

# INVITATION FOR BIDS



FOR CONSTRUCTING

## COFFEY NEIGHBORHOOD PARK

**CITY CONTRACT NUMBER**  
C02267

Federal Public Assistance Project No. 36380

ISSUED BY  
**CAPITAL PROJECTS ENGINEERING DIVISION**  
**CITY OF SANTA ROSA, CALIFORNIA**

2019

ATTENTION  
Prebid Conference  
See Page 1



STATE OF CALIFORNIA

INVITATION FOR BIDS

CONTAINING:

NOTICE TO BIDDERS

SPECIAL PROVISIONS

BID FORMS

CONTRACT

FOR

COFFEY NEIGHBORHOOD PARK

**City Contract No. C02267**

Federal Public Assistance Project No. 36380

# COFFEY NEIGHBORHOOD PARK

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CITY OF SANTA ROSA  
STATE OF CALIFORNIA

**NOTICE TO BIDDERS**

➤	For technical questions regarding this project, contact Danny Chen at (707) 543-3911.
➤	For direct access to plans, specifications and plan holders' lists, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> and click on <u>Bid/Proposal Opportunities</u> or call (707) 543-3800.
➤	For direct access to bid results, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> . Under Link to Capital Projects, click on <u>Capital Projects Contracts</u> or call (707) 543-3835.

- IMPORTANT -

**Bid Acceptance Deadline**

Sealed bids will be accepted at the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California 95401 until 2:00 p.m., September 12, 2019, for Coffey Neighborhood Park, Contract No. C02267 (Engineer's Range: \$3,500,000 - \$4,000,000.)

**Bids tendered after this deadline will not be accepted.** The official time clock for accepting bids will be an electric date and time stamping clock, located in the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California. In order to be accepted, bids must be received prior to 2:00 p.m. Therefore, a bid stamped in at 1:59 p.m. will be accepted, but one delivered at or after 2:00 p.m. is late and will not be accepted.

**Pre-Bid Meeting**

Prospective bidders, subcontractors, and material suppliers are invited to attend a pre-bid meeting scheduled to be held at 10:00 a.m., August 29, 2019, in the Transportation and Public Works Department located at 69 Stony Circle, Santa Rosa, California.

**Federal Requirements**

The work to be performed under this Contract will be funded by the Federal Emergency Management Agency (FEMA). Contractor will be required to comply with all Federal Requirements set forth in the Special Provisions. Notwithstanding Section 5-1.02 of the Special Provisions, in the event of a conflict between any Federal Requirement and any other provision in the Contract Documents (as defined below), the more stringent provision shall control and prevail.

**Subcontractor Information; Department of Industrial Relations Registration**

Bidders shall provide the names, business addresses and license numbers of all subcontractors listed on bidder's List of Subcontractors. No contractor or subcontractor may be listed on a bid for this public works project unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5. No contractor or subcontractor may be awarded a contract

for this public works project unless registered with the DIR pursuant to Labor Code section 1725.5. This public works project is subject to compliance monitoring and enforcement by the DIR.

### **Contract Award**

This Contract will be awarded to the lowest responsible and responsive contractor possessing the ability to successfully perform under the terms and conditions of the proposed contract, considering such matters as contractor integrity, compliance with public policy, record of past performance and financial and technical resources.

Firms or individuals that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals or quotes may not compete in this procurement.

### **Project Description/Scope of Work**

This project will build the fire damaged park, and remove fire blown debris embedded in the 5 acres of turf by removing and replacing the top 3" of turf and soil.

**CITY OF SANTA ROSA  
ESTIMATED QUANTITIES  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units
1	TRAFFIC CONTROL	1	LS
2	WATER POLLUTION CONTROL	1	LS
3	ADJUST EXISTING STORM DRAIN MANHOLE TO GRADE	1	EA
4	CLEARING AND GRUBBING	1	LS
5	TREE REMOVAL	1	LS
6	EARTHWORK EXCAVATION & FINE GRADING (F)	1	LS
7	EXCAVATION - 3" SOIL SCRAPING AND REMOVAL/DISPOSAL	2,130	CY
8	EXCAVATION IN TREE DRIPLINE	1	LS
9	TURF	139,290	SF
10	SUPPLY AND PLANT 15 GALLON TREES	36	EA
11	SUPPLY AND PLANT 24" BOX TREES	86	EA
12	SUPPLY AND PLANT 36" BOX TREES	15	EA
13	SUPPLY AND PLANT 1 GALLON SHRUB AND GROUND COVER	3,235	EA
14	SUPPLY AND PLANT 5 GALLON SHRUB AND GROUND COVER	1,155	EA
15	90-DAY LANDSCAPE ESTABLISHMENT	1	LS
16	DOG PARK MULCH	140	CY
17	BIOFILTRATION SOIL	212	CY
18	COMPLETE IRRIGATION SYSTEM	1	LS
19	ASPHALT CONCRETE SURFACE	14	TON
20	CONFORM GRIND	112	LF
21	PARK RULES SIGNS	2	EA
22	MONUMENT SIGNS	2	EA
23	8" STORM DRAIN	176	LF
24	4" STORM DRAIN	33	LF
25	3" CURB DRAIN	125	LF
26	12" DRAIN INLETS	4	EA
27	8" ATRIUM GRATE DRAIN	5	EA
28	4" CONCRETE WITH 4" CLASS 2 AGGREGATE BASE - LAMP BLACK	14,962	SF
29	4" CONCRETE WITH 4" CLASS 2 AGGREGATE BASE - INTEGRAL COLOR	5,243	SF
30	5" CONCRETE WITH 7" CLASS 2 AGGREGATE BASE - LAMP BLACK	8,290	SF
31	ART PLAZA 12" CONCRETE WITH 7" CLASS 2 AGGREGATE BASE - INTEGRAL COLOR	114	SF
32	CURB AND GUTTER	140	LF
33	CURB RAMP	3	EA
34	SEAT WALL	39	LF
35	RETAINING SEAT WALL	88	LF
36	DECORATIVE BAND	216	SF
37	CONCRETE BAND WITH DISTANCE MARKER	34	SF
38	PLAYGROUND RAMP	2	EA
39	6" CONCRETE MOW BAND	583	LF
40	8" CONCRETE PLAYGROUND CURB	240	LF
41	12" CONCRETE FENCE CURB	433	LF

**CITY OF SANTA ROSA  
ESTIMATED QUANTITIES  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units
42	WOOD AND WIRE METAL FENCE	286	LF
43	WOOD AND CHAIN LINK METAL FENCE	369	LF
44	SPLIT RAIL FENCE	836	LF
45	PLAYGROUND GATE	1	EA
46	DOG PARK GATE	2	EA
47	DOUBLE SWING GATE	1	EA
48	TRAFFIC STRIPES AND PAVEMENT MARKINGS	1	LS
49	LUMINAIRE AND POLE	7	EA
50	MONUMENT SIGN LIGHT	2	EA
51	ELECTRICAL DISTRIBUTION, CIRCUITING, AND MISCELLANEOUS	1	LS
52	POROUS PAVE	3,026	SF
53	FIXED BOLLARD	8	EA
54	REMOVABLE BOLLARD	4	EA
55	BENCH	11	EA
56	PICNIC TABLE TYPE 1	12	EA
57	PICNIC TABLE TYPE 2 (ADA)	5	EA
58	CHESS TABLE	2	EA
59	TABLE TENNIS	2	EA
60	CORN HOLE SET	1	EA
61	BARBEQUE TYPE 1	2	EA
62	BARBEQUE TYPE 2	1	EA
63	BIKE RACK TYPE 1	1	EA
64	BIKE RACK TYPE 2	1	EA
65	BIKE RACK TYPE 3	1	EA
66	TRASH RECEPTACLES	5	EA
67	RECYCLING RECEPTACLES	5	EA
68	DRINKING FOUNTAINS	2	EA
69	SUMP FOR DRINKING FOUNTAINS	1	EA
70	DOG PARK WATER SPIGOT WITH SUMP	1	EA
71	PET WASTE STATION	1	EA
72	FITNESS STATIONS	1	LS
73	PORTABLE RESTROOM ENCLOSURE	1	EA
74	SUPPLY & PLACE LANDSCAPE BOULDERS	59	EA
75	PLACE EXISTING LANDSCAPE BOULDERS	35	EA
76	FIBAR PLAY SURFACING	347	CY
77	DRAIN ROCK AT PLAYGROUND	87	CY
78	DEMOLITION AND CONCRETE REMOVAL/DISPOSAL	1	LS
79	3" IRRIGATION WATER SERVICE WITH BACKFLOW	1	EA
80	3/4" WATER SERVICE WITH BACKFLOW	1	EA
81	1-1/4" SCH. 40 PVC WATER PIPING	590	LF
82	BACKFLOW DEVICE TESTING	2	EA



The foregoing quantities are approximate only, being given as a basis for the comparison of bids, and the City of Santa Rosa does not expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, as may be deemed necessary or expedient by the Engineer.

Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of the DIR pursuant to Labor Code sections 1770 *et seq.*

Contractor shall be responsible for compliance with the Immigration Reform Control Act of 1986.

If the project requires the employment of workers in any apprenticeable craft or trade, once awarded, Contractor and subcontractors must apply to the Joint Apprenticeship Council unless already covered by local apprentice standards (see Labor Code section 1777.5).

All bids are to be compared on the basis of the Engineer's estimate of the quantities of work to be performed. No bid will be awarded to a contractor who is not licensed in accordance with the provisions of Chapter 9 of Division 3 of the Business and Professions Code. Contractor must hold a Class A license for this project.

Project plans, bid and contract forms for C02267 Coffey Neighborhood Park may be obtained through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids). These documents can no longer be obtained at the Transportation and Public Works Department.

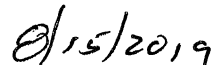
No bid will be accepted unless it is made on the contract bid forms furnished by the Transportation and Public Works Department through PlanetBids. The original of the completed bid forms bearing original signatures must be submitted. A bid will not be accepted unless the bidder registers as a vendor through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids), downloads documents/attachments, and is added to the prospective bidders list for this project. If there is an addendum, bidders must log into PlanetBids and acknowledge the addendum to be eligible for bidding.

The successful bidder will be required to hold a current City of Santa Rosa business tax certificate issued pursuant to Chapter 6.04 of the Santa Rosa City Code before commencing work on this project. For information regarding the business tax, contact Revenue and Collections at (707) 543-3170.

For any moneys earned by Contractor and withheld by the City of Santa Rosa to ensure the performance of the Contract, Contractor may, at its request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Section 22300 of the California Public Contract Code.

The City of Santa Rosa reserves the right to reject any or all bids and the right to waive minor irregularities or informalities in any bid or bond.

  
DAVID MONTAGUE  
Supervising Engineer

  
Date

# **SPECIAL PROVISIONS**

## **General Specifications**

### **CITY OF SANTA ROSA, CALIFORNIA**

### **COFFEY NEIGHBORHOOD PARK**

## **1 GENERAL**

The work described herein shall be done in accordance with the "Contract Documents," which are the:

1. Special Provisions
2. Project Plans, consisting of 39 sheets entitled Coffey Neighborhood Park, 2019-0040
3. City of Santa Rosa Design and Construction Standards (City Standards)
4. City of Santa Rosa Construction Specifications for Public improvements (City Specifications)
5. State of California Department of Transportation Standard Specifications 2015 and Revised Standard Specifications 2015 (collectively, Standard Specifications), and
6. State of California Department of Transportation Standard Plans 2015 and Revised Standard Plans 2015 (collectively, Standard Plans).

In the event of a conflict in any of these documents, the order of precedence shall be determined by Section 5-1.02 of these Special Provisions.

Whenever the Standard Specifications use the terms State of California, Department of Transportation, Director, Engineer, or Laboratory, the following terms shall be substituted therefor, and any reference to any of the foregoing terms shall be understood and interpreted to mean and refer to such substituted terms as follows:

For State of California - the City of Santa Rosa;

For Department - the City of Santa Rosa Department of Transportation and Public Works or the City of Santa Rosa Water Department;

For Director - the City Engineer of the City of Santa Rosa;

For Engineer - the City Engineer of the City of Santa Rosa or the City Engineer's authorized agents;

For Laboratory – Materials Engineering of the City of Santa Rosa Transportation and Public Works Department, or such other laboratory as may be authorized by the City.

Unless otherwise provided, whenever in these Special Provisions attention is directed to specific provisions in the Standard Specifications, such direction shall not be interpreted as excluding other applicable provisions of the Standard Specifications.

Unless otherwise provided, when sections and subsections of the Standard Specifications are used in these Special Provisions, such use is not exclusive and shall not be interpreted as excluding other applicable provisions of said sections and subsections, but is only intended to add to or modify such sections or subsections.

Unless otherwise provided, full compensation for compliance with these Special Provisions is included in the contract price and no additional allowance will be made to Contractor therefor.

The Standard Specifications are hereby modified to delete any reference or incorporation of provisions providing for or requiring arbitration of claims and disputes arising under this Contract.

## 2 BIDDING

**2-1.03 Registration with DIR:** No contractor or subcontractor may be listed on a bid for this public works project unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5. No contractor or subcontractor may be awarded a contract for this public works project unless registered with the DIR pursuant to Labor Code section 1725.5. This public works project is subject to compliance monitoring and enforcement by the DIR.

**2-1.06 Bid Documents:** Prospective bidders will be furnished with an Invitation for Bids which will state the location and description of the contemplated public works project and will show the approximate estimate of the various quantities and kinds of work to be performed and materials to be furnished with a schedule of items for which unit prices are requested.

**2-1.07 Examination of Project Plans, Specifications, City Standards, Invitation for Bids and Work Site:** Prior to submitting a bid, the bidder shall carefully examine the Invitation for Bids, City Standards and the proposed work site. If any person contemplating submitting a bid for this public works project is in doubt as to the meaning of any part of the Contract Documents, or finds discrepancies in or omissions from the Contract Documents, he or she may submit a written request for interpretation or correction to the Engineer. The written request must be received by the Engineer a minimum of 48 hours prior to bid opening. Any interpretation or correction of the Contract Documents prior to bid opening will be made only by written addendum issued by the City. Notification of addenda will be made through PlanetBids. The listed primary contact will receive an e-mail generated by PlanetBids informing them of a recently uploaded addendum. The City will not be bound by any other explanations or interpretations of the Contract Documents.

**2-1.08 Approximate Estimate:** The quantities given in the Contract Documents are approximate only, being given as a basis for the comparison of bids, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or part of the work or to omit parts of the work, as may be deemed necessary or advisable by the Engineer.

**2-1.10 Subcontractors:** The Subletting and Subcontracting Fair Practices Act, Public Contract Code sections 4100-4113, inclusive (the "Act") shall apply to all subcontracts in excess of one-half of one percent of the total amount of a bid. The Act requires subcontractors, if used for such work, to be listed in the contractor's bid and prohibits the substitution of subcontractors, except as authorized by the Act. Each bidder shall, with respect to the work of any subcontractor in excess of one-half of one percent of the total amount of the bid, include as part of the bid on the bid form provided:

1. The name, business address and DIR registration number of each subcontractor who will perform work or labor or render services to the Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Project Plans or other Contract Documents in an amount in excess of one-half of one percent of the Contractor's total bid; and
2. The portion of the work that will be done by each subcontractor. Only one subcontractor shall be listed for each portion.

The purchase of sand, gravel, crushed rock, batched concrete, aggregate, ready-mixed concrete, and/or any other materials produced and furnished by established and recognized commercial plants, together with the delivery of such materials to the work site by the source of the materials or

by recognized commercial hauling companies, is not considered as subcontracting under this section.

**2-1.33 Bid Document Completion:** Any references to Opt Out of Payment Adjustments for Price Index Fluctuations in the Standard Specifications are deleted in their entirety.

**2-1.33A Bid Forms:** All bids shall be made on bid forms obtained from PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids). The bidder shall submit its bid on the original bid forms furnished by the City. Bids submitted on forms other than the forms furnished to the bidder by the City will not be considered.

The bid forms to be submitted at the time of and with the bid are:

1. Unit Price Schedule
2. List of Subcontractors
3. List of Previous Similar Jobs
4. Noncollusion Declaration
5. Bid Bond Affidavit and Bidder's Signature Page
6. Bid Guaranty (Bid Bond or alternate security)
7. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
8. Certification Regarding Lobbying

All bids shall give the proposed prices and must bear the original signature of the bidder. Bidders shall fill in all blanks on the bid forms where required. A bid will not be accepted unless the bidder registers as a vendor through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids), downloads documents/attachments, and is added to the prospective bidders list for this project. If there is an addendum, bidders must log into PlanetBids and acknowledge the addendum to be eligible for bidding.

**2-1.33E Rejection of Bids Containing Alterations, Erasures or Irregularities:** Bids may be rejected if they show any alterations of forms, additions not called for, conditional bids, incomplete bids, erasures or irregularities of any kind.

**2-1.34 Bidders' Security:** All bids shall be presented under sealed cover and shall be accompanied by cash, cashier's or certified check, or by a bidder's bond made payable to the City of Santa Rosa and executed as surety by a corporate surety authorized and admitted to transact a surety business in the State of California in an amount equal to ten percent of the amount of the bid. No bid shall be considered unless such cash, cashiers or certified check, or bidder's bond is enclosed with the bid. Any bidder's bond shall contain provisions for forfeiture consistent with California Public Contract Code section 20172.

**2-1.40 Withdrawal of Bid:** A bid may be withdrawn prior to, but not after, the hour fixed in the public notice for the opening of bids, provided that a written request to withdraw the bid, executed by the bidder or the bidder's authorized representative, is filed with the Engineer before this deadline. The withdrawal of a bid shall not prejudice the right of a bidder to submit a new bid.

**2-1.43 Public Opening of Bids:** Bids will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

**2-1.46 Department's Decision on Bid:** Serial bids from the same bidder will not be accepted. This section shall not be interpreted to mean that the same contractor may not be the contractor in one bid and listed as a subcontractor in another bid, provided that no collusion exists.

**2-1.48 Competency of Bidders:** No bid will be accepted from or contract awarded to a contractor that is not licensed in accordance with the law, that does not hold a license qualifying it to perform

work under this contract, to whom a bid form has not been issued by the Engineer, or that has not successfully completed projects of similar character, scope and cost to the proposed project. Bidders will be required to provide a list of previous similar jobs with their bids.

## 3 CONTRACT AWARD AND EXECUTION

**3-1.04 Contract Award:** The City reserves the right to reject any or all bids. Bids are required for the entire work described herein. All bids will be compared with the Engineer's estimate of the quantities of work to be completed. Contract award, if any, will be made to the lowest responsible and responsive bidder within thirty days from the date bids are opened.

**3-1.05 Contract Bonds:** Within ten days after receipt of the Notice of Award, the successful bidder shall provide the following bonds to the City:

The successful bidder will NOT be required to furnish a performance bond or material guaranty bond for this project. In the event that the contract award exceeds \$25,000.00, the successful bidder will be required to provide a payment bond for labor and materials within ten days after receipt of the Notice of Award in accordance with California Civil Code section 9550, executed in a sum of 100% of the Contract price. **A BID BOND IS REQUIRED. REFER TO SECTION 2-1.34 OF THESE SPECIAL PROVISIONS.**

**(Requirements for Contracts over \$150k, unless FEMA or recipient determine FEMA interests protected under City's bonding policy of minor contract threshold of \$291k)**

- a. **Performance Bond:** A performance bond to guarantee the faithful performance of the terms and conditions of the Contract by Contractor, which shall be executed in a sum of not less than 100% of the Contract price;
- b. **Labor and Materials Bond:** A labor and materials bond (payment bond) in accordance with Part 6 of Division 4, sections 8000 *et seq.* of the California Civil Code, to guarantee against any and all claims of subcontractors or other third parties furnishing labor, materials, or supplies for the Contract, which shall be executed in a sum of 100% of the Contract price; and
- c. **Material Guaranty Bond:** A material guaranty bond (warranty bond) to serve as surety for the guarantee requirements outlined in Section 6-3.01B, which shall be executed in a sum of not less than 50% of the Contract price.

The bond(s) shall be provided in a form acceptable to the City and issued by a corporate surety in good financial standing and authorized and admitted to transact a surety business in the state of California for the purposes and in the amount(s) stated above.

Whenever the financial or legal status of any surety on any such bond(s) is/are unacceptable to the City, it may make a demand to Contractor for further bond(s) or additional surety, not exceeding the sums originally required. Thereafter, no payment shall be made upon the Contract to Contractor or any assignees of Contractor until such bond(s) or additional surety has/have been provided to the City.

**3-1.06 Contractor License:** Contractor must be properly licensed as a contractor from Contract award through Contract acceptance (Pub Cont. Code § 10164).

**3-1.07 Indemnification and Insurance:** **Indemnification:** Contractor shall defend, hold harmless and indemnify City, its officers, agents and employees, and each and every one of them, from and against any and all actions, damages, costs, liabilities, claims, demands, losses, judgments, penalties, costs and expenses of every type and description, including, but not limited to, any fees and/or costs reasonably incurred by City's staff attorneys or outside attorneys and any fees and expenses incurred in enforcing this provision (hereafter collectively referred to as "Liabilities"),

including but not limited to Liabilities arising from personal injury or death; damage to personal, real or intellectual property or the environment; contractual or other economic damages, or regulatory penalties, arising out of or in any way connected with the performance of or the failure to perform the Contract by Contractor, any subcontractor or agent, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not such Liabilities are caused in part by a party indemnified hereunder, or such Liabilities are litigated, settled or reduced to judgment; provided, that the foregoing indemnity does not apply to liability for any damage or expense for death or bodily injury to persons or damage to property to the extent arising from (i) the sole negligence, or willful misconduct of, or defects in design furnished by City, its agents, servants, or independent contractors who are directly responsible to City (excluding Contractor), or (ii) the active negligence of City.

The existence of any of the insurance policies or coverages described in this Contract shall not affect or limit any of City's rights hereunder, nor shall the limits of such insurance limit Contractor's liability to the City hereunder. The provisions of this section shall survive any expiration or termination of the Contract.

**Insurance:** Contractor shall maintain in full force and effect all of the insurance coverage described in and in accordance with the insurance requirements set forth below. Maintenance of such insurance coverage during the entire performance of the Contract is a material element of the Contract. Failure by Contractor to (i) maintain or renew coverage, (ii) provide notice of any changes, modifications, or reductions in coverage, or (iii) provide evidence of renewal, if necessary, may be deemed a material breach of the Contract by Contractor, whereas the City shall be entitled to all rights and remedies at law or in equity. Notwithstanding the foregoing, any failure by Contractor to maintain required insurance coverage shall not excuse or alleviate Contractor from any of its other duties or obligations under the Contract. In the event Contractor retains or utilizes any subcontractors or sub-consultants in performance of the work, Contractor shall assure that any such subcontractor has first obtained, and shall maintain, all of the insurance coverage requirements herein set forth below.

#### **Insurance Requirements:**

**A. Insurance Policies:** Contractor shall maintain and keep in full force and effect, the following policies of insurance with minimum coverage as indicated below and issued by insurers with an AM Best rating of no less than A-:VI or a rating otherwise acceptable to the City.

	<b>Insurance</b>	<b>Minimum Coverage Limits</b>	<b>Additional Coverage Requirements</b>
1.	Commercial general liability	\$5 million per occurrence \$5 million aggregate	Coverage must be at least as broad as ISO CG 00 01 and must include products liability and completed operations coverage which shall continue for a period of three years after acceptance of the work by the City. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. Coverage may be met by a combination of primary and umbrella or excess insurance but umbrella and excess shall provide coverage at least as broad as specified for underlying coverage. Completed Operations Coverage can be provided in the form of an endorsement to Contractor's insurance (at least as broad as ISO Form CG 20 37 04 13. See endorsements below for other Additional Insured Requirements. Coverage shall not exclude subsidence.



2.	Business auto coverage	\$3 million	Coverage at least as broad as ISO Form Number CA 00 01 covering any auto (Code 1). Insurance shall cover owned, non-owned and hired autos.
3.	Workers' compensation and Employer's Liability	\$1 million	As required by the State of California, with Statutory Limits and Employer's Liability Insurance with limit of no less than \$1 million per accident for bodily injury or disease. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by Contractor, its employees, agents and subcontractors.
4.	Contractor's pollution legal liability and/or asbestos legal liability and/or errors and omission (if the City determines, in its sole discretion, that the project involves environmental hazards)	\$1 million per occurrence or claim \$2 million aggregate	If the work involves lead-based paint or asbestos identification/remediation, the pollution liability policy must not contain lead-based paint or asbestos exclusions. If the work involves mold identification, the pollution liability policy must not contain a mold exclusion and a definition of "Pollution" in said policy shall include microbial matter including mold.
5.	Course of construction/builders' risk	Amount of completed value of project without co-insurance provisions	Required for construction projects over \$3 million. The City shall be named as loss payee.

**B. Endorsements:**

1. All policies shall provide or be endorsed to provide that coverage shall not be canceled by either party, except after prior written notice has been provided to the City in accordance with the policy provisions.
2. Liability policies shall provide or be endorsed to provide the following:
  - a. For any claims related to this Contract, Contractor's insurance coverage shall be primary and any insurance or self-insurance maintained by City shall be in excess of Contractor's insurance and shall not contribute with it. Endorsements at least as broad as 20 01 04 13 or evidence of policy language will be required in non- ISO CGL policies.
  - b. **The City of Santa Rosa, its officers, agents and employees are to be covered as additional insureds on the CGL policy.** Additional Insured Endorsements at least as broad as 20 10 04 13 or 20 38 04 13 are required.

**C. Verification of Coverage and Certificates of Insurance:** Contractor shall furnish City with original certificates and endorsements effecting coverage required above. Certificates and endorsements shall make reference to policy numbers. All certificates and endorsements are to be received and approved by the City before work commences and must be in effect for the duration of the Contract. The City reserves the right to require complete copies of all required policies and endorsements during the duration of the

Contract and for a period of three years following City's acceptance of the work.

**D. Other Insurance Provisions:**

1. No policy required by this Contract shall prohibit Contractor from waiving any right of recovery prior to loss. Contractor hereby waives such right with regard to the indemnitees.
2. All insurance coverage amounts provided by Contractor and available or applicable to this Contract are intended to apply to the full extent of the policies. Nothing contained in this Contract limits the application of such insurance coverage. Coverage for an additional insured shall NOT be limited to the insured's vicarious liability. Defense costs must be paid in addition to coverage amounts.
3. Self-insured retentions above \$10,000 must be approved by the City. At the City's option, Contractor may be required to provide financial guarantees.
4. City reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

**3-1.18 Contract Execution:** The fully executed Contract, original bonds and insurance certificates and endorsements required under the Contract shall be delivered to the City within ten calendar days of Contractor's receipt of the Notice of Award.

The Engineer will supply Contractor with up to ten sets of the Invitation for Bids and Project Plans. At least one complete set of the Invitation for Bids and Project Plans shall be kept at the construction site in good condition and made available to the Engineer at all times. Additional copies of the Invitation for Bids and Project Plans will be provided by the Engineer at Contractor's cost.

**3-1.19 Bidders' Securities:** Within ten days after the opening of bids, the City will return the bid guarantees to all bidders except the three lowest responsible bidders. The bid guarantees of the three lowest responsible bidders will be retained until the Contract has been fully executed. In the event all bids are rejected, all bid guarantees will be returned to the respective bidders.

**3-1.20 Failure to Execute Contract:** Contractor's failure to deliver to the City the fully executed Contract within ten calendar days of Contractor's receipt of the Notice of Award shall be cause for the cancellation of the award and the forfeiture of the bid guaranty to the City. If the successful bidder refuses or fails to execute the Contract, the City may award the Contract to the second lowest responsible bidder. 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. The refusal or failure by the second or third lowest responsible bidder to deliver to the City the fully executed Contract within ten calendar days of receipt of the Notice of Award to the respective bidder shall likewise be cause for the cancellation of the award and the forfeiture of the bid guaranty of the respective bidder. In its discretion, the City may then re-advertise the project or construct it by day labor.

**3-1.22 Subcontractors:** The successful bidder shall furnish a list of all subcontractors as required under Sections 2-1.10. The list shall include the name, business address, DIR registration number and the state contractor's license number of each subcontractor on the list and the names of the responsible managing employees whose names appear on the subcontractors' licenses.

## 4 SCOPE OF WORK

**4-1.05 Changes and Extra Work:** All changes to the Contract shall be made by written change order only.

All extra work shall be recorded by Contractor on a daily report signed by both the City and Contractor. The “daily reports” shall thereafter be considered the true record of extra work performed. A copy of the daily reports will be furnished to Contractor. Contractor is directed to Section 9-1.04 of this Invitation for Bids.

**4-1.05C Compensation for Altered Quantities:** Payment and compensation for altered quantities shall not conform to the provisions of Section 9-1.06 of the Standard Specifications, except as modified herein.

### **4-1.07 Value Engineering**

#### **4-1.07B Value Engineering Change Proposal (VECP):**

Contractor may submit a VECP to reduce any of the following:

1. Total cost of construction
2. Construction activity duration
3. Traffic congestion

Before preparing a VECP, meet with the Engineer to discuss:

1. Proposal concept
2. Permit issues
3. Impact on other projects
4. Project impacts, including traffic, schedule, and later stages
5. Peer reviews
6. Overall proposal merits
7. Review times required by the Department and other agencies

The VECP must not impair the project's essential functions or characteristics, including:

1. Service life
2. Operation economy
3. Maintenance ease
4. Desired appearance
5. Design and safety

The VECP must include:

1. Description of the Contract specifications and drawing details for performing the work and the proposed changes
2. Itemization of Contract specifications and plan details that would be changed
3. Detailed cost estimate for performing the work under the existing Contract and under the proposed change; Determine the estimates under section 9-1.04 of the Standard Specifications
4. Deadline for the Engineer to decide on the changes
5. Bid items affected and resulting quantity changes

The Department is not required to consider a VECP. If a VECP is similar to a change in the Project Plans or City Specifications being considered by the Department at the time the proposal is submitted or if the proposal is based on or similar to plans or City Specifications adopted by the Department before Contract award, the Department does not accept the VECP and may make these changes without VECP payments.

If the Department does not approve a Change Order before the deadline stated in the VECP or other date Contractor subsequently stated in writing, the VECP is rejected. The Department does not adjust time or payment for a rejected VECP.

The Department decides whether to accept a VECP and the estimated net construction-cost savings from adopting the VECP or parts of it.

The Department may require Contractor to accept a share of the investigation cost as a condition of reviewing a VECP. After written acceptance, the Department considers the VECP and deducts the agreed cost.

If the Department accepts the VECP or parts of it, the Department issues a Change Order that:

1. Incorporates changes in the Contract necessary to implement the VECP or the parts adopted
2. Includes the Department's acceptance conditions
3. States the estimated net construction-cost savings resulting from the VECP
4. Obligates the Department to pay Contractor 50 percent of the estimated net savings.

In determining the estimated net construction-cost savings, the Department excludes Contractor's VECP preparation cost and the Department's VECP investigation cost, including parts paid by Contractor. If a VECP providing for a reduction in working days is accepted by the Department, 50 percent of the reduction is deducted from the Contract time.

If a VECP providing for a reduction in traffic congestion or avoiding traffic congestion is accepted by the Department, the Department pays 60 percent of the estimated net savings in construction costs attributable to the VECP. Submit detailed traffic handling comparisons between the existing Contract and the proposed change, including estimates of the traffic volumes and congestion.

The Department may apply an accepted VECP for general use on other contracts.

If an accepted VECP is adopted for general use, the Department pays only the contractor who first submitted the VECP and only for the contracts awarded to that contractor before the submission of the accepted VECP.

If the Department does not adopt a general-use VECP, an identical or similar submitted proposal is eligible for acceptance.

## 5 CONTROL OF WORK

**5-1.02 Contract Documents:** In the event of a conflict in any of the Contract Documents, the order of precedence from highest to lowest shall be as follows:

1. Special Provisions
2. Project Plans, consisting of 39 sheets entitled Coffey Neighborhood Park, 2019-0040
3. City Standards
4. City Specifications
5. Standard Specifications
6. Standard Plans;

provided, that in the event of a conflict between any Federal Requirement in Section 10 of these Special Provisions and any other provision in the Contract Documents, the more stringent provision shall control and prevail.

**5-1.05 Order of Work:** The work as shown on the Project Plans and as specified in the Invitation for Bids shall be constructed in a sequence that is satisfactory to and approved by the Engineer.

Contractor shall prepare a work schedule per Section 8-1.02 of the Standard Specifications.

With the exception of trenching, all existing street, street light base, curb and gutter, storm drain, water line, and sewer line work shall be completed before any existing street paving is removed.

Full compensation for the conformance to the requirements of this section is included in the Contract price and no additional allowance will be made to Contractor for this work.

**5-1.17 Character of Workers:** Attention is directed to Section 5-1.17 of the Standard Specifications which states:

“If a worker appears to the Engineer to be incompetent or acts disorderly or improperly, discharge the worker immediately upon request. Do not employ that worker again on the work.”

No additional compensation shall be granted to Contractor in the event City exercises any part of its rights under this section and any and all costs related to such exercise shall be borne by Contractor.

**5-1.20 Cooperation with Other Entities:** Attention is directed to Section 5-1.20 of the Standard Specifications.

Other construction including but not limited to utility, power, and pipe line relocation, may be in progress by other forces within and adjacent to the project area at the same time work is being performed under this Contract by Contractor. Contractor shall coordinate and cooperate with the forces performing other work, to the end that such forces may conduct their operations with as little inconvenience and delay as possible.

Each contractor or other entity performing work at or near the job or material site is responsible to the other for damage to work, persons, or property and for costs due to unnecessary delays.

**5-1.20B(4)(a) Offsite Staging Areas and Construction Yards:** Attention is directed to Santa Rosa City Code section 20-52.040, Temporary Use Permit.

A Temporary Use Permit shall be obtained for any offsite construction yard on private property to be used for any of the following:

1. Stockpiling of equipment and/or materials;
2. Staging of construction;
3. Placement of work trailers or mobile offices;
4. Storage of trench spoils; or
5. Other construction related activities not specifically enumerated above.

**5-1.26 Construction Surveys:** Contractor shall carefully preserve all bench marks, grade stakes, and all other survey markers. In the case of willful or careless destruction, Contractor shall bear the cost of replacing the markers.

Contractor shall contact the Engineer directly for coordination of survey staking. Written staking requests must be submitted at least two working days in advance of the date and time stakes are needed.

**5-1.27A Examination and Audit:**

Pursuant to California Government Code section 8546.7, any contract with the City involving expenditures in excess of \$10,000 shall be subject to the examination and audit of the California State Auditor for a period of three years after final payment is made to Contractor by City under this Contract. Any such examination and audit will be confined to those matters connected with the performance of this Contract.

**5-1.30A Inspection:** Contractor shall bear all costs associated with the re-inspection of any defective, rejected or unauthorized work as determined by the Engineer in Engineer's sole discretion. Such costs of re-inspection, including any costs incurred by the City for additional staff time or fees for third-party consultant inspectors, will be deducted from one or more progress payments hereunder.

**5-1.36D(a) Property and Facility Preservation:** Attention is directed to Section 5-1.36 of the Standard Specifications.

At Contractor's sole expense, all fences, gates, landscaping, drainage ditches, sidewalks, irrigation systems, storm drains and any other facilities that are damaged, removed or destroyed because of Contractor's operations, shall be replaced in accordance with City Standards at a minimum and restored to the same or better condition. Concrete surface treatment and score marks shall match adjacent existing concrete improvements.

**5-1.36E Obstructions:** Attention is directed to Section 5-1.36 of the Standard Specifications and to the possible existence of underground gas mains, high voltage lines, telephone ducts, storm drains and water and sewers systems, the locations of which are not shown on the Project Plans. The determination of the location of these facilities and the cost of repair or replacement in the event of damage to such facilities are the sole responsibility of Contractor.

Should Contractor alter any public utility or private improvements to facilitate its operations or for its sole benefit, which alteration would not be otherwise required, Contractor shall make whatever arrangements are necessary with the owner or controlling authorities, and shall bear all expenses in connection therewith. Any damages to any public utility or private improvement caused by Contractor shall be repaired by Contractor at its sole expense and to the full satisfaction of the Engineer or the controlling authority.

Any subsurface information and data furnished under any part of this Contract are not intended as a representation or warranty but are furnished for information only. It is expressly understood that the City will not be responsible for the accuracy thereof or for any deduction, interpretation or conclusion drawn therefrom by Contractor. The information is made available so that Contractor may have ready access to the same information available to the City and is not part of this Contract.

PRIOR TO STARTING ANY EXCAVATION, CONTRACTOR SHALL (AT LEAST TWO WORKING DAYS IN ADVANCE) CALL UNDERGROUND SERVICE ALERT (USA) toll free at (800) 227-2600 and provide USA with all necessary data relative to the proposed excavation. USA will accept calls and process information to participating agencies who have underground facilities in the area between the hours of 7:30 a.m. and 5:00 p.m. daily, except Saturdays, Sundays, and holidays. Between the hours of 5:00 p.m. and 7:30 a.m., calls will be recorded and then processed after 7:30 a.m. For emergency situations, after hours, and on Saturdays, Sundays and holidays, Contractor shall contact the owner of the affected facility.

Contractor shall coordinate all work with the appropriate City field personnel. When City work forces are required at the job site to perform Contract items of work, Contractor shall give a minimum of two working days advanced notification to the appropriate field office:

Water Division:	(707) 543-4200
Sewer Division:	(707) 543-4200
Street Division:	(707) 543-3880
Survey Division:	(707) 543-3834

**5-1.43 Potential Claims and Dispute Resolution:** "Claim" means a separate demand by 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 the City under the Contract; (B) Payment by the City of money or damages arising from work done by, or on behalf of, Contractor pursuant to the Contract and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled; or (C) Payment of an amount that is disputed by the City.

Upon receipt of a Claim, the City shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed, provided, the parties may extend the 45 day time period by mutual agreement.

If the City needs approval from the City Council to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the Claim, and the Council does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim, the City shall have up to three days following the next duly publicly noticed meeting of the City Council after the 45-day period, or extension expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the City issues its written statement. If the City fails to issue a written statement, the Claim shall be deemed rejected in its entirety.

If Contractor disputes the City's written response, or if the City fails to respond to a Claim within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall conduct a meet and confer conference within 30 days for settlement of the dispute. 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 City shall provide Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the City issues its written statement. Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the City and Contractor sharing the associated costs equally. The City and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been

identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.



## 6 CONTROL OF MATERIALS

**6-2.01G Source of Supply and Quality of Materials:** All materials required to complete the work under the Contract shall be furnished by Contractor and shall be free of hazardous substances.

**6-2.01H General:** Statistical means will not be used by the City for determination of Standard Specification compliance. Whenever both operating range test results and Contract compliance requirements are specified in these special provisions, the operating range requirements shall apply to the individual test results.

**6-2.01I Material Submittals:** Upon award of the Contract by City, Contractor shall submit to the Engineer a list of all materials proposed to be used on this project and any supporting documentation and/or samples required and source of supply.

For material listed on the “Engineer’s List of Approved Items” which is located in the Sewer and Water sections only of the City Standards, the Engineer shall be provided with the name of the manufacturer and model/part number for all material proposed for this project, unless that item has been replaced as shown on the Project Plans or in the Invitation for Bids.

For all other materials used on this project, regardless of the type of work, Contractor shall provide to the Engineer the name of the manufacturer and model/part number along with supporting documentation and/or samples that will allow the Engineer to determine the material’s acceptability.

The Engineer reserves the right to reject any proposed material, whether on the City’s “Engineer’s List of Approved Items” or not. If the City obtains information indicating that a listed item is not performing satisfactorily or is found to be defective, that item will be rejected and Contractor shall submit a replacement for review at no additional cost to the City.

**6-3.01B Material Guarantee:** Before any contract is awarded, the bidder may be required to furnish samples of materials and detailed descriptions of equipment to be used in the construction of the project. The materials samples may be subjected to the tests provided for in the Standard Specifications or in this Invitation for Bids to determine their quality and fitness for the project. The successful bidder shall unconditionally guarantee project materials and workmanship for a period of one year from the date of recording of the Notice of Completion. The guarantee shall cover 100% of all costs of repairs within the one-year period, including all costs of labor, materials, equipment, and incidentals. Except as may be otherwise provided in Section 3-1.05, the successful bidder shall provide a surety bond executed by a corporate surety authorized and admitted to transact a surety business in the state of California in the minimum amount of one-half of the Contract price to cover this guarantee.

**6-2.03D Quality Assurance:** California Test 216 (Relative Compaction) testing will be modified as follows: A mechanical compactor (Ploog Engineering Co. Model M 100 or equivalent) with 10-pound hammer and split compaction molds shall be used in lieu of the specified manual compaction equipment.

California Test 231 (Nuclear Gage Determination of In-Place Density) will be modified as follows: In-place density and relative compaction may be determined on the basis of individual test sites in lieu of the area concept, at the discretion of the Engineer.

### **6-4 Water Utility**

**6-4.01A Construction Water:** All water required for the performance of the work shall be provided by Contractor. Prior to obtaining water from the City’s water system, Contractor shall obtain a Water

Use Permit from the City of Santa Rosa Water Department and rent a hydrant or bridge meter. Contractor is responsible for the cost of all water and the cost of all deposits, permits and fees.

Contractor is prohibited from operating gate valves or fire hydrants on the City system.

The acquisition of water from the City's water system through un-metered hydrants or other facilities is a violation of City ordinance and State law. The use of water from sources other than the City's water system must be approved by the Engineer in advance of the use.

Citations and fines will be levied for violation of these and other utility regulations and deductions will be made from payments consistent with Section 7-1.02A (1) of the Standard Specifications.

**6-4.01B Water Utility Notification:** Contractors or parties requiring work of any kind by the City of Santa Rosa Water Department forces shall request such services a minimum of 48 hours in advance of the time such services are desired. Work requests which will involve the City of Santa Rosa Water Department forces for more than eight hours or an extensive number of City parts shall be requested a minimum of seven calendar days in advance.

If it is necessary to terminate or disrupt utility service to any customer, Contractor shall make the request for such work by City forces an additional 72 hours (three additional working days for a total of five working days advance notice) in advance of the time such services are desired to allow affected customers a minimum of 72 hours' notice. Contractors who fail to keep field appointments will be billed for scheduled City of Santa Rosa Water Department crew standby time which was used and the Contractor shall bear the costs incurred by the City of Santa Rosa's Water Department for re-notification of customers.

City of Santa Rosa Water Department crews work a 9/80 schedule. This schedule may prohibit shutdowns for tie-ins on alternating Fridays. After hours work or weekend work may be performed if prior authorization from the Engineer is obtained.

Other than the hours specified in this Invitation for Bids, requests by Contractor for after hours or weekend work is to be avoided whenever possible. Any overtime costs incurred by City for such work shall be borne by Contractor.

Interruption of utilities service to commercial customers shall be coordinated with the customer to minimize disruption to the enterprise to the greatest extent practicable. After notification by the Contractor of the need, the City of Santa Rosa Water Department will contact all commercial customers and inform Contractor accordingly.

**6-4.01C Water Facility Damage:** All damage caused to the City's water system shall be immediately reported to the Engineer.

Damage caused to the City's water system by Contractor's operations shall be repaired by the Contractor at Contractor's sole expense in a manner satisfactory to the City of Santa Rosa Water Department. Such repairs shall not be charged to the City or any City project. All repair work shall be witnessed and approved by the City of Santa Rosa Water Department prior to backfilling the excavation. The City will require re-excavation if backfilling occurs prior to inspection, which costs shall be borne by Contractor.

Contractor is responsible for, at its sole cost and expense, the repair and remediation of damage to property and facilities caused by any of the following circumstances:

1. Contractor fails to make a written request for a markout or begins excavation without providing the City of Santa Rosa Water Department a reasonable opportunity to mark facilities;

2. Contractor destroys markouts;
3. Contractor fails to perform hand digging or probing for utilities near markouts; or
4. Contractor fails to use reasonable caution, regardless of whether markouts are present or clear. Reasonable caution includes any efforts to avoid damaging existing facilities, such as when excavating in the vicinity of water mains.

City may, in its discretion, opt to make the repairs for which Contractor is responsible with its own forces. In such cases, the repairs will be made at Contractor's expense in accordance with the emergency repair rate schedule of the City of Santa Rosa Water Department. The City may make repairs whenever restoration of service requires extraordinary speed or special equipment. Contractor will be billed accordingly and City shall have the right and option to withhold payment hereunder, or a portion thereof, for any such costs billed but not promptly paid by Contractor.

**6-4.02 Salvage:** All valves, hydrants, and other appurtenances of the water system that are the property of City and removed by Contractor shall be delivered to the City's Municipal Services Center (55 Stony Point Road) unless Contractor has obtained specific written approval from the City of Santa Rosa Water Department to otherwise dispose of the materials.

**6-4.03 Trade Names and Alternatives:** Material and equipment specifications that identify a particular patent, trade name or manufacturer, may be satisfied through substitute materials and equipment accepted by the City. Contractor may offer substitute materials and equipment of equal or better quality to the City. Any such offer shall be made in writing to the Engineer at least four weeks in advance of the time Contractor wishes to order the materials or equipment. Contractor shall include sufficient data which, together with any other information the Engineer may require, will enable the Engineer to determine the acceptability of the materials and equipment. When the substitute materials or equipment necessitate changes to any part of the work, the information shall include drawings and details showing all such changes and Contractor shall perform these changes as a part of any acceptance of substitute materials or equipment. The use of substituted materials and equipment will be permitted only after written acceptance of the materials and equipment by the Engineer. Such acceptance shall not relieve the Contractor from full responsibility for the sufficiency, quality and performance of the substitute materials and equipment.

## 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

**7-1.02A (1) Forfeitures for Health and Safety Violations:** Contractor shall comply with all applicable provisions of the Santa Rosa City Code and any failure to do so shall constitute a breach of the Contract. In the event of any violation of the Santa Rosa City Code that may impact public health and safety, including, but not limited to Chapter 17-12, "Storm Water" and Chapter 13-04, "Street Encroachments," City shall have the right to impose a charge against Contractor in an amount equal to \$500.00 per violation per day. Prior to the imposition of any charge hereunder, City shall first provide a written notice to Contractor of the violation and setting forth a reasonable period of time for Contractor to cure the violation(s). In the event Contractor fails to cure any such violation within the time provided, City shall have the right, in addition to all other rights and remedies available to City, to deduct and withhold as a permanent forfeiture by Contractor the appropriate amounts from any payment otherwise due Contractor under this Contract.

**7-1.02K (2) Wages:** Pursuant to Labor Code sections 1770 *et seq.*, each laborer or mechanic of Contractor or any subcontractor engaged in work on the project under this Contract shall be paid not less than the hourly wage rate of per diem wages set forth in the prevailing wage rate schedule published by the Director of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any subcontractor and such laborers and mechanics. A copy of the schedule of prevailing wage rates can be obtained online at [www.dir.ca.gov](http://www.dir.ca.gov) or from the Department of Transportation and Public Works at 69 Stony Circle, Santa Rosa.

Any laborer or mechanic employed to perform work on the public works project under this Contract, which work is not covered by any of the foregoing classifications, shall be paid not less than the prevailing wage rate of per diem wages specified herein for the classification which most nearly corresponds to the work to be performed by the worker.

The foregoing specified prevailing wage rates are minimum rates only, and Contractor may pay any wage rate in excess of the applicable rate.

Pursuant to Labor Code Section 1775, Contractor as a penalty to the owner shall forfeit not more than \$200.00 for each calendar day, or a portion thereof, for each worker paid less than the prevailing wage rate established by the Department of Industrial Relations for such work or craft in which such worker is employed. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which the worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

Contractor shall only provide prevailing wage reports upon written request from City.

**7-1.02K (4) Apprentices:** Contractor agrees to comply with Chapter 1, Part 7, Division 2, sections 1777.5 *et seq.* of the California Labor Code. These sections require contractors and subcontractors to employ apprentices in apprenticeable occupations in a ratio of not less than one hour of apprentice work for each five hours of journeyman work (unless an exception is granted in accordance with Section 1777.5), and the contractors and subcontractors shall not discriminate among otherwise qualified employees as apprentices solely on the ground of sex, race, religion, creed, national origin, ancestry, or color. Only apprentices as defined in Labor Code section 3077, who are in training under apprenticeship standards and who have written apprentice agreements will be employed on public works in apprenticeable occupations. The responsibility for compliance with these provisions is fixed with the prime contractor for all apprenticeable occupations.

**7-1.02K(6)(a)(1) Notice to Vendors:** Attention is directed to the current OSHA Standards. All equipment, tools and materials which are furnished and/or installed as part of this Contract shall meet or exceed the aforementioned standards in order to be considered acceptable.

**7-1.02K(6)(b) Excavation Safety:** When the digging or excavation occurs during project construction, Contractor shall:

1. Promptly notify City in writing of the following conditions before any such conditions are disturbed:
  - a. Material that Contractor believes may be hazardous waste as defined in Health and Safety Code section 25117 that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law;
  - b. Subsurface or latent physical conditions at the site differing from those indicated in the Invitation for Bids; and
  - c. Physical conditions at the site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in the type of work under the Contract.
2. The City will investigate the conditions and will issue a change order under the terms of the Contract if it finds that the conditions warrant it.
3. If a dispute arises between City and Contractor as to whether a change order is warranted, Contractor shall not be excused from any scheduled completion date provided for in the Contract, but shall proceed with all work to be performed under the Contract.

**7-1.02K(6)(b)(1) Trench Excavation Safety Plans:** When the estimated cost for the excavation of any trench or trenches five feet or more in depth will exceed \$25,000.00, Contractor shall submit to the Engineer in advance of excavation a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the construction safety orders, or if the trench is anticipated to be greater than 20 feet, the plan shall be prepared by a registered civil or structural engineer.

A permit to do the above described work shall be obtained from the State of California, Division of Industrial Safety. Proof of such permit shall be submitted to the Engineer prior to starting the trench work.

Full compensation for complying with the provisions of this section shall be considered as included in the Contract price and no additional allowance will be made for the work.

**7-1.02K(6)(d) Confined Space Safety:** Any confined space entry for this project, including but not limited to manhole or water storage tank entry, will require a confined space entry permit pursuant to Cal/OSHA regulations as set forth in title 8 California Code of Regulations (CCR) sections 5157 or 5158. Confined space entry shall have the meaning ascribed in title 8 CCR sections 5157 and 5158. For any confined space entry for construction operations regulated by title 8 CCR section 1502, Contractor shall comply with title 8 CCR section 5158, "Other Confined Space Operations." For any other confined space operations, Contractor shall comply with title 8 CCR section 5157, "Permit-Required Confined Spaces."

Attention is directed to the technical specifications in the Special Provisions for information regarding entry to any City maintained confined space. Pursuant to title 8 CCR section 5157, Contractor is required to obtain any available information regarding hazards and operations for any City maintained confined spaces. The City maintained Confined Space Entry Manual is available

for viewing at the City of Santa Rosa Water Department or Transportation and Public Works Department office at 69 Stony Circle, Santa Rosa.

Contractor shall immediately inform the Engineer of any previously unidentified hazards confronted or created during confined space entry.

**7-1.02L (3) Patents and Royalties:** All fees, royalties, or claims for any patented invention, article, process or method that may be used upon or in any manner connected with the work under this Contract shall be paid by Contractor. Contractor and its sureties shall protect and hold harmless City and its officers, agents, and employees from any and all demands made for such fees royalties or claims brought or made by any third party, and before the final payment is made on the account of the Contract, Contractor shall, if requested by City, furnish acceptable proof of a proper release from all such claims and liabilities.

Should Contractor, its officers, agents, or employees, or any one of them be enjoined from furnishing or using any invention, article, material, or plans supplied or required to be supplied or used under the Contract, Contractor shall promptly substitute other articles, materials, or appliances in lieu thereof of equal efficiency, quality, finish, suitability, and market value, and satisfactory in all respects to the Engineer. In the event that the Engineer elects, in lieu of such substitution, to have supplied and to retain and use any such invention, article, materials, or plans as may be required to be supplied by the Contract, Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary for City, its officers, agents, and employees, or any one of them to use such invention, article, materials, or appliance without being disturbed or in any way interfered with by any proceeding in law of equity on account thereof. Should Contractor neglect or refuse to make the substitution promptly or to pay such royalties and secure such licenses as may be necessary, then in that event the Engineer shall have the right to make such substitutions or City may pay such royalties and secure such licenses and charge Contractor even though final payment under the Contract may have been made.

**7-1.02M (3) Mined Materials:** California Public Contract Code section 20676 prohibits surface mining operators which are subject to the Surface Mining and Reclamation Act of 1975 (SMARA) from selling California mined construction material to the City unless the operator is identified in a list referred as the **3098 List**. The List, which is maintained by the Department of Conservation's Office of Mine Reclamation (OMR), changes throughout the year and can be viewed at the OMR website: [http://www.consrv.ca.gov/OMR/ab\\_3098\\_list/index.htm](http://www.consrv.ca.gov/OMR/ab_3098_list/index.htm). To confirm whether or not a specific operator is on the List at any given time, Contractor shall call the OMR at (916)323-9198.

**7-1.03A Maintaining Traffic:** Attention is directed to Sections 7-1.04 of the Standard Specifications and to the following modifications thereof.

If construction is within City owned right-of-way, provisions shall be made for the safe passage of public traffic through the work site at all times consistent with the requirements of Santa Rosa City Code Chapter 13-04.

Except for projects to be performed under a minor contract, Contractor shall install and maintain project identification signs at each end of the project or as directed by the Engineer two weeks prior to any construction activity. City shall furnish the appropriate sign panels upon request from Contractor. To mount the sign panels, Contractor shall furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. These sign panels shall be returned to the City Corporation Yard at 55 Stony Point Road after completion of the project.

Two weeks prior to any construction activity, advance notice signs for road closures shall be furnished and installed by Contractor at each end of the project and shall remain in place throughout the duration of the subject closure. Details of panel construction and lettering shall be approved by the Engineer.

Contractor shall furnish, install, and maintain at its expense all barricades, signs, lights, and other devices necessary to adequately warn of any obstructions to the traveled and pedestrian way and provide flaggers as necessary for the safety of public traffic and pedestrians and to provide access to property adjacent to the work site and Contractor shall comply with the Americans with Disabilities Act of 1990 (42 U.S.C. 12101, *et seq.*) (ADA) and any regulations and guidelines issued pursuant to the ADA.

Contractor shall comply with the current edition of the California Manual of Uniform Traffic Control Devices (CA MUTCD) for all items related to traffic within the work site.

Rain and other occurrences that may cause the suspension or delay of the work shall in no way relieve Contractor of its responsibility to provide traffic control and public access through the work site as specified herein. At all times, Contractor shall keep at the work site such materials, forces and equipment as may be necessary to keep roads, streets, and driveways within the work site open to traffic and in good repair and shall expedite the passage of such traffic, using such forces and equipment as may be necessary.

Should Contractor fail, in the opinion of the Engineer, to provide all the materials, forces and equipment necessary to maintain traffic through the work site as set forth herein, City may take steps necessary to remedy any such failure, including but not limited to causing such work to be performed and/or suspending any further work under the Contract. Any such remedial cost and expense incurred by the City, plus an administrative charge of 15%, shall be immediately due and payable by Contractor and may be deducted from any amounts owed to Contractor hereunder. In the event there are insufficient sums owed to Contractor hereunder to cover the foregoing costs and charges, City shall have the right to pursue any other remedy to recover the same, including but not limited to, proceeding against any surety or bond in favor of City. City's rights under Section 7-1.02 are intended to be in addition to and not in lieu of any charges imposed by City against Contractor under Section 7-1.02A (1) above for violations of the Santa Rosa City Code.

Contractor shall be responsible for informing emergency response agencies operating within the area of the work of obstructions to either public or private roads caused by reason of Contractor's operations hereunder.

Contractor shall make provisions for the safe passage of pedestrians around the project work site at all times.

## 8 PROSECUTION AND PROGRESS

**8-1.01A Assignments:** Once awarded, this Contract shall not be transferred, assigned, or sub-contracted, except as herein expressly provided without the prior written consent of the City in the City's sole and absolute discretion. See Section 5-1.12 of the Standard Specifications.

**8-1.04B Standard Start:** Contractor shall begin work within ten calendar days after the date authorized in the Notice to Proceed and shall diligently prosecute the Contract to completion before the expiration of:

150 WORKING DAYS

**8-1.05 Time of Completion:** Working days will be counted beginning with the day the Contractor begins work or with the tenth day after the date authorized in the Notice to Proceed, whichever occurs first.

Unless otherwise directed by Engineer, Contractor shall not conduct any activities that generate noise earlier than 8:00 a.m. or later than 5:00 p.m.

**8-1.10 Liquidated Damages:** Contractor hereby agrees that Contractor shall pay to the City liquidated damages for each and every calendar day delay over and above the number of working days prescribed above for finishing the work in the amount shown in Section 8-1.10 of the Standard Specifications.

**8-1.13 Contractor's Control Termination:** Attention is directed to Section 8-1.13 of the Standard Specifications. City may terminate Contractor's control of the work for failure to include the Federal Requirements in Contractor's subcontracts.

**8-1.14. Contract Termination:** Attention is directed to Section 8-1.14 of the Standard Specifications.



## 9 MEASUREMENT AND PAYMENT

**9-1.04 Force Account Work:** All work done on a force account basis shall be recorded daily on report sheets prepared by Contractor and signed by both the Engineer and Contractor. Such reports shall thereafter be considered the true record of force account work performed during the project. Such reports shall be furnished to the Engineer and a copy retained by Contractor.

All extensions of labor, equipment, and material costs shall be completed by Contractor and submitted to the Engineer within 30 days of the completion of the extra work. Completed and extended extra work reports received later than the times herein prescribed may be deemed invalid and rejected without payment at the discretion of the Engineer.

**9-1.07 Payment Adjustments for Price Index Fluctuations:** Any references to Opt Out of Payment Adjustments for Price Index Fluctuations in the Standard Specifications are deleted in their entirety.

**9-1.16 Progress Payments:** Once each month for progress pay purposes, the City will prepare a written estimate of the total amount of completed work and accepted materials purchased by Contractor but not installed. The City shall retain five percent of such estimated value of the completed work and the unused materials and pay Contractor the balance after deducting all previous payments and all sums to be retained under the provisions of the Contract. No such estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the Contract or when, in the Engineer's judgment, the total value of the completed work since the last estimate is less than \$500.00. No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

After Contract acceptance, the Engineer will prepare a written proposed final estimate of the proposed final quantities of work completed under the Contract and the value of such work and will submit such estimate to Contractor. The City shall retain five percent of such estimated value of the work done and shall pay to Contractor the balance after deducting all amounts to be retained under the provisions of the Contract.

The City may, at its option and at any time, retain out of any amounts due Contractor sums sufficient to cover any unpaid claims of City or others, provided that sworn statements of all non-City claims shall have been filed with the Director of Finance.

**9-1.16E(6) Substitution of Securities for Withheld Amounts:** Pursuant to Public Contract Code section 22300, securities may be substituted for any moneys withheld by City to ensure performance under this Contract, provided that substitution of securities provisions shall not be required in contracts in which there will be financing provided by the Farmer's Home Administration of the United States Department of Agriculture pursuant to the Consolidated Farm and Rural Development Act (7 USC sections 1921 *et seq.*), and where federal regulations or policies or both do not allow the substitution of securities. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the City, or with a state or federally chartered bank as the escrow agent, which shall then pay such moneys to Contractor. The Director of Finance is authorized to execute substitution of securities agreements on behalf of the City. The City will return the securities to Contractor upon satisfactory completion of the Contract as determined by City in its sole discretion and the resolution of all outstanding claims against the securities. Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

Securities eligible for investment under this section shall include those listed in Government Code section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit or any other security mutually agreed to by Contractor and the City, provided that the substituted security is equal to or not less than five percent of the Contract amount.

Security substitutions must be submitted by Contractor and approved by City prior to the time of the first progress payment to be made under the Contract. No other method of substituting securities for retention will be accepted. The security substitution shall be done only upon execution of an agreement satisfactory to City which includes the following provisions:

- a. The amount of securities to be deposited;
- b. The terms and conditions of conversion to cash in case of the default of Contractor;  
and
- c. The procedure for return of securities upon completion of the Contract.

**9-1.17D Final Payment and Claims:** The processing of payment of the final estimate shall not be commenced less than 35 days after the date of recording of the Notice of Completion with the County Recorder's Office. Contractor is advised that it takes approximately ten days for a check to be issued following a request for payment.

Contractor shall submit its written statement of all claims for additional compensation under the Contract to the Engineer within 15 days after submission to Contractor of the proposed final estimate.

If Contractor does not file a claim within the 15-day period, or upon Contractor's approval, the Engineer will issue a final written estimate and the City shall pay to Contractor the entire sum due after deducting all previous payments, if any, and all amounts to be retained under the provisions of the Contract.

If Contractor files a claim within the 15-day period, the Engineer will furnish a semi-final estimate and pay the amount due under the semi-final estimate within 30 days. The semi-final estimate is conclusive as to the amount payable except as may be affected by claims and any amount retained. The Engineer shall then consider and investigate such claim, and shall make such revision in the final quantities as the Engineer may find to be due, and shall then make and issue a final written estimate. The City will pay the amount due, after deducting all previous payments, if any, and amounts to be retained under the provisions of the Contract.

Any and all prior partial estimates and payments shall be subject to correction in the final estimate and payment.

The final estimate shall be conclusive and binding against both parties to the Contract on all questions relating to the performance of the Contract and the amount of work done thereunder and compensation therefor, except in the case of gross error.

**9-1.17D (3) Final Determination of Claims:** Claims filed by Contractor shall be in sufficient detail to enable the Engineer to determine the basis and amount of the Claims. Contractor shall also furnish reasonable documentation to the City to support Claims. If additional information is required by the Engineer, Contractor shall provide such information to the Engineer no later than the 15<sup>th</sup> day after receipt of the written request from the Engineer. If the 15<sup>th</sup> day falls on a weekend, holiday, or day City offices are closed, then the information shall be provided to the Engineer no later than close of the next business day. Failure to submit the requested information to the Engineer within the time specified will be sufficient cause for denying the Claim.

Contractor shall keep full and complete records of the costs and additional time incurred for any work for which a claim for additional compensation is made. The Engineer or any designated Claim

investigator or auditor shall have access to those records and any other records as may be reasonably required by the Engineer to determine the facts or contentions in each Claim. Failure to grant access to such records shall be sufficient cause for denying the Claims.

**9-1.22 Arbitration:** Any references to Arbitration in the Standard Specifications are deleted in their entirety.

Claims submitted by Contractor shall be accompanied by a notarized certificate containing the following language:

Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code sections 12650 *et seq.*, and the United States False Claims Act, title 31, United States Code sections 3729 *et seq.*, the undersigned,

\_\_\_\_\_,  
(Name)

\_\_\_\_\_ of  
(Title)

\_\_\_\_\_  
(Contractor)

hereby certifies that the claim for additional compensation made herein is supported by a true statement of the actual costs incurred and time expended on this project, and is fully documented by records maintained by Contractor.

Dated \_\_\_\_\_

/s/ \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of

\_\_\_\_\_

\_\_\_\_\_  
Notary Public

My Commission Expires \_\_\_\_\_

Failure to submit the notarized certificate will be sufficient cause for denying the claim.

Any claim for overhead expenses, in addition to being certified as stated above, shall be supported by an audit report of an independent Certified Public Accountant. Any such overhead claim shall also be subject to audit by the City at its discretion.

Any costs or expenses incurred by the City in reviewing or auditing any claims that are not supported by Contractor's cost accounting or other records shall be deemed to be damages incurred by the City within the meaning of the California False Claims Act and the United States False Claims Act.

## 10 FEDERAL REQUIREMENTS

### A. Definitions

1. Government means the United States of America and any executive department or agency thereof.
2. FEMA means the Federal Emergency Management Agency.
3. Third Party Subcontract means a subcontract at any tier entered into by Contractor or subcontractor, financed in whole or in part with Federal assistance originally derived from the Federal Emergency Management Agency.

### B. Federal Changes

1. Contractor shall at all times comply with all applicable regulations, policies, procedures, and FEMA Directives as they may be amended or promulgated from time to time during the term of this Contract, included but not limited to the requirements of 2 C.F.R. §§ 200.317 through 200.326 and more fully set forth in Appendix II to Part 200 – Contract Provisions for Non-Federal Entity Contracts Under Federal Awards, which is included herein by this reference. Contractor's failure to so comply shall constitute a material breach of this Contract.
2. Contractor agrees to include the above clause in each third-party subcontract financed in whole or in part with Federal assistance provided by FEMA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

### C. Compliance with the Contract Work Hours and Safety Standards Act.

Pursuant to section 3701 of title 40 of the United States Code, this Section C shall apply to Contractor in the event the amount payable under this Contract exceeds \$100,000 and may involve the employment of mechanics or laborers.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
3. Withholding for unpaid wages and liquidated damages. City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by Contractor or

subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

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

#### **D. Clean Air Act and Federal Water Pollution Control Act**

This Section D shall apply in the event the amount payable under this Contract exceeds \$150,000.

##### Clean Air Act

1. Contractor agrees to comply with all applicable standards, orders and regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 *et seq.*
2. Contractor agrees to report each violation to City and understands and agrees that City will, in turn, report each violation as required to assure notification to the State of California, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

##### Federal Water Pollution Control Act

1. Contractor agrees to comply with all applicable standards, orders and regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 *et seq.*
2. Contractor agrees to report each violation to City and understands and agrees that City will, in turn, report each violation as required to assure notification to the State of California, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

#### **E. Suspension and Debarment**

1. This Contract is a covered transaction for purposes of title 2 Code of Federal Regulations parts 180 and 3000. As such, Contractor is required to verify that none of Contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
2. Contractor represents and warrants that it is not debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549 "Debarment and Suspension." Contractor agrees that neither Contractor nor any of its third-party subcontractors shall enter into any third-party subcontracts for any of the work

under this Contract with a third-party subcontractor that is debarred, suspended, or otherwise excluded for or ineligible for participation in Federal assistance programs under executive Order 12549.

3. Contractor must comply with title 2 Code of Federal Regulations, part 180, subpart C and title 2 Code of Federal Regulations, part 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
4. This certification is a material representation of fact relied upon by City. If it is later determined that Contractor did not comply with title 2 Code of Federal Regulations, part 180, subpart C or title 2 Code of Federal Regulations, part 3000, subpart C, in addition to remedies available to the State of California and the City of Santa Rosa, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

#### **F. Procurement of Recovered Materials**

1. In the performance of this Contract, Contractor shall make maximum use of products containing recovered materials that are EPA- designated items unless the product cannot be acquired—
  - a. Competitively within a timeframe providing for compliance with the Contract performance schedule;
  - b. Meeting Contract performance requirements; or
  - c. At a reasonable price.
2. Information about this requirement, along with the list of EPA- designate items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

#### **G. Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)**

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by section 1352 of title 31 of the United States Code. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

#### **H. MBE/WBE Requirements**

1. Contractor shall take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible through the "Good Faith Effort" process in 2 C.F.R. § 200.321. Contractor shall document and report its Good Faith Effort processes. Contractor shall also ensure that all of its subcontractors take the affirmative steps required under 2 C.F.R. § 200.321. Affirmative steps shall include:
  - a. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

- b. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- c. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- d. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
- e. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
- f. Requiring all subcontractors to take the affirmative steps listed in paragraphs (a) through (e) above.

## **I. MISCELLANEOUS PROVISIONS**

- 1. **DHS Seal.** Contractor shall not use the Department of Homeland Security ("DHS") seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre- approval.
- 2. **FEMA Assistance.** Contractor acknowledges that FEMA financial assistance will be used to fund this Contract only. Contractor shall comply will all applicable federal laws, regulations, executive orders, FEMA policies, procedures, and directives.
- 3. **Federal Government Not Party.** The Federal Government is not a party to this Contract and is not subject to any obligations or liabilities to City, Contractor, or any other party pertaining to any matter resulting from this Contract.
- 4. **False Claims.** Contractor acknowledges that Title 31 United States Code Chapter 38 (Administrative Remedies for False Claims and Statements) applies to Contractor's actions pertaining to this Contract.

## **J. Equal Employment Opportunity**

During the performance of this Contract, Contractor agrees as follows:

- 1. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- 2. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- 3. Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of Contractor's

commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided bylaw.
7. Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

#### **K. Records.**

1. Contractor shall retain any and all records necessary to document the charges under this Contract and make such records available for inspection for a period of not less than four (4) years.
2. Contractor shall keep and maintain full and complete documentation and accounting records concerning all extra or special services performed by it that are compensable by other than an hourly or flat rate.
3. Contractor shall maintain the records and any and all other records pertinent to this Contract for a period of four (4) years after completion of all services hereunder.
4. Contractor agrees to provide City, the State of California, the Federal Emergency Management Agency ("FEMA") Administrator, the Comptroller General of the United States, and any or all of their authorized representatives, access to any books, documents, papers, and records of Contractor which are pertinent to this Contract for the purposes of making audits, examinations, excerpts, and transcriptions.
5. Contractor agrees to permit all or any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
6. Contractor agrees to provide the FEMA Administrator or his authorized representatives



access to work sites pertaining to the services being performed under this Contract.



## **TECHNICAL SPECIFICATIONS**

**FOR**

**COFFEY NEIGHBORHOOD PARK**

**CONTRACT NO. C02267**



**2019**

## **SECTION 10**

### **GEOTECHNICAL INVESTIGATION**

**11-1.01 Description:** A Geotechnical Investigation has been prepared and is incorporated by reference. The Geotechnical Investigation is titled "REPORT GEOTECHNICAL INVESTIGATION: Coffey Neighborhood Park, Santa Rosa, California" by Bauer Associates, Inc. date May 17, 2019. The Geotechnical Investigation report is included in this Project Manual as an appendix.

The report is available for bidder's information, but is not a warranty of subsurface conditions. Bidders should visit the site and acquaint themselves with existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but such investigations may be performed only under time schedules and arrangements approved by the Engineer.

A Geotechnical Engineer will be retained by the City to observe performance of work in connection with excavating, trenching, filling, backfilling, and grading, and to perform compaction tests. Readjust work performed that does not meet technical or design requirements, but make no deviation from the Contract Documents.

**11-1.02 Payment:** Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

## **SECTION 11**

### **MOBILIZATION**

**11-1.01 Description:** Mobilization shall conform to the provisions in Section 11, "Mobilization," of the Standard Specifications and these Special Provisions.

Mobilization shall include the obtaining of all permits, moving onto the site of all equipment, temporary buildings, if needed, and other construction facilities as required for the proper performance and completion of the work.

Mobilization shall include but not be limited to the following principal items:

1. Signed Contract by the City and the Contractor.
2. Completion of all tasks and submittal of all documents (bonds, insurance, schedule, etc.) required as conditions of issuing the Notice to Proceed.
3. Moving onto the site of all Contractor's equipment required for operations.
4. Installing temporary construction water supply, power, wiring and lighting facilities, as required.
5. Providing field office trailers if needed by the Contractor.
6. Providing all on-site communication facilities, including telephones and radio pagers.
7. Obtaining all required permits.
8. Having all OSHA required notices and establishment of safety programs.
9. Attendance at Pre-Construction Conference of Contractor's principal construction personnel.
10. Beginning work on the project or at the subject site as applicable.

**11-1.02 Payment:** Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

## 12 TEMPORARY TRAFFIC CONTROL

### **12-1 General**

**12-1.01 General:** Construction area traffic control devices shall be installed and maintained in accordance with the applicable sections of these Special Provisions, the Standard Specifications, the current Edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD), the Americans with Disabilities Act (ADA) and as directed by the Engineer.

**12-1.03 Flagging Costs:** The first paragraph of Section 12-1.03, "Flagging Costs" is amended to read:

The cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic through the work under the provisions in Section 7-1.03, "Public Convenience", and Section 7-1.04, "Public Safety", shall be considered as included in the contract lump sum price paid for traffic control and no additional allowance will be made therefor.

### **12-3 Traffic-Handling Equipment and Devices**

**12-3.01 General:** Prior to commencing construction which will affect existing vehicular and pedestrian traffic, the Contractor shall submit for review by the Engineer, Traffic Control Plans on 11" x 17" sheets of paper which contains only information specifically related to work zone vehicular and pedestrian traffic control. If the Contractor proposes to use the current edition of the CA MUTCD published by Caltrans in lieu of a traffic control plan, in specific work operations, they shall submit in writing for consideration which Typical Application Diagram will be used and how it will be applied for each work operation. Traffic Control Plans or proposals shall be submitted for review at least two weeks prior to implementation.

Traffic Control Plans shall contain a title block which contains the Contractor's name, address, phone number, project superintendent's name, contract name, dates and hours traffic control will be in effect, and a space for review acknowledgment.

The content of the Traffic Control Plan shall include, but is not limited to, the following:

1. Show location and limits of the work zone.
2. Give dimensions of lanes affected by traffic control that will be open to traffic.
3. Indicate signing, cone placement, and other methods of delineation and reference to appropriate City or Caltrans Standards.
4. Dimension location of signs and cone tapers.
5. Identify side streets and driveways affected by construction and show how they will be handled.
6. Show how pedestrian traffic will be handled through the construction site. Pedestrian pathways through the work zone shall be in compliance with the requirements of ADA during and after work hours.
7. Identify message board locations. A minimum of 3 changeable message boards shall be required. Location to be determined by Engineer.
8. Demonstrate how two-way traffic will be maintained.

No work except for installation of project identification signs will be allowed to commence prior to approval of the Work Zone Traffic Control Plans.

## **12-4 Maintaining Traffic**

### **12-4.01 Maintaining Traffic:**

1. The full width of the traveled way shall be open for use by public traffic on Saturday, Sundays and designated legal holiday(s), after 4:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress; unless work has specifically been authorized by the Engineer.
2. The location of traffic control signing, barricades, and other facilities shall be monitored frequently (four to five times per day) by the Contractor to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.
3. The Contractor shall conduct his operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units and residences adjacent to the work. The Contractor shall notify the Engineer of his planned work and utility service interruption at least five working days in advance to allow time to notify residents and businesses.
4. When construction activities will prevent vehicle access to individual driveways the Contractor shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience". **Full access shall be provided to all driveways during non-working hours.**
5. At locations where traffic is routed perpendicular to trench excavation, the excavation shall be conducted in a manner to provide a surface reasonably satisfactory for traffic at all times. Substructure installation or construction shall be conducted on only one-half the width of the roadway at a time, and that portion of the roadway being used by traffic shall be kept open and unobstructed until the opposite side of the roadway is ready for use. Upon completion of the rough grading, the surface of the roadbed shall be brought to a smooth, even condition free from humps and depressions and made satisfactory for traffic.

**12-4.01A Construction Traffic:** The Contractor shall submit a trucking route along with the traffic controls plans for approval by the Engineer. The route must minimize traffic on residential streets that are not part of the project.

Existing pavement damaged by the Contractor's operations and not shown to be replaced shall be replaced at the Contractor's expense, per City Standards and to the satisfaction of the Engineer.

**12-4.02 Closure Requirements:** Attention is directed to Section 7-1.03, "Public Convenience", to Section 5-1.05, "Order of Work," of these Special Provisions.

Exact locations of Project Identification signs and Advance Notice signs (7-1.03, "Public Convenience") shall be determined in the field by the Engineer.

Lane closures will be permitted between the hours of 8:30 a.m. and 4:00 p.m. only. Only one lane at a time may be closed and no lanes shall be closed at any other hours unless specifically approved by the Engineer. The Contractor shall maintain vehicle access to homes and other properties at all times while work is in progress.

The Contractor shall not park construction vehicles, contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and the Contractor shall

maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

The Contractor shall keep the City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, the Contractor shall call the Fire Department at 543-3535 **and** the Communications Center at 543-3666 **daily** to report any traveled way closure. This means immediately upon closure for that day and again immediately after removal of the closure. For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane streets.

The Contractor shall notify Sonoma County Transit at (707) 585-7516, Superintendent of Golden Gate Transit at (415) 257-4442, Santa Rosa City Bus at (707) 543-3922, Sonoma County Airport Express at (707) 837-8700, the local Postal Service at (707) 526-0113 and Santa Rosa Recycling and Collection at (707) 586-8234 5 calendar days prior to any lane closures or restrictions in turning movements.

If the Contractor has been given an approved Traffic Control Plan that includes road closures, they shall maintain vehicular access to homes and other properties where work is in progress within the closure area.

Where necessary, and only after receiving written approval from the Engineer, the Contractor may temporarily suspend curb side parking in their immediate work zone. Notification to businesses and residents shall be hand delivered at least 72 hours prior to construction in the affected areas.

Notification shall be as follows:

1. A notice placed on the front door of each home or business where curb side parking will be suspended and attempt made to notify each business or resident verbally that work will be underway within the block and that curb side parking will be suspended during stated working hours and request that vehicles be parked out of the roadway by 8:00 a.m. Service of notice shall not bar use of cars within the block, as individual plans change and emergencies arise.
2. Type 1 barricades every 50 feet adjacent to the curb where parking will be suspended with a notice posted on the barricade stating specific dates and times that curb side parking will be temporarily suspended. If work will not take place in the posted area, then Contractor shall remove "No Parking" notices.

The Contractor shall maintain vehicle access to all homes and other properties along the work zone. During paving operations the Contractor will be allowed to temporarily suspend vehicle access to a limited number of driveways when approved by the Engineer. When approved by the Engineer and at least 72 hours prior to suspending access to any driveway, the Contractor shall give both written and verbal notice to the affected businesses and residents and place barricades adjacent to the driveways with posted notices stating the specific dates and times of the suspension for that area. The notice shall also indicate an alternate parking location. Suspension of access to driveway will be permitted only as approved by the Engineer and only between the hours of 8:00 am and 4:30 pm.

Cross streets will require maintenance of at least one-half (1/2) width of each street for traffic purposes, unless a parallel route is approved by the Engineer. Flagging will only be allowed between the hours of 8:30 am and 4:00 pm.

Barricades and flaggers shall be positioned to allow safe turns at intersections and curves.

The Contractor shall maintain traffic control as necessary and as directed by the Engineer for "cat-tracking" operations by City Forces. Flaggers, barricades, signing, etc., shall remain in place for protection of City personnel until such time as all temporary lane delineation is complete.

## **12-7 Temporary Pedestrian Walkways**

**12-7.01 Pedestrian Traffic Control:** The Contractor is directed to Chapter 6D, Pedestrian and Worker Safety, in the CA MUTCD, the improvement plans and these Special Provisions.

Pedestrians shall be provided with a safe convenient and accessible path that, at a minimum, replicates the most desirable characteristics of the existing sidewalk, path or footpath. At no point along the road shall the sidewalks on both sides of the road be closed at the same time.

The Contractor shall construct and maintain temporary pedestrian pathways through the work zone, where required, that shall be in compliance with the requirements of the Americans with Disabilities Act (ADA), and the CA MUTCD.

Pedestrian routes shall not be impacted for the purposes of any non-construction activities such as parking of vehicles or equipment, or stock piling of materials. Pedestrians shall not be led into conflicts with work site vehicles, equipment or operations.

Pedestrian routes shall be open and accessible at the end of the work day unless an alternate ADA compliant route has been approved by the Engineer. The construction of curb ramps and/or long sections of sidewalk do not alleviate the Contractor from this requirement.

## **12-9 Measurement and Payment**

**12-9.01 Payment:** **Traffic Control** shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in **vehicular and pedestrian** traffic control, including but not limited to, providing, placing, maintaining, and removal of temporary paths and/or ramps, temporary relocation of regulatory signs, changeable message boards, project and public notification signs, flagging, excavation, compaction, furnishing, and placement of asphalt concrete and/or PCC, barricades, toe-rails, hand rails, complying with CA MUTCD Standards for Pedestrian Safety, coordination efforts and any other items necessary for vehicle and pedestrian traffic control not specifically enumerated in the plans or these specifications, and no additional allowance will be made therefor.



## **13 WATER POLLUTION CONTROL**

### **13-1 General**

**13-1.01A:** Water Pollution Control shall be performed in accordance with Section 13, Water Pollution Control, of the Standard Specifications and these technical specifications. In addition, construction activities shall comply with:

The current California Water Quality Control Board, North Coast Region Order No. National Pollutant Discharge Elimination System Municipal Storm Water Permit, commonly referred to as the “Storm Water Permit”. A copy of the Storm Water Permit is available for review at the City of Santa Rosa Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, CA, and at [www.srcity.org/stormwaterpermit](http://www.srcity.org/stormwaterpermit).

The California Stormwater Quality Association Storm Water BMP Handbook for Construction (CASQA Handbook). BMPs shall be selected, installed and maintained in accordance with the latest edition. A copy of the handbook can be viewed at the City of Santa Rosa Department of Transportation and Public Works office at 69 Stony Circle or downloaded from CASQA, <http://www.casqa.org/>.

In this technical specification the CASQA Handbook BMP numbers are appended to the associated Standard Specification sections. If a conflict occurs the CASQA Handbook BMP's shall govern.

### **13-2 Water Pollution Control Program**

**13-2.01B Submittals:** The program to control water pollution required to be submitted under this section of the Standard Specifications shall include a spill contingency plan that establishes clean-up procedures that will be followed in the event of a spill of potentially hazardous, toxic, or polluting materials.

**13-2.04 Payment:** The City Pays you to prepare Stormwater Pollution Prevention Plan as the lump sum price for Water Pollution Control and as follows:

### **13-3 Storm Water Pollution Prevention Plan**

**13-3.01A Summary:** This project is not exempt from the State Water Resources Control Board General NPDES Permit for the Discharge of Storm Water related to Construction Activities (Construction General Permit), and is required to have a Storm Water Pollution Prevention Plan (SWPPP), therefore Section 13-3, Storm Water Pollution Prevention Plan, of the Standard Specifications applies to this project.

### **13-4 Job Site Management**

#### **13-4.03B: Spill Prevention and Control/CASQA Spill Prevention and Control (BMP WM-4):**

If a spill occurs at the construction site and the contractor does not take immediate and adequate steps to contain and clean up the spill, especially if rain is threatening or if a discharge to a storm drain or creek could occur, the City shall have the right, in its sole and absolute discretion, to clean up the spill using City forces or an independent contractor. The cost of any such cleanup, in addition to recovery of any penalty or fine imposed upon the City, plus an administrative charge

of fifteen percent (15%) of the costs incurred by the City, shall be deducted from any amounts owed to Contractor hereunder.

In the event there are insufficient amounts owed to Contractor hereunder to cover the foregoing costs and charges, the City shall have the right to pursue any other remedy to recover same, including, but not limited to, proceeding against any surety or bond in favor of the City. The City's rights under this section are intended to be in addition to and not in lieu of any imposed by the City against Contractor for violations of City Code Chapter 17-12, "Storm Water".

**13-4.03C(2): Material Storage/CASQA Material Delivery and Storage (BMP WM-1)**

**13-4.03C(3): Stockpile Management/CASQA Stockpile Management (BMP WM-3):** Do not block storm water flows.

**13-4.03D(1): Waste Management/CASQA Solid Waste Management (BMP WM-5):** The Contractor shall dispose of all trash, rubbish, and waste materials of any kind generated by the contractor, subcontractor, or any company hired by the Contractor on a daily basis.

**13-4.03D(3): Concrete Waste/CASQA Concrete Waste Management (BMP WM-8):** Ensure the containment of concrete washout areas and other washout areas that may contain pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

**13-4.03D(4): Sanitary and Septic Waste/CASQA Sanitary and Septic Waste Management (BMP WM-9):** Sanitation facilities must be maintained periodically by a licensed service to keep them in good working order and prevent overflows. Portable toilets are required to have secondary containment.

**13-4.03D(5): Liquid Waste:** Liquid waste includes water generated from excavation dewatering. Minimize transfer piping by locating containers near the excavation to be dewatered while protecting the containers from moving vehicles and equipment.

**13-4.03E(1): Water Control and Conservation/CASQA Water Conservation Practices (BMP NS-1 and NS-2)**

**13-4.03E(3): Vehicle and Equipment Cleaning/CASQA Vehicle and Equipment Cleaning (BMP NS-8)**

**13-4.03E(4): Vehicle and Equipment Fueling and Maintenance/CASQA Vehicle and Equipment Fueling (BMP NS-9), and CASQA Vehicle and Equipment Maintenance (BMP NS-10)**

**13-4.03E(7): Paving, Sealing, Sawcutting, Grooving, and Grinding Activities:** As listed in Part 9, sections 4 and 5 of the Storm Water Permit, the following additional BMPs shall be implemented for street paving, repaving, reconstruction, patching, digouts or resurfacing.

1. Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions;
2. Install BMPs at all susceptible storm drain inlets and manholes to prevent paving products and tack coat from entering;
3. Prevent the discharge of release agents including soybean oil, other oils, or diesel to the storm water drainage system or watercourses;

4. Minimize non-storm water runoff from water use for the roller and for evaporative cooling of the asphalt;
5. Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly
6. Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled, or disposed of properly **13-4.03D(5)**;
7. Collect solid waste by shoveling and vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled, or disposed of properly **13-4.03D(5)**;
8. Cover “cold-mix” asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm **13-4.03C(3)**;
9. Cover loads with tarp before haul-off to a storage site, ensuring that trucks are not overloaded;
10. Minimize airborne dust by using water spray during grinding **14-9.03**;
11. Protect stockpiles with a cover or sediment barriers during a rain event and;
12. Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near storm water drainage system or watercourses **13-4.03C(1)**,

**13-4.03F: Sweeping/CASQA Street Sweeping and Vacuuming (BMP SE-7)**

**13-4.04 Payment:** Job Site Management shall be paid for at the contract **lump sum** price for **Water Pollution Control**.

**13-6 Temporary Sediment Control**

**13-6.03C: Temporary Drainage Inlet Protection/CASQA Storm Drain Inlet Protection (BMP SE-10)**

**13-6.04: Payment:** Temporary Sediment Control shall be paid for at the contract **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.

**13-7 Temporary Tracking Control**

**13-7.01A: Temporary Tracking Control/Stabilized Construction Entrance and Exit (BMP TC-1). Entrance Outlet Tire Wash (BMP TC-3)**

**13-7.03 Construction/CASQA Stabilized Construction Site Entrance / Exit (BMP TC-1)**

**13-7.04 Payment:** Temporary Tracking Control shall be paid for at the **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.

**13-10 Temporary Linear Sediment Barrier**

**13-10 Temporary/CASQA Silt Fence and Sand Bag Barrier (BMP SE-1 and SE-8)**

**13-10.04 Payment:** Temporary Linear Sediment Barriers shall be paid for at the **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.

[Revised: 12/15/16 CDA STD2010]

## 14 ENVIRONMENTAL STEWARDSHIP

### **14-9.03 Dust Control**

**14-9.03A General:** Sweeping per section 14-9.03C shall also be performed to prevent and alleviate dust.

Sweeping, covering stockpiles, applying water, and/or dust palliative, to control dust#caused by public traffic is not change order work.

**14-9.03C Construction:** All dust-producing work and unpaved construction sites shall require a minimum watering in the middle and ending of each workday. The frequency of watering shall increase if dust is airborne. Watering shall not produce runoff.

Contractor shall maintain dust control to the satisfaction of the Engineer, 7 days a week, 24 hours per day.

At the end of each work day the Contractor shall thoroughly sweep all streets in the work zone to minimize airborne dust.

At the end of each work week the Contractor shall sweep all streets in the work zone with a commercial street sweeping truck equipped with a rear pick up broom.

At the Engineer's discretion additional sweeping or watering may be required, including the use of a commercial street sweeping truck equipped with a rear pick up broom, at any time or place.

**14-9.03D Payment:** Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

**14-10.01 General:** The Contractor shall dispose of all portland cement concrete and asphalt concrete, generated from removal or demolition activities on the project, at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

All other excess materials from the project shall become the property of the Contractor and shall be disposed of by him, at his expense.

**14-10.02A(1) Submittals:** Submit a Solid Waste Disposal and Recycling Report prior to final acceptance of work performed under the Contract. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project.

**14-10.02D Payment:** Full compensation for material recycling as specified herein shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be allowed therefor.

## 15 EXISTING FACILITIES

**15-1.03A General:** Existing facilities disturbed by construction shall conform to the applicable provisions of Section 5-1.36. All existing active utilities found to reside in excavated areas shall be supported in place with service maintained during construction. The Contractor shall be responsible for any damage caused by their operations and any needed repairs shall be completed to the Engineer's satisfaction.

Existing storm drains found to reside in excavated areas shall be supported, removed, or replaced at the Contractor's option and at no additional cost to the City. The Contractor shall be responsible for maintaining the existing line and grade of the storm drains. If the Contractor elects to remove and replace, it shall be done per applicable City Standards and Specifications.

Existing utility trenches and/or structures that are in close proximity to proposed trenches shall be safeguarded in an appropriate manner from damage.

**15-1.04 Payment:** Full compensation for supporting, removal and disposal of existing utilities and their appurtenances is considered as included in the contract prices paid for various contract items of work and no additional allowance will be made therefor.

**15-2.08A General:** Reset existing City facility boxes and lids to grade. The City will furnish at no cost to the Contractor new material to replace existing boxes and lids that do not comply with current City Standards or damaged prior to Contractor's operations.

**15-2.10B Adjust Frames, Covers, Grates, and Manholes:** Existing manhole frames and covers, valve boxes, mainline cleanouts and monuments adjusted to grade shall conform to City Standards.

The Contractor shall accurately locate and record the location of existing and new manholes, valve boxes, mainline cleanouts, and monuments to be adjusted to grade and shall furnish the Engineer a copy of said record prior to starting construction.

All facilities on active systems shall be accessible at all times to City personnel unless otherwise stated in these Special Provisions or approved by the Engineer.

After placement of the finish course of asphalt concrete the Contractor shall mark all overlaid manholes, valve boxes, mainline cleanouts and monuments, whether new or existing, with white paint by the end of that working day.

All new and existing manholes, valve boxes, mainline cleanouts and monuments shall be accessible within 48 hours after they are covered.

Final grade adjustments and installation of concrete collars shall be done on the same working day. Final paving around manholes, valve boxes, mainline cleanouts and monuments shall be completed the following working day.

All silt and debris shall be removed from finished structures. This shall include all existing silt and debris plus material caused by the Contractor's operation.

If new or existing water valve riser pipe needs to be extended after paving to conform to City STD-877, the Contractor shall use either a slip x slip glued PVC coupling or a transition coupling with sheer bands as directed by the Engineer. Upsizing the existing riser pipe to 8-inch will not be required unless otherwise directed by the Engineer. Any added extension must be a minimum of 12 inches. The lower section of riser pipe shall be adjusted to accommodate this requirement.

In the event that the Contractor encounters water valve boxes with round lids or sanitary sewer frame and covers with open pick holes which must be adjusted to grade, the Contractor is to provide a count to the Engineer a minimum of two days prior to paving to obtain replacements that complies with current City Standards. The City will provide replacements provided the Contractor is not required to replace them as part of the contract or due to damage by the Contractor's operations. Valve boxes and frames and covers on facilities to be abandoned shall not be included in the count provided to the Engineer.

Prior to removal of an existing manhole frame, a platform shall be constructed in the manhole above the top of the sewer to prevent any dirt or debris from falling into the sewer. The platform shall remain in place until all work on the manhole has been completed and the asphalt concrete has been placed around the manhole. Prior to the removal of the platform from the manhole, all dirt and debris shall be removed.

All grade rings shall be set in cement mortar the same day they are placed. All joints shall be smoothly plastered inside and out.

Existing grade rings removed in the adjustment of manhole frames shall become the property of the Contractor and if undamaged and thoroughly cleaned of mortar may be reused in the work. If not so used, they shall be disposed of away from the site of work at the expense of the Contractor.

Manhole frames shall be reinstalled to align directly over the grade rings. Any frames misaligned by more than ½ inch shall be removed and reinstalled.

New and existing Monuments adjusted shall conform to City Standards.

#### **15-2.13 Payment:**

**Adjust Existing Manholes to Grade** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in adjusting manholes to grade, including but not limited to: required excavation and backfill; additional grade rings *if required*; furnishing location of manholes to be adjusted to grade; removing and delivering silent night frames and covers to the City MSC; and transporting new frames and covers to job site, as specified herein, and no additional allowance will be made therefor.

**Remove/Replace and Reset Existing City Facility Boxes and Lids to Grade:** Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items, including but not limited to furnishing all labor, materials, tools, and equipment and doing all the work involved in removing, replacing, and resetting existing City facility boxes and lids to grade, as specified herein, and no additional compensation will be allowed therefor.

**15-3.03 Construction:** All removed concrete shall become the property of the Contractor and shall be immediately off-hauled. None of the removed concrete shall be dumped or stockpiled on

the work site. The Contractor shall dispose of all removed concrete at a recycler for this material. Burying of broken concrete within the limits of the project will not be allowed.

All concrete which is to be removed from sidewalk, curb, gutter and driveway areas shall be removed to the nearest score mark or construction joint as directed by the Engineer unless otherwise noted on Project Plans. The edge of existing concrete to remain shall be neat and free of defects. Saw cutting may be required to achieve this.

Reinforcing steel may be encountered in portions of concrete to be removed and no additional allowance will be made for the removal of such steel.

**15-3.04 Payment:** Payment for saw cutting, removal and disposal of concrete sidewalk, curb and gutter, driveway areas, and existing City monuments shall be included in the contract prices paid for various contract items of work and no additional allowance will be made therefor.

**15-7 Utility Clearances:** *All items noted in this Section shall take place prior to any other construction activities.*

Pothole information provided on the Project Plans shall be for reference use only and shall not be considered as accurate information for any other areas within the project limits.

Contractor shall investigate, confirm and/or determine the exact locations of existing utilities, and verify clearances between existing and proposed utilities at crossings and/or known potential conflicts. The Contractor shall determine elevations and alignments of existing utilities at connection points.

The Contractor shall determine elevations and alignments of existing sewer laterals, at the back of sidewalk, if a new proposed sewer main is at a higher elevation than the existing sewer main.

*The Contractor shall provide all relevant information in writing to the Engineer immediately upon discovery of any conflict. Any delay in notification to the Engineer may delay direction and/or corrective action and a delay claim due to this reason shall not be considered by the City. The Contractor shall not proceed with any work that is in conflict until direction is provided by the Engineer and shall redirect crews to other contract work. All the information required to be obtained per this Section and any other information not noted but relative to the project shall be provided to the Engineer on a set of Plans when the investigative effort is complete.*

**15-7.01 Payment:** Utility Clearances: Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items, including but not limited to furnishing all labor, materials, tools, and equipment, and doing all the work involved in verifying utility clearances, including but not limited to: potholing to verify potential conflicts, grades, and alignments of existing facilities to be connected to; excavation; backfill; notification; and coordination and redirection of crews to other contract work *if required*, as specified herein, and no additional compensation will be allowed therefor.

**15-8 Tree Root Pruning:** All tree roots two inches and greater which are encountered during excavation must be pruned by hand. The root shall be cut cleanly with a saw to avoid splits. When digging within the drip line of trees, Contractor shall exercise extreme caution to avoid pulling on roots with excavation equipment. Hand dig around all roots greater than one inch in diameter. The Contractor shall notify the Engineer when encountering roots within the drip line

of trees which are greater than one inch. If the Engineer elects to get direction from an arborist the Contractor shall redirect crews to other contract work after safeguarding the area.

**15-8.01 Payment:** Full compensation for removing and pruning tree roots, hand digging to avoid root damaging roots, and excavating cautiously with respect to tree roots is considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor.

[Revised: 01/08/18-CDA STD2010]



## **SECTION 16**

### **CLEARING, GRUBBING, AND TREE REMOVAL**

**16-1.01 General:** Clearing, grubbing, and tree removal shall be confined to the limits shown on the plans and shall not exceed the minimum necessary to complete operations.

The Contractor shall not remove any trees, brush, shrubs, or other natural objects outside the limits of construction as shown on the plans, unless directed by the Engineer.

Any trees, brush, shrubs, or other natural objects not ordered removed by the Engineer which have been removed, altered, or damaged shall be replaced in kind by the Contractor before completion of the project.

All unsuitable material shall be disposed of away from the site by the Contractor. The Contractor shall make all necessary arrangements for disposal of material.

**16-1.03 Construction:** The area to be cleared and grubbed shall be the area within the park as shown on the plans, unless otherwise specified in the Special Provisions.

All stumps, large roots and other objectionable material shall be removed including root balls in the area of construction. The resulting spaces shall be backfilled with material suitable for the planned use.

**16-1.06 Payment:**

**Clearing and Grubbing** shall be paid for at the contract **lump sum** price for clearing and grubbing, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in clearing and grubbing as specified herein, and no additional allowance will be made therefor.

**Tree Removal** shall be paid for at the contract **lump sum** price for tree and stump removal, which price shall include full compensation for furnishing all labor, hauling, materials tools and equipment, and doing all the work involved in tree removal as specified herein, and no additional allowance will be made therefor.

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## 19 EARTHWORK

### **19-1 General**

#### **19-1.01 General:**

1. Non-contaminated site: See section 19-2.03B, Surplus Material, of these Technical Specifications.

#### **19-1.01A Summary:**

Excavating for trenching

**19-1.03B Unsuitable Material:** Stabilization of unsuitable material shall comply with the following provisions:

- A. Unsuitable material may be processed in place, may be excavated and placed on the grade or other locations suitable for further processing, or may be partially excavated and partially processed in place.
- B. Processing may consist of drying to provide a stable replacement material, or mixing with lime per Section 24.
- C. Stabilized material shall be placed and compacted in layers as hereinafter specified for constructing embankments.

**19-1.03C Grade Tolerance:** When aggregate subbase or aggregate base are to be placed on the grading plane, the grading plane shall not vary more than 0.05' above or 0.1' below the grade established by the Engineer.

### **19-2 Earthwork Excavation**

**19-2.03A General:** The Engineer shall provide reference points and cut sheets for the excavation. The Contractor shall furnish a qualified grade setter to insure conformance to the lines and grades established by the Engineer.

For roadway reconstruction, Roadway Excavation shall be performed with a pavement grinder. No other construction equipment including rubber-tired equipment shall be allowed on the subgrade.

The Contractor shall note that there are trees near areas intended for excavation. The Contractor's operation, including the size of the grinding equipment, shall be such, so as to insure that existing trees are not damaged. Where limited clearance under the trees prevents the use of a grinder, excavation shall be performed by an alternate method as approved by the Engineer. Alternate methods may include jack-hammering and removal of existing pavement and base materials by hand, or by use of smaller grinding equipment.

Where tree roots are encountered during excavation, the Contractor shall cut the roots off six inches below the planned subgrade. Each cut shall be clean with no torn bark or splintered wood remaining on the root and shall be accomplished by use of a saw appropriate for the size of the root to be cut.

**19-2.03B Surplus Material:** Surplus soil from this project has been approved for disposal at the City's Pond 2 Decommissioning and Grading Project at 35 Stony Point Road Santa Rosa, CA.

The following Pond 2 surplus soil transport and placement conditions shall be adhered to:

1. Material must be free of asphalt concrete; asphalt and soil grindings associated with roadway excavation and reconstruction;
2. Soil beneath asphalt that was previously oiled for paving is not allowed;
3. Sewer, water or storm drain pipe of any kind or type are not allowed;
4. Concrete; metal; rock greater than 6" in size; vegetation; and other deleterious materials are not allowed;
5. The quantity of trucks and the volume of soil deposited in Pond 2 from this project will be tracked. Truck drivers will be required to sign a log and be subject to periodic inspections to insure that only soil from this project is deposited in Pond 2
6. The Contractor shall spread and compact all project soils deposited into Pond 2 to 85% relative compaction and testing will be provided and performed by the City's materials Engineering Laboratory. The cost of compaction testing will be borne by the City.
7. Contractor shall comply with all disposal regulations such as City, County, and/or State permits and licenses, as may be required.
8. Soil disposal shall be limited to Monday through Friday between the hours of 7:00 am and 4:30 pm. Advanced, 48-hour notice is required to the City inspector and Water prior to starting.
9. Pond 2 site access is directly affected by weather conditions. You should anticipate no access during and for some time after rain events, unless wet weather site conditions are met at your expense.
10. The haul route shall be through the City Municipal Service Yard. A 15 MPH speed limit shall be observed at all times with stopping at all crosswalks and stop signs. No trucks shall access the site via any other route.
11. Tracking of material from the disposal location onto any and all paved surfaces near the pond is not allowed. Should tracking become evident sweeping will be required at your cost no later than the end of day. Dust control shall be provided at all times in accordance with Section 10.
12. The Idling limits on In-Use Off-Road Diesel Vehicles in section 2449 (d) (3) in Title 13, article 4.8, chapter 9, California Code of Regulations (CCR) shall be effective and enforceable.

The City shall reserve the right to unconditionally suspend or revoke disposal at any time at no cost to the City.

**19-2.04 Payment:** **Earthwork Excavation and Fine Grading** shall be paid for at the contract lump sum price, which price shall include full compensation for all work as specified herein including excavation, placing and compacting fill, and fine grading; and no additional allowance will be made therefor.

**Excavation – 3" Soil Scraping and Removal/Disposal** shall be paid for at the contract price per cubic yard, which price shall include full compensation for all work to remove the top 3" of soil from the entire site and off haul as specified herein, and no additional allowance will be made therefor.

## **19-5 Compaction**

**19-5.03B Relative Compaction (95 percent):** Relative compaction of not less than 95 percent shall be obtained for a minimum depth of 0.5-foot below the grading plane for the full width of the planned pavement structural section, whether in excavation or embankment.

Relative compaction of not less than 85 percent shall be obtained for non-paved areas.

**19-8.05 Payment:** **Excavation in Tree Dripline** shall be paid for at the contract **lump sum** price, which price shall include full compensation for hiring arborist, furnishing all work involved in air spade excavation, including root pruning labor, materials, tools and equipment, and no additional allowance will be made therefor.

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## **SECTION 20-3**

### **LANDSCAPE PLANTING AND ESTABLISHMENT**

**20-1.03C Watering:** The contractor shall obtain water according to section 6-4.01A, construction water of these Special Provisions, and irrigate all materials as needed to maintain health and vigor to the satisfaction of the Engineer.

**20-7.02 Materials:**

A. Plants

1. Nomenclature: Plant names used in the drawings and specifications conform to Standardized Plant Names, by the Joint Committee on Horticultural Nomenclature. Names of varieties not included therein conform generally to names accepted in the nursery trade.
2. Conditions: Plant shall be symmetrical, typical for variety and species, sound, healthy, vigorous, free from plant disease, insect pests or their eggs, excessive abrasions, or other objectionable disfigurements, and shall have healthy, normal root systems, well filling their containers, but not to the point of being root bound. Tree trunks shall be sturdy and well hardened off. Plants shall not be pruned prior to delivery except as authorized by the Engineer. In no case shall trees be topped or pruned before delivery. Plants shall be grown in nurseries which have been inspected by the California State Department of Agriculture and have complied with its regulations.
3. Minimum Plant Sizes: The size of plants will conform to the standards of ANSI Z-60 (American Standards for Nursery Stock). The minimum acceptable size of plants, measured before pruning with the branches in normal position, shall conform with the measurements, if any, specified on the drawings in the list of plants to be furnished.
4. Identification: Plants shall be of the variety shown on the plans and conform to the standards of ANSI Z-60 (American Standards for Nursery Stock) and to the requirements herein. One of each bundle or lot shall be tagged with plant name in accord with recommendations of the American Association of Nurserymen.
5. Substitutions: Substitutions for the indicated plant materials will be permitted, provided the substitute materials are approved in advance by the Engineer and/or the City, and the substitutions are made at no additional cost to the City. Except for the variations so authorized, all substitute plant materials shall conform to the requirements of these specifications. If accepted substitute materials are of less value than those indicated or specified, the contract price will be adjusted in accordance with the provisions of the contract.
6. Plant Inspection and Rejection: Root condition of plants will be determined by the Engineer and/or City through the removal of earth from the roots of at least two (2) plants but not more than 2 percent of the total number of species from each source.

B. Sod

Turfgrass sod shall be "95-5 Fescue-Blue" as supplied by:  
Park Avenue Turf  
3075 Old Gravenstein Hwy, Sebastopol, CA 95472  
(707) 823-8899

**20-7.02D(1) Soil Amendments:** All areas to be planted and irrigated shall receive soil amendments as shown on the drawings or listed under other subsections of these specifications.

1. Submittals shall be required verifying the source of the material is as listed, and including laboratory analysis for horticultural suitability and amendment recommendations (equivalent to LTP.4 from Sunland Analytical). Contractor shall provide, mix, and place amended soils as recommended by the lab analysis.
2. A copy of delivery slips on all materials used on the project shall be delivered to the City.
3. Substitutions will not be permitted except when proof is submitted that any material specified is not obtainable. All substitutions are subject to the approval of the Engineer.

**20-7.03B Construction:**

A. Scheduling

Planting shall not commence until completion of all construction work, grading, soil preparation, and sprinkler installation. All container stock shall be spotted on-site by the Contractor per plans prior to planting. Set out only quantity that can be reasonably planted in one work day. Plant pits shall not be excavated until the approval of plant locations by the Landscape Architect.

B. Soil Preparation

Soil preparation shall be as shown on the drawings.

C. Spacing

Tree and plant spacing on this project shall be as shown on the drawings.

D. Excavation and sequencing

Contractor to coordinate excavation and sequencing for all related installations, including Playground installation by others, Subdrainage, Irrigation, Lighting, and pavements.

E. Plant Pits

Plant pits shall be as shown on the drawings. Plant pits at box trees shall be dug with level bottoms two times the diameter and two times the depth of root ball. Sides of excavated plant pits shall be scarified by pry bar or shovel.

F. Setting

Plant shall be same relation to soil level when planted as it was when in container. Each plant shall be placed in center of plant pit. Where trees are to be installed in Porous Pave, the crown of the rootball shall be set 1"-2" above adjacent surface elevation, with top of rootball sloping away so that Porous Pave is placed over the rootball in decreasing thickness toward the trunk.

G. Pit Backfill

Backfill material around plants shall be free from rocks or foreign material and shall be as shown on the drawings.

H. Backfilling Procedure

Backfill procedure shall be as shown on the drawings.

I. Mulch

Mulch shall be as shown on the drawings.

J. Dog Park Mulch

Dog Park Mulch shall be 6" depth minimum, 'Cedar-Fir Chip Mix' by United Forest Products, or approved equal.

K. Biofiltration Soil

Stormwater treatment areas (rain gardens) shall be constructed as shown on the drawings, including 3' depth of biofiltration soil where shown. Biofiltration soil mix shall be as shown on the drawings.

L. Tree Staking

Stake all trees as shown on the drawings and in conformance with City Standard Drawing 101.

M. Sodding

Grade sod areas to drain and to a smooth and uniform surface. Fine grade and roll sod areas before placing sod. Areas adjacent to sidewalks, edging, and other paved borders and surfaced areas must be 1 inch below the finished surface elevation of the facilities, after fine grading, rolling, and settlement of the soil.

Install initial row of sod in a straight line, beginning along the straightest edge of lawn area to be sodded. Place subsequent rows parallel to and tight against previously installed row. Lay sod to form a solid mass with tightly fitted joints. Place the edge and end of sod firmly against adjacent sod and against sidewalks, edging, and other paved borders and surfaced areas. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips a minimum of 2 feet to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. The soil/root pad shall be flush with adjacent curbs, sidewalks, drains and seeded areas.

Lightly roll the entire sodded area to eliminate air pockets and ensure close contact with the soil after placement of the sod. Water the sodded areas such that the soil is moist to a minimum depth of 4 inches after rolling. Do not allow the sod to dry out. If irregular or uneven areas appear in the sodded areas, restore to a smooth and even appearance.

Trim sod to a uniform edge at sidewalks, edging, and other paved borders and surfaced areas. Trimming must be repeated whenever the edge of sod extends 1 inch or more beyond the edge of the edging, sidewalks, and other paved borders and surfaced areas. Remove trimmed sod.

Mow sod no sooner than 2 weeks after installation or when it has reached a height of 4 inches, whichever is latest, in conformance with Section 20-4.10(B6) herein.

**20-4.06 Quantities:** In all cases, quantities of plant material shall be furnished as needed to complete work as indicated on plans, including re-sodding, redressing, and maintenance (replacements) during the contract period.

**20-4.07 Protection:** The Contractor shall carefully and continuously protect all areas included in the contract, including lawn areas, plant materials, supports, etc., until final acceptance of the work by the City.

**20-4.08 Cleanup:** After all planting operations are completed Contractor shall remove all trash, excess soil, empty plant containers, or other accumulated debris from the site at no extra cost to City. Contractor shall repair all scars, ruts, or mars in area caused by work operations. Areas shall be left in a neat and orderly condition.

**20-4.09 Inspections:**

- A. Contractor shall give forty-eight (48) hours notice and set appointment for all inspections by the Engineer and/or City.
- B. Inspections and/or field supervision by Engineer and/or City shall be scheduled for the following operations:
  1. Approval of all plant material.

2. Tree and shrub replacement PRIOR to digging holes and placement planting.
  3. Approval of ground cover PRIOR to planting.
  4. Final inspection.
- C. Inspection shall be called for at the end of all planting operations for the purpose of determining compliance with plans and specifications, intent, workmanship, and cleanup. Contractor shall secure written verification of inspection data, any corrections required to work, and limits of inspected area before beginning the described maintenance work.
- D. A final inspection shall be made at the end of the maintenance period for full approval of the work area.
- E. In the event the Contractor requests inspection of work, and said work is substantially incomplete, the Contractor shall be responsible for inspection costs.

**20-4.10 Landscape Maintenance, Establishment, and Guarantee:**

- A. Beginning of 90-day establishment period
1. The following conditions shall be met prior to commencement of the 90-day establishment period.
    - a. All elements of construction shall be complete and approved.
    - b. All plant materials included in contract shall be planted.
    - c. No low spots or areas of uneven grade shall be present in turf areas.
    - d. No weeds shall be present in turf or planted areas.
    - e. No rodents shall be present in turf or planted areas.
    - f. Turf shall be established and shall have been mowed a minimum of two times.
    - g. Turf shall exhibit thick, even cover, with no bare spots.
  2. Observation
    - a. The Contractor shall request that the Engineer visit the site for the purpose of determining if all conditions have been satisfied and the 90-day establishment period might begin.
    - b. Contractor shall give the Engineer 48 hours notice before the time for the requested observation.
    - c. The Engineer shall observe the planting installation, and if necessary make note of any discrepancies. The Contractor shall make the appropriate corrections and call for another observation by the Engineer.
    - d. When the installation and turf planting is deemed by the Engineer to be complete, a written notice will be given to the Contractor confirming completion of turf planting and stating the effective date for the beginning of the 90-day establishment period.
- B. 90 calendar day landscape establishment
1. Contractor shall furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 90 days.
  2. Maintenance of grass areas shall consist of fertilizing, watering, spraying, weeding, mowing, repair of all erosion, rodent control, and re-sodding as necessary to establish a weed free uniform stand of grass. Areas and parts of areas, which fail to show a uniform stand of grass for any reason shall be re-sodded until all areas are covered with a satisfactory stand of grass. The Engineer shall be the sole judge in this respect.
  3. Mulch shall be maintained at the minimum thickness as shown on the drawings.
  4. The project will not be segmented into maintenance phases, unless specifically authorized in writing by the Engineer.
  5. Watering:



- a. The trees, ground cover, and lawn shall be watered as often as it is necessary to keep them in optimum, vigorous growth. The lawn shall at no time show a lack of fresh green color or a loss of resilience due to lack of water. Watering of lawn areas shall preferably be done during the early morning hours.
  - b. Water shall be controlled so that there will be no run-off, ponding, overspray, or over watering.
- 6. Fertilizing
  - a. Turf areas to receive 4 lbs/1,000 s.f. application of 16-6-8, two weeks after planting followed by 5 lbs of 21-0-0 at 45 day intervals (include 3)
  - b. All other mulched tree planting areas shall receive 5 lbs of 21-0-0 30 days after planting, then at 45 day intervals (include 3).
- 7. Mowing:
  - a. All mowing shall be done in a neat and orderly manner. Equipment shall be moved onto and off the area to be mowed in such a manner that it will not leave tracks or marks that detract from the finish turf, or leave marks or material on adjacent surfaces.
  - b. Mowing equipment shall be reel type mowers, sharp, and in optimum operating condition. The equipment shall be washed before initial use on the project so that there will be no chance of introducing foreign seeds or diseases onto the project.
  - c. Frequency of mowing shall be determined by the rate of growth of the grass. During seasons of peak growth mowing may have to be done every three days to four days; under normal conditions once a week should be adequate.
  - d. The average mowing height shall be 2". The grass blades must be cut sharply and cleanly. The turf must be cut evenly so that no ridges remain in the finish cut. The direction of mowing shall be alternated each time.
- 8. Weed Control:
  - a. All turf and planting areas shall be kept weed free, either by hand methods or by the application of organic OMRI-approved herbicides designed for use on any type of weeds invading the planting areas.
  - b. All equipment used for herbicides shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
- 9. Pest Management Operations:
  - a. The Contractor shall utilize Integrated Pest Management practices for the control of all landscape pests including, but not limited to, weeds, insects and other invertebrates, plant pathogens, rodents, etc.
  - b. Gophers shall be controlled by means in accordance with all applicable federal, state and local laws, rules and regulations.
  - c. The Contractor shall have all required permits and licenses for the possession and use of pesticides. The Contractors employees shall have the required pesticide training before applying pesticides.
  - d. The use of pesticides shall conform to all applicable federal, state and county laws, rules and regulations.
  - e. All pesticide application equipment shall be suited for the use intended. All such equipment shall arrive at the site clean, in proper working order and without leaks. On-site cleaning of pesticide equipment is forbidden.
  - f. All pesticides shall be labeled for the use intended and shall arrive at the site in original containers or in properly labeled secondary containers.

- g. The use of any insecticide or fungicide for any reason shall be done only with the approval of the City of Santa Rosa Parks Division at 543-3770.
- h. Pesticides shall be applied only under favorable weather conditions that eliminate or significantly reduce spray/dust drift or other offsite movement of the pesticide.
- i. Use of Category I pesticides is forbidden.
- j. The City of Santa Rosa Parks Division shall be given 48-hour prior notice of any pesticide application. The City reserves the right to have a representative on site during any pesticide application. Contact the Parks Division at 543-3770.
- k. All areas to be treated with a pesticide in which access by the public is allowed shall be posted with 11" x 14" warning signs a minimum of 48 hours in advance of the planned application. Signs shall remain in place for a minimum period of 48 hours after the application.
- l. The City shall provide pesticide application notice signs.
- m. Signs shall be placed at such locations and intervals to provide adequate warning to persons entering the treated area(s). Spacing of signs shall not exceed 100 feet.
- n. In those areas and/or times in which access by the public is allowed, a blue indicator dye shall be added to all liquid formulated herbicides which are essentially clear in color.
- o. The Contractor shall submit to the Parks Division by the 10th of each month a summary report of each pesticide and quantity used the previous month.
- p. The provisions of this section shall be valid during all construction phases, any plant establishment period and all maintenance periods and extensions thereof.
- 10. Restricted Use:
  - a. At no time shall any pesticide, including herbicide, be used in or near the playground area, dog park, and community garden area. These areas must use mechanical means only for removal of weeds and pest control.
  - b. The use of herbicides is restricted to organic OMRI-approved herbicides only.
- 11. Litter: The Contractor shall promptly remove all debris generated by his performance of the work after weeding or other work required under the contract. Immediately after working in the areas of public walks, driveways or paved areas, they shall be vacuumed clean with suitable equipment. All areas covered by this contract shall be kept free of the following items: bottles, cans, paper cardboard or metallic items. Common debris and litter shall be disposed of in an appropriate manner.

#### C. Guarantee and Replacement

- 1. Guarantee period shall be for a period of one year from the date of written acceptance.
- 2. All trees, ground cover, and turf areas shall be guaranteed to be alive and healthy as determined by the Engineer at the end of the guarantee period.
- 3. The Contractor shall replace, in accordance with the drawings and specifications throughout the guarantee period, any plants or turf areas that die, or in opinion of the Engineer, are in an unhealthy or unsightly condition, due to improper maintenance, or any other causes due to the Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

**20-4.11 Payment:** Payment for the work of this Section shall be paid for at the contract unit price per each as included in the bid schedule and as delineated below:

- A. **Turf** shall be paid for at the contract price per **square foot** which price shall include full compensation for all work including supply of sod turf, soil amendments, and laying of sod turf, complete as specified herein and shown on the plans.
- B. **Supply and Plant 15 Gallon Trees** shall be paid for at the contract price **per each** which price shall include full compensation for all work to obtain and plant the trees as specified herein and as shown on the plans.
- C. **Supply & Plant 24" Box Trees** shall be paid for at the contract price **per each** which price shall include full compensation for all work to obtain and plant the trees as specified herein and as shown on the plans.
- D. **Supply & Plant 36" Box Trees** shall be paid for at the contract price **per each** which price shall include full compensation for all work to obtain and plant the trees as specified herein and as shown on the plans.
- E. **Supply & Plant 1 Gallon Shrub and Ground Cover** shall be paid for at the contract price **per each** which price shall include full compensation for all work to obtain and plant the shrubs and ground cover as specified herein and as shown on the plans.
- F. **Supply & Plant 5 Gallon Shrub and Ground Cover** shall be paid for at the contract price **per each** which price shall include full compensation for all work to obtain and plant the shrubs and ground cover as specified herein and as shown on the plans.
- G. **90-Day Landscape Establishment** shall be paid for at the contract **lump sum** price which price shall include full compensation for all work to provide landscape maintenance, establishment, and guarantee as specified herein and as shown on the plans.
- H. **Soil Preparation, Top Dressing, and Mulch:** full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved in soil testing, soil amendment, placing top dressing, and placing mulch, as specified herein, shall be considered as included in the prices paid for the various contract items and no additional compensation will be allowed therefor.
- I. **Dog Park Mulch** shall be paid for at the contract price per **cubic yard** which price shall include full compensation for furnishing all tools, materials, and equipment and for doing all work involved in installing dog park mulch as specified herein and as shown on the plans.
- J. **Biofiltration Soil** shall be paid for at the contract price per **cubic yard** which price shall include full compensation for furnishing all tools, materials, and equipment and for doing all work involved in installing biofiltration soil as specified herein and as shown on the plans.

## **SECTION 20-5 IRRIGATION**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. The general extent of irrigation system and water supply work is shown on the Drawings and includes, but is not limited to, the following:
  - 1. Coordination of meter setting;
  - 2. Installation and testing of backflow preventer, installation of concrete pad;
  - 3. Installation of backflow preventer freeze protection jacket and enclosure;
  - 4. Trenching and other excavation;
  - 5. Irrigation lines, valve control circuits and appurtenances;
  - 6. Drinking fountain main line and appurtenances;
  - 7. Irrigation controller, remote control valves and control wiring;
  - 8. Electrical service coordination and installation;
  - 9. Pipe sleeves and conduit;
  - 10. Testing and inspection coordination;
  - 11. Backfill and compaction of backfill;
  - 12. Provision of as-built drawings, controller charts, certificates and warranties
  - 13. Dust alleviation and control;
  - 14. Cleanup and disposal;
  - 15. Supply all labor, materials, equipment, and apparatus not specifically mentioned herein, but which are incidental and necessary to complete the work specified; and
  - 16. Certifications and audits as required by the City.

#### **1.02 RELATED SECTIONS**

- A. Section 19 – Earthwork
- B. Section 20-4 Landscape
- C. Section 99 – Water System
- D. Section 104 – Site Furnishings
- E. Section 112 – Tree Protection

#### **1.03 INSPECTION OF CONDITION**

- A. Examine related work and surfaces before starting work of this Section. Contractor shall be completely familiar with these conditions, the work involved, and shall perform to the satisfaction of the engineer.
- B. Report to the Engineer conditions which will prevent the proper installation of this work. Beginning the work of this Section without reporting unsuitable conditions to the Engineer constitutes acceptance of conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost. Inspect work shown that is either shown as existing on the contract plans, or shown on previous construction plans.

#### 1.04 CODES, RULES AND SAFETY ORDERS

- A. All work and material shall be in full accordance with the latest rules and regulations of safety orders of Division of Industrial Safety, the Uniform Plumbing Code published by the Western Plumbing Officials' Association, City of Santa Rosa Standards, and other applicable laws or regulations. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. Should the Construction Documents, or instructions, be at variance with the aforementioned rules and regulations, notify the Engineer and get instructions before proceeding with the work affected.
- B. The Contractor shall furnish any additional material and labor required to comply with these rules and regulations, though the work is not mentioned in these specifications or shown in the Drawings.

#### 1.05 REFERENCES

- A. City of Santa Rosa Construction Standards
- B. City of Santa Rosa Water Efficient Landscape Ordinance
- C. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the general designation only.
  - 1. American Society for Testing and Materials (ASTM)
  - 2. Publications: D - 1785 Pipe, Polyvinyl chloride (PVC) Plastic Schedules 40, 80 and 120.

#### 1.06 SUBMITTALS

- A. Submit information on each equipment item specified to substantiate compliance with this specification.

#### 1.07 SUBSTITUTIONS

- A. Specific reference to manufacturer's names and products specified in this Section are used as standards, but this implies no right to substitute other material or methods without written approval of the Engineer. See General Conditions.

#### 1.08 PROTECTION OF EXISTING CONDITIONS

- A. Contractor shall take necessary precautions to protect site conditions, including existing storm drain facilities to remain and work of other contractors onsite. Should damage be incurred, this Contractor shall repair damage to its original condition or furnish and install equal replacement at his expense. Replacement parts or equipment shall be as described in the plans.

#### 1.09 COORDINATION

- A. Coordinate and cooperate with other Contractors to enable the work to proceed as rapidly and efficiently as possible.

#### 1.10 PRODUCT HANDLING

- A. Protect work and materials under this Section from damage during construction and storage. Protect polyvinyl chloride (PVC) pipe and fittings from direct sunlight. Beds on which pipe is stored must be full length of pipe. Do not use any pipe or fitting that has been damaged or dented.

#### 1.11 SUPERVISION AND WORKMANSHIP

- A. During the progress of this work, the Contractor's Superintendent shall be on-site at all times and be known to the Engineer. The Superintendent shall be able to communicate with the Engineer in English and supervise the work constantly. Do not change the Superintendent without seven (7) days prior notification to the Engineer.

#### 1.12 LAYOUT OF WORK

- A. Stake out the irrigation as shown on the drawings. The layout of irrigation and drinking fountain mainlines and turf sprinklers shall be checked by the Engineer before construction is started. Any changes, deletions or additions to the system shall be determined at this check.

#### 1.13 RECORD DRAWINGS

- A. Maintain one complete set of full size, scalable black line prints of all irrigation contract drawings in the field office. The prints shall be in order and available for review at all times.
- B. Record accurately on one set of prints of the irrigation drawings, all changes in the work constituting departures from the original contract drawings. The changes and dimensions shall be recorded in a legible and professional manner to the satisfaction of the Engineer. When the drawings are approved, transfer all information to a set of reproducible mylar drawings supplied by the Engineer.
- C. Dimension items from two permanent points of reference (sidewalks, curbs, pavement, etc.). Locations shown on as-built drawings shall be kept day to day as the project is being installed.
- D. Show locations and depths of the following items:
  - 1. Routing of mainline and locations of gate valves, ball valves, and quick coupler valves.
  - 2. Routing of electrical conduit.
  - 3. Locations of lateral lines serving tree bubblers.
  - 4. Locations of sleeves under paving.
  - 5. Rotor sprinkler nozzle selections.
- E. Submit as-built drawings to Engineer for review and approval. When the drawings are approved, provide reproducible mylar copies.

- F. As-built drawings must be completed and approved before commencement of the maintenance period.

#### 1.14 RECORD PHOTOS

- A. The Contractor shall record with digital photographs the exact layout of the pipe manifolds at each valve grouping. Label each photo with the valve numbers shown on plan. Deliver to the Engineer in digital format on CD, DVD or flash drive labeled with project name and date.

#### 1.15 CONTROLLER CHART

- A. Contractor shall prepare a copy of the irrigation plans reduced to 11"x17" to fit within the controller enclosure door and shall be laminated between two sheets of clear plastic. The plan shall be legible and shall clearly describe control station numbers and associated lateral piping and distribution devices. Contractor may add color coding or notes. This reduced plan shall be provided for each enclosure, and shall be in place prior to the commencement of the maintenance period.

#### 1.16 INSPECTIONS

- A. Inspections will be required for:
  - 1. Booster pump installation and testing if applicable.
  - 2. Verification of adequate supply and pressure as described on the drawings.
  - 3. Pressure test of irrigation main lines. Test at 150 P.S.I. for 6 hours. Contractor shall provide all required test pumps and gauges. The engineer shall observe this test.
  - 4. Pipe depth.
  - 5. Coverage test and irrigation audit as required by city ordinance 4051.
  - 6. Santa Rosa Utilities department water conservation inspection, to be performed by SR utilities 543-4200, in the presence of the contractor.
  - 7. Final inspection/start of maintenance. Final inspection shall be performed by the Engineer.
  - 8. Final acceptance and compliance with city standards, to be performed by city forces, with the engineer.
- B. Inspection requests:
- C. Inspection requests:
  - 1. Contractor shall notify the Engineer in advance for requesting all inspections as follows:
    - a. Coverage Tests - 72 hours (3 working days)
    - b. Final Inspection - 72 hours (3 working days)
    - c. Final Acceptance - 72 hours (3 working days)
  - 2. Do not allow or cause the above items to be buried prior to inspection and approval by the Engineer. When inspections have been conducted by other than the Engineer, the Contractor shall show evidence of when and by whom these inspections were made.
  - 3. No inspection will commence without record prints. In the event the Contractor calls for an inspection without up to date record prints, without

completing previously noted corrections, or without preparing the system for inspection, the inspection will be canceled and the Contractor back charged for the direct costs of all personnel time and consultant time lost.

- D. Closing In Uninspected Work:
  - 1. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been inspected, tested, and approved by the Engineer.
  - 2. Day and night barricades shall be provided as needed for all open trenches.
- E. Coverage Test:
  - 1. When the turf sprinkler system is completed, Contractor shall perform a coverage test in the presence of the Engineer to determine if coverage for turf areas is complete and adequate.
  - 2. This test shall be accomplished before any planting.
  - 3. Contractor shall provide testing equipment to establish working pressure at a sampling of the large rotor heads to establish the required pressure setting of the valves.

#### 1.17 IRRIGATION ACCESSORIES

- A. Contractor shall supply the following parts and accessories to the Engineer prior to the close of construction:
  - 1. Two (2) each quick coupler valve keys and hose swivel ells.
  - 2. Two (2) sets of various special wrenches or tools that may be required for adjustment of sprinkler heads or equipment.
  - 3. Four (4) of each sprinkler head specified and installed and two of each nozzle type specified and installed.
  - 4. Two (2) keys for each controller enclosure and controller (as applicable).
  - 5. Two (2) copies of the instruction manual for each irrigation controller.

#### 1.18 GUARANTEES

- A. The Contractor shall be responsible for any damage or defects in the irrigation system and drinking fountain main line being installed and shall repair any and all components of the system at his own expense, in a manner satisfactory to the Engineer, before final acceptance of the work.
- B. Any existing material, equipment, paving, planting, etc., damaged by the Contractor during the course of his work shall be replaced or repaired by the Contractor in a manner satisfactory to the Engineer at the Contractor's own expense before the final approval of project.
- C. Damage by Leaks: The Contractor shall be responsible for damages to any property or work caused by leaks in the piping systems being installed, and shall repair, at his own expense and in a manner satisfactory to the Engineer, all damage caused.
- D. The entire irrigation and water supply system shall be guaranteed in writing against defects and faults of material and workmanship for one (1) year from the date of acceptance by the City. All materials used shall carry a manufacturer's guarantee



for the length of time specified by the manufacturer, but in no case less than one (1) year.

- E. Any damage due to any irrigation failures which may occur during a one (1) year period after final acceptance shall be repaired by the Contractor to the Engineer's satisfaction without expense to the City. Such repair shall include, but not be limited to the complete restoration of all damaged planting, paving, and other improvements of any kind.

## PART 2 PRODUCTS

### 2.01 PIPE AND FITTINGS

- A. Pressure supply lines from the meter and backflow preventer equipment shall be per the plans.
- B. Pressure supply piping and fittings in valve manifolds shall be Schedule 80 PVC.
- C. Pressure supply main lines for irrigation shall be Class 315 solvent weld PVC.
- D. Pressure supply main line for drinking fountains shall be Schedule 40 solvent weld PVC.
- E. Rigid lateral lines (downstream from remote control valves) shall be PVC Schedule 40 designed for solvent weld connections. No rigid pipe smaller than ¾" to be used.
- F. Flexible PVC lateral lines shall be ½" Sch. 40 IPS flexible PVC.
- G. All plastic pipe shall bear the following markings:
  - 1. Manufacturer's name.
  - 2. Nominal pipe size.
  - 3. Schedule or class.
  - 4. Type of material.
  - 5. Pressure rating in PSI.
  - 6. NSF seal of approval.
  - 7. Date of extrusion.
- H. All plastic pipe shall be extruded of an improved PVC virgin pipe compound with a Cell Class of 12454-B as identified in ASTM D-1784.
- I. PVC Sch 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D-1785.
- J. All 4" or smaller fittings on pressure pipe shall be standard weight Schedule 40 and shall be injection molded of an improved PVC fitting compound, except as listed below.
- K. Fittings in valve manifolds to be standard weight Schedule 80 and shall be injection molded of an improved PVC fitting compound.
- L. Threaded plastic fittings shall be injection molded.

- M. All threaded nipples shall be standard weight Schedule 80 with molded threads.
- N. No male adapters shall be used in any assemblies. This configuration shall be built-up from Schedule 80 couplers and nipples (cut to size).
- O. All threaded fittings shall be assembled using a non-hardening Teflon pipe sealant.
- P. Primers used for solvent cementing of PVC pipe shall conform to ASTM F-656 and be purple in color. Solvent cement used for the joining of PVC pipe shall conform to ASTM D-2564. Make solvent cement joints for plastic pipe and fittings as prescribed by the manufacturer and ASTM D-2855.
- Q. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like.
- R. Use Weld-On 795 flexible pipe cement when joining flexible PVC to fittings.
- S. Brass pipe shall be 85% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe. Brass fittings shall be medium brass, screwed, 125-pound class.
- T. Sleeves under paving shall be Schedule 40 PVC, size as required. Where fittings are required beneath pavements, they shall be assembled, encased in sleeve piping, placed with sleeves, and capped as needed to allow for future connection and prevention of contamination.
- U. Electrical conduit shall be Schedule 80 PVC, gray in color, size as noted on plans. Elbows shall be long sweep.

## 2.02 IRRIGATION CONTROLS

- A. WeatherTRAK ET Pro 3 controller, with 2-wire system, decoders, flow sensing, hydrometer, and rain shut-off switch, as described on the drawings.
- B. Remote control valves shall be Griswold valves with latching solenoid as shown on plans.

## 2.03 VALVES

- A. 3-inch and smaller ball valves shall be full port, Watts FBV, line size, or an approved equivalent ball valve.
- B. Gate valves shall be line size and as specified on the plans.

## 2.04 QUICK COUPLING VALVE AND KEY

- A. Quick coupling valve (QVC) to be of bronze construction with female IPT pipe connections. The valve body shall be of two-piece construction with a locking cover of brass and thermoplastic rubber. Valve shall have double-lug locking

mechanism on valve outlet. Quick coupler valve shall be Rain Bird 44 LRC or approved equivalent.

- B. Quick coupling valve key to be of the same manufacturer as the QCV, shall be designed for use with the double-lug quick coupler, and shall be fitted with hose swivel and handle.

## 2.05 VALVE BOXES

- A. Plastic valve boxes shall be used only in soil planter areas. They shall be made from a structural foam with polyester resins and ultraviolet inhibitors as manufactured by Carson products or equal. Lids shall be factory marked with "irrigation" and labeled per City Standard Irrigation Detail #107
- B. Quick coupling valve boxes: 11-7/8 inch x 17-inch x 12 inch deep green box. Lid shall be green, marked "IRRIGATION" and have a lock bolt
- C. Ball valves and remote control valve boxes: 15 1/4" x 25 1/4" x 18" deep valve box marked "Irrigation"
- D. Ball valve box for drinking fountain: 11-7/8 inch x 17-inch x 12 inch deep green box marked "W" or "WS"
- E. Junction Boxes: Christy N9 with D-16 lid or approved equivalent.
- F. Label all valve boxes with 0.08" aluminum plate with 1-1/2" high stamped letters as shown in valve box installation in irrigation details (City Std. 107).

## 2.06 SPRINKLERS AND BUBBLERS

- A. Sprinklers and bubblers shall be as noted on the irrigation legend.

## 2.07 SWING JOINTS

- A. Shall be as manufactured by as listed in the city standard details. Size shall be appropriate for the particular sprinkler as detailed on plan.

## 2.08 WIRE

- A. See irrigation legend on Drawings for irrigation wiring specifications.
- B. Connections between the controller and remote control valves shall be made with valve manufacturer's wire chart and specifications.
- C. Wiring shall occupy the same trench and shall be installed along with the same route as the pressure supply lines wherever possible.
- D. Where more than one wire is placed in a trench, the wiring shall be taped together at intervals of 10 feet.
- E. All splices shall be made using 3M DBR/Y-6 wire connectors, or approved equal.

- F. An expansion loop of 18" shall be provided at each wire connection and directional turn.
- G. Sizing of wire shall be according to manufacturer recommendations, in no case less than AWG #14 size.
- H. Use a continuous wire between controller and remote control valves.
- I. Under no circumstances shall splices exist without prior approval.
- J. Any splices allowed shall be installed in an approved box.
- K. Spare wire path shall be of the same type as the active wire path, with different colored jacketing.
- L. Tracer wire to be installed with all PVC main line pipe shall be of No. 6 gauge copper with no insulation.
- M. Grounding rods and wire shall be as listed in the city standard detail shown on the drawings.

## 2.09 HYDROMETER

- A. Hydrometer (an integrated flow sensor, master control valve, and water meter) shall be WeatherTRAK Flow3, #WTF3-300-PDH-NO, 3" flanged connections with cast iron, polyester coated body, normally open, 24 VAC solenoid actuated, with photo diode register.
- B. Hydrometer shall be wired to controller with WTPS-FL power supply, included in the package and dedicated 24 VAC power wire.
- C. One Hydrometer shall be installed per POC.

## 2.10 MISCELLANEOUS INSTALLATION MATERIALS

- A. Pull rope shall be solid braided 1/4" nylon rope, yellow in color.
- B. Solvent cement and primer for solvent and joints shall be the make and type approved by manufacturer(s) of pipe and fittings. Use flexible cement for flexible PVC connections. Cement shall be maintained at proper consistency throughout use. All primer and solvent cans shall have labels intact and stamped with the date of manufacture. No cans dated over one (1) year old will be permitted. Do not thin solvent or primer in any manner.
- C. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Rectorseal pipe thread sealant or equal for metal piping. Use Teflon tape for threaded PVC connections.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Schedule and coordinate procurement of materials and equipment to effect efficient progress and completion of irrigation system work in conformance with the construction schedule.

### 3.02 HANDLING AND STORAGE

- A. Protect work and materials from damage during construction and storage.
- B. Handle plastic pipe carefully; especially protect it from prolonged exposure to sunlight.

### 3.03 LAYOUT

- A. Layout work as accurately as possible in accordance with diagrammatic drawings. Where dimensions between sprinklers are shown, the dimension is a maximum spacing.
- B. Layout of turf rotors per plan is critical to the efficiency of the system. Staking of head locations by surveyor is encouraged.
- C. Where site conditions do not permit the installation of piping, valves or heads where shown on the plan, notify the Engineer immediately and determine relocation in joint conference.
- D. Run pipelines and automatic control wiring in common trenches wherever practical. Insure minimum clearances between various pipes and wires as shown on detail on irrigation plans.
- E. Layout of bubblers shall be closely coordinated with the planting plan.
- F. Any deviations from plan in pipe routing or equipment locations shall be recorded on the as-builts.

### 3.04 EXCAVATION AND TRENCHING FOR IRRIGATION AND DRINKING FOUNTAIN MAIN LINES AND LATERALS

- A. Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for other pipes or wire.
- B. Make trenches for pipelines deep enough to provide minimum cover from finish grade as described on the drawings.
- C. Excavate trenches for mains and laterals straight and true with bottoms level. Make trenches wide enough to allow a minimum of 4 inches between parallel pipelines. Do not install parallel lines directly over one another. Maintain 2 inches minimum vertical clearance between irrigation lines.

- D. Restore surfaces, existing underground installations, or other improvements which are damaged or cut as a result of excavation. Restore to original conditions as approved by Engineer.
- E. Where storm drains or other utilities interfere with irrigation trenching and pipe work, adjust the trench depth or alignment as instructed by Engineer.

### 3.05 PIPE ASSEMBLY

- A. Plastic pipe shall be installed in a manner so as to provide for expansion and contraction as recommended by the manufacturer. Plastic pipe shall be cut with a pipe cutter or hack saw with the assistance of a squared-in sawing vice, or in a manner so as to insure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained. PVC pipe primer shall be used on all solvent weld PVC pipe before PVC solvent is applied.
- B. Assembly of Solvent Joint Pipelines
  - 1. Prepare joint by first making sure the pipe end is square, then reaming and deburring the pipe end. Clean pipe fitting of all dirt, dust, and moisture.
  - 2. When assembling pipe three inches (3") in diameter and larger, first apply primer per manufacturer's instructions.
  - 3. Pipe shall be assembled in a neat and workmanlike manner per manufacturer's instructions. Pipe shall be aligned to avoid strains on joints. Allow cemented joints to cure a minimum of five minutes before handling, and a minimum of four hours before pressurizing with water.
  - 4. PVC pipe shall be made up on the surface and then laid in the trench. Pipe shall have a firm, uniform bearing on minimum 4" layer of sand for the entire length to prevent uneven settlement.
  - 5. Cap or plug openings as pipelines are assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.
  - 6. Pipe shall be installed no closer than 4 inches to walkways and curbs.
- C. Tracer Wire
  - 1. A 6 gauge solid copper wire shall be installed in the trench with all PVC water main pipe. The wire shall be bare and shall be laid along the top of the pipe. The wire shall be installed so that there is not direct contact between the copper and other metal in the trench. The wire shall be firmly attached at least once on each length of pipe by means of tape, adhesive, or by other approved methods. The wire shall be continuous along each section of pipeline between mainline valves. At each valve, a loop or end of the wire shall be run-up into the valve box.
- D. Threaded Joints
  - 1. Field threading of PVC pipe is not permitted. Factory formed threads only will be allowed.
  - 2. All threaded metal pipe joints shall be made up with specified pipe joint compound. Apply compound to male threads only.
  - 3. Where assembling threaded plastic fittings, use only Teflon tape and take up joint no more than one full turn beyond hand tight.

- 4. Where assembling soft metal (brass or copper) or plastic pipe, use strap type friction wrench only; do not use metal-jawed wrench.
- E. Cap open pipe ends as pipe line is assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.
- F. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

### 3.06 THRUST BLOCKING AND/OR RESTRAINED JOINTS

- A. Harness block installations, anchor blocks, thrust blocks and/or restrained joints shall be provided for all tee, elbow, cross, dead end, and blow off assembly installations as required for water pipe construction per applicable City Standard Plans.

### 3.07 REMOTE CONTROL VALVES

- A. Prior to installing any remote control valves in the irrigation system, the Contractor shall assemble a mock-up of a typical remote control valve assembly. The mock-up shall include: mainline fitting, riser, reducing fittings, 1½" valve, nipples, reducing fittings as required to connect to a 1½" lateral. Mock-up shall be approved by the Engineer before any valves are installed in system.
- B. Install remote control valves where and as shown and on drawings and group together on a manifold with ball valve. Maximum three remote control valves per manifold. Limit one remote control valve per box, except where noted otherwise on plans.
- C. Provide 12 inches between valve boxes where valves are grouped together.
- D. Thoroughly flush mainline before installing valves.
- E. Remote control valves to be supplied with latching solenoids; see plans and notes.

### 3.08 WIRE SPLICE ASSEMBLY

- A. The wire splice assembly shall splice and effectively moisture seal two or more conductors. The device shall be installed per manufacturer's instructions and all applicable electrical codes.
- B. Control wires shall be installed between controller and remote control valves without splices. Make all wire splices in a splice box with locking top.
- C. Wires to be as listed above and described on the plans.

### 3.09 CONTROL WIRING

- A. Control wires shall have same minimum cover as main line.

- B. Run valve control wires along mains wherever practical. Tie wires in bundles with electrical tape at 10-foot intervals and allow slack for contraction.
- C. Where control wires do not follow the main line, they shall be installed within a 2" Sch. 40 PVC conduit with 24 inches minimum cover or as otherwise specified on the plans.
- D. Wire runs and installation to conform to notes on irrigation drawings meeting specifications for two-wire system.
- E. Control wires shall be continuous between the valve and the controller. If required, locate all splices within a separate box. Do not direct bury any wire splices.
- F. Where control wires pass under paving, they shall be contained in a separate 2" Schedule 40 PVC electrical conduit. Include pull rope in conduit.

### 3.10 BALL VALVES

- A. Install in valve box as detailed on drawings or in specifications. Install line size ball valves with concrete thrust block as detailed on plans.

### 3.11 VALVE BOXES

- A. Remote Control Valve Boxes:
  1. Install four common bricks (one at each corner of box) under base of box for support.
  2. Install 3/4 inch clean rounded drain rock 6 inches deep under valve and inside box for drainage.
  3. No soil will be permitted inside box. Use box extensions as necessary.
  4. Install aluminum label plate on valve box lid as shown on the drawings.
  5. Provide coil of slack wire as described on the drawings.
- B. Ball Valve and Quick Coupling Valve Boxes:
  1. Install four common bricks (one at each corner of box) under base of box for support.
  2. Install 3/4 inch clean rounded drain rock 6 inches deep under valve and inside box for drainage as detailed.
  3. No soil permitted inside box.
- C. Splice Boxes:
  1. Install two common bricks (one on each side) under base of box for support.
  2. Install 3/4 inch diameter clean rounded drain rock 6 inches deep inside box.
  3. No soil permitted inside box.
  4. Spliced wire shall be coiled (1 inch dia.) with 2 feet of extra wire and each wire end weatherproofed with a splice seal assembly.
  5. All splice box locations shall be indicated on as-built drawings and the origin of the wires shall be noted.

### 3.12 SPRINKLERS AND BUBBLERS

- A. All pop-up irrigation sprinklers shall be installed with double swing joints and shall be set perpendicular to the finish grade.



- B. Thoroughly flush lateral lines before installing sprinklers.
- C. Locate and install sprinklers as shown and dimensioned on the drawings and details.
- D. Adjust sprinkler heads for proper distribution and arc of coverage. Adjust the top of sprinklers to be flush, or slightly below, finish grade.
- E. Where sprinklers are adjacent to curbs or walks, locate the heads within 6 inches of curbs and walks.
- F. Bubblers shall be installed on flex risers or deep watering tubes as described on the drawings.
- G. Layout of turf rotors per plan is critical to the efficiency of the system. Staking of head locations by surveyor is encouraged.

### 3.13 CONNECTION TO IRRIGATION CONTROLLER

- A. Connect control wires to the controller per manufacturer's specifications for two-wire system.
- B. The hydrometer, and rain switch shall be connected to appropriate terminals. Full functionality of each shall be tested and verified. Confirm controller is programmed for "normally open" master valve.

### 3.14 BACKFILLING

- A. Do not allow nor cause any work to be covered or enclosed until it has been inspected, tested and approved by the Engineer. Should any work be enclosed or covered before inspection and test, the work shall be uncovered at the Contractor's expense, and after it has been inspected, tested and approved, the work shall be recovered.
- B. All mainline piping and lateral lines shall be bedded and backfilled with sand as shown in detail on the plans.
- C. Place clean soil backfill material in 8-inch layers and compact by jetting or tamping to a minimum compaction of 90 percent of original soil density.
- D. Dress off areas to finish grades and remove excess soil, rocks or debris remaining after backfill is completed.
- E. If settlement occurs along trenches, and adjustments in pipes, valves, sprinkler heads, turf or paving are necessary to bring the item to the proper level or permanent grade, the contractor, as part of the work under this Contract, shall make all adjustments without extra cost to the City.

### 3.15 PRESSURE TESTS

- A. Contractor shall notify the Engineer at least 72 hours in advance of testing.
- B. Perform testing at Contractors own expense.
- C. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
- D. Leakage Tests – PVC Main Line
- E. Pressure test main line piping at 150 psi for 24 hours and visually inspect for leaks. Retest after correcting defects.
- F. Apply the following test after solvent weld plastic pipe joints have cured at least 24 hours.
  - 1. Test lateral lines with water at 100 psi for 2 hours and visually inspect for leaks. Retest after correcting defects.

### 3.16 OPERATIONAL TESTS

- A. Adjust valves and align and adjust the arc and radius of each head for proper coverage.
- B. In the presence of the Engineer, the Contractor shall activate each valve by the automatic controller. All sprinkler and bubbler systems must be confirmed as operating correctly prior to beginning planting operations.

### 3.17 CLEAN-UP

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

### 3.18 GUARANTEES

- A. The Contractor shall guarantee all work defects and malfunctions due to faulty workmanship or defective material for a period of one year from the date of final acceptance by the Engineer. Upon being informed by the Engineer of any defects or malfunctions, the Contractor shall provide necessary repairs and/or replacements according to specifications in a reasonably expedient manner at no additional cost to the City.
- B. Emergency repairs, when necessary, may be made by the City without relieving the Contractor of his guarantee obligation. The Contractor is also obligated to restore any and all damaged plantings, paving, or other improvements where damage was a result of the improper operation of the system.

## PART 4 - MEASUREMENT AND PAYMENT

Payment for the installation of the irrigation system, complete, in place, and fully operational, shall be made at the contract lump sum price, which shall be considered full compensation for furnishing all labor, materials, equipment, tools, transportation, and incidentals necessary for installation of the irrigation system, complete, in place and fully operational. This shall include

excavation, connections, backfill, compaction, system testing, protection of system, protection of any and all utilities, coordination with other trades, removal and disposal of extraneous and surplus materials, restoration of areas disturbed by the work, and clean-up related to the completion of this work, as shown on the drawings and described in these specifications and Special Provisions, to the satisfaction of the Engineer.

## **SECTION 26**

### **AGGREGATE BASE**

**26-1.01 Aggregate Base:** Aggregate base shall be Class 2 conforming to and placed in accordance with the requirements of Section 26 of the City Specifications, with the following modifications and additional requirements.

Rolling shall commence immediately after spreading of the damp material and before the material has dried sufficiently to allow separation between the fine and coarse particles.

**26-1.02B Quality Requirements:** The minimum sand equivalent shall be 31 for any individual test.

**26-1.03D Compacting:** The surface of the finished aggregate base shall be firm and unyielding. Any visible movement vertically or horizontally of the aggregate base under the action of construction equipment or other maximum legal axle loads shall be considered as evidence that the aggregate base does not meet this requirement.

**26-1.04 Payment:** **Class 2 Aggregate Base** is considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor and shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and placing the base material as specified, including furnishing, hauling and applying water as specified and directed by the Engineer.

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## SECTION 26A PERMEABLE BASE

**26A-1.01 Permeable Base:** Permeable base shall be Class 2 conforming to and placed in accordance with the requirements of Section 26 of the City Specifications, with the following modifications and additional requirements.

Rolling shall commence immediately after spreading of the damp material and before the material has dried sufficiently to allow separation between the fine and coarse particles.

**26A-1.02B Class 2 Permeable material:** The percentage composition by weight of Class 2 permeable material in place must comply with the grading requirements shown in the following table:

Class 2 Permeable Material Grading Requirements	
<u>Sieve sizes</u>	<u>Percentage Passing</u>
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

**26A-1.03D Compacting:** The surface of the finished aggregate base shall be firm and unyielding. Any visible movement vertically or horizontally of the aggregate base under the action of construction equipment or other maximum legal axle loads shall be considered as evidence that the aggregate base does not meet this requirement.

**26A-1.04 Payment:** **Class 2 Permeable Base** is considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor and shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and placing the base material as specified, including furnishing, hauling and applying water as specified and directed by the Engineer.

## 39 HOT MIX ASPHALT

### **39-1.01 General:**

**39-1.01A Summary:** Section 39 includes specific specifications for producing and placing Hot Mix Asphalt (HMA) by mixing aggregate and asphalt binder at a mixing plant and spreading and compacting the HMA mixture.

**39-1.01B Definitions:** For these specifications, HMA and asphalt concrete shall be the same.

At the Contractor's option, and at no additional expense to the City, a Cal-trans approved Warm Mix Asphalt (WMA) technology may be added to the HMA. However, the asphalt concrete shall be manufactured at HMA temperatures (300F +/- 25F) at a dosage rate approved by the Engineer. All other HMA project specifications shall be adhered to.

Use Section 39-3 Method construction process of these specifications for HMA production and construction.

**39-1.01C Description:** Asphalt concrete shall be placed in separate lifts as shown on the Project Plans.

Roadway excavation and asphalt concrete base paving shall be completed for half the street width before beginning excavation of the remaining street.

All existing asphalt concrete that is adhered to the top of gutters shall be removed prior to placement of new asphalt concrete surface in a manner satisfactory to the Engineer and that does not damage the gutter.

Asphalt concrete base shall be placed on the same day the area is excavated so that all areas will either have existing asphalt surface or new asphalt concrete base by the end of each working day. No subgrade areas shall be exposed or open to traffic during non-working hours.

Asphalt concrete base paving shall be accomplished by use of a paving machine. The asphalt mix shall be transferred from the trucks to the hopper of the paving machine by means of a shoulder machine equipped with a side caster. Any equipment used to transfer asphalt concrete to the paving machine shall not exceed the load capacity of any surface it is driven over and shall not produce rutting or pumping of the existing roadway surface or newly placed asphalt concrete base at any time.

Construction vehicles/equipment shall not be allowed on the newly placed asphalt concrete base until the day after it is placed. Super Dumps or other trucks with liftable trailing load bearing axles shall not be allowed on the newly placed asphalt concrete base at any time. All trucks or other construction equipment to be driven on the newly placed asphalt concrete base shall not exceed the surface load bearing capacity and shall not produce rutting or pumping at any time.

All longitudinal surface paving joints shall fall on a lane line. Longitudinal Subsurface paving joints shall be offset by at least 6 inches.

No longitudinal vertical drop offs will be allowed between the lanes when the roadway is opened to traffic. Where a longitudinal vertical drop off occurs along the roadway crown between the existing street surface and the new asphalt concrete base, the Contractor shall grind a 10:1 taper in the existing surface to make a temporary conform to accommodate traffic. The temporary taper shall be ground after the asphalt concrete base paving has been completed each day.

Where a vertical drop off will occur between the top of the new asphalt concrete base and a valley gutter, driveway, or side street conform, the Contractor shall install a temporary 10:1 asphalt taper.

Where a vertical drop off would occur between the asphalt concrete base and a pedestrian ramp, the Contractor shall install a temporary 12:1 asphalt taper.

All ground edges adjacent to curb ramps and driveways shall have temporary asphalt concrete ramps (tapers) installed if the asphalt concrete surfacing cannot be placed back the same day the existing pavement is removed. Kraft paper or other bond breaker shall be placed under the conform ramps to facilitate removal when paving operations start. Kraft paper or other bond inhibitor shall be placed under the temporary asphalt taper to facilitate removal when paving operations resume.

Temporary asphalt tapers and associated bond breaker material shall be removed prior to placement of the asphalt concrete surface lift. Where the bond breaker material adheres to the asphalt concrete base course it shall be fully removed with a method, approved by the Engineer that will in no way degrade the quality of the final product.

The Engineer shall provide reference points and cut sheets for the placing of asphalt concrete base and asphalt concrete surface.

The Contractor shall furnish an excavation and paving plan which shall include the following:

1. Requested location for survey staking of reference points
2. Asphalt plant supplying mix including aggregate source
3. Disposal site for spoils
4. Type of trucks and equipment to be used
5. Haul routes through adjacent residential streets
6. Staging locations
7. Sequencing
8. Taper grind locations

The Contractor shall set a string line based on the reference points to control the grade of the paving machine along the crown line. A rotary laser level may be used in lieu of a string line provided the level can be accurately set to the design centerline slope, and the detector is directly mounted to the paving machine screed to control the grade of the paving along the crown line. The Contractor shall also furnish a grade setter to insure that the asphalt concrete base and asphalt concrete surface paving conforms to the lines and grades established by the Engineer.

A tack coat of SS-1h or SS-1 emulsified asphalt shall be applied to all asphalt concrete and concrete surfaces, and allowed to break immediately in advance of placing all lifts of asphalt concrete. Unless otherwise shown on the Plans, tack coat shall also be applied to all vertical mating surfaces and conforms to existing pavement, curbs, gutters, and construction joints, and allowed to break immediately in advance of placing all lifts of asphalt concrete. The tack coat shall be reapplied 1) where it becomes contaminated, and 2) where it is significantly tracked (removed) from the surface.

The asphalt concrete base and asphalt concrete surface courses shall be allowed to cool to 160° F at mid depth before the roadway is opened to traffic each day.

At the end of each working day the Contractor shall place retro reflectorized signs and delineators, as required for night time use in accordance with the Standard Specifications and Section 12 of these Special Provisions to warn the public of the existing conditions.

At the end of each work day during paving operations the location of all valves, manholes, monuments and any other facility overlaid with asphalt concrete and required to be raised to grade shall be marked in white paint.

Edge Grind shall be in accordance with City STD-209, the modified detail on the Plans or as specified herein. Longitudinal edge grinds shall be 6' in width.

### **39-1.02 Materials**

**39-1.02B Tack Coat:** Tack coat must comply with the specifications for asphaltic emulsion or asphalts. Tack coat shall be diluted SS1 or SS1h.

**39-1.02C Asphalt Binder:** Asphalt binder in HMA must comply with the specifications for asphalts.

Asphalt binder to be mixed with aggregate for asphalt concrete surface, leveling and base shall be PG64-16 grade paving asphalt.

The amount of asphalt binder to be mixed with the aggregate shall be specified by the Engineer at the time of paving. Different asphalt binder content may be specified for each lift and each location.

Liquid anti-stripping agent (LAS) shall be added to the asphalt binder at a rate of 0.5 to 1.0% by weight of asphalt binder. The LAS shall be AD-here LOF 65-00 or equivalent, and shall be stored, measured, and blended with the asphalt binder in accordance with the anti-stripping agent manufacture's recommended practice. The LAS can be added at



the asphalt plant or at the refinery. When added at the asphalt plant, the equipment shall indicate and record the amount of LAS added. If added at the refinery, the shipping ticket from the refinery shall certify the type and amount of LAS added.

**39-1.02E Aggregate:** The aggregate grading of the various types of asphalt concrete shall conform to one of the following as directed by the Engineer:

Surface or Leveling Course... 3/4-inch HMA Type A, or 1/2-inch Coarse HMA Type A, or 1/2-inch Medium HMA Type A

Base Course..... 3/4-inch HMA Type A

Aggregates should be of high abrasion resistance and durability. Excessively soft and friable aggregates are not allowed.

The specified aggregate gradation must be determined before the addition of asphalt binder and includes supplemental fine aggregate.

The proposed aggregate gradation must be within the TV limits for the specified sieve sizes shown in the following tables:

**Aggregate Gradation  
(Percentage Passing)  
HMA Types A**

**3/4-inch HMA Type A**

Sieve sizes	TV limits	Allowable tolerance
1"	100	--
3/4"	95–100	TV ± 5
3/8"	65–80	TV ± 5
No. 4	49–54	TV ± 5
No. 8	36–40	TV ± 5
No. 30	18–21	TV ± 5
No. 200	2.0–8.0	--

**1/2-inch Coarse HMA Type A**

Sieve sizes	TV limits	Allowable tolerance
3/4"	100	—
1/2"	94–100	--
3/8"	70–90	--
No. 4	55–61	TV ± 5
No. 8	40–45	TV ± 5
No. 30	20–25	TV ± 5
No. 200	2.0–8.0	--

**1/2-inch Medium HMA Type A**

Sieve sizes	TV limits	Allowable tolerance
3/4"	100	--
1/2"	95–100	--
3/8"	80–95	--
No. 4	59–66	TV ± 5
No. 8	43–49	TV ± 5

No. 30	22-27	TV $\pm$ 5
No. 200	2.0–8.0	--

Before the addition of asphalt binder and lime treatment, aggregate must have the values for the quality characteristics shown in the following table:

Quality characteristic	Test method	HMA Type A
Percent of crushed particles Coarse aggregate (% min.) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90 75    70
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	California Test 211	10 45
Sand Equivalent (min.) <sup>a</sup>	California Test 217	50 <sup>b</sup>
Fine aggregate angularity (% min.)	California Test 234	45
Flat and elongated particles (% max. by weight @ 5:1)	California Test 235	10

<sup>a</sup> Reported value must be the average of 3 tests from a single sample.

<sup>b</sup> Minimum Sand Equivalent of 45 for asphalt concrete base.

**39-1.02F Reclaimed Asphalt Pavement:** Reclaimed Asphalt Pavement (RAP) may be used at the Contractor's option. If RAP is used, the Contractor shall provide the proposed mix design and the quality control for all HMA that includes RAP, in accordance with the following requirements:

1. Contractor shall provide City with a mix design per California Test 384 for the proposed RAP HMA.
2. As part of City's evaluation of RAP HMA, Contractor and City shall perform bitumen ratio tests on at least six split samples of Contractor's RAP to establish correlation between respective binder ignition ovens.
3. RAP shall be processed from reclaimed Asphalt Concrete pavement only.
4. RAP pile(s) shall be separate from the stacker pile, not intermingled with other materials, and stored on smooth surfaces free from debris and organic material.
5. The project RAP pile shall be processed and mixed, identified, and of adequate quantity for the proposed project. "Live" piles shall not be permitted.
6. Contractor shall sample the RAP pile and determine the bitumen ratio (using same binder ignition oven used in #2 above) and provide the test results to the City at least one week prior to producing RAP HMA.
7. A minimum of three samples shall be tested for bitumen ratio for RAP pile of 1500 tons, or portion thereof.
8. RAP pile shall be mixed such that individual bitumen ratio test results of RAP pile so not vary more than +/- 0.5%.

9. During RAP HMA production, RAP shall be sampled by the Contractor off of the belt (into the batch plant), per method established by the City, and samples provided to the City.
10. Bitumen ratio of RAP sampled off of the belt shall be 4.0% minimum, as determined by City binder ignition oven. City shall select binder content for RAP HMA mix per Specifications.
11. RAP content shall be no more than 20% by dry aggregate mass in the HMA. If proposing a change in the RAP content, the Contractor shall notify the Engineer. If the content changes more than 5%, the Contractor shall submit a new mix design.
12. Moisture content of RAP pile shall be 4.0% maximum, and shall be tested the day prior to the day of paving and tested/monitored during each day of HMA production.
13. RAP pile(s) shall be protected from exposure to moisture.
14. RAP HMA shall comply with all the specifications for HMA.
15. If batch mixing is used, RAP shall be kept separate from the virgin aggregate until both ingredients enter the weigh hopper or pugmill. After introduction to the pugmill and before asphalt binder is added, the mixing time for the virgin aggregate and RAP shall not be less than five seconds. After asphalt binder is added, the mixing time shall not be less than 30 seconds.
16. If continuous mixing is used, the RAP shall be protected from direct contact with the burner flame with a device such as a shield, separator, or second drum.
17. If any of the above criteria are not satisfied, or if the RAP HMA test result determined by the City are inconsistent, RAP HMA production shall stop for City projects until the issue(s) are corrected.

### **39-1.03 HOT MIX ASPHALT MIX DESIGN REQUIREMENTS:**

#### **39-1.03E Job Mix Formula Verification: (Not Applicable)**

#### **39-1.08 Production**

**39-1.08A General:** During production, with approval of the Engineer, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

#### **39-1.12 Smoothness**

**39-1.12A General:** Determine HMA smoothness with a straightedge. The completed surfacing shall be thoroughly compacted, smooth and free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete by blading or other equipment shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations or other objectionable marks in the asphalt concrete shall be discontinued, and acceptable equipment shall be furnished by the Contractor.

**39-1.13 Hot Mix Asphalt On Bridge Decks:** The aggregate grading of the asphalt concrete shall be as directed by the Engineer.

**39-1.14 Miscellaneous Areas and Dikes:** The aggregate grading for asphalt concrete placed on miscellaneous areas shall conform to that specified for the asphalt concrete placed on the traveled way, unless otherwise directed by the Engineer.

Dikes shall be shaped and compacted with an extrusion machine or other equipment capable of shaping and compacting the material to the required cross section.

**39-1.15 Minor Hot Mix Asphalt: (Not Applicable)**

**39-3.02 Acceptance Criteria**

**39-3.02A Testing:** The acceptance testing requirement for Sand Equivalent shall be 50 (minimum) for asphalt concrete surface and 45 (minimum) for asphalt concrete base. HMA shall meet the following requirements.

Aggregate Micro-Deval (ASTM D6928-10) <sup>1</sup>	Tensile Strength Ratio, TSR (ASTM D7870) <sup>2</sup>
≤16.0%	Not Required
16.1-18.0%	70 (minimum)
18.1-21.0%	80 (minimum)

<sup>1</sup> Asphalt concrete with an aggregate Micro-Deval loss greater than 21.0% shall be removed and replaced at the Contractor's expense. In addition, no single source of asphalt concrete aggregate shall have a Micro-Deval loss greater than 21.0%.

<sup>2</sup> TSR testing shall be performed on re-compacted asphalt concrete (per ASTM D7870), obtained from field cores, and tested within 30 days of asphalt concrete placement. Specimens tested shall include 1 unconditioned sample, and 2 conditioned samples as follows:

- a) 20.0 hour Adhesion cycle @ 60°C
- b) 3500 cycles @ 40 psi and 60°C

A single TSR test shall not represent more than 750 tons of asphalt concrete. Asphalt concrete not meeting the above requirements shall be removed and replaced at the Contractor's expense.

**39-3.04 Transporting, Spreading, and Compacting:** Numbers of coverages.

Test sections shall be approved on the basis of the attainment of 93% relative compaction and a satisfactory surface condition following final rolling. The number of coverages required shall be the minimum number required to obtain 93% relative compaction. Relative density shall be the ratio of in-place density (ASTM Test Method D2950) to test maximum density (California Test 309, Method of Test for Determining Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt) determined during production paving.

The HMA may be cored during paving of the test sections, and the in-place density for each test section shall be the average of three core densities determined per California Test 308.

**39-6 Payment: Asphalt Concrete Surface** shall be paid for at the contract price per **ton**, which price shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved in placing asphalt concrete surface and overlay, including tack coat and overlay conforms, and no additional allowance will be made therefor.

**Conform Grind** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved in conform grinding, including but not limited to drop-offs and tapers, as specified herein, and no additional allowance will be made therefor.

Full compensation for removing existing asphalt concrete from top of gutters shall be included in the contract price for asphalt concrete surface and no additional allowance will be made therefor.

Full compensation for furnishing weigh master's certificates shall be considered as included in the contract price paid per ton for asphalt concrete and asphalt concrete base and no additional allowance will be made therefore.

[Lab STD2010]

## **SECTION 56**

### **SIGNS**

#### **56-1 Payment**

**Park Rules Signs** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing the park rules signs in place as shown on the plans and as specified herein.

**Monument Signs** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing the monument signs as shown on the plans and as specified herein.

## 64 PLASTIC STORM DRAIN PIPE

**64-1.01 Description:** All plastic storm drain pipes and associated appurtenances shall be constructed in accordance with the City Standards.

**64-1.02 Materials:** Plastic pipe for use in public storm drain systems shall be 8 inches in diameter, Type S, smooth interior wall, corrugated exterior wall, high density polyethylene pipe (HDPE) as specified in AASHTO designation M294. Curb drains shall be 3" Sch 40 PVC.

**64-1.02E Joints:** Joints shall be in accordance with Section 64-1.05 Couplings and Fittings of the City Standards. Pipe and fittings shall be joined with a bell-and-spigot joint meeting AASHTO M252, AASHTO M294, or MP7. The joint shall be silt tight with o-ring gaskets made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on gasket and bell during assembly. The spigot shall be pushed into the bell to the "home line" on the pipe.

**64-1.03 Excavation and Backfill:** Excavation and backfill shall be in accordance with Section 64-1.05 of the City Standards. All trench excavation material from trenches, including any removed portions of the existing storm drain pipe, shall be the property of the Contractor. Excavated material shall not be disposed of on the work site. Prior to disposal of any material, the Contractor shall submit to the Engineer written authorization for such disposal of material and entry permission signed by the owners of the disposal site, and shall comply with any other requirements of disposal, such as City and County permits, as may be required.

Excavation and backfill shall be as shown on Standard 215 Standard Trench Detail of the City of Santa Rosa Standard Plans and the following provisions.

Minimum trench width shall be as follows:

<u>Pipe Size, Inside Diameter</u>	<u>Trench Width (inches)*</u>
4	12
8	18
15	30
18	36
24	48

\* If this is not sufficiently wide for the materials and methods proposed, a wider trench allowing for proper installation should be constructed.

Pipe bedding will be placed in 6-inch (maximum) lifts to six inches above the top of pipe with each lift hand or mechanically tamped. The final lift can be compacted with a plate type vibrating compactor.

**64-1.03C Laying Pipe:** Laying Pipe shall be in accordance with Section 64-1.07 of the City Standards. Plastic storm drain pipe shall be installed in accordance with the Standard Specifications, generally accepted practice and on the alignment and grade as shown on the plans. When long radius curves are permitted, adjustments in horizontal alignment will be

achieved through adjustments at each coupling, within manufacture's specification, and not by bending of the pipe.

Unless otherwise specifically permitted by the Engineer, all pipe shall be laid upgrade.

Where ground water or surface drainage occurs, pumping shall continue until backfilling has progressed to a sufficient height to prevent floatation of the pipe.

**64-1.04 Payment:** Full compensation for removing and disposing of existing storm drain pipes encountered during trenching shall be considered as included in the price paid for Storm Drain Pipe.

**8" Storm Drain** shall be paid for at the contract price per **linear foot** (as determined by measuring the total horizontal length of pipe installed) which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 8" storm drain piping installation, including but not limited to: excavation and disposal of excavated materials; dewatering and disposal of trench groundwater; storm drain piping and fittings as required; placing and compacting all required bedding and backfill; as specified herein, and no additional allowance will be made therefor.

**4" Storm Drain** shall be paid for at the contract price per **linear foot** (as determined by measuring the total horizontal length of pipe installed) which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 4" storm drain piping installation, including but not limited to: excavation and disposal of excavated materials; dewatering and disposal of trench groundwater; storm drain piping and fittings as required; placing and compacting all required bedding and backfill; as specified herein, and no additional allowance will be made therefor.

**3" Curb Drain** shall be paid for at the contract price per **linear foot** (as determined by measuring the total horizontal length of pipe installed) which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in installing 3" curb drain piping, including but not limited to: excavation and disposal of excavated materials; core-drilling through existing curb and disposal of removed concrete; 3" pipe and fittings; connecting to atrium grate drain in rain gardens; placing and compacting all required bedding and backfill; as specified herein, and no additional allowance will be made therefor.

**64-1.05 Trench Shoring and Bracing - Storm Drain:** All bracing and shoring shall conform to Section 65-2 of these Special Provisions.

#### **64-2 Trench Shoring and Bracing**

**64-2.01 Description:** All bracing and shoring shall conform to Section 65-2 of these Special Provisions.



## **SECTION 65**

### **STORM DRAIN STRUCTURES**

**65-1 Description:** Storm drain structures shall be constructed in accordance with applicable sections of City Standards, the details shown on the plans, and these Special Provisions. Storm drain structures are storm drain manholes, catch basins, and private drain inlets.

**65-1.02 Drainage Structures:** Excavation and backfill associated with the installation of manholes under this contract shall be in accordance with these Special Provisions, Plans, City Standards and Specifications, Standard Plans and Specifications, and as directed by the Engineer.

Concrete for storm drain structures shall be Class "A" portland cement concrete conforming to the requirements of Section 90 of these special provisions of the Standard Specifications, July 2010 edition.

The top of rim shall be set accurately to the final finished grade in paved streets and to the elevation shown in unimproved areas.

All excavation material shall be the property of the Contractor. Excavated material shall be removed as it is generated, and at no time shall the Contractor place excavated material at the work site. Prior to disposal of any material, the Contractor shall submit to the Engineer written authorization for such disposal of material and entry permission signed by the owners of the disposal site, and shall comply with all other requirements of disposal, such as City and County permits, as may be required.

12" Drain Inlets shall be NDS 12" x 12" Tapered Polyethylene Catch Basin with 12" square polyethylene grate with openings and risers as needed, or approved equal.

8" Atrium Grate Drain shall be 8" Nyloplast domed ductile iron grate drain, or approved equal.

**65-1.03 Payment: 12" Drain Inlets:** Shall be paid for at the contract price per **each** which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 12" drain inlet installation, including but not limited to: excavation and disposal of excavated materials; placing and compacting all required bedding and backfill; complete as shown on the plans and as specified herein, and no additional allowance will be made therefor.

**8" Atrium Grate Drain :** Shall be paid for at the contract price per **each** which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 8" atrium grate drain installation, including but not limited to: excavation and disposal of excavated materials; placing and compacting all required bedding and backfill; complete as shown on the plans and as specified herein, and no additional allowance will be made therefor.

## **65-2 Trench Bracing and Shoring**

**65-2.01 Description:** All bracing and shoring shall conform to Section 7-1.02K(6)(b)(1) of the Standard Specifications and the Division of Industrial Safety Construction Safety Orders which are currently in use.

The Contractor shall take all necessary measures to protect the workmen and adjacent areas and structures from the hazards of the trenching or excavation operations.

**65-2.05 Payment:** Full compensation for **Trench Bracing and Shoring** shall be considered as included in the prices paid for the various contract items of work which price shall include furnishing all labor, materials, tools and equipment and doing all work involved in trench bracing and shoring as specified herein, and no additional allowance will be made therefor.

## **SECTION 73**

### **CONCRETE CURBS, SIDEWALKS, AND PAVING**

**73-1.01 Description:** Work includes, but is not necessarily limited to, the following: miscellaneous slabs, footings, mowstrips, sidewalks, plazas, pathways, decorative bands, and playground containment band; integral concrete coloring; concrete joints and finishes; finish sample mock-ups.

Materials and procedures for forming and reinforcing concrete shall conform with Sections 51, 52, and 90 of the Caltrans Standard Specifications, unless otherwise noted in the Drawings or in these Specifications.

All concrete to be removed shall be disposed of by the Contractor away from the site of work. All concrete shall become the property of the Contractor and shall be immediately off-hauled. None of the removed concrete shall be dumped or stockpiled on the work site. The Contractor shall dispose of all removed concrete at a recycler for this material. The Contractor's attention is directed to Section 124, Material Recycling, of these Special Provisions.

**73-1.02 Concrete Mix:** Concrete shall be Portland cement concrete conforming to Section 90 of these Special Provisions and Caltrans Standard Specifications.

Contractor shall submit the following prior to preparing mock-ups: mix designs and lab tests for all concrete components and ad-mixtures, material cut sheets for expansion joint materials and filler, and manufacturer's product data for all coloring agents listed on the drawings.

Contractor shall prepare 3'x3' test slabs for each finish described on the plans. Test slab shall demonstrate color, finish treatment, control joints, and edge tooling. Contractor shall allow for costs and time to provide two test slabs for each finish. Additional tests may be negotiated at the request of the Engineer. Approved samples to be kept on site until flatwork is completed and approved.

Forming and reinforcing shall be observed and approved by the Engineer before the concrete is poured. Any observation by the Engineer of the concrete work shall be requested by the Contractor at least two (2) working days prior to the anticipated observation.

**73-1.03 Joints:** Joints shall be constructed in accordance with the details shown on the Project Plans. Contraction joints shall be formed with hand-tools. Expansion joint material shall be premolded joint filler conforming to Caltrans Standard Specifications. Expansion joint caulk shall be an approved polyurethane sealant, conforming Caltrans Standard Specifications, color to match at least one adjacent surface.

**73.1.04 Other Materials:** Formwork materials shall conform to Caltrans Standard Specifications. Base rock shall be Class 2 aggregate base as specified on the drawing. Joints shall be constructed in accordance with the details shown on the drawings. Contraction joints shall be formed with hand-tools.

Reinforcing bars (rebars) shall be intermediate grade deformed bars conforming to Section 52-1.02B of the Caltrans Standard Specifications. Bars shall be clean, new stock, free of rust, scale, or other coatings that could affect the bond between the bars and the concrete.

**73-1.05 Concrete Color:** Concrete Pavement: Integral Color Per Plan and shall be submitted to the Engineer for approval.

**73-1.06 Tests:**

Contractor shall supply (2) concrete testing cylinders with each delivered load. At the discretion of the Engineer, all non-structural concrete (e.g. flatwork) may be tested by an independent or city testing laboratory for conformance with the plans and Specifications. Testing services for this non-structural concrete will be paid for by the City.

Concrete which does not conform to the requirements of the plans and Specifications as determined by testing, shall be removed from the site and replaced at the Contractor's expense. In the event that the concrete does not conform to the requirements of the plans and Specifications as determined by testing, the Contractor is to reimburse the Owner for all testing costs related to the non-structural concrete. The engineer retains the right to test replaced concrete, and require that the Contractor reimburse the Owner for these additional testing expenses.

**73-1.07 Grade Tolerance:** The aggregate base to receive P.C.C., immediately prior to placing, shall conform to the compaction and elevation tolerances specified, and shall be free of loose or extraneous material. Aggregate base shall be uniformly moist, and any excess water standing in pools or flowing on the surface shall be removed prior to placing concrete.

**73-1.08 Stationary Side Form Construction:** Concrete pavement shall be placed using stationary side form construction and shall conform with Section 40-1.03F(4) of the Caltrans Standard Specifications, and as specifically outlined, or unless otherwise noted in the Drawings.

All surfaces which will be below grade or totally hidden from view shall conform to "Ordinary Surface Finish" Section 51-1.03F(2) of the Caltrans Standard Specifications. All surfaces exposed to view shall conform to "Class I Surface Finish," Section 51-1.03F(3) unless otherwise noted on the drawings. The Contractor shall build forms with degree of care, and shall select form materials of adequate strength and smoothness to produce smooth, even surfaces of uniform texture and appearance, free of unsightly bulges, depressions, or other imperfections. The Engineer shall be the sole judge in this respect.

Transition of curves to straight lines and of curves to curves shall be formed as smooth, continuous, and uninterrupted, with typical ninety-degree (90°) radius alignment at the points of tangency. Curves and arcs shall be smooth and of consistent radius. Deviations shall not exceed the lesser of 0.25' or 0.1% of the listed dimension.

Form vertical surfaces to full depth and securely position to required lines and levels. Ensure form ties are not placed so as to pass through concrete. Arrange and assemble formwork to permit easy dismantling and stripping and to prevent damage to concrete during formwork removal. Before concrete is placed in forms, all inside surfaces of forms which will later be removed shall be thoroughly coated with commercial quality form oil, unless otherwise noted, as specified, which will permit the ready release of the forms and will not discolor the concrete.

Contractor shall verify the design intent, prior to placing concrete, whenever an unusual or non-standard condition becomes evident during forming.

**73-1.09 Final Finishing:** Concrete paving final finishing shall conform to the plans, these Special Provisions, and Section 40-1.03H(3) "Final Finishing" of the Standard Specifications as modified herein.

In advance of curing operations, the pavement surface shall be finished to grade and cross section with a float, and troweled smooth. Concrete adjacent to the joints and lip of gutter shall be finished with and edger tool. All edges of slabs, curbs and other structures shall be tooled with one-half (1/2) inch radius edging tool, unless otherwise specified in the Drawings. All flange marks resulting from tooling of edges shall be carefully troweled out.

Surfaces shall be broom finished transversely to the line of traffic. If water is necessary, the water shall be applied immediately in advance of brooming.

Fixed forms shall not be removed in less than 12 hours after the finishing has been completed.

All concrete work shall display even surfaces of uniform texture and appearance, free of unsightly bulges, depressions, and other imperfections. The Engineer shall be the sole judge in this respect. Patching of concrete to disguise flaws, imperfections, or other damage shall commence only with the approval of the Engineer. Patching finish shall conform to the original adjacent concrete color and finish, and the Engineer shall be the sole judge in this respect.

All oil, paint, tire marks, and other discoloring shall be removed from concrete by sandblasting prior to acceptance by the Engineer. Cement mortar will not be an acceptable substitute for sandblasting.

Flatwork shall have a minimum pitch of one percent (1%), and two percent (2%) maximum unless otherwise noted on the drawings. The finished surface shall be within the tolerance specified when a 12-foot straight edge is utilized. Finish surface shall drain properly with no areas of standing water. Tops of curbs shall be level unless otherwise specified.

Flatwork shall in no case exceed allowable cross-slopes or directional grading without required accommodations. In the event field conditions create a discrepancy between the design drawings and applicable code, contractor to notify the engineer prior to proceeding with work.

**73-1.10 Methods of Curing:** The P.C.C. shall be cured using the same methods used during implementation of Section 40-1.02, "Concrete Mix" of these Special Provisions.

The Contractor shall use a pre-approved concrete admixture to obtain the necessary strength within the specified timeframe.

Concrete that is uncured at the end of the work day shall be protected in a manner approved by the Engineer, this may require trench plates. All newly placed concrete shall be protected in accordance with the provisions in Section 90-1.03C "Protecting Concrete" of the Caltrans Standard Specifications. Specifically, the Contractor shall provide all necessary security to protect the concrete from vandalism before it sets and hardens. Vandalism to uncured concrete surface shall be removed. If it cannot be removed from the surface, then the vandalized concrete shall be removed and replaced to the nearest score mark at no additional cost to the City.

**73-1.11 Built-Ins:** See Drawings for built-ins to be coordinated with concrete work (e.g. fence posts, site furnishings footings, art work, drinking fountains, etc.). Tops of embedded footings of furnishings shall be set below the base rock of finished concrete surface per detail. Posts shall

then be wrapped with 1/8" foam expansion joint material and slabs to be poured up to post. Remove foam joint filler and seal with polyurethane sealant.

**73-1.12 Curb Construction:** Curb construction shall be in accordance with Section 73-1.05 of the City Standards. Curb construction shall be in conformance to the details and at the locations shown on the plans and in accordance with City Specifications.

Curb and gutter shall be constructed in conformance to City STD-241, the details and locations shown on the plans and in accordance with the City Specifications.

Curb openings shall be constructed at locations indicated on the plans or directed by the Engineer.

All concrete which is to be removed from curb, gutter, and driveway areas shall be removed to the nearest construction joint or as directed by the Engineer.

Curb and gutter shall be cured in accordance with the requirements of Section 90 of the Standard Specifications except that the Contractor may substitute other than a pigmented sealer upon the approval in writing of such substituted sealer by the Engineer.

Curb Ramp shall be constructed in accordance with the details and at the locations shown on the plans per Caltrans Standard plan A88A except the thickness shall be 4" minimum.

**73-2.01 Payment:**

**4" Concrete with 4" Class 2 Aggregate Base – Lamp Black** shall be paid for at the contract price per **square foot**, which price shall include full compensation for furnishing and applying curing materials, class 2 base, materials, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing concrete paving complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**4" Concrete with 4" Class 2 Aggregate Base – Integral Color** shall be paid for at the contract price per **square foot**, which price shall include full compensation for furnishing and applying curing materials, class 2 base, materials, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing concrete paving complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**5" Concrete with 7" Class 2 Aggregate Base – Lamp Black** shall be paid for at the contract price per **square foot**, which price shall include full compensation for furnishing and applying curing materials, class 2 base, materials, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing concrete paving complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**Art Plaza 12" Concrete with 7" Class 2 Aggregate Base – Integral Color** shall be paid for at the contract price per **square foot**, which price shall include full compensation for furnishing and applying curing materials, class 2 base, materials, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in coordinating with artists and constructing concrete paving complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**Curb and Gutter** shall be paid for at the contract price per **linear foot**, for the various types and sizes, which price shall include full compensation for furnishing and applying curing materials, forming and constructing curb openings for driveways, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing curb and gutter complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**Curb Ramp** shall be paid for at the contract price per **each**, which price shall include full compensation for furnishing and applying curing materials, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing curb ramp complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**Seat Wall** shall be paid for at the contract price per **lineal foot**, which price shall include full compensation for furnishing and applying curing materials, removing discoloring, furnishing all labor, class 2 base, materials, tools and equipment and doing all the work involved in constructing seat wall complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**Retaining Seat Wall** shall be paid for at the contract price per **lineal foot**, which price shall include full compensation for furnishing and applying curing materials, removing discoloring, furnishing all labor, class 2 base, materials, tools and equipment and doing all the work involved in constructing retaining seat wall complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, providing subdrain, excavating, and backfilling.

**Decorative Band** shall be paid for at the contract price per **square foot** which price shall include full compensation for furnishing and applying curing materials, class 2 base, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing decorative band complete in place as specified, including furnishing and placing expansion joint filler, constructing key joints, excavating, and backfilling.

**Concrete Band with Distance Marker** shall be paid for at the contract price per **square foot** which price shall include full compensation for furnishing and applying curing materials, class 2 base, bronze distance marker, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing concrete band with distance marker complete in place as specified, including furnishing and placing expansion joint filler, constructing key joints, excavating, and backfilling.

**Playground Ramp** shall be paid for at the contract price per **each** which price shall include full compensation for furnishing and applying curing materials, class 2 base, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing playground ramp complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**6" Concrete Mow Band** shall be paid for at the contract price per **linear foot** which price shall include full compensation for furnishing and applying curing materials, class 2 base, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing 6" concrete mow band complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**8" Concrete Playground Curb** shall be paid for at the contract price per **linear foot** which price shall include full compensation for furnishing and applying curing materials, class 2 base, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing 8" concrete playground curb complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

**12" Concrete Fence Curb** shall be paid for at the contract price per **linear foot** which price shall include full compensation for furnishing and applying curing materials, class 2 base, removing discoloring, furnishing all labor, materials, tools and equipment and doing all the work involved in constructing 12" concrete fence curb complete in place as specified, including furnishing and placing expansion joint filler, constructing weakened plane joints, excavating, and backfilling.

Full compensation for furnishing and pouring colored concrete test panels complete in place, shall be considered as included in the contract prices paid for the various items of work and no additional allowance will be made therefor.

[Version: 10/21/14CDA STD2010]



## 80 FENCES

**80-1.01 Description:** All wood and metal fence shall be constructed in accordance with Section 80 of the Standard Specifications, the details as shown on the plans, these Special Provisions, and as directed by the Engineer.

**80-3.01 Materials:** Fencing materials shall conform to applicable type of fence described in Section 80 of the Standard Specifications and the details as shown on the plans.

- A. All wood members shall be standard, rough-sawn redwood.
- B. All piping and tube for fence and gates shall be Schedule 40 hot-dipped galvanized steel or approved equal for size, finish, material composition, strength, appearance, performance and ease of maintainability.
- C. Chain link fence fabric to be "Galvanized-after" as manufactured by Anchor Fence Co. or approved equal and to be No. 9 gauge with uniform square mesh measuring approximately 5/8 inch between its parallel sides. It is to be woven of the best quality open hearth steel, heavily zinc coated, after weaving, by the hot dip spelter process. Fabric to have a knuckled top and bottom selvage.
- D. Metal utility panels to be 4 gauge, galvanized, with 4" square grid.
- E. Galvanizing shall be in accordance with ASTM F 668-88. All fence fittings shall comply with ASTM F626-89a.

**80-3.02 Submittals:** Shop Drawings: Submit shop drawings for approval prior to construction showing complete details of fences and gates, including sizes and shapes of members, dimensions, spacing of components, connections, accessories, fittings, hardware including anchorages and footings.

**80-3.03 Construction:** Fence construction shall be in accordance with Section 80-3.03 of the Standard Specifications, the details as shown on the plans, these Special Provisions, and as directed by the Engineer.

- A. The chain link fabric shall be fastened to the line posts by means of ties spaced approximately 14" apart. Fabric shall be attached to the terminal post by means of a tension strip held by specially designed clips. Fasten fabric to wood rails with galvanized barbed fencing staples or approved equal.
- B. Fasten utility panels to wood rails with galvanized barbed fencing staples or approved equal. Weld utility panel to gate frame per detail.

**80-3.04 Payment:**

**Wood and Wire Metal Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing wood and metal fence including furnishing and installing posts

and 4 gauge wire, excavating and backfilling holes, disposing of surplus excavated material, and furnishing and placing concrete footings, and no additional allowance will be made therefor.

**Wood and Chain Link Metal Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing wood and chain link fence including furnishing and installing posts and 5/8" mesh galvanized fabric, excavating and backfilling holes, disposing of surplus excavated material, and furnishing and placing concrete footings, and no additional allowance will be made therefor.

**Split Rail Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing split rail fence including furnishing and installing posts and rails, excavating and backfilling holes, disposing of surplus excavated material, and furnishing and placing concrete footings, and no additional allowance will be made therefor.

**80-10.01 Gates:** Gates shall be placed in the locations shown in the plans and in accordance with these Special Provisions.

- A. Install gates plumb, level, and secure for full opening without interference. Adjust hardware for smooth operation and lubricate where necessary.
- B. Gates shall be of the widths designated in the drawings.
- C. Gate posts, frames, and hardware shall be hot-dipped galvanized. Gate panel and fabric shall match fencing panel and as shown in the drawings. Gates shall maintain no gaps greater than two (2) inches between gateposts and frames or one and one-half (1-1/2) inches above the ground.

**80-10.02 Payment:**

**Playground Gate** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing the gate with 4 gauge wire in place complete as shown on the plans and as specified herein.

**Dog Park Gate** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing the gate in place with 5/8" mesh galvanized fabric complete as shown on the plans and as specified herein.

**Double Swing Gate** shall be paid for at the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing the gates in place complete as shown on the plans and as specified herein.

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## **SECTION 84**

### **TRAFFIC STRIPES AND PAVEMENT MARKINGS**

**84-1.01 Description:** This work shall consist of removal of thermoplastic and the application of thermoplastic markings, installation of metal delineator medallion and green bike lane markings at the locations shown on the plans; it shall conform to the applicable provision of Sections 15-2.02B, 15-2.12C, and 84 of the Standard Specification, the City Traffic Standards, and these Special Provisions and shall be done at the locations shown on the plans.

The removed thermoplastic shall become the property of the contractor and shall be disposed of as provided in Section 7-1.13.

Protection from Damage: Existing stripes and pavement markings to remain which are damaged by the Contractor shall be replaced at the Contractor's expense. All damaged stripes and markings shall be entirely replaced in kind per City of Santa Rosa standards.

White Bike Lane Markings (Coffee Lane at Curb Ramp Replacement): The bike lane pavement marking material must have White pigment and anti-skid abilities.

Crosswalk Markings (Coffee Lane at Curb Ramp Replacement): The crosswalk marking shall be replaced with markings utilizing white pigment with anti-skid abilities.

**84-1.04 Payment:** **Traffic Stripes and Pavement Markings** shall be paid for at the contract **lump sum** price, which price shall include furnishing all paint, white thermoplastic pavement marking material, tape, and furnishing all equipment, tools, and labor, and doing all the work involved as herein specified, including but not limited to, eradication of existing traffic stripes and pavement markings, surface preparation, replacement of damaged stripes, temporary traffic stripes and pavement markings, all temporary traffic measures, and any other work required to install traffic stripes and pavement markings not specifically enumerated in the City Standards, these Special Provisions or on the Project Plans, and no additional allowance will be made therefor.

## SECTION 87 ELECTRICAL

**87-1 Description:** Electrical plans prepared by Guttman & Blaevoet, titled Coffey Neighborhood Park.

**87-2 Payment:**

**Luminaire and Pole** shall be paid for all the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools, and equipment, and doing all work as required, and no additional compensation will be made therefor.

**Monument Sign Light** shall be paid for all the contract unit price **each**, which price shall include full compensation for furnishing all labor, materials, tools, and equipment, and doing all work as required, and no additional compensation will be made therefor.

**Electrical Distribution, Circuiting, and Miscellaneous** shall be paid for all the contract **lump sum** price, which price shall include full compensation for furnishing all labor, hauling, materials, tools, and equipment, and doing all work in constructing the electrical system including connection to power, circuiting, distribution, and miscellaneous work as specified herein, and no additional allowance will be made therefor.

**CMI-002 – COFFEY NEIGHBORHOOD PARK RENOVATION**

**ELECTRICAL SPECIFICATION INDEX**

260100	ELECTRICAL GENERAL REQUIREMENTS
260519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
260529	ANCHORS
260543	UNDERGROUND DUCTS AND RACEWAYS FOR UNDERGROUND ELECTRICAL SYSTEMS
260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS
262420	METER PANELBOARD PEDESTAL
265600	EXTERIOR LIGHTING

SECTION 26 01 00  
ELECTRICAL GENERAL REQUIREMENTS

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Comply with the requirements of DIVISION 01.
- B. The requirements of this SECTION apply to all work of this DIVISION.
- C. Provide a complete working installation with all equipment called for in proper operating condition. Documents do not undertake to show or list every item to be provided. When an item not shown or listed is clearly necessary for proper operation of equipment, which is shown or listed, provide an item which will allow the system to function properly at no increase in the Contract Amount.

1.2 QUALITY ASSURANCE

- A. Related Work Specified Elsewhere:
  - 1. Refer to DIVISIONS 10 and 11 for all electrical wiring and equipment furnished under other divisions but installed or connected under this division. (signs and irrigation controller)
- B. Examination of the Site:
  - 1. Visit the site prior to bidding. Take measurements and such other information as required to give an accurate and complete bid for the demolition, relocation and new equipment provisions shown on the Drawings. If any of the above requires extra work due to discrepancies or omissions on the drawings where such omissions or discrepancies have been revealed by examination before bidding, the Contractor should report the discrepancies to the Architect a minimum of three days prior to the announced date for receipt of bids. If additional work is required due to omissions and discrepancies after the contract for the work is signed and if such omissions or discrepancies would have been revealed by a visit to the site before receipt of bids, then the corrective additional work shall be performed at no additional cost to the Owner.
- C. Requirements of Regulatory Agencies:
  - 1. Standards Compliance: When materials or equipment must conform to the standards of organizations such as the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA), and Underwriters' Laboratories (UL), proof of such conformance shall be submitted to the Architect for approval. If an organization uses a label or listing to indicate compliance with a particular standard, the label or listing will be acceptable evidence, unless otherwise specified in the individual

sections. In lieu of the label or listing, the Contractor shall submit a certificate from an independent testing organization, which is competent to perform acceptable testing and is approved by the Architect. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item conforms to the specified organization's standard.

2. Any specific reference in these Specifications to codes, rules, regulations, standards, manufacturer's instructions or requirements of regulatory agencies shall mean the latest printed edition of each in effect at date of submission of Bid, unless the Document is shown dated.
3. Perform the work in conformance with the applicable requirements of all regulatory agencies, including, but not limited to the following:
  - a. National Electrical Code.
  - b. California Office of Statewide Health Planning and Development (OSHPD)
  - c. California Code of Regulations (CCR).
    - (1) Title 8, Division 1, Chapter 3.2 - California Occupational Safety and Health Regulations (CAL/OSHA).
    - (2) Title 8, Division 1, Chapter 4 - Safety Orders.
    - (3) Title 24, Building Standards.
    - (4) Part 2 - California Building Code
    - (5) Part 3 - California Electric Code
    - (6) Acceptance Requirements of California Energy Code, including but not limited to:
      - (a) Testing of lighting control systems including all associated wiring devices and control components.
      - (b) Reviewing plans and specifications to ensure conformance with the Acceptance Requirements
      - (c) Perform construction inspection prior to testing to ensure that the equipment installed is capable of complying with the requirements of the Standards, the equipment is installed correctly and calibrated.
      - (d) Undertake all required Acceptance Requirement procedures and identify all performance deficiencies, ensuring that they are corrected. Document the results of the Acceptance Requirement procedures on the Acceptance Test

forms and indicate satisfactory completion by signing the Certificate of Acceptance.

4. Nothing in the Drawings or Specifications shall be construed to permit Work not conforming to applicable laws, ordinances, rules, regulations.
  5. When Drawings or Specifications exceed requirements of applicable laws, ordinances, rules, or regulations, Drawings and Specifications take precedence.
  6. It is not the intent of Drawings or Specifications to repeat requirements of codes except where necessary for completeness or clarity.
  7. Work herein shall comply with all applicable requirements of CCR Title 8, Division 1, as they apply to this project, both in reference to Contractor's operations in performing his work and also in construction result to be accomplished. Where an omission or a conflict appears between OSHA requirements and the Drawings and Specifications, OSHA requirements shall take precedence.
- D. When there is an ambiguity or discrepancy between Drawings and Specifications the more stringent requirement of the two shall be provided.
- E. Licenses, Permits and Fees
1. Provide, procure and pay for all permits, licenses, fees, etc., required to carry on and complete the Electrical Work. Contact all applicable utility authorities and include in bid all fees, charged by any such authorities.

### 1.3 SUBMITTALS

#### A. General

1. In general, submittals may be made in electronic format as delineated in Division 1. If they are not, submit as specified below.
2. Submit shop drawings, catalog data, supplemental data, for all materials, equipment in all Sections of this DIVISION in accordance with the requirements of SECTION 013300, "Submittal Procedures" and as specified hereinafter.
3. Four weeks after award of the Contract, or earlier if deemed appropriate by the Architect, submit a schedule of all submittals with the date for each equipment submittal or shop drawing submittal clearly indicated.
4. Forward all submittals to Architect, together, at one time. Individual or incomplete submittals are not acceptable. Six (6) copies are required.



5. Submittals shall have been reviewed and stamped by the General Contractor in accordance with the requirements of the GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION. Submittals not so stamped will be returned without review.
  6. Identify each item by manufacturer, brand, trade name, number, size, rating, or whatever other data is necessary to properly identify and check materials and equipment. Words "as specified" are not sufficient identification.
  7. Identify each submittal item by reference to Specification SECTION Paragraph in which item is specified or drawing and detail number.
  8. Organize submittals in same sequence as they appear in specification sections, articles, or paragraphs.
  9. Identify by arrow or highlight each and every item to be provided on this project from all products included in catalog information. Cross out all products not being used on this project, on catalog sheets.
- B. Indexing:
1. Submittals shall be indexed according to specification DIVISION and SECTION number and paragraph to identify each item. Sporadic submittals, incomplete data, or unidentified data, or data not showing features to coordinate item with other work will not be accepted.
- C. Binders: If the Submittals are not sent in electronic format submit in binders as required herein. Prepare submittal material in accordance with the following:
1. Insert all literature in standard three (3) ring binders for 8-1/2 x 11 inch pages with individual tabs. Do not staple literature on different products together.
  2. Number all binders on the outside of the cover and indicate the specification section. Mark one binder "No. 1 Architect's Copy" and another "No. 2 Engineers Copy". Both these binders shall contain original manufacturer's literature.
  3. Reference each item to the appropriate contract drawing sheet detail and to specification section and paragraph, and to the Mark Numbers appearing on the equipment schedule.
  4. Provide an index with each binder. This index shall follow the same sequence as the project Specifications.
- D. Submittal literature, Drawings and wiring diagrams shall be specifically applicable to this project and shall not contain extraneous material. The literature shall be clearly marked to indicate the proposed item and any accessories or options to be furnished. Submittals shall include, but not be limited to the following:

1. Anchors
  2. Electrical equipment, including but not limited to; panelboard meter pedestal and lighting fixtures.
- E. Calculations and Studies:
1. Arc Flash printed label affixed to panel.
- F. Re-submittals shall respond to comments made on the original submittal and shall be marked with a re-submittal number and dated. Re-submittals not in conformance with these requirements will be returned without review.
- G. Shop Drawings: (Also see Division 01 requirements)
1. Submit shop drawings for all electrical distribution equipment, lighting, lighting control systems and equipment. Do not begin fabrication until shop drawings have been coordinated with all trades and have been reviewed and accepted by the Architect.
  2. Drawings shall be a minimum of 8-1/2 inches by 11 inches in size, with a minimum scale of 1/8 inch per foot, except as specified otherwise. Drawings shall include floor plans, sectional views, wiring diagrams, and installation details of equipment; and equipment spaces identifying and indicating proposed location, layout and arrangement of items of equipment, control panels, accessories, coordination plans with piping, ductwork, and other items that must be shown to assure a coordinated installation.  
  
Equipment and conduit routing layouts and Electrical Room layouts shall be drawn at a minimum scale of 1/4 inch per foot. Wiring diagrams shall identify circuit terminals, and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.
  3. The Architect's review of Shop Drawings is not intended to verify dimensions or quantities, or to coordinate items shown on these Drawings. Architect will review them for general conformance with design concept of the project and general compliance with the information given in the contract requirements of the plans and Specifications. Contractor is responsible for dimensions, which shall be confirmed and correlated at the job site, for fabrication processes and techniques of construction, for coordination of his work with that of all other trades and the satisfactory performance of his work.
- H. Record Drawings

1. Installation drawings shall be drawn at the site by the Contractor on reproducible paper and shall be fully coordinated for interferences by all trades. The Contractor shall maintain at the jobsite a complete set of prints of the installation drawings for all electrical work. These prints shall be kept up to date by recording all changes daily. The progress of the work shall be clearly, neatly and accurately designated, coloring in the various components as they are erected. This process shall incorporate all changes to the original drawings including formal change orders or other instructions issued by the Architect. Principal dimensions of all concealed work shall be recorded including inverts of buried conduits and height to underside of conduit racks or cable trays.
  2. These marked up prints will be used as a guide for determining the progress of the work installed. They will be inspected regularly by the Architect and shall be corrected immediately if found either inaccurate or incomplete.
  3. Prior to final acceptance of the Work of this Division, submit properly certified Record Drawings to the Architect for review and make all changes, corrections, or additions as the Architect may require. After the Architect's review and any required Contractor revisions, deliver the Record Drawings to the Owner on electronic media in AutoCAD format. The Architect and Engineer do not assume any responsibility for the accuracy or completeness of the Record Drawings.
- I. Operating & Maintenance Manuals:
1. Manuals shall conform to SECTION 017823, OPERATION AND MAINTENANCE DATA.
  2. Furnish an operation and maintenance manual for each item of equipment. Furnish three copies of the manual bound in hardback binders or an approved equivalent. Furnish one complete manual prior to the time that equipment tests are performed, and furnish the remaining manuals before the contract is completed. Inscribe the following identification on the cover: the words OPERATION AND MAINTENANCE MANUAL, the name and location of the equipment or the building, the name of the Contractor, and the contract number. The manual shall include the names, addresses, and telephone numbers of each subcontractor installing equipment, and of the local representatives for each item of equipment. The manual shall have a table of contents and be assembled to conform to the table of contents with the tab sheets placed before instructions covering the subject. The instructions shall be legible and easily read, with large sheets of drawings folded in. The manual shall include: wiring and control diagrams with data to explain detailed operation and control of each item of equipment; a control sequence describing start-up, operation and shutdown; description of the function of each principal item of equipment; the procedure for starting; the procedure for operating; shutdown instructions; installation instructions; maintenance instructions; safety precautions, diagrams, and

illustrations; test procedures; performance data; and parts list. The parts lists for equipment shall indicate the sources of supply, recommended spare parts, and the service organization which is reasonably convenient to the project site. The manual shall be complete in all respects for equipment, controls, accessories, and associated appurtenances provided.

3. Submit a DVD disk containing all Operations and Maintenance data in Adobe "pdf" format. Also include an index of Internet web site addresses, section number, and title, equipment name, Web site address for the O&M manual of the equipment, and the O&M Manual filename.
- J. Letters from manufacturers certifying their supervision of equipment installation and start-up procedures.
- K. Three (3) copies of certification signed by Owner's representative, attesting to their receipt of instructions required by paragraph "Operation and Maintenance Instruction" of this Section.

#### 1.4 PRODUCT DELIVERY AND STORAGE

- A. Identify materials and equipment delivered to site to permit check against approved materials list, reviewed shop Drawings.
- B. Protect from loss or damage. Replace lost or damaged material and equipment with new at no increase in the Contract Amount.

#### 1.5 DRAWINGS AND COORDINATION WITH OTHER WORK

- A. Contract Drawings:
  1. For purposes of clarity, and legibility, the Contract Drawings are essentially diagrammatic to the extent that many offsets, bends, junction boxes, special fittings are not shown. Exact locations of items are not indicated, unless specifically dimensioned.
  2. Exact routing of conduit, surface raceway, etc., shall be governed by structural conditions, obstructions and interferences with work or equipment of other Divisions. Contractor shall make use of data in Contract Documents. Architect reserves right, at no increase in price, to make any reasonable change in location of mechanical and electrical items, exposed at ceiling and/or on walls, to group them into orderly relationships and/or increase their utility. Verify Architect's requirements in this regard prior to roughing-in.
  3. In addition to the Shop Drawings called for under SUBMITTALS the Contractor shall prepare large scale layout drawings showing location of equipment, conduit and cable tray runs, and all other elements of electrical systems provided under this DIVISION. Include sections of congested areas to show relative position and spacing of affected elements.

4. Refer to the Civil "C" series drawings and specifications for limits of work, exact placement of equipment, coordination with site elements, access, etc.
  5. Obtain and provide templates, information, and instructions to other DIVISIONS to properly locate holes and openings to be cut or provided for electrical Work.
- B. Coordination:
1. Work out all "tight" conditions involving Work under this DIVISION and Work in other DIVISIONS in advance of installation by cooperative effort with the Contractors of other Divisions.
  2. Maintain adequate clearance from adjacent work, site work, landscape elements, roadways, pathways, and other site works.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

- A. Materials and equipment shall be standard products of a manufacturer regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. The standard products shall have been in satisfactory commercial or industrial use for two years prior to bid opening. The two year use shall include applications of equipment and materials under similar circumstances and of similar size.
- B. Alternative Service Record: Products having less than a two-year field service record may be acceptable on approval of the Architect if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown.
- C. Service Support: Major equipment items shall be supported by service organizations. The Contractor shall submit a certified list of qualified permanent service organizations for support of the equipment, which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.
- D. Identify materials, equipment by manufacturer's name, nameplate data. Remove unidentified materials, equipment from site.
- E. Equipment specified by manufacturer's number shall include all accessories, controls, etc., listed in catalog as standard with equipment. Furnish optional or additional accessories as specified.
- F. Where no specific make of material or equipment is mentioned, any first class product of reputable manufacturer may be used, provided it conforms to requirements of system and meets acceptance.

- G. Equipment or material damaged during transportation, installation or operation is considered as totally damaged. Replace with new. Variance with this permitted only with written acceptance.
- H. Provide an authorized representative to constantly supervise work of this DIVISION, check all materials prior to installation for conformance with Drawings and Specifications.
- I. Equipment shall be as described in the respective SECTIONS of THIS DIVISION and as shown.

## 2.2 SUBSTITUTIONS

- A. See SECTION, "SUBSTITUTION REQUEST" and the following.
- B. Where more than one specific name is used, it is to be understood that the name mentioned first represents the manufacturer whose equipment has been used as the basis of design. All other names mentioned are to be considered substitutions within the meaning of this paragraph, and no additional cost to the Owner shall accrue due to any revisions, additions or deletions required to make substituted equipment perform in accordance with the plans and specifications.
- C. Any redesign necessitated by substitutions shall be provided by the Contractor at no additional cost to the contracted amount and shall be subject to review and approval by the Architect.
- D. Substitutions will not be considered if they are indicated or implied on Shop Drawings or Project Data Submittal without the formal request required by Division 01.

## PART 3 – EXECUTION

### 3.1 DEMOLITION

- A. Remove all conduit, fixtures, equipment, etc., where shown or otherwise indicated to be removed. Remove all existing underground conduit on the site. Abandoning existing conduits and wiring is not acceptable.

### 3.2 INSTALLATION

- A. Manufacturer's Recommendations
  - 1. Where installation procedures or any part thereof are required to be in accordance with the recommendations of the manufacturer of the material or equipment being installed, printed copies of these recommendations shall be furnished prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause for rejection of the material.
  - 2. Provide complete systems in accordance with manufacturers' requirements.

3. Where dimensions or specific installation and operating instructions of equipment are not provided in the Drawings or Specifications, perform the Work according to approved manufacturer's specifications and recommendations. Any material and work required under this heading shall be supplied at no additional cost to the Owner.
  4. Assemble equipment which is required to be field assembled, under the direct supervision of the manufacturer's agent. Prior to the final acceptance submit letters from the manufacturers that this has been done.
- B. Equipment: Accurately set and level with supports neatly placed and properly fastened. Properly fasten equipment in place with bolts to prevent movement in earthquake. No allowance of any kind will be made for failure on part of Contractor to foresee means of bringing in or installing equipment into position inside building.
- C. Conduit Systems:
1. Worked into complete, integrated arrangement with like elements to make work neat appearing, finished.
  2. Run concealed.
  3. Cleaning and Closing: Inspect all conduit and surface raceway, and equipment before placing; clean interior before closing.
- D. Sleeves, Chases, and Concrete Inserts:
1. Cutting and Patching: In accordance with SECTION, "CUTTING AND PATCHING".
  2. Provide, to cause no delay, all required sleeves, chases, inserts, anchor bolts, etc., and be responsible for correct location, installation of same.
- E. Cutting and Repairing:
1. Do all cutting, repairing, including structural reinforcing, necessary for Work under this DIVISION.
  2. Do no cutting or patching without Architect's review and approval. Repair damage done by this cutting equal to original condition in Architect's opinion.

### 3.3 TESTING AND OPERATIONAL CHECK

- A. Furnish all labor and test equipment required under this DIVISION and in accordance with SECTION 260800, when issued for the Project, and as follows.
- B. Clean equipment and conduit before each test.

- C. Test various Electrical systems in portions as work progresses. Any system or portion previously tested shall become part of any repeated test when it becomes part of distribution system.
- D. Should any piece of equipment or material fail in any of the tests, immediately remove, replace with new; retest system.
- E. Perform all tests in accordance with the requirements and under supervision of authorities having jurisdiction.
  - 1. All equipment shall be tested in the field by a company specializing in the testing of electrical equipment and systems.

### 3.4 FIELD TESTING – GENERAL

- A. Tests:
  - 1. Perform as specified in individual sections and as required by authorities having jurisdiction.
  - 2. Provide testing in accordance with NETA requirements.
- B. Provide required labor, material, equipment, instruments, and connections.
  - 1. Provide adequate number of technicians thoroughly familiar with systems to be tested to manage test procedures and assignments.
  - 2. Provide calibrated instruments, tools, and equipment for verification and adjustment, including adequate number of portable two-way radio communication equipment.
- C. Pay for restoring or replacing work damaged due to tests.
- D. Conducted by installer and equipment manufacturer or by approved testing agency where stated.
- E. Preliminary Tests: After work is completed, conduct preliminary tests to verify that installations are properly adjusted and free from defects.
- F. Final Tests: After completion of preliminary tests, conduct final tests to cover total systems throughout building. Tests to prove continuity and proper operation of entire installation of each system.
- G. Preparations:
  - 1. Give 14 days written notice before final tests. Coordinate dates and times with Owner.
  - 2. At time of notice, submit for review charts, lists, and schedules listing each circuit and item in each system for recording of values and check-off during tests.



- H. Submit test results in accordance with submittal requirements.
- I. In addition to specific systems testing described elsewhere include the following tests:
  - 1. Insulation resistance.
  - 2. Circuit continuity:
  - 3. Test all feeder and branch circuits for continuity.
  - 4. Test all neutrals for improper grounds.
  - 5. Circuit numbering verification: Select on a random basis, branch circuit breakers. Cycle on-off to verify panel directory matches actual load controlled.
- J. Testing Agency: Installing contractor.

### 3.5 CLEANING AND PAINTING

- A. Refinish Work supplied with final finish under this DIVISION, if damaged, to satisfaction of Architect.
- B. Thoroughly clean all equipment, conduits and all other materials under this DIVISION free from all rust, scale, and all other dirt before covering or painting is done, or the systems put in operation. Leave in condition satisfactory to the Architect.
- C. Protect all finished surfaces of fixtures with heavy paper pasted thereon, or by other means, throughout the period of construction.
- D. At all times keep the premises free from accumulation of waste material and debris caused by employees. At the completion of the project, remove refuse from within and around the building. All tools, scaffolding and surplus materials shall also be removed, leaving the site of Work broom clean.
- E. Completely cover all electrical equipment to keep free of dirt and water during construction. Using visqueen, or other suitable material, effectively close all openings into equipment to keep foreign matter out during construction.
- F. Torque and paint bolt heads in all equipment at completion of Work. Furnish Owner with a written torque schedule for all equipment.
- G. Properly prepare Work under this DIVISION to be finished painted under SECTION 099000, "PAINTING AND COATING".
  - 1. All exposed work which in general includes metal items, equipment and supports shall be painted except that polished aluminum, stainless steel, chrome plate and other finely finished materials shall not be painted unless otherwise noted.

2. Unless otherwise noted all finish colors shall be selected by the Architect.
3. Materials previously shop prime coated by the manufacturer and which have been scuffed or otherwise damaged shall be touched up with the same materials used for priming. Prime coats shall be of a lighter tint than final coats.

### 3.6 SIGNS, LABELS AND IDENTIFICATION

#### A. Signs and Labels:

1. Printed signs shall be posted on the electrical pedestal warning of electrical dangers.

### 3.7 EQUIPMENT IDENTIFICATION

- #### A.
- Properly identify each piece of equipment and its controls using engraved laminated plastic descriptive nameplates, attached to equipment and controls using round head brass machine screws or pop rivets. Cardholders in any form are not acceptable. Equipment nameplates shall be as shown on drawings.

### 3.8 SEISMIC REQUIREMENTS

- #### A.
- Contractor shall engage and pay for services of a California Registered Structural Engineer for the purpose of design and follow-up field verification of seismic anchoring for:
1. Panelboard Meter Pedestal.
- #### B.
- Details shall be submitted to the Architect for records only. Design shall be in accordance with UBC, Chapter 23, Section 2312. Verify with Structural Engineer.

END OF SECTION

SECTION 26 05 19

LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

**PART 1 – GENERAL**

1.1 GENERAL REQUIREMENTS

- A. Refer to 260100, Basic Electrical Requirements
- B. All materials shall bear the listing label of Underwriters Laboratories.

1.2 SUBMITTALS

- A. Manufacturers' product data sheets.

**PART 2 – PRODUCTS**

2.1 ACCEPTABLE MANUFACTURERS

- A. AFC Cable Systems
- B. Allied Wire and Cable
- C. American Insulated Wire
- D. Southwire

2.2 CONDUCTORS

- A. All conductors shall be solid or stranded copper and installed as identified and specified.
- B. All wire sizes shown on the Drawings are copper.

2.3 INSULATION

- A. Type THHN, THWN, XHHW (75 degrees C): Type XHHW shall be used in below grade and damp locations.
- B. Type AF (150°C) Fixture Wire: Minimum size No. 14, stranded, high temperature wire shall be used for field wired tap-off connections to lighting fixture where operating temperature exceeds 90°C.

2.4 IDENTIFICATION

- A. Color code all wiring throughout including branch circuits, feeders, equipment ground conductors, etc., as specified hereinafter and as indicated.

<u>Phase</u>	<u>120/208 Volts</u>
A	Black
B	Red
Neutral	White
Ground	Green

- B. Colored insulation in sizes up through No. 8. Conductors No. 6 and larger shall have black insulation but phase color coded with 1/2 inch band of colored tape, at all junction boxes, pull boxes, wireways, and terminations.
- C. Main and feeder cables shall be tagged in all pull boxes, wireway, and wiring gutters of panels. Tags shall be of fireproof, nonconductive material, approved by Architect.
- D. Maintain the same phase, neutral and ground color from circuit breaker or switch to last device.

## 2.5 PULL CORD

- A. Branch and System Raceways: Provide 300 lbs strength (minimum) polypropylene rope.
- B. Feeder Raceways: Provide 1/4 inch (minimum) polypropylene rope.
- C. Both ends of all pull cords shall be identified by means of labels or tags, reading "PULL CORD" and shall be numbered to refer to the same pull cord at each end.

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. All conductors shall be solid or stranded for branch circuit lighting. Use stranded conductors for branch circuit wiring to motors or vibrating equipment.
- B. A complete system of conductors shall be installed in the raceway system for all feeder and branch circuits, etc.
- C. All conductors shall be continuous from outlet to outlet and no splices shall be made except within outlet or junction boxes. Junction boxes may be utilized where required. At least 6 inches of wire shall be left at outlet boxes for connecting fixtures and devices.
- D. No wire smaller than No. 12 gauge shall be used. No. 10 wire shall be used for 120 volt branch circuit runs exceeding 70 feet and elsewhere when noted on the plans.
- E. Wires entering panelboards and disconnects shall be of sufficient length for proper termination without splicing within the equipment enclosure. Any wires installed

that require splicing for terminating shall be removed and replaced with ones of the proper length. Wires shall be trained and supported in a neat and workmanlike manner.

F. Wiring Bundles or Harnesses:

1. Multiple wires in bundles or harnesses terminating in panelboards, etc., shall be bundled, trained, and laced to achieve a neat and workmanlike appearance.
2. Surplus wire protruding from the harness for termination shall be trimmed to the proper length. Do not fold and stuff surplus wires into wiring gutters.
3. Wires exiting the bundle or harness shall be carefully trained at a 90 degree angle to the termination point.

G. All wire shall be brought to the job in unbroken packages and shall bear the date of manufacturing and shall not be older than 12 months.

### 3.2 CONNECTIONS

A. Connections to circuit breakers, switches, and similar equipment provided with lugs or connectors may be used without additional lugs or connectors; where equipment is provided without terminating devices. Contractor shall provide appropriate devices which are listed and manufactured for such application.

B. Splices:

1. No. 8 and smaller wire shall be Scotchlock or approved equal, pressure type solderless connectors with insulator.
2. No. 6 and larger wire shall be Burndy, Type QPX, or approved equal, solderless lugs and clamp-type connector.
  - a. Uninsulated solderless connectors shall be insulated as follows: Wrap with two complete thicknesses of varnish cambric followed by 6 complete wraps of Scotch 33 or equal, followed by 1 complete wrap of Scotch 2200.

C. Control Wires:

1. Control wires shall terminate into a terminal block or lug connection. Wires shall be stripped to the proper length and a ring or tongue crimp-on terminal lug installed.
2. Do not wrap bare wires around bolt heads for termination.
3. Stranded wires terminating into terminal blocks or lugs and secured by means of a set screw shall have the wire end tinned with solder to achieve a positive connection and anneal the strands together.

- D. Conductors subject to moisture. Use 3M Scotchcast splicing kits for power signal or control conductor splices.

### 3.3 LUBRICATION

- A. Where lubrication is required for pulling conductors or cables, it shall be a compound specifically prepared for cable pulling and shall not contain petroleum or other products which will have a deteriorating effect on the cable insulation.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

**PART 1 – GENERAL**

1.1 GENERAL REQUIREMENTS

- A. Refer to Section 260500: Common Work Results for Electrical.

1.2 WORK INCLUDED

- A. The electrical grounding work shall include, but not necessarily be limited to, the following as defined in Article 250 of CEC:
  - 1. Electrical circuit and system grounding:
    - a. Service supplied AC systems.
  - 2. Electrical enclosure and raceway grounding.
  - 3. Equipment grounding.
  - 4. Bonding.

1.3 RELATED WORK

- A. Section 260500: Common Work Results for Electrical.

1.4 REFERENCED STANDARDS

- A. In addition to NFPA No. 70-NEC, and NFPA No. 101 - Life Safety Code conform to the following standards, latest edition:
  - 1. UL Standard 467 - Electrical Grounding and Bonding Equipment.
  - 2. IEEE Standard 142.
- B. Where drawings or specifications require a more stringent material or method than the above mentioned standards conform to the drawings and/or specifications.

**PART 2 – PRODUCTS**

2.1 GROUND RODS

- A. Copper clad steel rod conforming or exceeding requirements of UL Standard No. 467. Rod shall be 3/4" diameter, 10' in length.
- B. In corrosive soil locations: Stainless steel (302) or stainless steel jacketed steel rod conforming or exceeding requirements of UL Standard No. 467 (ANSI C-

33.8) as manufactured by Teledyne Metals Forming Company, Elkhart, Indiana.  
Rod shall be 3/4" diameter 10' in length.

## 2.2 CONDUCTORS FOR GROUNDING

- A. In raceways installed with circuit conductors: Size and insulation shall be as specified in Section 16050 or on drawings.
- B. Grounding electrode conductors: Medium hard drawn, stranded copper. Minimum size: #4/0 AWG.
- C. Bonding conductors: CEC Article 250, Part G.

## 2.3 GROUND CONNECTIONS

- A. Below Grade: Exothermic welding method, Cadweld or equal.
- B. Above Grade: Compression type connectors, T&B, Burndy or Anderson.

## 2.4 HARDWARE

- A. Bolts, nuts, and washers shall be bronze, cadmium plated steel, or other non-corrosive material, approved for the purpose.

## 2.5 WATERPROOF SEALANT

- A. Use Kearney "Aqua Seal" mastic sealant on all below grade clamp or compression type connections.

# PART 3 – EXECUTION

## 3.1 GROUNDING ELECTRODE SYSTEM

- A. Grounding electrode system shall consist of the following electrodes:
  - 1. Ground rods.
  - 2. Light pole base grounding.

## 3.2 CIRCUIT AND SYSTEM GROUNDING

- A. Service-supplied and separately derived alternating-current systems shall be grounded in accordance with CEC 250-3 to 250-26 inclusive.
- B. Ground conductor shall be copper and shall be in accordance with CEC 250-94.

## 3.3 ELECTRICAL EQUIPMENT GROUNDING

- A. Ground non-current carrying metal parts of electrical equipment enclosures, frames, conductor raceways to provide a low impedance path for line-to-ground fault current and to bond all non-current carrying metal parts together. Install a ground conductor in each raceway system in addition to conductors



shown. Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size ground conductors per CEC 250-122 unless larger conductors are shown on drawings.

- B. Grounding conductors shall be identified with green insulation. Where green insulation is not available, on larger sizes, black insulation shall be used and suitably identified with green tape at each pull box or device enclosure
- C. Lighting fixtures shall be securely connected to equipment ground conductors. Outdoor lighting standards shall have a factory installed ground lug for terminating the ground wire.
- D. All ground cable splices, joints and connections to ground rods shall be made with an exothermic welding process which shall provide a weld with current-carrying capacity not less than that of the conductors welded. Soldered connections shall not be used.
- E. All ground wire shall be bare, unless otherwise indicated on the Drawings, extra flexible stranded copper cables. Grounding cables installed in earth shall be laid slack.
- F. Neutrals throughout the system shall be solidly grounded.
- G. Panelboard shall be grounded by connecting a bare conductor to the grounding stud and to the incoming and outgoing feeder conduits grounding bushings. Each grounding-type bushing shall have the maximum ground wire accommodation available in standard manufacture for the particular conduit size. Connection to the bushing shall be with wire of this maximum size.

### 3.4 BONDING

- A. Bonding shall be provided to assure electrical continuity and the capacity to conduct safely any fault current likely to be imposed.
- B. Bonding shall be in accordance with CEC Article 250, Part G.

### 3.5 GROUND RESISTANCE TEST

- A. Grounding electrode resistance testing shall be accomplished with a ground resistance direct-reading single test meter utilizing the Fall-of-Potential Method and two reference electrodes. Perform test prior to interconnection to other grounding systems. Orient the concrete-encased ground electrode to be tested and the two reference electrodes in a straight line spaces fifty (50) feet apart. Drive the two reference electrodes five (5) feet deep.

- B. Test results shall be in writing, and shall show temperature, humidity and condition of the soil at the time of the tests. In the case where the ground resistance exceeds 2 ohms, Owner will issue additional instructions.

END OF SECTION

SECTION 26 05 29

ANCHORS

**PART 1 – GENERAL**

1.1 GENERAL REQUIREMENTS

- A. Equipment anchoring.

1.2 WORK INCLUDED

- A. Refer to SECTION 260100: Basic Electrical Requirements

**PART 2 – PRODUCTS**

2.1 ACCEPTABLE MANUFACTURERS

- A. Anchors:

- 1. Hilti
- 2. Red Head
- 3. Raw Plug
- 4. Star Expansion

- B. Equipment anchors:

- 1. Anchor:
  - a. Concrete Insert: Phillips Redhead, 'J' or 'S' Series.

2.2 SUBMITTALS

- A. Manufacturer's product data.

**PART 3 – EXECUTION**

3.1 ANCHORS

- A. Anchors shall be installed using the proper drill bits and power tools.
- B. Anchors shall be installed per the manufacturer's recommendations.

END OF SECTION

SECTION 26 05 43

UNDERGROUND DUCTS AND RACEWAYS FOR  
UNDERGROUND ELECTRICAL SYSTEMS

**PART 1 – GENERAL**

1.1 GENERAL REQUIREMENTS

- A. Refer to Section 260100, General Requirements.
- B. Underground power service.

1.2 WORK INCLUDED

- A. Underground conduits for service and branch circuiting.

1.3 SUBMITTALS

- A. Manufacturer's literature describing the product.

**PART 2 – PRODUCTS**

2.1 MATERIALS

- A. Duct Spacers: Fabricated plastic, Carlon Snap-Loc or approved equal, UL approved.
- B. Markers: Square with 2 inch high letters reading "Underground Electric."
- C. All shall be provided with fittings and accessories approved for the purpose and equal in all respects to the conduit.

2.2 BARE COPPER GROUND CONDUCTOR

- A. Medium hard drawn copper conductor, #4/0 AWG stranded.

2.3 GROUND RODS

- A. At Service Pedestal, buried below grade by 1', with copper ground cable brought up through the concrete pad and into the pedestal to the ground bus.

**PART 3 – EXECUTION**

3.1 GENERAL

- A. Electrical system layouts indicated on the drawings are generally diagrammatic, but shall be followed as closely as actual construction and work of other trades will permit.

- B. Consult all other drawings. Verify all scales and report any dimensional discrepancies or other conflicts to Architect before submitting bid.

### 3.2 CONDUIT INSTALLATION

- A. Plastic conduit 2" size and larger shall be encased in 3" minimum concrete envelope.
- B. Plastic conduit 1-1/2" size and smaller shall be installed on 2" sand base and covered by 2" sand back fill. Multiple runs shall maintain 3" minimum separation between runs. Plastic conduit shall not be installed in rock base.
- C. Stagger conduit couplings by a minimum of 12". All risers to grade shall be rigid steel with rigid steel elbows.
- D. All rigid steel conduits shall be tape wrapped and encased in 3" minimum concrete envelope.
- E. After completion of concrete-encased duct system a 12" mandrel, 1/4" less in diameter than the conduit shall be pulled through each conduit.
- F. Install 1/8" diameter Tubbs Cordage Company "yellow polyline" pull line in each underground conduit.

### 3.3 CONCRETE DUCT BANK CONSTRUCTION

- A. Underground duct banks encased in concrete shall be as shown in the details on the Drawings. Multiple ducts shall be set on chair spacers and stacked per the manufacturer's installation specifications. Stacked conduits shall be accomplished utilizing the interlocking stacking type chairs. Minimum clear spacing between conduits shall be 3 inches both vertically and horizontally unless shown differently on the Drawings.
- B. Drive two reinforcing bars to anchor the conduits at 10'-0" on centers to prevent floating during concrete pour.
- C. Provide 3" wide yellow "Electric Line", T&B Westline or equivalent plastic warning tape 18" above duct bank. Provide one warning tape for each 12" width of concrete duct bank or fraction thereof.
- D. Conduits or ducts not concrete encased shall be installed as shown on the detail Drawings. In all cases, where multiple conduits are placed in the same trench, there shall be no less than 3 inches separation between ducts or conduits.
- E. Multiple conduits or ducts which are not concrete encased shall not be stacked; place in single layer with required nonmetallic spacer blocks, minimum 3 inches separation

### 3.4 DUCTBANKS

- A. Place concrete so that voids around ducts are filled.
- B. Provide minimum concrete thickness between ducts of 3 inches.
- C. Adjust final slopes on site to coordinate with existing utilities.
- D. Install on undisturbed soil where possible. Use pit run gravel and sand, placed in 8 inches lifts and compacted for backfill.
- E. After installation, clean and swab ducts.
- F. Install 1/4 inch polypropylene rope in spare ducts. Cap spare ducts.
- G. Terminate conduits in end bells, where duct lines enter manholes.

END OF SECTION

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

**PART 1 - GENERAL**

1.1 SUMMARY

A. Section Includes:

1. Identification of power cables.
2. Identification for conductors.
3. Underground-line warning tape.
4. Warning labels and signs.
5. Equipment identification labels.
6. Miscellaneous identification products.

1.2 ACTION SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.3 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

**PART 2 - PRODUCTS**

2.1 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
  - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
  - 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
- D. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

## 2.2 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches wide.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- D. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
  - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
  - 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

## 2.3 UNDERGROUND-LINE WARNING TAPE

- A. Tape:
  - 1. Recommended by manufacturer for the method of installation and suitable to



identify and locate underground electrical and communications utility lines.

2. Printing on tape shall be permanent and shall not be damaged by burial operations.
3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.

B. Color and Printing:

1. Comply with ANSI Z535.1 through ANSI Z535.5.
2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, LIGHTING.

C. Tag: Type I

1. Pigmented polyolefin, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
2. Thickness: 4 mils.
3. Weight: 18.5 lb/1000 sq. ft.
4. 3-Inch Tensile According to ASTM D 882: 30 lbf, and 2500 psi.

## 2.4 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

C. Baked-Enamel Warning Signs:

1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
2. 1/4-inch grommets in corners for mounting.
3. Nominal size, 7 by 10 inches.

D. Metal-Backed, Butyrate Warning Signs:

1. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required

for application.

2. 1/4-inch grommets in corners for mounting.
3. Nominal size, 10 by 14 inches.

E. Warning label and sign shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 48 INCHES."

## 2.5 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- B. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch.

## 2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

# PART 3 - EXECUTION

## 3.1 INSTALLATION

- A. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Apply identification devices to surfaces that require finish after completing finish work.
- C. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- D. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.

- E. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- F. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches overall.
- G. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

### 3.2 IDENTIFICATION SCHEDULE

- A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
  - 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded service, feeder and branch-circuit conductors.
    - a. Color shall be factory applied.
    - b. Colors for 208/120-V Circuits:
      - 1) Phase A: Black.
      - 2) Phase B: Red.
      - 3) Neutral: White.
      - 4) Ground: Green.
    - c. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- B. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- C. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.

1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
  2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
  3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
- D. Locations of Underground Lines: Identify with underground-line warning tape for power and lighting.
1. Install underground-line warning tape for both direct-buried cables and cables in raceway.
- E. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units of each system. Systems include power and lighting systems unless equipment is provided with its own identification.
1. Labeling Instructions:
    - a. Outdoor Equipment: Engraved.
    - b. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

END OF SECTION

## SECTION 26 24 16

### METER PANELBOARD PEDESTAL

#### **PART 1 – GENERAL**

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

##### 1.2 SUMMARY

- A. Section Includes:
  - 1. Pedestal mounted utility meter and panelboard.

##### 1.3 DEFINITIONS

- A. Retain terms that remain after this Section has been edited.
- B. ATS: Acceptance testing specification.
- C. GFCI: Ground-fault circuit interrupter.
- D. GFEP: Ground-fault equipment protection.
- E. MCCB: Molded-case circuit breaker.
- F. SPD: Surge protective device.

##### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of Meter Panelboard Pedestal.
  - 1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
  - 2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For each pedestal and related equipment.
  - 1. Include dimensioned plans, elevations, sections, and details.
  - 2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
  - 3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.

4. Detail bus configuration, current, and voltage ratings.
5. Short-circuit current rating of panelboards and overcurrent protective devices.
6. Include evidence of NRTL listing for series rating of installed devices.
7. Include evidence of NRTL listing for SPD as installed in panelboard.
8. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
9. Include wiring diagrams for power, signal, and control wiring.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
  1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  1. Keys: Two spares for each type of panelboard cabinet lock.
  2. Circuit Breakers Including GFCI and GFEP Types: Two spares for each panelboard.

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: ISO 9001 or 9002 certified.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation according to NEMA PB 1.

#### 1.9 FIELD CONDITIONS

- A. Environmental Limitations:
  1. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

- a. Ambient Temperature: Not exceeding minus 23 deg F to plus 104 deg F.
- b. Altitude: Not exceeding 6600 feet.

#### 1.10 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace pedestals that fail in materials or workmanship within specified warranty period.
  - 1. Panelboard Warranty Period: 24 months from date of Substantial Completion.
- B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace SPD that fails in materials or workmanship within specified warranty period.
  - 1. SPD Warranty Period: Five years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 PANELBOARDS AND LOAD CENTERS COMMON REQUIREMENTS

- A. Acceptable manufacturers:
  - 1. Tesco
  - 2. Milbank
- B. Fabricate and test pedestal according to IEEE 344 to withstand seismic forces in Zone 4 areas.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NEMA PB 1.
- E. Comply with NFPA 70.
- F. Enclosures: Pedestal-mounted, dead-front cabinets.
  - 1. Rated for environmental conditions at installed location.
    - a. Outdoor Locations: NEMA 250, Type 4X.
  - 2. Height: 60 inches maximum.
  - 3. Hinged Front Cover: Entire front trim hinged to box and with standard door within

hinged trim cover. Trims shall cover all live parts and shall have no exposed hardware except for padlock hasp.

4. Finishes:

- a. Panels and Trim: Polished Stainless Steel with all stainless steel fasteners, hinges, bolts, screws, etc.

G. Incoming Mains:

- 1. Location: Bottom.
- 2. Main Breaker: Size as shown.

H. Phase, Neutral, and Ground Buses:

- 1. Material: Hard-drawn copper, 98 percent conductivity.
  - a. Bus shall be fully rated the entire length.
- 2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.
- 3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- 4. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in gutter.

I. Conductor Connectors: Suitable for use with conductor material and sizes.

- 1. Material: Hard-drawn copper, 98 percent conductivity.
- 2. Terminations shall allow use of 75 deg C rated conductors without derating.
- 3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.
- 4. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
- 5. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard.

J. NRTL Label: Panelboards shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment one main service disconnecting and overcurrent protective devices. Panelboards shall have meter enclosures, wiring, connections, and other provisions for utility metering. Coordinate with utility company for exact requirements.



- K. Future Devices: Panelboards or load centers shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
  - 1. Percentage of Future Space Capacity: 20 percent.
- L. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.
  - 1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Panelboard Pedestal shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
  - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and will remain fully functional."
- B. Surge Suppression: Factory installed as an integral part of indicated panelboards, complying with UL 1449 SPD Type 1.

## 2.3 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Circuit breakers shall be as manufactured by: General Electric/ABB, Square D/Schneider, or Eaton Cutler Hammer.
- B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.
  - 1. Thermal-Magnetic Circuit Breakers:
    - a. Inverse time-current element for low-level overloads.
    - b. Instantaneous magnetic trip element for short circuits.
  - 2. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
  - 3. MCCB Features and Accessories:
    - a. Standard frame sizes, trip ratings, and number of poles.
    - b. Breaker handle indicates tripped status.
    - c. UL listed for reverse connection without restrictive line or load ratings.
    - d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.

- e. Multipole units enclosed in a factory assembled to operate as a single unit.

## 2.4 IDENTIFICATION

- A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.
- B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.
- C. Circuit Directory: Directory card inside panelboard door, mounted in metal frame with transparent protective cover.
  - 1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify actual conditions with field measurements prior to ordering pedestal to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.
- B. Receive, inspect, handle, and store pedestal according to NEMA PB 1.1.
- C. Examine pedestal before installation. Reject pedestal that is damaged, rusted, or have been subjected to water saturation.
- D. Examine elements and surfaces to receive pedestal for compliance with installation tolerances and other conditions affecting performance of the Work.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Coordinate layout and installation of pedestal and components with other construction, including, electrical and other types of equipment, raceways, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B. Comply with NECA 1.
- C. Install pedestal and accessories according to NEMA PB 1.1.

D. Equipment Mounting:

1. Install pedestal on cast-in-place concrete equipment base. Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."

E. Mount pedestal cabinet plumb and rigid without distortion of box.

F. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes.

G. Install filler plates in unused spaces.

H. Stub four 1-inch empty conduits from pedestal into adjacent in ground pullbox for future use. Pull box shall be Christy, N9 with concrete cover.

I. Arrange conductors in gutters into groups and bundle and wrap with wire ties.

### 3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads. Install directory inside panelboard door.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

D. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.

### 3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

C. Tests and Inspections:

3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

3.6 PROTECTION

- A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION

## SECTION 26 56 00

### EXTERIOR LIGHTING

#### **PART 1 – GENERAL**

##### 1.1 GENERAL REQUIREMENTS

- A. Refer to Section 260100, General Requirements.

##### 1.2 WORK INCLUDED

- A. Exterior lighting
  - 1. Luminaires with LED lamps and driver.
  - 2. Poles and accessories.
- B. Underground ducts and Raceways.
- C. Lighting control via pole mounted photocell.

##### 1.3 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color-rendering index.
- C. HID: High-intensity discharge.
- D. LER: Luminaire efficacy rating.
- E. Luminaire: Complete lighting fixture, including ballast housing if provided.
- F. Pole: Luminaire support structure, including tower used for large area illumination
- G. Standard: Same definition as "Pole" above.

##### 1.4 RELATED WORK

- A. Section 260526 Grounding and Bonding.

##### 1.5 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

- A. Dead Load: Weight of luminaire and its horizontal and vertical supports, lowering devices, and supporting structure, applied as stated in AASHTO LTS-4-M.

- B. Live Load: Single load of 500 lbf, distributed as stated in AASHTO LTS-4-M.
- C. Wind Load: Pressure of wind on pole and luminaire and banners and banner arms, calculated and applied as stated in AASHTO LTS-4-M.
  - 1. Basic wind speed for calculating wind load for poles 50 feet high or less is 100 mph.
    - a. Wind Importance Factor: 1.0.
    - b. Minimum Design Life: 25 years.
    - c. Velocity Conversion Factors: 1.0.

#### 1.6 SUBMITTALS

- A. Shop drawings and/or manufacturer's literature describing product.
- B. Photometric test data by an independent testing laboratory is required and submitted for permit review.

#### 1.7 SUBSTITUTIONS

- A. Bid shall be based on specified product of named manufacturers. Substitutions will be allowed only when in the Architect's opinion equal appearance, construction and photometric performance are achieved.

### **PART 2 – PRODUCTS**

#### 2.1 GENERAL

- A. Fixtures are designated on drawings by fixture types. See drawings for fixture description and type of lamp required.
- B. Where only one fixture designation appears in an area, that designation applies to all fixtures in that area.

#### 2.2 U.L. APPROVAL

- A. Each lighting fixture shall have U.L. label for the location the fixture is installed.
- B. All other materials shall be U.L. approved.

#### 2.3 LAMPS

- A. Lumens per input watt shall not be less than 60.
- B. R9 values shall not be less than 0.
- C. CRI shall not be less than 70.

- D. A minimum of five (5) year manufacturer's limited warranty shall be required for LED boards and drivers. Or the standard manufacturer's warranty provided this is great than the minimum required.
- E. Power supplies including drivers shall have a minimum efficiency of 85%.
- F. Drivers shall have a Power Factor of >0.90.
- G. Drivers shall have a Total harmonic Distortion of <20%.

## 2.4 GROUNDING

- A. Fixtures shall have factory installed grounding studs.

## PART 3 – EXECUTION

### 3.1 GENERAL

- A. Provide and install all fixtures complete, including lamps, and ready for service.
- B. Install fixtures in such a manner as to avoid obstructions and to give proper illumination result. Coordinate with Civil for exact locations of pole fixtures.

### 3.2 OUTLET BOXES

- A. Outlet box for surface or stem mounted fixtures shall be provided with fixture stud as well as tapped and drilled canopy covers.
- B. Flush outlet box shall be provided with fixture stud and plaster ring.

### 3.3 CONCRETE BASES

- A. Concrete shall be tested for minimum 300 psi in 28 days.
- B. concrete bases are required for all bollard and pole mounted fixtures.
- C. Concrete bases shall be designed for soil conditions.
- D. Concrete bases for poles shall be designed by a structural engineer licensed in the State of California.

END OF SECTION

## SECTION 90 CONCRETE

### **90-1.01 General**

**90-1.01A Summary:** All concrete shall conform to Section 90 of the Standard Specifications, and any modifications herein or on the Project Plans.

**90-1.01C(6) Mix Design:** The Contractor shall submit a separate mix design for each type of concrete used for approval by the Engineer prior to placement. The following concrete mix shall be considered "Class A Concrete". Except where otherwise specified herein or on the Project Plans, all concrete used on this project shall be truck-mixed, ready-mixed concrete consisting of a mixture of Type II Portland Cement and Supplementary Cementitious Materials (SCM), sand, fine aggregate, coarse aggregate and water. The proportions of the water, sand and aggregate shall be regulated so as to produce a plastic, workable and cohesive mixture. All materials required and the procedure of mixing shall conform to the provisions of Section 90 of the Standard Specifications and any modifications herein. Hand mixing of any amount of Portland cement concrete must first be approved by the Engineer.

**90-1.01D(2) Cementitious Material Content:** Class A Concrete shall contain a minimum of 564 pounds of cementitious material per cubic yard. The amount of cement by weight of the specified cementitious material shall be 75 to 85 percent unless otherwise approved by the Engineer.

**90-1.01D(5) Compressive Strength:** The 28 day compressive strength of Class A Concrete shall be 4000 pounds per square inch (psi) or greater.

**90-1.01D(6) Curing Compound:** The Contractor shall submit on any proposed material and method used to cure concrete. Concrete shall be cured per Section 90-1.03C of the Standard Specifications, and any modifications contained herein or on the Project Plans. Pigmented curing compound or any other material that will leave a noticeable residue shall not be allowed.

**90-1.02E(2) Chemical Admixtures:** An admixture shall not be used to reduce the amount of cementitious material content.

**90-1.02E(4) Fiber Reinforcement:** All concrete shall have "Grace Fiber" reinforcement per ASTM C1116 – standard specification for "Ready-Mixed" concrete. Fibers shall be 20mm collated, fibrillated polypropylene fibers as supplied by Grace Construction Products, Cambridge, MA 92140. Grace Fibers shall be used in strict accordance with the supplier's recommendations and within time as specified in ASTM C 94. The fibers shall comply with ASTM Designation C 1116 Type III 4.1.3 and with applicable building codes. Certification of compliance shall be made available on request. Standard ACI 302 procedures for placing, finishing and curing shall be followed when using Grace Fibers.

Fiber reinforcing from the following manufacturers at the following dosage rates shall be acceptable:

- a. Forta Fiber Nylo Mono Fiber applied at the rate of 1 lb per cubic yard
- b. Grace Microfiber applied at the rate of 0.75 lb per cubic yard
- c. BASF M 100 Microfiber applied at the rate of 0.5 lb per cubic yard



**90-1.04 Payment:** Full compensation for Concrete shall be considered as included in the prices paid for the various contract items of work, which price shall include furnishing all labor, materials, tools and equipment, and doing all work involved in forming, placing and curing Concrete and no additional allowance will be made therefor.

## **SECTION 96 POROUS PAVE**

### **PERMEABLE SURFACING**

#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Permeable Surfacing: Provide for the following applications as indicated on the Drawings:
  - 1. Paths and Trailways
  - 2. Sidewalks and Walkways
  - 3. Unique Features
  - 4. Drainage Applications
  - 5. Tree Surrounds

##### **1.2 RELATED SECTIONS**

- A. Section 19 - Earthwork
- B. Section 20-4 – Landscape planting and establishment
- C. Section 20-5 - Irrigation
- D. Section 73 – Concrete Curbs, Sidewalks and Paving

##### **1.3 REFERENCES**

- A. ASTM C 666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.
- B. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine
- C. ASTM D 4798 - Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method)
- D. ASTM F 1292 - Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment
- E. ASTM G 155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
- F. U.S. Green Building Council, LEED Building Design and Construction (BD+C) Version 4.0 Rating System.

##### **1.4 DESIGN / PERFORMANCE REQUIREMENTS**

- A. Independent Test Data of Permeable Surfacing:
  - 1. Porosity: Calculated void content of 27 percent.
  - 2. Permeability: Coefficient of permeability for a 6 inch diameter core sample of

5.98x101 inches/second. Flow rate for a 6 inch diameter core sample of 0,043 CF/Sec.

3. Compressive Strength:
4. 10,000 lbs Test: Average reading after 4 hours after release, 0.0609
5. 20,000 lbs Test: Average reading after 3 hours after release, 0.0350
6. Durability: Weathering: Accelerated Weathering in accordance with ASTM D 4798, Cycle A, ASTM G 155. Xenon UV exposure, 120 hours.
7. Durability: Freeze-Thaw: ASTM C 666, Method B, 300 cycles of freeze/thaw; Panel 1 Mass Change minus 1.2 percent, Panel 2 Mass Change minus 0.5 percent, Panel 3 Mass Change plus 5.6 percent. No change in visual appearance from all panels
8. Slip Resistance: Static Coefficient of Friction when tested in according to ASTM D 2047, Average of 0.66
9. Safety: Critical Fall Porous Pave XLS: Tested in accordance with ASTM F 1292, maximum critical fall height of 4 feet.
10. Safety: Critical Fall Porous Pave XLS with Foam: Tested in accordance with ASTM F 1292, maximum critical fall height of 7 feet.
11. Safety: Chemical Leaching: EPA Tested for metals, mercury, semivolatiles; The analyte was not detected at or above the reporting limit.
12. Flame Resistance: Tested in accordance with ASTM E 84, Flame Spread Index 90, Smoke developed Index 600.

## 1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
- B. Selection Samples: For each finish product specified, two complete sets of color charts representing manufacturer's full range of available colors and patterns.
- C. Verification Samples: For each finish product specified, two samples, minimum size 5 inches (127 mm) round, representing actual product, color, and finish.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic cleaning and maintenance.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with a minimum for three years documented experience with the products specified
- B. Installer Qualifications: Certified Porous Pave personnel or authorized agents experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
- C. Pre-Installation Meetings:
  1. Convene a pre-installation meeting a minimum of two weeks prior to start of porous surfacing system.
  2. Verify project requirements, sub-base and base conditions, manufacturer's

- installation instructions and coordination with other related work.
- 3. Require attendance of parties directly affecting work of this section, including the Contractor, Architect, engineer, and installer. Manufacturer's representative may attend by phone conference as needed.
- 4. Review installation procedures and coordinate installation with other work around installation area.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Binder components shall be shipped in sealed water-tight containers.
- C. Granite aggregate shall be shipped in commercial-grade, moisture-proof 50 lb pre-measured bags.
- D. Storage: Store materials in accordance with manufacturer's instructions.
- E. Store binder above 45 degrees F. Rock and stone must be kept dry and stored out of direct sunlight to prevent condensation inside the bags
- F. Handling: Protect materials during handling and installation to prevent damage.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic maintenance as required.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not place Hard Surface Porous Paving System when the following conditions exist.
  - 1. Unstable wet, saturated, muddy or frozen base.
  - 2. During rain or snow.
  - 3. When air temperature is less than 45 degrees F or more than 95 degrees F for at least six hours after installation.
- C. Do not begin installation of porous pavements until all hard surface paving adjacent to porous pavement areas is completed.
- D. Protect partially completed porous surfacing against damage from other construction traffic when work is in progress.

#### 1.9 WARRANTY

- A. Warranty: Porous Pave material, when installed by certified Porous Pave personnel or authorized agents, will carry a warranty for materials of two years from the date of installation. Porous Pave's warranty is limited to the structural and mechanical integrity of the installed materials

### PART 2 PRODUCTS

## 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Porous Pave Inc., which is located at: 4385 E. 110th St.; Grant, MI 49327; Toll Free Tel: 888-448-3873; Tel: 231-834-7720; Fax: 231-834-5537; Email: [request info \(sales@porouspaveinc.com\)](mailto:request info (sales@porouspaveinc.com)); Web: [www.porouspaveinc.com](http://www.porouspaveinc.com)
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

## 2.2 MATERIALS

- A. Permeable Surfacing: Porous Pave is a pour-in-place permeable paving material. With 27 percent void space that delivers 5,800 gallons per hour per square foot permeability.
  - 1. Porous Pave XL - Strongest, most durable blend consisting of 50 percent recycled rubber chips and 50 percent kiln-dried aggregate, plus a Hard Binder, for hard-wearing permeable pavement.
  - 2. Porous Pave XLS - 100 percent recycled rubber chips with a Soft Binder for more impact-absorbing permeable surfaces.
  - 3. Porous Pave XLB - 50-50 rubber-rock blend mixed with a binder selected for golf course bunker liner applications
- B. Kiln-Dried Aggregate: Washed, kiln-dried, consistently sized all-granite aggregate.
- C. Recycled Rubber Chips: Clean, consistently sized rubber chips, 99 percent of steel fragments removed. Consistent rubber chip colors are infused not just a thin outer coating.
  - 1. Standard Colors
    - a. Black
    - b. Gray
    - c. Tan
    - d. Green
    - e. Brown
    - f. Cypress
    - g. Redwood
    - h. Blue
  - 2. Custom Color Combinations
    - a. Gray-Black
    - b. Tan-Black
    - c. Brown-Black
    - d. Brown-Tan
    - e. Cypress-Black
    - f. Green-Brown
    - g. Red-Black
    - h. Blue-Gray
- D. Hard Binder: B5HN hard binder.
- E. Soft Binder: B5SN soft binder.

## 2.3 FABRICATION

- A. Mix permeable surfacing components to the base mixing ratio required for the mix and color specified.
  - 1. Mix in mortar mixer 45-60 seconds or until material is evenly coated with binder, over-mixing may change the color of the material.
  - 2. Mix different colors separately.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify layout, gradients and elevations of subgrade and base are correct. Notify the Engineer if not acceptable. Do not begin preparation or installation until unsatisfactory conditions have been corrected.
- C. Ensure that adjacent hard-surfaced paving work is completed before installing porous pavement system.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Carefully protect adjacent materials not to receive surfacing to avoid exposure to binder or mix. Materials will stain and cannot be cleaned.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install each area to be surfaced in a single monolithic pour with no expansion strips.
- C. Provide 1-1/2 inches of XL over a compacted aggregate base for patios, golf cart paths, residential walkways and other non-commercial applications.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Protect adjacent materials.
- C. Protect porous surfacing until fully cured.
- D. Avoid construction traffic over installed surfacing.
- E. Touch-up, repair or replace damaged products before Substantial Completion.

## PERMEABLE SURFACE BINDER

### PART 4 GENERAL

#### 4.1 SECTION INCLUDES

- A. Permeable Surface Binder.

#### 4.2 RELATED SECTIONS

- A. Section 19 - Earthwork
- B. Section 20-4 – Landscape planting and establishment
- C. Section 20-5 - Irrigation
- D. Section 73 – Concrete Curbs, Sidewalks and Paving

#### 4.3 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- B. Selection Samples: For each finish product specified, two complete sets of color charts representing manufacturer's full range of available colors.
- C. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic cleaning and maintenance.

#### 4.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with a minimum of three years documented experience with the products specified
- B. Installer Qualifications: Certified Porous Pave personnel or authorized agents experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
- C. Pre-Installation Meetings:
  - 1. Convene a pre-installation meeting a minimum of two weeks prior to start of porous surfacing system.
  - 2. Verify project requirements and surface conditions, manufacturer's installation instructions and coordination with other related work.
  - 3. Review installation procedures and coordinate installation with other work around installation area.
  - 4. Review methods of protecting adjacent materials during spray application to avoid exposure to binder. Materials will stain and cannot be cleaned.

#### 4.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in accordance with manufacturer's instructions.
- C. Store binder above 45 degrees F. Products must be kept dry and stored out of direct sunlight.
- D. Handling: Protect materials during handling and installation to prevent damage.

#### 4.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not apply binder when the following conditions exist.
  - 1. During rain or when rain is anticipated within 2 hours of binder application.
  - 2. When air temperature is less than 45 degrees F or more than 95 degrees F for at least six hours after installation.
- C. Do not begin application of porous binder until all hard surface paving adjacent to porous pavement areas is completed.
- D. Protect partially completed porous surfacing against damage from other construction traffic when work is in progress.

### PART 5 PRODUCTS

#### 5.1 MANUFACTURERS

- A. Acceptable Manufacturer: Porous Pave Inc., which is located at: 4385 E. 110th St.; Grant, MI 49327; Toll Free Tel: 888-448-3873; Tel: 231-834-7720; Fax: 231-834-5537; Email: [request info \(sales@porouspaveinc.com\)](mailto:sales@porouspaveinc.com); Web: <http://www.porouspaveinc.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

#### 5.2 MATERIALS

- A. Binder: Porous Pave moisture cured urethane binder.
  - 1. B5HN Hard Binder.
  - 2. B5SN Soft Binder.
  - 3. Colorant:
    - a. Tan.
    - b. Brown
    - c. Green.
    - d. Redwood.
    - e. Black.
    - f. Blue.
    - g. Cypress.



- h. Gray.
- i. Ratio of \_\_\_\_\_ and \_\_\_\_\_ colors as selected by the Architect.
- j. Color as selected by the Architect.

### 5.3 MIXING

- A. Mix binder components to the ratio required for the mix and color specified.
  - 1. Mix one gallon of Porous Pave Binder Thinner (BT128) into one five gallon pail of binder. Stir consistently until thinner mixes with the binder. If colorant is needed add that in the same mix at this time.
  - 2. Mix different colors separately.

## PART 6 EXECUTION

### 6.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.

### 6.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Blow/sweep the surface of the Porous Pave prior to applying the binder.
- D. Remove all leaves, sticks, stones and other surface debris before application.
- E. Vacuuming the surface with a shop vac, lawn vac or street sweeper may be necessary if dirt, sediment or leaves remain after blowing/sweeping has been completed.
- F. Carefully protect adjacent materials not to receive surfacing to avoid exposure to binder. Materials will stain and cannot be cleaned.

### 6.3 ROLLER APPLICATION

- A. Install in accordance with manufacturer's instructions.
- B. Once Porous Pave binder is thinned it can be applied by a standard paint roller.
- C. Mix one gallon of BT128 thinner with five gallons of binder. Also add one gallon of colorant if specified. Mix for at least 30 - 40 seconds to properly thin the thicker binder. The mix will cover 250-300 square feet.
- D. An even application is required to ensure the entire surface is coated with the proper amount of binder to provide the best performance.
- E. Place a marker at 300 square feet and be sure to evenly spread the pail of thinned binder throughout the area
- F. Continually move your marker 300 square feet at a time throughout the installation to cover the entire area with one even coat of binder.

#### 6.4 SPRAY APPLICATION

- A. Install in accordance with manufacturer's instructions.
- B. Mix one gallon of BT128 thinner with five gallons of binder. Also add a one gallon of colorant if specified. Mix for at least 30 - 40 seconds to properly thin the thicker binder. The mix will cover 550-600 square feet.
- C. Once Porous Pave binder is thinned applied by a standard paint airless sprayer with the largest tip available.
- D. An even application is required to ensure the entire surface is coated with the proper amount of binder to provide the best performance.
- E. Place a marker at 600 square feet and evenly spray the pail of thinned binder throughout the area
- F. Continually move your marker 600 square feet at a time throughout the installation to cover the entire area with one even coat of binder.

#### 6.5 PROTECTION

- A. Carefully protect adjacent materials not to receive surfacing. Materials will stain and cannot be cleaned.
- B. Protect surfacing until fully cured.
- C. Avoid construction traffic over installed surfacing.
- D. Touch-up, repair or replace damaged products before Substantial Completion.

#### 6.6 PAYMENT:

**Porous Pave** shall be paid for at the contract price per **square foot** which price shall include full compensation for furnishing all labor, materials including angular drain rock, tools, and equipment, and doing all the work involved in supplying and placing Porous Pave, as specified herein, including compacting subgrade, placing and compacting angular drain rock, and any other item necessary for Porous Pave not specifically enumerated in the plans or these specifications, and no additional allowances will be made therefor.

## **SECTION 104 SITE FURNISHINGS**

### 104-1      General

#### 104-1.01      Description

- A.      Work Included: Provide all material, labor, equipment, and services necessary for the furnishing and installation of all site furniture as shown on the drawings and as specified herein.
  
- B.      Related Work
  - 1.      Section 73: Concrete Curb & Gutter, Sidewalks, and Paving
  - 2.      Section 20: Landscape

#### 104-1.02      Submittals

- A.      General: Submit the following to the City Representative for review and acceptance. Approval by the City Representative is required prior to commencement of work.
  - 1.      Manufacturer's shop drawings or catalogue literature for the products specified.
    - a.      Show profiles, sizes, and connections; method of fabrication and erection, including connectors and welds.
  - 2.      Images of landscape boulders and 3 headstone size samples.
    - b.      Samples to be representative of landscape boulder stockpile and contain lichens, mosses, provide general color range, variations and characteristics of boulders to be imported and installed.

#### 104-1.03      Product Delivery, Storage, and Handling

Site furniture shall be delivered and unloaded at job site in such a manner that no damage occurs to the product during hauling, handling, or unloading, storage, and installation.

### 104-2      Products

#### 104-2.01      Bollards

- A.      Fixed Bollard – Fixed Bollard shall be Model #R-7902, Steel Bollard, polyester powder coat over epoxy primer in black textured semi-gloss, embedded in new concrete by Reliance Foundry, or approved equal.
- B.      Removable Bollard – Removable Bollard shall be Model #R-7902, Steel Bollard, polyester powder coat over epoxy primer in black textured semi-gloss, removable in new concrete with stainless steel receiver with chain by Reliance Foundry, or approved equal.

104-2.02      Landscape Boulders

- A. Landscape boulders to be supplied and placed: shall be 36" minimum diameter "Sonoma Fieldstone" as described in the plans.
- B. Existing landscape boulders: there are 35 existing landscape boulders at the site to be stockpiled and reused in new locations throughout the site. Existing landscape boulders are the property of the City and shall not be removed from the site unless directed by the City.

104-2.03      Benches

- A. Bench – Bench shall be Model #427, Timber Bench with Back, Armrests, and Center Armrests, 'Kailua' with 'Walnut Essence' top coat stain and factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.

104-2.04      Picnic Tables

- A. Picnic Table Type 1 – Picnic Table Type 1 shall be Model #114, 96" Wood Grain Timber Table with Custom Slats for Draining in 'Kailua' with 'Walnut Essence' top coat stain and factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.
- B. Picnic Table Type 2 (Accessible) – Picnic Table Type 2 shall be Model #114-2E, 96" Wood Grain Timber Table Double Entry with Custom Slats for Draining in 'Kailua' with 'Walnut Essence' top coat stain and factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.

104-2.05      Game Tables

- A. Chess Table – Chess Table shall be Model #108-AC-CGB, Accessible Square Concrete Café Table with Chess Gameboard in 'Kailua' with factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.
- B. Table Tennis – Table Tennis shall be Model #1500 with Custom Steel Side Skirts, Concrete Table Tennis in 'Kailua' with factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.
- C. Cornhole Set – Cornhole Set shall be Model #1510, Concrete Cornhole Set in 'Kailua' with factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.

104-2.06      Barbeques

- A. Barbeque Type 1 – Barbeque Type 1 shall be Model #300A, Single Concrete Barbeque in 'Kailua' with factory-applied non-sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.
- B. Barbeque Type 2 – Barbeque Type 1 shall be Model #3001A with Dome Top Grl Un, Group Concrete Barbeque with Lid in 'Kailua' with factory-applied non-

sacrificial graffiti sealant by Outdoor Creations ([www.outdoorcreations.com](http://www.outdoorcreations.com), 530-365-6106), or approved equal.

104-2.07 Bike Racks

- A. Bike Rack Type 1 – Bike Rack Type 1 shall be Model #BR05B, Heart Bike Rack in galvanized and powder coated steel (red) with base plate by Securabike ([www.securabike.com](http://www.securabike.com)), or approved equal.
- B. Bike Rack Type 2 – Bike Rack Type 2 shall be Model #2178-03-P-C, Artful CycLoops Coffey Mugs Bike Rack in powder coated steel (black) with base plate by Columbia Cascade ([www.columbia-cascade.com](http://www.columbia-cascade.com)), or approved equal.
- C. Bike Rack Type 3 – Bike Rack Type 3 shall be Model #2178-31-P-C, Artful CycLoops Kids Bike Rack in powder coated steel (regal blue) with base plate by Columbia Cascade ([www.columbia-cascade.com](http://www.columbia-cascade.com)), or approved equal.

104-2.08 Trash & Recycling Receptacles

- A. Trash Receptacle – Trash Receptacle shall be Model #IVTR, Powder coated Steel Trash Receptacle with Cable Lock, black, side empty, with matching Rain Top #IVTR-RT, 45 gallon plastic liner, pedestal mount, by Kings River Casting ([www.kingsrivercasting.com](http://www.kingsrivercasting.com)), or approved equal.
- B. Recycling Receptacle – Recycling Receptacle shall be Model #IVTR with Recycling Decals, Steel Trash Receptacle with Cable Lock, black, side empty, with matching Rain Top #IVTR-RT, 45 gallon plastic liner, pedestal mount, by Kings River Casting ([www.kingsrivercasting.com](http://www.kingsrivercasting.com)), or approved equal.

104-2.09 Water Fountains and Sumps

- A. Drinking Fountain – Water Fountain shall be Model #3202, powder coated steel (green) by Haws ([www.hawsc.com](http://www.hawsc.com)), or approved equal.
- B. Sump for Drinking Fountains shall be as shown on plans.
- C. Dog Park Water Spigot with Sump shall be as shown on plans.

104-2.10 Pet Waste Station

- A. Pet Waste Station shall be Model #DEPOT-007, powder coated steel (green) by Dog Waste Depot ([www.dogwastedepot.com](http://www.dogwastedepot.com)), or approved equal.

104-2.11 Fitness Stations – Fitness Stations shall be 'Healthbeat' by Landscape Structures, model numbers as listed below, available from Ross Recreation, Inc. (Nick Philbin, 707-538-3800), or approved equal.

- A. Station A – Station A shall be Model #205938 Hand Cycler and Model #192454 Balance Steps with shared post.
- B. Station B – Station B shall be Model #192462 Stretch and Model #192463 Tai Chi Wheels with shared post.
- C. Station C – Station C shall be Model #192453 Parallel Bars.
- D. Station D – Station D shall be Model #192459 Plyometrics and Model #192456 Chest/Back Press with shared post.
- E. Station E – Station E shall be Model #192451 Ab Crunch/Leg Lift.
- F. Station F – Station F shall be Model #192460 Pull Up/Dip and Model #192461 Squat Press with shared post.

104-2.12      Restroom Enclosure

- A. Restroom Enclosure shall be constructed from pressure treated lumber framing with Hardie Board siding, color and finish per plan.
- B. Restroom Enclosure includes construction of 4" thick pedestrian rated concrete pad foundation with column bases set in foundation per detail RE/23. Pad finish shall match finish to adjacent pavement.

104-3          Installation

104-3.02      Bollards

- A. Layout and installation of bollards shall be carefully coordinated with concrete paving.
- B. Install bollards as shown on plans and in conformance with manufacturer's recommendations.

104-3.03      Landscape Boulders

- A. Install landscape boulders by preparing location to receive boulder then mechanically placing boulder. Care should be taken to position boulder as it occurred in a natural setting whenever possible and ensure no sides overhang. Conceal equipment scars as described on the plans.
- B. Existing landscape boulders that are less than 36" in diameter are to be installed in groups of 2-3 at new locations as directed by landscape architect.
- C. Landscape boulders, or boulder groupings should be installed at 8' maximum spacing between boulders to deter vehicle entry into the park. Coordinate boulder placement with fence and landscape installation.
- D. Contractor to coordinate stockpiling of new landscape boulders and existing landscape boulders with landscape architect. Boulder stockpiling and installation shall avoid conflicts with other trades and work.

104-3.04      Benches

- A. Layout and installation of benches shall be carefully coordinated with concrete paving.
- B. Install benches as shown on plans and in conformance with manufacturer's recommendations.

104-3.05      Picnic Tables

- A. Layout and installation of picnic tables shall be carefully coordinated with concrete paving.

- B. Install benches as shown on plans and in conformance with manufacturer's recommendations.
- 104-3.06     Game Tables
- A. Layout and installation of game tables shall be carefully coordinated with concrete paving.
  - B. Install game tables as shown on plans and in conformance with manufacturer's recommendations.
- 104-3.07     Bike Racks
- A. Layout and installation of bike racks shall be carefully coordinated with concrete paving.
  - B. Install bike racks in conformance with manufacturer's recommendations.
- 104-3.08     Trash & Recycling Receptacles
- A. Layout and installation of trash & recycling receptacles shall be carefully coordinated with concrete paving.
  - B. Install trash & recycling receptacles as shown on plans and in conformance with manufacturer's recommendations.
- 104-3.09     Drinking Fountains
- A. Install drinking fountains and sump as shown on plans and in conformance with City requirements and manufacturer's recommendations.
  - B. Install dog park spigot and sump as shown on plans and in conformance with City requirements and manufacturer's recommendations.
- 104-3.10     Pet Waste Station
- A. Install pet waste station as shown on plans and in conformance with manufacturer's recommendations.
- 104-3.11     Fitness Stations
- A. Layout and installation of fitness stations shall be carefully coordinated with concrete paving.
  - B. Install fitness stations in conformance with manufacturer's recommendations.
- 104-3.12     Restroom Enclosure
- A. Layout and installation of restroom enclosure shall be carefully coordinated with concrete paving and post base setting.

- B. Install restroom enclosure as shown on plans.

104-4.01 Payment

- A. **Site furnishings** shall be paid for at the contract **unit price** for each as listed on the bid schedule, which price shall be considered as full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals, and for doing all work involved and necessary to supply and install site furnishings, complete in place and in accordance with the plans, including protection of existing improvements and facilities, as specified in these Special Provisions, and as directed by the Engineer.
- B. **Supply and Place Landscape Boulders:** shall be paid for at the contract **unit price** for each as listed on the bid schedule, which price shall be considered as full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals, and for doing all work involved and necessary to supply and install landscape boulders, complete in place and in accordance with the plans, including protection of existing improvements and facilities, as specified in these Special Provisions, and as directed by the Engineer.
- C. **Place Landscape Boulders:** shall be paid for at the contract **unit price** for each as listed on the bid schedule, which price shall be considered as full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals, and for doing all work involved and necessary to install existing landscape boulders, complete in place and in accordance with the plans, including protection of existing improvements and facilities, as specified in these Special Provisions, and as directed by the Engineer.



## **SECTION 105 PLAYGROUND EQUIPMENT**

### **105-1.01 SECTION INCLUDES**

- A. Play Equipment: 2 to 5 and 5 to 12 areas – Not In Contract
- B. Fall Attenuating Surfacing for Play Area
- C. Drain Rock at Playground

### **105-2.01 MATERIALS**

- A. Landscape Structures playground equipment to be purchased under separate contract by the City of Santa Rosa and installed by Ross Recreation Equipment: 707-538-3800 or [info@rossrec.com](mailto:info@rossrec.com).
- B. Play It Safe Playground Fibar to be installed by contractor in both play areas; minimum depth of 12" in fall zones.
  - 1. To be certified to meet ASTM F1951-08 and ASTM F1292-04.
  - 2. To be made of 100% virgin wood; individual pieces to be from ½" to 1-½" long and no more than ½" wide.
  - 3. Available from Ross Recreation Equipment: 707-538-3800 or [info@rossrec.com](mailto:info@rossrec.com).
- C. Drain rock at playground subsurface drains shall be ¾" drain rock as shown on plans and in conformance with Section 26A of these Special Provisions.

### **105-3.01 GENERAL**

- A. Play equipment to be installed under separate contract by Ross Recreation Equipment: 707-538-3800 or [info@rossrec.com](mailto:info@rossrec.com).
- B. Completed playground to be inspected and certified as compliant by a CPSI under separate contract.

### **105-4.01 PAYMENT**

- 1.1 **Fibar play surfacing**, complete, in place, and to required depth, shall be made at the contract per **cubic yard** price, which shall be considered full compensation for furnishing all labor, materials, equipment, tools, transportation, and incidentals necessary for installation of Fibar, play surfacing complete, in place and fully operational, and any other item necessary for Fibar play surfacing not specifically enumerated in the plans or these specifications, and no additional allowances will be made therefor.
- 1.2 **Drain Rock at Playground** shall be paid for at the contract price per **cubic yard** which price shall include full compensation for furnishing all labor, materials including angular drain rock, tools, and equipment, and doing all the work involved in supplying and placing drain rock at playground, as specified herein, including compacting subgrade, placing and compacting angular drain rock, and any other item necessary not specifically enumerated in the plans or these specifications, and no additional allowances will be made therefor.

## **SECTION 112 TREE PROTECTION**

**112-1.01 General:** The following requirements shall apply to any contractor who works on any property upon which a protected tree is located.

Protected tree means any tree, including a Heritage tree, designated to be preserved on the plans, or as directed by the Engineer. Heritage tree is any of the trees listed under Section 17-24.010 of the City of Santa Rosa Tree Ordinance.

**112-1.02 Scope:** Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the protected perimeter. Protected perimeter shall be either the root zone or other limit as directed by the Engineer. Such fences shall remain continuously in place for the duration of all work undertaken in connection with this project. The area so fenced off shall not be used as a storage area, altered, or disturbed except as may be permitted under this section.

If any of the site work encroaches upon the protected perimeter of a protected tree, special measures shall be utilized as approved by the Engineer to ensure that the roots obtain oxygen, water, and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized by the Engineer, shall be minimized and subject to such conditions as may be imposed by the Engineer. No significant change in existing ground level shall be made within the drip line of the protected tree except as directed by the Engineer and as shown on the plans. No burning or use of equipment with an open flame shall occur near or within the protected perimeter. All brush, earth, and other debris shall be removed in a manner which prevents injury to the protected tree.

No oil, gas, chemicals, or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter or any other location on the site from which such substances might enter the protected perimeter.

Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impracticable, tunnels shall be made below the roots. Trenches shall be consolidated to serve as many units as possible. Trench within the drip line of the tree shall be avoided and only be done at the approval and direction of the Engineer.

No concrete or asphalt paving shall be placed over the root zones of protected trees, except where shown on plans.

No compaction of the soil within the root zones of protected trees shall occur, except when required as part of a paving section where shown on plans.

**112-1.03 Payment:** Full compensation for work in this section shall be considered as included in the prices paid for the various contract items of work and no additional allowances will be made therefor.

## 121 NOTIFICATION

**121-1.01:** The Contractor shall notify the Engineer of any work to be performed on any given work day either on the afternoon of the prior working day or before 8:30 a.m. on the given working day. Any work completed for which the Engineer has not received prior notification of its scheduling MAY NOT BE ACCEPTED FOR PAYMENT.

**121-3.01 Payment:** Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

## 124 MATERIAL RECYCLING

**124-1.01 Description:** The Contractor shall dispose of all portland cement concrete and asphalt concrete, generated from removal or demolition activities on the project, at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

All other excess materials from the project shall become the property of the Contractor and shall be disposed of by him, at his expense.

**124-1.02 Payment:** Full compensation for material recycling as specified herein shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be allowed therefor.

## **SECTION 125**

### **SPECIAL CONDITIONS FOR DEMOLITION AND SITE CLEARANCE**

**125-1.01 Project or Demolition Area:** The area of the project is Coffee Neighborhood Park and is bordered by Amanda Place to the north, Coffee Lane to the east, Mocha Lane to the west, and Dogwood Drive to the south.

Upon receipt of Notice to Proceed, the Contractor shall have control of the progress and sequence of the demolition of the walkways, concrete, etc. as specified in the project demolition plan as released and removal and Clearance of Site, subject to all contract stipulations and covenants.

**125-1.02 Responsibility of Contractor:** Except as otherwise specifically stated in the contract documents and technical specifications, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, heat, power, transportation, superintendence, temporary construction of every nature, charges, levies, fees, off haul or other expenses incurred, and all other services and facilities of every nature whatsoever necessary for his performance of the contract within the specified time.

**125-1.03 Scope of Work:** The provisions for demolition and removal work included in these specifications shall apply to all work performed under this contract and shall include the demolition and removal of all items as specified shown on the attached plans and all other structures, existing rubbish and debris from the site as detailed in these specifications and plans.

Access to the site of the work is available from adjacent public streets.

**125-1.04 Utilities:** All utilities within and across the project area and all utilities serving structures or facilities not under this contract but adjacent to the sites of the work shall be preserved and kept in operating condition during the progress of this contract. In addition, these utilities shall be left operable after completion of demolition and cleanup. Any damage to any utility due to the operation of the Contractor shall be repaired or replaced to the requirements of the City of Santa Rosa.

The Contractor shall notify Pacific Gas and Electric Company at 3965 Occidental Road, Santa Rosa, California (Post Office Box 640, Santa Rosa, California, 95402); Pacific Telephone Company at 3442 Mendocino Avenue, Santa Rosa, California; and Comcast Cable at 3242 Airway Drive, Santa Rosa, California (Post Office Box 11668, Santa Rosa, California, 95406) prior to beginning demolition work.

**125-1.05 Demolition and Removal:** The process of demolition, clearance, and removal by the Contractor shall be performed and supervised by him using employees experienced in this kind of work. The Contractor shall use care and proper precautions to insure the safety of workmen, inspectors, and the public, and to insure no unreasonable disturbances to surrounding business establishments.

All existing foundations, steps, concrete slabs, and other similar types of construction shall be completely removed.

**125-1.06 Treatment of Areas:** The Contractor shall demolish and remove from the site as required by these specifications all paving, etc.. All exterior concrete shall be removed.

**125-1.07 Dust Nuisance:** The Contractor shall at all times during his operations control movement of dust. Water shall be available and used to lay dust wherever necessary and at the Contractor's expense.

**125-1.08 Burning:** The site of the work is within an air pollution control district. No burning of any kind will, therefore, be permitted.

**125-1.09 Blasting:** No use of explosives will be permitted in the process of demolition.

**125-1.10 Prevention of Accidents:** The prevention of accidents shall be a prime consideration under the operations of this contract. The Contractor is instructed to take due care to comply with all provisions of these specifications as to accident prevention.

**125-1.11 Sidewalk and Street Repair:** All sidewalks adjacent to the job site which are broken as a result of the Contractor's operation and any damage to streets, curbs, or gutters shall be repaired in accordance with the Standard Specifications of the City of Santa Rosa.

**125-1.12 Payment: Demolition and Concrete Removal/Disposal** shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and for doing all the work involved in demolition and concrete removal and disposal as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

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## 132 WATER DISTRIBUTION SYSTEM

**132-1.01 Description:** Water Distribution System and related appurtenances shall conform to the requirements as specified in the City of Santa Rosa Water Distribution System Construction Standard Specifications Section 132, the Project Plans, and modifications herein.

**132-1.11 Excavation, Backfill, and Resurfacing:** The Contractor shall remove and replace sidewalk and planter strips as required for all water work to the nearest transverse score mark on both sides and full sidewalk width. All areas of sidewalk removed for construction shall be backfilled and compacted level with temporary asphalt concrete or covered with 1 inch thick plywood, laid flat with ADA compliant temporary asphalt concrete taper on both ends.

**132-1.12 Laying and Handling Pipe Materials:** If the Contractor installs a highpoint in the water system not shown on the Project Plans the Engineer may require the installation of a new combination air and vacuum valve, per City Standards, at no additional cost to the City.

**132-1.15A Water Services:** New service laterals shall be installed with a minimum horizontal clearance of 3 feet from gas laterals. Water services shall be installed via 'open trench' construction methods only, unless otherwise specified herein.

**132-1.30 Payment: 3" Irrigation Water Service with Backflow:** Shall be paid for at the contract price per **each** which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 3" irrigation water service and backflow installation, including but not limited to: excavation and disposal of excavated materials; dewatering and disposal of trench groundwater; contamination awareness; water service piping and fittings as required; backflow device and fittings as required; backflow enclosure and insulated cover; meter boxes and lids to grade; meter shut off valves; tie-in at back of curb; placing and compacting all required bedding and backfill; testing and chlorination; removal and replacement of concrete curb as needed; as specified herein, and no additional allowance will be made therefor.

**3/4" Water Service with Backflow:** Shall be paid for at the contract price per **each** which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 3/4" water service and backflow installation, including but not limited to: excavation and disposal of excavated materials; dewatering and disposal of trench groundwater; contamination awareness; water service piping and fittings as required; backflow device and fittings as required; backflow enclosure and insulated cover; meter boxes and lids to grade; meter shut off valves; tie-in at back of curb; placing and compacting all required bedding and backfill; testing and chlorination; removal and replacement of concrete curb as needed; as specified herein, and no additional allowance will be made therefor.

**1-1/4" Sch. 40 PVC Water Piping:** Shall be paid for at the contract price per **linear foot** (as determined by measuring the total horizontal length of pipe installed and including tie-ins) which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved in 1-1/4" water piping installation, including but not limited to: excavation and disposal of excavated materials; hand digging if needed; root pruning;

dewatering and disposal of trench groundwater; contamination awareness; water piping and fittings as required; placing and compacting all required bedding and backfill; testing and chlorination; as specified herein, and no additional allowance will be made therefor.

**Backflow Device Testing:** Shall be paid for at the contract price per **each** which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all the work involved to perform backflow device testing, including but not limited to: coordination, notification, preparatory work, testing, and all paperwork as specified herein, and no additional allowance will be made therefor.



**APPROVED LIST OF BACKFLOW CONTRACTORS**  
**INSTALLATION, TESTING & REPAIR**

<b>ACCO ENGINEERED SYSTEMS</b> 1111 ALADDIN AVE. SAN LEANDRO, CA 94577 PHONE: (510) 346-4300 LICENSE #: 120696	<b>ALL OUT PLUMBERS/C. CROSS</b> P.O. BOX 599 CLOVERDALE, CA 95425 PHONE: (707) 894-8434 LICENSE #: 812540	<b>ALL PRO BACKFLOW/J.LOTITO</b> P.O. BOX 2193 FOLSOM, CA 95763 PHONE: (916) 276-7162 FAX: (916) 435-4167 LICENSE #: 934557
<b>A.S.T.I SERVICES/M.DESCHLER</b> 102 COUCH ST. VALLEJO, CA 94590 PHONE: (707) 645-1782 FAX: (707) 645-1807 LICENSE #: 742693	<b>BANNER ENTERPRISES</b> P.O. BOX 1457 SANTA ROSA, CA 95402 PHONE: (707) 523-1244 LICENSE #: 376828	<b>BARTLEY PUMP INC.</b> 4000 S. MOORLAND AVE. SANTA ROSA, CA 95407 PHONE: (707) 584-9191 FAX: (707) 584-9198 LICENSE #: 200068
<b>C.V. PLUMBING/C. VINE</b> P.O. BOX 219 CLOVERDALE, CA 95425 PHONE: (707) 894-8580 FAX: (707) 894-9642 LICENSE #: 843366	<b>CAGWIN &amp; DORWAN</b> P.O. BOX 1600 NOVATO, CA 94948-1600 PHONE: (800) 891-7710 FAX: (415) 897-7864 LICENSE #: 202399	<b>CARRIER CORPORATION</b> 600 MCCORMICK ST., SUITE B SAN LEANDRO, CA 94577 PHONE: (510) 347-2000 FAX: (510) 347-2099 LICENSE #: 499642
<b>CHECKRITE BACKFLOW SERV.</b> 3618 CHANATE RD. SANTA ROSA, CA 95404 PHONE: (707) 575-5296 FAX: (707) 578-6595 LICENSE #: 836022	<b>DEVOTO PLUMBING*</b> 1345 TRIPLE OAK WAY FULTON, CA 95439 PHONE: (707) 545-0734 LICENSE #: 824608	<b>ECONOMY PLUMBING</b> P.M.B. #287, 1275 4 <sup>TH</sup> ST. SANTA ROSA, CA 95404 PHONE: (707) 545-4455 FAX: (707) 543-8111 LICENSE #: 748220
<b>GROUND HOG CONSTRUCTION</b> 5353 HESSEL RD. SEBASTOPOL, CA 95472 PHONE: (707) 529-2085 FAX: (707) 823-9389 LICENSE #: 723766	<b>JV PLUMBING &amp; BACKFLOW*</b> 2911 MONTECITO AVE. SANTA ROSA, CA 95404 PHONE: (707) 799-2692 LICENSE #: 955698	<b>LEDUC &amp; DEXTER PLUMBING</b> 2833 DOWD DR., SUITE A SANTA ROSA, CA 95407 PHONE: (707) 575-1500 FAX: (707) 527-0281 LICENSE #: 651401
<b>NORTHBAY BACKFLOW</b> P.O. BOX 2765 PETALUMA, CA 94953 PHONE: (707) 484-3949 LICENSE #: 878332	<b>NORTHWOOD BACKFLOW</b> 911 LAKEVILLE ST., #369 PETALUMA, CA 94952 PHONE: (800) 750-4547 LICENSE #: 749187	<b>ONGARO AND SONS PLUMBING</b> 2995 DUTTON AVE. SANTA ROSA, CA 95407 PHONE: (707) 579-3511 LICENSE #: 215233
<b>RH &amp; SONS WATER SERVICES</b> 225 GOLDEN RIDGE AVE. SEBASTOPOL, CA 95472 PHONE: (800) 675-3569 LICENSE #: 698774	<b>ROBERTS MECHANICAL &amp; ELECTRICAL, INC.</b> 4649 DOWDELL AVE. SANTA ROSA, CA 95407 PHONE: (707) 584-5880 LICENSE #: 556014	<b>ROBERTSON'S BACKFLOW</b> 6229 SPECKLED RD. POLLOCK PINES, CA 95726 PHONE: (530) 306-1056 FAX: (530) 303-1497 LICENSE #: 972547
<b>ROTO ROOTER/JERRY BRISTOL</b> 1244 CENTRAL AVE. SANTA ROSA, CA 95401 PHONE: (707) 578-5885 FAX: (707) 578-1190 LICENSE #: 803644	<b>SCOTT CRAMER PLUMBING</b> P.O. BOX 750084 PETALUMA, CA 94975 PHONE: (707) 778-8789 FAX: (707) 658-1043 LICENSE #: 889152	<b>STEAD BACKFLOW PREVENTION</b> 2715 W. KETTLEMAN LN., #203-321 LODI, CA 95242 PHONE: (209) 327-3900 LICENSE #: 848490

**NOTE: These contractors have a C-16 or C-36 State Contractor's License or an A-General Engineering License. They are licensed and certified to test, repair, and install any type of backflow device. They are also licensed to work on fire protection backflow devices or fire protection systems. When installing a backflow device, a City Plumbing Permit is required, and if working in the City right-of-way, an Encroachment Permit is needed. All testers are required to have a City Business License.**

*\*Spanish speaking*

(Updated List Only: 3/8/2019)

## **SECTION A**

### **FEES AND PERMITS**

The Contractor shall obtain all necessary and required permits for the project. All permits issued by the City Building Department will be issued at no cost to the Contractor; these fees will be paid by an appropriate City department. All other required permits shall be obtained at the Contractor's expense.

All electrical service charges or fees that may be required by Pacific Gas and Electric Company shall be paid for by an appropriate City department.

Full compensation for securing and complying with all permits shall be considered as included in the contract prices paid for the various items of work and no additional allowance will be made therefor.

[Version: 2/2/15CDA STD2010]

## **B - SHOP DRAWINGS**

The Contractor shall submit shop drawings and/or manufacturer's specifications for all mechanical and electrical equipment.

The Contractor shall prepare or secure and submit five copies of each submittal for review by the Engineer. All submittals shall be approved by the Engineer prior to manufacture, fabrication, or shipment.

After approval of the drawings by the Engineer, the Contractor shall submit copies of purchase orders for items of equipment and material to the Engineer as proof of placing the order. Each copy of a purchase order shall be submitted immediately after the order has been placed and will clearly indicate the date the order was placed. Copies of purchase orders shall be submitted on the following items:

- A. Pumps
- B. Motors
- C. Valves
- D. All electrical equipment

## **C - TESTS AND INSPECTIONS**

All materials, equipment, installation, and workmanship included in this contract, if so required by the Engineer, shall be tested and inspected to prove compliance with the contract requirements.

All mechanical and electrical equipment shall be tested by the Contractor to the satisfaction of the Engineer before any facility is put into operation. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned, adjusted, and connected. Any changes, adjustments, or replacements required to make the equipment operate as specified shall be carried out by the Contractor as part of the work.

At least 60 days before the time allowed in his construction schedule for commencing testing and start-up procedures, the Contractor shall submit to the Engineer, in duplicate, details of the procedures he proposes to adopt for testing and start-up of all mechanical and electrical equipment to be operated singly and together, excepting when such procedures have been covered in the specifications. Tests on hydraulic or pumping equipment shall be conducted using clear potable water. The water required for such tests shall be provided by the Contractor.

During the testing of mechanical, instrumentation, and electrical equipment, the Contractor shall make available experienced factory trained representatives of the manufacturers of all the various pieces of equipment, or other qualified persons, who shall instruct the City's personnel in the operation and care thereof. Instruction shall include step-by-step troubleshooting procedures with all necessary test equipment.

If, under test, any portion of the work shall fail to fulfill the contract requirements and is altered, renewed, or replaced, tests on that portion when so altered, removed, or replaced, together with all other portions of the work as are affected thereby, shall, if so required by the Engineer, be repeated within reasonable time and in accordance with the specified conditions, and the Contractor shall pay to the City all reasonable expenses incurred by the City as a result of the carrying out of such tests.

Where, in the case of an otherwise satisfactorily installed test, any doubt, dispute, or difference should arise between the Engineer and the Contractor regarding the test results or the methods or equipment used in the carrying out of the test by the Contractor, then the Engineer may order the test to be repeated. If the repeat test, using such modified methods or equipment as the Engineer may require, substantially confirms the previous test, then all costs in connection with the repeat test will be paid by the City; otherwise the costs shall be borne by the Contractor. Where the results of any installed test fail to comply with the contract requirements for such test, then such repeat tests as may be necessary to achieve the contract requirements shall be made by the Contractor at his own expense.

As soon as possible after each Contractor's submittal for equipment defined herein has been approved by the Engineer, and no later than the time of delivery of that equipment to the job site, a single copy of operating and maintenance instructions and procedures shall be presented to the Engineer for review and acceptance. Since such instructions

are considered to be an integral part of the equipment provided, ten percent of the materials and labor costs for each such item of equipment will be withheld from payment to the Contractor until the instructions have been accepted by the Engineer.

Items or assemblies requiring operating and maintenance instructions shall include all mechanical equipment, electrical, and instrumentation equipment, and, in addition, any other items specifically noted in the specifications.

The operating and maintenance instructions shall include, as a minimum, the following data for each item of equipment.

- A. An itemized list of all data provided.
- B. Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier, and spare parts warehouse.
- C. Approved submittal information applicable to operation and maintenance.
- D. Recommended installation, adjustment, start-up, calibration, and troubleshooting procedures.
- E. Recommended lubrication and an estimate of yearly quantity needed.
- F. Recommended step-by-step procedures for all modes of operation.
- G. Complete internal and connection wiring diagrams.
- H. Recommended preventive maintenance procedures and schedule.
- I. Complete parts lists, by generic title and identification number, with exploded views of each assembly.
- J. Recommended spare parts.
- K. Disassembly, overhaul, and reassembly instructions.

Following completion of installation of an item of equipment, operating and maintenance instructions and procedures shall be modified by the Contractor to reflect field changes and corrections made by the Engineer. After corrections have been made, four complete copies shall be submitted.

BID FORMS

**CITY OF SANTA ROSA**

**STATE OF CALIFORNIA**

COFFEY NEIGHBORHOOD PARK

The work to be performed and referred to herein is in the City of Santa Rosa, California and consists of improvements to be constructed in accordance with the provisions of the Invitation for Bids, containing the Notice to Bidders, the Special Provisions, the Project Plan(s), the Bid Forms and the Contract, all of which are by reference incorporated herein, and each Addendum, if any is issued, to any of the above which is also incorporated by reference herein.

TO THE AWARD AUTHORITY OF THE CITY OF SANTA ROSA

The undersigned, as bidder, declares that the only person or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm, or corporation; that Contractor has carefully examined the Project Plans, Invitation for Bids and conditions therefor, and is familiar with all bid requirements, that Contractor has examined this Contract and the provisions incorporated by reference herein, and Contractor hereby proposes, and agrees that if its bid is accepted by the City, Contractor will provide all necessary machinery, tools, apparatuses, and other means of construction, and to do all the work and furnish all the materials and services required to complete the construction in accordance with the Contract, the Special Provisions, the Project Plan(s), and Addenda to any of the above as incorporated by reference, in the time stated herein, for the unit prices and/or lump sum prices as follows:

**NAME OF BIDDER:****CITY OF SANTA ROSA  
UNIT PRICE SCHEDULE  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units	Unit Price	Total Price
1	TRAFFIC CONTROL	1	LS	\$_____	\$_____
2	WATER POLLUTION CONTROL	1	LS	\$_____	\$_____
3	ADJUST EXISTING STORM DRAIN MANHOLE TO GRADE	1	EA	\$_____	\$_____
4	CLEARING AND GRUBBING	1	LS	\$_____	\$_____
5	TREE REMOVAL	1	LS	\$_____	\$_____
6	EARTHWORK EXCAVATION & FINE GRADING (F)	1	LS	\$_____	\$_____
7	EXCAVATION - 3" SOIL SCRAPING AND REMOVAL/DISPOSAL	2,130	CY	\$_____	\$_____
8	EXCAVATION IN TREE DRIPLINE	1	LS	\$_____	\$_____
9	TURF	139,290	SF	\$_____	\$_____
10	SUPPLY AND PLANT 15 GALLON TREES	36	EA	\$_____	\$_____
11	SUPPLY AND PLANT 24" BOX TREES	86	EA	\$_____	\$_____
12	SUPPLY AND PLANT 36" BOX TREES	15	EA	\$_____	\$_____
13	SUPPLY AND PLANT 1 GALLON SHRUB AND GROUND COVER	3,235	EA	\$_____	\$_____
14	SUPPLY AND PLANT 5 GALLON SHRUB AND GROUND COVER	1,155	EA	\$_____	\$_____
15	90-DAY LANDSCAPE ESTABLISHMENT	1	LS	\$_____	\$_____
16	DOG PARK MULCH	140	CY	\$_____	\$_____
17	BIOFILTRATION SOIL	212	CY	\$_____	\$_____
18	COMPLETE IRRIGATION SYSTEM	1	LS	\$_____	\$_____
19	ASPHALT CONCRETE SURFACE	14	TON	\$_____	\$_____
20	CONFORM GRIND	112	LF	\$_____	\$_____
21	PARK RULES SIGNS	2	EA	\$_____	\$_____
22	MONUMENT SIGNS	2	EA	\$_____	\$_____
23	8" STORM DRAIN	176	LF	\$_____	\$_____
24	4" STORM DRAIN	33	LF	\$_____	\$_____
25	3" CURB DRAIN	125	LF	\$_____	\$_____
26	12" DRAIN INLETS	4	EA	\$_____	\$_____

**CITY OF SANTA ROSA  
UNIT PRICE SCHEDULE  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units	Unit Price	Total Price
27	8" ATRIUM GRATE DRAIN	5	EA	\$_____	\$_____
28	4" CONCRETE WITH 4" CLASS 2 AGGREGATE BASE - LAMP BLACK	14,962	SF	\$_____	\$_____
29	4" CONCRETE WITH 4" CLASS 2 AGGREGATE BASE - INTEGRAL COLOR	5,243	SF	\$_____	\$_____
30	5" CONCRETE WITH 7" CLASS 2 AGGREGATE BASE - LAMP BLACK	8,290	SF	\$_____	\$_____
31	ART PLAZA 12" CONCRETE WITH 7" CLASS 2 AGGREGATE BASE - INTEGRAL COLOR	114	SF	\$_____	\$_____
32	CURB AND GUTTER	140	LF	\$_____	\$_____
33	CURB RAMP	3	EA	\$_____	\$_____
34	SEAT WALL	39	LF	\$_____	\$_____
35	RETAINING SEAT WALL	88	LF	\$_____	\$_____
36	DECORATIVE BAND	216	SF	\$_____	\$_____
37	CONCRETE BAND WITH DISTANCE MARKER	34	SF	\$_____	\$_____
38	PLAYGROUND RAMP	2	EA	\$_____	\$_____
39	6" CONCRETE MOW BAND	583	LF	\$_____	\$_____
40	8" CONCRETE PLAYGROUND CURB	240	LF	\$_____	\$_____
41	12" CONCRETE FENCE CURB	433	LF	\$_____	\$_____
42	WOOD AND WIRE METAL FENCE	286	LF	\$_____	\$_____
43	WOOD AND CHAIN LINK METAL FENCE	369	LF	\$_____	\$_____
44	SPLIT RAIL FENCE	836	LF	\$_____	\$_____
45	PLAYGROUND GATE	1	EA	\$_____	\$_____
46	DOG PARK GATE	2	EA	\$_____	\$_____
47	DOUBLE SWING GATE	1	EA	\$_____	\$_____
48	TRAFFIC STRIPES AND PAVEMENT MARKINGS	1	LS	\$_____	\$_____
49	LUMINAIRE AND POLE	7	EA	\$_____	\$_____
50	MONUMENT SIGN LIGHT	2	EA	\$_____	\$_____
51	ELECTRICAL DISTRIBUTION, CIRCUITING, AND MISCELLANEOUS	1	LS	\$_____	\$_____
52	POROUS PAVE	3,026	SF	\$_____	\$_____
53	FIXED BOLLARD	8	EA	\$_____	\$_____



**CITY OF SANTA ROSA  
UNIT PRICE SCHEDULE  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units	Unit Price	Total Price
54	REMOVABLE BOLLARD	4	EA	\$_____	\$_____
55	BENCH	11	EA	\$_____	\$_____
56	PICNIC TABLE TYPE 1	12	EA	\$_____	\$_____
57	PICNIC TABLE TYPE 2 (ADA)	5	EA	\$_____	\$_____
58	CHESS TABLE	2	EA	\$_____	\$_____
59	TABLE TENNIS	2	EA	\$_____	\$_____
60	CORN HOLE SET	1	EA	\$_____	\$_____
61	BARBEQUE TYPE 1	2	EA	\$_____	\$_____
62	BARBEQUE TYPE 2	1	EA	\$_____	\$_____
63	BIKE RACK TYPE 1	1	EA	\$_____	\$_____
64	BIKE RACK TYPE 2	1	EA	\$_____	\$_____
65	BIKE RACK TYPE 3	1	EA	\$_____	\$_____
66	TRASH RECEPTACLES	5	EA	\$_____	\$_____
67	RECYCLING RECEPTACLES	5	EA	\$_____	\$_____
68	DRINKING FOUNTAINS	2	EA	\$_____	\$_____
69	SUMP FOR DRINKING FOUNTAINS	1	EA	\$_____	\$_____
70	DOG PARK WATER SPIGOT WITH SUMP	1	EA	\$_____	\$_____
71	PET WASTE STATION	1	EA	\$_____	\$_____
72	FITNESS STATIONS	1	LS	\$_____	\$_____
73	PORTABLE RESTROOM ENCLOSURE	1	EA	\$_____	\$_____
74	SUPPLY & PLACE LANDSCAPE BOULDERS	59	EA	\$_____	\$_____
75	PLACE EXISTING LANDSCAPE BOULDERS	35	EA	\$_____	\$_____
76	FIBAR PLAY SURFACING	347	CY	\$_____	\$_____
77	DRAIN ROCK AT PLAYGROUND	87	CY	\$_____	\$_____
78	DEMOLITION AND CONCRETE REMOVAL/DISPOSAL	1	LS	\$_____	\$_____
79	3" IRRIGATION WATER SERVICE WITH BACKFLOW	1	EA	\$_____	\$_____
80	3/4" WATER SERVICE WITH BACKFLOW	1	EA	\$_____	\$_____

**CITY OF SANTA ROSA  
UNIT PRICE SCHEDULE  
COFFEY NEIGHBORHOOD PARK**

Item No.	Description	Quantity	Units	Unit Price	Total Price
81	1-1/4" SCH. 40 PVC WATER PIPING	590	LF	\$_____	\$_____
82	BACKFLOW DEVICE TESTING	2	EA	\$_____	\$_____
GRAND TOTAL BID					\$_____

In the case of any discrepancy between the unit price and the total set forth for the item, the unit price shall prevail; provided, however, that if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any reason, or is omitted, or in the case of lump sum items, is not the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the unit price;
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

The Total Base Bid shall be the sum of the "Total" column. In case of discrepancy between the sum of the "Total" column and the amount entered as Total Base Bid, the sum of the "Total" column shall prevail. The bid comparison will be based on the sum of the "Total" column for each bidder.

If this Contract Bid is accepted by the City and the undersigned fails to execute the Contract and to give all the bonds required under the Contract, with a surety satisfactory to the Award Authority of the City of Santa Rosa, within ten calendar days after bidder has received the Notice of Award from the Engineer, then the Award Authority may, at its option, determine that the bidder has abandoned the Contract, and thereupon this bid and the acceptance thereof shall be null and void, and the forfeiture of the security accompanying this bid shall be in accordance with California Public Contract Code section 20172.

The undersigned understands and agrees that the City is not responsible for any error or omissions on the part of the undersigned in making this bid.

The bidder to whom the Contract is awarded agrees to execute the Contract in favor of the City, in the form attached, and to deliver any and all required bond(s) and insurance certificates within ten calendar days from the date of Contractor's receipt of the Notice of Award. Following the award of the Contract, Contractor shall commence work within ten calendar days from the day authorized in the Notice to Proceed and diligently prosecute the same to completion in accordance with Section 8-1.05.

## LIST OF SUBCONTRACTORS

**NAME OF BIDDER:** \_\_\_\_\_

The following is a list of each subcontractor who will perform work or labor or render services to the undersigned for the construction of the project in an amount in excess of ½ of 1% of the total amount of this bid.

The undersigned agrees that any portion of the work in excess of ½ of 1% of the total amount of this bid and for which no subcontractor is designated herein will be performed by the undersigned.

SUBCONTRACTOR NAME	SUBCONTRACTOR LICENSE NUMBER	SUBCONTRACTOR DIR REGISTRATION NUMBER	SUBCONTRACTOR BUSINESS ADDRESS	DESCRIPTION OF WORK (ITEM NO.)

### LIST OF PREVIOUS SIMILAR JOBS

NAME OF BIDDER: \_\_\_\_\_

[illegible]

NONCOLLUSION DECLARATION  
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

NOTE:           The above Noncollusion Declaration is part of the Contract Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Declaration.

BID BOND AFFIDAVIT AND BIDDER'S SIGNATURE PAGE

Accompanying this bid is a guaranty in the form of (Notice: Insert the words "cash \$," "Cashier's Check," "Certified Check," or "Bidder's Bond" as the case may be):

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in an amount equal to at least ten percent of the total of this bid.

The undersigned further agrees that if Contractor does not execute the Contract and deliver the necessary bonds to the City within the period of time specified in this Invitation for Bids, the proceeds of the security accompanying this bid shall become the property of the City of Santa Rosa, California, and this bid and the acceptance thereof may, at the option of the City, be considered null and void.

The undersigned is licensed in accordance with an act providing for the registration of Contractors, License No. \_\_\_\_\_, Class \_\_\_\_\_, expiration date \_\_\_\_\_.

The undersigned is registered with the Department of Industrial Relations, Registration No. \_\_\_\_\_.

**IMPORTANT NOTICE:** If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager of the corporation; if a partnership, state true name of partnership, also the names of all partners in the partnership; if the bidder is a sole proprietor, state the business name and the proprietor's name in full.

Secretary of State Business Entity Number: \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Business Address

\_\_\_\_\_

Telephone Number

I declare under penalty of perjury that the foregoing is true and correct.

BIDDER'S SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion  
Lower Tier Covered Transactions**

This certification is required by the regulations implementing Executive Orders 12549 and 12689, 2 C.F.R part 180, Debarment and Suspension, and 2 C.F.R. § 200.213. Copies of the regulations may be obtained by contacting the person to which this proposal is submitted.

**(BEFORE COMPLETING CERTIFICATION,  
READ INSTRUCTIONS FOR CERTIFICATION BELOW)**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Firm Name:

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Name and Title of Authorized Representative:

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Signature of Authorized Representative:

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Date:

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## INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out above.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549, at 2 C.F.R. Parts 180 and 417. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the System for Award Management (SAM) database.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

## CERTIFICATION REGARDING LOBBYING

The undersigned [Contractor] certifies, to the best of his or her knowledge, that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

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

2. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official:

\_\_\_\_\_

Name and Title of contractor's Authorized Official:

\_\_\_\_\_

Date:

\_\_\_\_\_

# **CONTRACT**

## **CITY OF SANTA ROSA**

### **CALIFORNIA**

#### **CITY CONTRACT NO. C02267 FEDERAL PUBLIC ASSISTANCE PROJECT CONTRACT NO. 36380 COFFEY NEIGHBORHOOD PARK**

This Contract is made and entered into as of date to be added upon award at Santa Rosa, California, between the City of Santa Rosa ("City") and \_\_\_\_\_, of \_\_\_\_\_, California ("Contractor").

ARTICLE I - For and in consideration of the payment and agreement hereinafter mentioned, to be made and performed by City, and under the conditions expressed in the required bonds hereunto annexed, Contractor agrees that for the benefit of City, at its own cost and expense, to do all the work and furnish all the materials, except such as are mentioned in the Special Provisions to be furnished by City, necessary to construct and complete the work herein described in a good, workmanlike, and substantial manner. The work embraced herein shall be done in accordance with the State of California Department of Transportation Standard Specifications 2015 and Revised Standard Specifications 2015, insofar as the same may apply (Standard Specifications); in accordance with the City of Santa Rosa Construction Specifications for Public Improvements (City Specifications); in accordance with the City of Santa Rosa Design and Construction Standards, (City Standards); in accordance with the State of California Department of Transportation Standard Plans 2015 and Revised Standard Plans 2015 (Standard Plans), (collectively, "Contract Documents") and in accordance with the Special Provisions hereinabove set forth, all of which are hereby incorporated into and made part of this Contract.

ARTICLE II - Contractor agrees to receive and accept the following prices as full compensation for furnishing all materials and doing all the work contemplated and embraced in this Contract; also for all loss or damages arising out of the nature of the work aforesaid, or from the acts of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by City and for all expenses incurred by or in consequence of the suspension or discontinuance of work, and for well and faithfully completing the work, and the whole thereof in the manner and according to the Project Plans and Invitation for Bids therefor, and the requirements of the Engineer under them to wit:

ITEM NUMBER	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
			\$ _____	\$ _____
TOTAL BASE BID (SUM OF "TOTAL" COLUMN)			\$ _____	

**BID ITEMS IN THIS SECTION WILL BE INSERTED  
UPON AWARD OF THE CONTRACT AND SHALL BE  
THE SAME AS THOSE BID UPON.**

ARTICLE III - City and Contractor hereby promise and agree that Contractor shall provide the materials and do the work according to the terms and conditions herein contained and referred to, for the prices aforesaid, and City hereby agrees to pay for the same at the time, in the manner, and upon the conditions set forth; and the parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to full performance of the covenants herein stated.

ARTICLE IV - By execution of this Contract, Contractor hereby represents and certifies that Contractor is aware of the provisions of Labor Code section 3700 which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor hereby agrees to comply with such provisions before commencing the performance of the work of this Contract.

ARTICLE V - It is further expressly agreed by and between the parties hereto that the Invitation for Bids, containing the Notice to Bidders including any required Bonds, the Contract Documents, and any Addenda are all essential parts of this Contract and are specially referred to and by such reference made a part hereof. In the event of any conflict in the provisions thereof, the terms of said documents shall control each over the other, in the following order:

1. Special Provisions
2. Project Plans
3. City Standards
4. City Specifications
5. Standard Specifications
6. Standard Plans;

provided, that in the event of a conflict between any Federal Requirement in Section 10 of the Special Provisions and any other provision in the Contract Documents, the more stringent provision shall control and prevail.

ARTICLE VI - Contractor agrees to commence work pursuant to this Contract within ten calendar days from the date authorized in the Notice to Proceed and to diligently prosecute the same to completion in accordance with Section 8-1.05 of the Special Provisions.

This Contract shall not be transferred or assigned without the prior written consent of City, which may be withheld by City in its sole and absolute discretion.

If Contractor is a corporation, two corporate officers of Contractor, one from each of the following two groups shall execute this Contract: a) the chairman of the board, president or any vice-president; b) the secretary, any assistant secretary, chief financial officer, or any assistant treasurer. The name and title of the corporate officers shall be printed under the signature.

In witness whereof, the parties hereto have executed this Contract as of the date first written above.

**City:**

City of Santa Rosa,  
a Municipal corporation

By: \_\_\_\_\_

Title: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Approved as to form:

By: \_\_\_\_\_

Office of City Attorney

**Contractor:**

Name of Contractor,  
Type of entity

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_