camera through the line, walkie-talkie radios or other suitable means of communication shall be set up between the two manholes of the section being inspected to ensure good communications between members of the crew.

2. The importance of accurate distance measurements is emphasized. The accuracy of the remote reading footage counter shall be checked periodically by use of a

walking meter, roll-a-tape, or other suitable device. The accuracy shall be satisfactory to the City representative.

3. Should any DVD or section thereof prove to be unsatisfactory to the City representative, the City may request part or the entire DVD be re-televised.

3.03 FLOW CONTROL

A. The Contractor shall be responsible for completely bypassing sewage around the segment of sanitary sewer main being inspected during the entirety of the television inspection. Refer to Specification Section 29 for bypass system requirements.

B. The Contractor shall be responsible for control of sewage while televising sewers, by pumped bypass to the next manhole or other means acceptable to the Engineer. Maximum allowable flow depth shall be twenty-five percent (25%) of pipe diameter for pipes up to twelve inches (12") diameter, thirty percent (30%) for fifteen-inch (15") to twenty-four-inch (24") diameter, and thirty-five (35%) for greater than twenty-four-inch (24") diameter. If the CCTV camera is underwater for more than ten (10) linear feet, then the inspection shall be abandoned and the pipe dewatered to a minimum of 15% of the cross-sectional area of the pipe.

3.04 RECORDS

A. The following listed documentation shall be provided and the cost for such shall be included in the bid prices for installed pipe.

1. Television Inspection Reports (Logs): The Contractor shall keep printed location records that clearly show the location, in relation to the reference manholes, of each service lateral observed during inspection. A printed, hard copy of such records will be supplied to the City representative. If possible, laterals should also be referenced by address (i.e., by person above ground following with radio and roll-a-tape). unit price for television inspection. No additional compensation shall be made: Perform leakage tests on all pipe installed in this project. Furnish all equipment, material, personnel, test media and supplies to perform the tests and make all taps and other necessary temporary connections. The test pressure, allowable leakage and test medium shall be as specified. Perform leakage tests on all piping at a time agreed upon and in the presence of the City.

2. Each report, on each section of line televised, will have a summary and evaluation as to the general condition of that section and a digital picture of each lateral connection.

3. Television inspection data will be supplied on DVD-R PC computer disks. The supplied data has to be on one of these software programs: ARIES, COBRA, PEARPOINT, WINCAN, CUES, PIPETECH, GBA SEWER MASTER-FIELD DATA COLLECTION MODULE. This shall be submitted with the corresponding hard copy reports and disks. Data entry shall include: ID Number, Address

Number, MH# From, MH# To, Page #, TV Date, Pipe size, Map Footage, TV Footage, DVD # and Event Photographs. Each photographic image shall be saved in a JPEG file format and named with the footage of the event followed by the event (for example, defect BJCM at 107.9' would be named MH#B3001-107.9bjcm.jpg). The files shall be stored within a file folder named for the Upstream Manhole Number. The Contractor must also provide a query to list access to codes.

4. Two master DVD indexes must be provided upon completion of the project. The first Master Index must be alpha-numerically sorted in the following order: (1) Street name, and (2) upstream manhole number. The second Master Index shall be in DVD Number order with each line section listed in the order they appear on each DVD.

5. In addition, individual DVD indexes are required for each DVD, to be located at the beginning of the log reports from each DVD. Individual DVD indexes are to be listed in the same order as televised.

6. DVD Video Recordings: The Contractor shall furnish color video DVD recordings. DVDs shall be labeled and individually numbered, beginning with number "FY 2015 Sewer Rehab #001". Labels shall be typewritten and include "COB CCTV Project", identified as Sanitary Sewer (SS), date of DVD submittal, and DVD number. An example of the correct label format follows:

   COB CCTV Project, FY 2017 Sewer Rehab
   SS, Submitted 10/16/2017
   DVD # 001

7. The first DVD submitted shall be inspected and subject to approval by the City's representative. When approved this will become the standard for subsequent DVDs. The purpose of DVD recording shall be to supply a visual and audio record of the location of the laterals to be placed on As-Built Drawings. Title to the DVDs shall transfer to the City. Each DVD shall include the following information:;

   a. DATA VIEW VISIBLE ON DVD PRIOR TO INSPECTION:

      1. Street Name
      2. Street Addresses for all sewer laterals
      3. U/S and D/S MH number
      4. Anticipated distance of reach
      5. Size of line
      6. Type of pipe
      7. Direction of TV (U/S on D/S)
      8. Date and time of TV inspection

b. DATA VIEW VISIBLE ON DVD DURING INSPECTION:

1. Street Addresses for all laterals
2. U/S and D/S MH number
3. Current distance along reach
4. Date of TV inspection

c. AUDIO (MUST BE AUDIBLE ON DVD):

1. Date and time of TV inspection
2. Verbal confirmation of upstream & downstream manhole numbers
3. Verbal description of direction of camera movement and depth of flow
4. Verbal description of pipe size, pipe type, and pipe joint length
5. Verbal description of lateral & verbal description of the location
6. Verbal description of location of each service lateral
7. Verbal description of each manhole

END OF SECTION

SECTION 02605

SANITARY SEWER MANHOLES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Furnish all labor, materials, methods or processes, implements, tools, machinery and equipment required to remove and replace existing sanitary sewer manholes, as required per the City of Burlingame standard plan details, the contract plans and as specified herein.

B. The manholes shall include the reconnection of all existing sanitary sewer lateral and main connections to the new manholes.

C. The size and location of the pipe stubs connecting to the new manhole shall be as indicated in the contract plans.

1.02 REFERENCE SPECIFICATIONS

A. Wherever the words "Standard Specifications" are referred to, the reference is to the State of California, Department of Transportation, Standard Specifications – 2010.

B. Section 02315

C. ASTM standards for Manholes and accessories.

D. ACI Building Code requirements.

1.03 SUBMITTALS

A. Submit certificate of compliance indicating that the concrete complies with the specifications as submittals.

B. Shop Drawings for the following:

1. Cast in Place Manholes: Include plans, elevations, sections, details, design calculations, and concrete design-mix report, and frames and covers.

2. Precast Manhole data sheets, installation manuals, and frames and covers.

3. All manholes furnished under this Contract shall be submitted in accordance with the requirements of Section 4.07.

4. Manhole submittals shall include manhole construction worksheets with plan view detailing angles and sizes of all pipe penetrations and sections calling out pipe penetration elevations and dimensions of the precast base, barrel, and cone sections, as well as required riser sections and manhole frame and cover depth.

5. Shop drawings shall also detail pipe penetration gasketing, manhole joint gasketing, exterior coating, exterior manhole joint tape, manhole reinforcement, and certification of compliance with ASTM C478.

1.04 QUALITY ASSURANCE

A. Removal of Existing Manholes:

1. The Contractor shall not remove more manholes than can be replaced within the week that work has begun. All manholes, etc., shall be covered with steel plates and ready for public traffic by 5:00 p.m. every day, of any working week. No manholes, etc., shall be left open over weekends or holidays. All barricades, forms etc., shall be stripped or constructed to alloys driveways to be opened by the above times.

2. Existing asphalt, concrete curb, gutters, sidewalks and driveways where manholes are located shall be saw cut and then broken out to a straight joint as directed by the Engineer. The Contractor shall exercise care in removing the asphalt or concrete so as not to damage adjoining areas around manholes which are to remain in intact, and any damage so caused shall be repaired by the Contractor at his own expense.

3. The Contractor shall exercise care so as not to injure any tree. If encounter any tree roots 2” or more in diameter, the Contractor shall inform the Park Department Inspector for inspection. Manholes and concrete directly adjacent to large roots shall be carefully removed so that the bark of the tree root is not damaged.

4. The Contractor shall remove and dispose of all excess material or debris off the job site by the end of each workday. The existing manholes, asphalt, or concrete to be removed shall be outlined by the scoring with an appropriate saw to a uniform depth of not less than four inches (4").

B. Precast manhole units:

1. Precast concrete Unit manufacturer shall be listed & approved.

2. Precast Concrete supplier plant shall be registered and certified under either the Prestressed Concrete Institute (PCI) Or the National Precast Concrete Association (NPCA) Plant certification program.

3. Maintain Uniform quality of products and component compatibility by using the products of one manufacturer in the case of precast reinforced concrete structures.

4. Obtain Certificate of construction compliance with ASTM C478 From the precast reinforced concrete structure manufacturer.

5. Obtain Sworn certification from manufacturer that sanitary sewer manholes were constructed using Type II Portland cement.

6. Obtain Certificate of material compliance with ASTM A48, Class 30 Tensile strength from the manhole frame and cover manufacturer. Furnish Certification that tensile test bars were from same pour as castings.

7. Obtain Certification from manufacturer that manhole frame and cover meets or exceeds AASHTO HS-20 Highway loading requirements.

1.05 ADDITIONAL SAFETY RESPONSIBILITIES

A. Contractor shall be responsible for safety of the public, especially in sidewalk & traffic areas, during this project. Work sites shall be kept safe by placing adequate warnings, barricades, wood walks in commercial areas, eliminating driving and tripping hazards, and other means as appropriate. Open excavation shall be covered and secured with a relatively smooth transition over excavation area when no work is being performed. Steel plating shall be installed until temporary surfacing can be constructed.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All manholes shall be new reinforced concrete manholes custom built for each specific manhole as shown on the plans. The contractor shall verify the existing elevations at the locations of the manhole installation to his satisfaction to provide accurate manhole depths to the precast supplier. Precast manholes shall be ordered with sufficient lead time such that they are ready for installation the same day as the excavation is made.

B. Materials for the construction of sanitary sewer manhole base, rings, and cones shall be a 6-Sack Portland cement concrete with a minimum 28 day compressive strength of 2,500 psi.

C. The frame and cover shall be machined cast iron as described by the City of Burlingame standard drawings SS-3 (3 of 4).

D. Reinforcing steel for manholes shall be Grade 60 as specified in Division VI, Section 52, Reinforcement, of the Standard Specifications.

E. The contractor may opt for a cast in place or a precast manhole foundation section. All other manhole components including rings, cones, and risers shall be precast. Method of construction needs to be approved by the Engineer.

F. Drop manholes shall have an inside drop system consisting of drop bowl, drop pipe, fitting, and stainless adjustable pipe brackets as manufactured by Reliner/Duran Inc. or approved equal.

G. Manholes in the public right of way shall be standard 48" diameter precast manhole unless otherwise noted on the drawings. Any pre-cast manhole in public right of way and easement less than 4' deep shall be Type II manhole.

H. Standard precast concrete manholes shall consist of cylindrical barrel sections, concentric tapered cones, and grade ring sections. The various shaft sections shall fit together readily and all jointing and connections shall be cemented with mortar or joined with rubber gaskets or mastic joint filler. All mortar joints shall be trowel smooth on the inside face and shall be watertight.

I. The rubber ring gaskets shall be installed between each manhole section so as to form a flexible watertight seal. The mastic joint filler shall be applied in accordance with the manufacturer's recommendations so as to form a watertight seal.

J. The shaft sections and cone shall be combined in such a manner that a maximum height of the throat or neck is no more than 18 inches to finished grade; the measurement shall include the manhole frame casting.

PART 3 – EXECUTION

3.01 EXCAVATION AND BACKFILL

A. Forms Excavation and backfill shall be in accordance with the applicable provisions of Standard Specification, Section 02315 and as herein specified.

B. Backfill for manholes and minor structures shall meet the requirements for CDF backfill as described in section 02315. CDF backfill for manholes shall include Hycrete W501 for waterproof concrete or approved equal.

3.02 MANHOLE BASE FOUNDATIONS

A. After excavation is completed and approved, the Contractor shall place a minimum of eight-inch (8") compacted Class 1 permeable material, aggregate, conforming to section 68-2.02F, "Permeable Material" of the Caltrans state specifications. The excavation for the foundation shall be level and of sufficient width and depth to accommodate the foundation dimensions.

B. The manhole base foundation shall be of such width that the outside edges shall extend a minimum of six inches (6") beyond the outside wall of the manhole wall at

all points and be a minimum depth of four inches (4") to six inches (6") under the outside bottom of the lowest pipe in the foundation and two (2") to four inches (4") over the outside top of the highest pipe in the foundation as shown on the detail.

C. For a cast in place manhole bases, the concrete for the foundation shall be placed continuous and deposited in such a manner that segregation of material does not occur. Once deposited, the concrete shall be consolidated mechanically so as to secure a dense water tight mass. Before final set of the concrete, a keyway shall be made in the top of the foundation block by use of a metal form ring. The keyway in the foundation block shall be required for manholes to be constructed using cast in place bases in conjunction with precast manhole barrels and cones.

D. For cast in place manhole bases, whenever possible, the foundation shall be formed around the pipe running continuously through the manhole. When the pipe cannot be run continuously through the manhole base, foundation invert channels shall be shaped and trowelled smooth, with transition of line and grade, from one pipe to another. The channels shall conform to and be of such width equal to the inside diameter of the pipes.

E. The top of the foundation, from inside face of manhole, shall be shaped to slope toward the channels at the rate of two percent (2%) to four percent (4%).

3.03 PRE-CAST MANHOLES

A. Pre-cast concrete manholes shall be forty eight inch (48") diameter precast concrete manholes constructed as specified on the plans and as herein provided. Manholes shall be constructed to the elevations indicated on the plans.

B. Standard precast concrete manholes shall consist of cylindrical barrel sections, concentric tapered cones, and grade ring sections. The various shaft sections shall fit together readily and all jointing and connections shall be cemented with mortar or joined with rubber gaskets or mastic joint filler. All mortar joints shall be trowel smooth on the inside face and shall be water tight. Ram-NEK wrap, twelve-inch (12") wide, or approved equal shall be installed around all exterior manhole joints.

C. The "Ram-Nek" mastic joint filler shall be installed in the tongue and groove joint between each manhole section so as to form a flexible watertight seal. The mastic joint filler shall be applied in accordance with the manufacturer's recommendations, overlapping on itself a minimum of three (3) inches so as to form a watertight seal.

D. External joint wrap shall provide a permanent, flexible and watertight seal and have an effective application and workability over a temperature range of 30ºF to 140ºF and a service performance and resistance over a temperature range of -40ºF to 180ºF. The product shall have self-healing properties if punctured.

1. External joint wrap shall be applied to a surface cleaned with a wire or stiff bristled brush such that no loose dust particles of dirt are present. The siliconized release paper shall be peeled back to expose approximately 6 to 12 inches of the

adhesive compound and the compound shall be applied to the surface, centered over the joint, such that there are no wrinkles, buckles, or entrapped air bubbles. The tape shall remain centered over the joint and in good contact with the substrate. If one roll does not cover the entire circumference of the joint, splice with a new roll by overlapping the ends approximately 4 inches. The product shall be carefully cut with scissors or a knife.

E. The shaft sections and cone shall be combined in such a manner that a maximum height of the throat or neck is no more than 18 inches to finished grade; the measurement shall include the manhole frame casting.

F. Precast manhole sections shall be manufactured in accordance with ASTM Designation C478. The minimum compressive strength of the concrete for all sections shall be 4000 psi. The maximum allowable absorption of the concrete shall not exceed eight (8) percent of the dry weight. Tests, if required, shall be similar to those described in ASTM C76. The circumferential steel reinforcements for riser pipe, cone sections and base walls shall be a minimum of 0.12 square inches per lineal foot. Reinforcing in both layers of steel of the flat slab top sections and in the layer of steel in the bottoms of bases shall be a minimum of 0.12 square inches per lineal foot in both directions.

3.04 FRAMES AND COVERS

A. Frames and covers shall be installed for each manhole as shown on the Plans or as directed by the Engineer in a workmanlike manner satisfactory to the Engineer. Manhole frame and covers shall be set to finish grade by the contractor after final lift of asphalt has been laid.

B. Twenty four-inch (24”) manhole covers in the public right of way shall be custom made according to City Standards with markings according to Contract Drawings. Since these manhole covers are custom made, the Contractor shall order them ahead of time to prevent any delays in construction. The size and type shall be as follows and as detailed in the Contract Drawings.

C. Manholes shall be flush with the asphalt concrete pavement and shall not vary more than 1/4-inch from straight-edge to pavement when a 10-foot straight edge is laid across the manhole. If adjustment requires the adjusting of the cone section, it shall be done prior to asphalt concrete paving.

D. Manhole frames and covers shall be constructed of ASTM A-48, Class 35B cast iron with covers embossed to match the City’s standard manhole cover pattern. Manhole frames and covers shall be D&L Foundry & Supply Model A-1018 or approved equal.

E. All covers from manholes to be replaced shall be salvaged and delivered to the City corporation yard or as directed by the Engineer. All manhole frames from the existing manholes are to be removed and delivered offsite at the Contractor’s expense.

3.05 DROP MANHOLES

A. Drop manholes shall have an inside drop system consisting of drop bowl, drop pipe, fitting, and stainless adjustable pipe brackets as manufactured by Reliner/Duran Inc. or approved equal as shown on the standard detail included in the Contract Drawings. Bowls and drop pipes shall match the inlet pipe size unless approved otherwise by the Engineer.

3.06 MANHOLE BACKFILL

A. Manholes in Public Right-of-Way

1. All pre-cast manholes in the public rights-of-way shall be backfilled with Controlled Density Fill (CDF) conforming to the requirements of the standard detail included in the Contract Drawings. Contractor must provide a clean interface between the CDF and manhole wall prior to backfilling against the manhole with CDF.

3.07 DISPOSAL OF MATERIALS AND CLEANUP

A. All excavated material shall be promptly removed and disposed of by the Contractor at approved locations. No surplus material shall be dumped on private property. Free access shall be provided to all fire hydrants, meters, mailboxes, and private drives and means shall be provided to allow storm water to flow into the gutters without interruption.

B. The Contractor shall, at his own expense, maintain the right-of-way on streets on which he is working free from rocks, dust, mud, excess earth or debris which constitutes a nuisance or danger to the public using the existing streets or to the occupants of adjacent properties. Dust shall be kept to a minimum

C. After removal of forms, the adjacent area shall be backfilled and graded to conform to the surrounding ground. Each site shall be left neat and orderly. All surfaces shall be both replaced in its original condition or backfilled. All surfaces surrounding excavation shall be restored in kind.

D. All work areas shall be left clean, neat and orderly with all asphalt, concrete, or required surface material in place for the week's work by 5:00 p.m., Friday. Whenever work areas are not left clean, neat and orderly, the City shall perform all necessary cleanup at the Contractor's expense and a deduction shall be made for such work on the next progress payment.

END OF SECTION