

INVITATION FOR BIDS



FOR CONSTRUCTING

FIRE DAMAGED ROADWAY LANDSCAPING

**CITY CONTRACT NUMBER
C02300**

**DISASTER NO.: DR-4344
Federal Project No. 36360, 36380, 64204**

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

2021

ATTENTION
Prebid Conference
See Page 1



STATE OF CALIFORNIA

INVITATION FOR BIDS

CONTAINING:

NOTICE TO BIDDERS

SPECIAL PROVISIONS

BID FORMS

CONTRACT

FOR

FIRE DAMAGED ROADWAY LANDSCAPING

City Contract No. C02300

DISASTER NO.: DR-4344

Federal Project No. 36360, 36380, 64204

FIRE DAMAGED ROADWAY LANDSCAPING

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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 www.srcity.org/bids and click on <u>Bid/Proposal Opportunities</u> .
➤	For direct access to bid results, go to www.srcity.org/bids . Under Link to Capital Projects, click on <u>Capital Projects Contracts</u> .

- IMPORTANT -
REVISED BIDDING PROCEDURES

All bids shall be submitted and opened according to the following procedure:

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., January 25, 2022, for Fire Damaged Roadway Landscaping, Contract No. C02300. (Engineer's Estimate: \$6,659,001.14).

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.

Bid Opening Teleconference Call

Prospective bidders, subcontractors, and materials suppliers are invited to attend the Bid opening teleconference call scheduled to be held at 2:00 p.m., January 25, 2022. The teleconference can be accessed by dialing 1 (707) 543-4700, participant code 576-9554#.

Pre-Bid Meeting Teleconference Call

Prospective bidders, subcontractors, and materials suppliers are invited to attend a pre-bid meeting teleconference call scheduled to be held at 10:00 a.m., January 12, 2022. The teleconference can be accessed by dialing 1 (707) 543-4700, participant code 294-6893#.

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 is a fire recovery project resulting from 2017 Tubbs Fire. The primary focus is to replace the fire damaged irrigation systems in Coffey Park and Fountaingrove neighborhoods. The scope of work includes the clearance of the existing vegetations, tree removal due to obstruction of the proposed irrigation system, install new irrigation, and finishing with planting new vegetation within the impacted areas.

**CITY OF SANTA ROSA
ESTIMATED QUANTITIES
C02300 - FIRE DAMAGED ROADWAY LANDSCAPING**

Item No.	Description	Quantity	Units
1	MOBILIZATION	1	LS
2	TEMPORARY TRAFFIC CONTROL	1	LS
3	WATER POLLUTION CONTROL	1	LS
4	CLEAR AND GRUB	1	LS
5	TREE REMOVAL - GROUP A	34	EA
6	TREE REMOVAL - GROUP B	90	EA
7	TREE REMOVAL - GROUP C	26	EA
8	TREE REMOVAL - GROUP D	20	EA
9	STUMP GRIND, GROUP B	169	EA
10	STUMP GRIND, GROUP C	49	EA
11	STUMP GRIND, GROUP D	38	EA
12	REMOVE AND DISPOSE OF IRRIGATION COMPONENT	1	LS
13	REMOVE AND DISPOSE OF LOG PILES OR DEBRIS	1	LS
14	SOIL PREPARATION	30,300	EA
15	24" BOX TREES	82	EA
16	15 GALLON TREES	172	EA
17	5 GALLON SHRUBS	4,501	EA
18	1 GALLON SHRUBS	18	EA
19	MULCH	570,263	SF
20	JUTE NETTING	20,500	SF
21	FOLIAGE PROTECTOR	222	EA
22	2" MAIN LINE	25,800	LF
23	SLEEVE 4"	1,225	LF
24	SLEEVE 6"	4,570	LF
25	LATERAL LINE	1	LS
26	ELECTRICAL CONDUIT	170	LF
27	QUICK COUPLING VALVE	121	EA
28	48 STATION MC-E CONTROLLER	12	EA
29	SITEONE GREENTECH CONTROLLER ASSEMBLY	8	EA
30	MASTER CONTROL VALVE	20	EA
31	FLOW SENSORS	20	EA
32	REMOTE CONTROL VALVE, SIZE 1"	207	EA
33	REMOTE CONTROL VALVE, SIZE 1.5"	38	EA
34	COMMON AND CONTROL WIRING	1	LS
35	LEAD FREE BALL VALVE	85	EA
36	BACKFLOW PREVENTER ASSEMBLY	20	EA
37	PRESSURE REGULATING VALVE	31	EA
38	BOOSTER PUMP	8	EA
39	BUBBLERS	22,004	EA
40	DRIPLINE	140,675	LF
41	BALL VALVE FOR FLUSHING	116	EA
42	OPERATION INDICATOR	116	EA
43	CHECK VALVE	148	EA
44	PLANT ESTABLISHMENT, 3 MONTHS	1	LS
45	VINTAGE PLACE TRELLIS REPAIR	1	LS
46	NEW SERVICE METER PEDESTAL	11	EA
47	UPGRADE OF SERVICE METER PEDESTAL	1	EA
48	TRENCHING AND BACKFILLING	2,300	LF
49	1" CONDUIT INSTALLATION	580	LF
50	1.25" CONDUIT INSTALLATION	370	LF
51	1.5" CONDUIT INSTALLATION	390	LF
52	2" CONDUIT INSTALLATION	950	LF
53	3" CONDUIT INSTALLATION	500	LF
54	ELECTRICAL WIRING CONNECTIONS FOR IRRIGATION CONTROLLERS AND BOOSTER PUMPS	8	EA
55	ELECTRICAL WIRING CONNECTIONS FOR IRRIGATION CONTROLLERS	4	EA
56	CALTRANS 3.5 CONCRETE ELECTRICAL PULL BOXES	9	EA
57	CALTRANS 5 CONCRETE ELECTRICAL PULL BOXES	10	EA
58	CALTRANS 6 CONCRETE ELECTRICAL PULL BOXES	2	EA
59	CALTRANS 3.5T CONCRETE ELECTRICAL PULL BOXES	2	EA
60	CALTRANS 5T CONCRETE ELECTRICAL PULL BOXES	2	EA

CITY OF SANTA ROSA
ESTIMATED QUANTITIES
C02300 - FIRE DAMAGED ROADWAY LANDSCAPING

Item No.	Description	Quantity	Units
61	NO. 12 AWG CONDUCTORS	4,000	LF
62	NO. 10 AWG CONDUCTORS	2,000	LF
63	NO. 3 AWG CONDUCTORS	2,500	LF
64	NO. 2 AWG CONDUCTORS	5,500	LF
65	NO. 1 AWG CONDUCTORS	2,000	LF
66	TREE PROTECTION FENCING	15,630	LF
67	1.5" WATER SERVICE	20	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 C02300 Fire Damaged Roadway Landscaping may be obtained through PlanetBids at 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, 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.



GRANT BAILEY
Supervising Engineer

12/20/2021

Date

SPECIAL PROVISIONS

General Specifications

CITY OF SANTA ROSA, CALIFORNIA

FIRE DAMAGED ROADWAY LANDSCAPING

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 139 sheets entitled Fire Damaged Roadway Landscaping, 2020-0011
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. 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 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:

- 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.

Insurance	Minimum Coverage Limits	Additional Coverage Requirements
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 139 sheets entitled Fire Damaged Roadway Landscaping, 2020-0011
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 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. 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:

231 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 7:00 a.m. or later than 6:00 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 15th day after receipt of the written request from the Engineer. If the 15th 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.

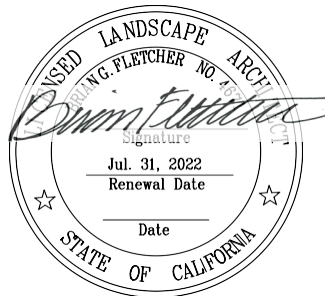


SPECIAL PROVISIONS

FOR

FIRE DAMAGED ROADWAY LANDSCAPING

CONTRACT NO. C02300



2021

11 MOBILIZATION

11-1 Mobilization

11-1.01 General: Mobilization shall conform to the Standard Specifications, and any modifications herein.

Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; and other construction facilities as required for the proper performance and completion of the work. Mobilization shall include demobilization as defined herein.

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

1. Furnish all bonds and insurance in a timely manner.
2. Furnish and obtain the approval of ALL submittals including CPM Schedule, Traffic Control Plans, SWPPP, and Materials upon the Notice to Proceed date and prior the start of any construction activities.
3. Obtain all required permits including General Construction Permit prior the start of any earth moving activities.
4. Obtaining construction water, coordination with PG&E, power, and wiring as required.
5. Providing field office trailers if needed by the Contractor.

Demobilization shall include, but not limited to, removal of all equipment, unused materials, all temporary utilities, job trailers and all temporary communication facilities.

Staging shall be located within the following location in coordination with the City, or at locations otherwise coordinated by the Contractor:

Fire Station 5 (2201 Newgate Court)

The Contractor shall keep the site weed-free while utilizing the property.

The contractor shall protect surrounding areas and facilities from damage by equipment, materials, or staging operations.

11-3.02 Payment: Mobilization shall be paid in partial payments of the contract **lump sum** price bid for this item, which price shall not exceed 8% of the contract amount and shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in for conforming to the provisions of Section 11, as specified herein, and no additional allowance will be made therefor. Partial payments will be made as follows:

1. At execution of agreement by all parties, payment of not more than 25% of mobilization lump sum amount.

2. When amount earned is greater than 10% but less than 25% of original contract amount, an additional amount will be paid to bring total payment for mobilization to 49% of mobilization lump sum amount.
3. When amount earned is equal to or greater than 25% but less than 50% of original contract amount, an additional amount will be paid to bring total payment for mobilization to 66% of mobilization lump sum amount.
4. When amount earned is equal to or greater than 50% but less than 67% of original contract amount, an additional amount will be paid to bring total payment for mobilization to 75% of mobilization lump sum amount.
5. When amount earned is equal to or greater than 67% but less than 80% of original contract amount, an additional amount will be paid to bring total payment for mobilization to 100% of mobilization lump sum amount.

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" of the Standard Specifications, shall be considered as included in the contract lump sum price bid 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 City, Work Zone 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 Work Zone 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. Work Zone Traffic Control Plans or proposals shall be submitted for the City's review at least two weeks prior to implementation.

Work Zone 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 Work Zone 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 8 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 their 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 their 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 the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience" of the Standard Specifications. **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 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 the Standard Specifications.

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.

Fountaingrove Pkwy is an arterial roadway with high traffic volume counts. One lane per direction shall be maintained at all times during any lane closure hours. A maximum of 15 minutes temporary road closure in each direction may be allowed including flaggers for equipment loading/unloading with the prior approval of the Engineer.

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 Work Zone 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 for utility trenching 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.

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 Project 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: **Temporary Traffic Control** shall be paid for at the contract **lump sum** price bid, 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, city furnished project ID signs at the beginning and end of every roadway, flagging, excavation, compaction, furnishing, and placement of asphalt concrete and/or PCC, removal and restoration of original surface, 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 Project Plans or these Special Provisions, and no additional allowance will be made therefor.

13 WATER POLLUTION CONTROL

13-1 General

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

1. Stormwater Pollution Prevention Plan for City of Santa Rosa Coffey Park and Fountaingrove Re-Landscape Project, prepared April 2020.
2. The California Water Quality Control Board, North Coast Region Order No. R1-2009-0050, National Pollutant Discharge Elimination System Municipal Storm Water Permit, Part 8 – Development Construction Program, Sections 1 through 5, 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.
3. 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 Special Provision 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

13-3.01 General: This project requires coverage under the State Water Resources Control Board Order No. 2009-0009-DWQ, (as amended by 2010-0014DWQ & 2012-0006-DWQ), National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (General Permit). The above referenced Orders can be found here: https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Section 13-3 includes specifications for developing, implementing and maintaining a Storm Water Pollution Prevention Plan (SWPPP) required by this General Permit.

Obtaining the General Construction Permit and paying the fee is your responsibility and as covered under Water Pollution Control.

It is the Contractor's responsibility to develop and implement the SWPPP. Included in the SWPPP will be a project description, site map, erosion control plan, construction site monitoring program, reporting and inspection forms, contact list, and all other information necessary to comply with the requirements of the General Permit. The work under this section also includes updating the SWPPP.

Information on storm water best management practices (BMPs), preparing storm water pollution prevention plans, forms, reports, and other documents can be found in CASQA's Storm Water Best Management Practice Handbook Portal: Construction (January 2015). A PDF copy of this handbook is available for viewing at the City Public Works Office, 69 Stony Circle and will be made available to the Contractor.

The SWPPP shall reference CASQA BMP fact sheets and follow the format suggested in Appendix B of the CASQA handbook. The Contractor may substitute another format if approved by the Engineer and it complies with all requirements of the General Permit.

All discharges of storm water from the project must comply with the General Permit.

A storm water annual report shall be prepared and submitted by the Contractor. The annual report must cover the preceding period from July 1th to June 30th (or Notice of Completion).

This work includes collecting and submitting all required data to SMARTS to comply with the Annual Report requirements of the General Permit and SMARTS.

Do not start job site activities until:

1. The SWPPP is authorized.
2. The waste discharge identification number (WDID) is issued.
3. SWPPP review requirements have been fulfilled. If the RWQCB requires time for review, allow 30 days for the review.

A current copy of the SWPPP shall be kept on site when the Contractor or its subs are working.

13-3.01A Summary: The Contractor shall be responsible for obtaining the State Water Resources Control Board General NPDES Permit for the Discharge of Storm Water related to Construction Activities (Construction General Permit). Contractor shall prepare, submit and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 13-3, Storm Water Pollution Prevention Plan, of the Standard Specifications.

13-3.02 SWPPP Preparation and Implementation: The SWPPP shall be written, amended and certified by a Qualified SWPPP Developer (QSD) as defined in the General Permit, Section VII.B.1.

The Contractor shall provide a Qualified SWPPP Practitioner (QSP), as defined in the General Permit, Section VII.B.3, to ensure full compliance with the General Permit and implementation of all elements of the SWPPP, including all storm water inspections and visual observations, Rain

Event Action Plans, sampling and analysis and record keeping. The QSP shall ensure that all BMPs required by this SWPPP are implemented. The QSP shall notify the QSD of needed revisions to the SWPPP to reflect current conditions and all proposed changes.

This work includes gathering and presenting, in an approved format, all information necessary to produce a SWPPP that complies with the General Permit. The SWPPP shall be developed by a QSD and include, but not limited to: project description, site maps, erosion control plans, construction site monitoring program, contact information, monitoring and reporting forms, project specific BMP fact sheets, schedule, training documentation, designated QSD and QSP qualifications, SWPPP amendment log sheet and all other information necessary to comply with the General Permit and these Special Provisions.

The SWPPP shall be updated to reflect current project conditions, personnel, schedule, alterations to plans, BMP modifications or substitutions, relocation of staging and material stockpiling areas and any other changes that are not reflected in the SWPPP.

The Contractor is directed to Section A Fees and Permits for additional information.

13-3.03 Submittals: Within 20 days of Contract approval:

1. Submit 1 copy of your SWPPP for review. Allow 20 days for the City's review. The Engineer provides comments and specifies the date when the review stopped if revisions are required.
2. Change and resubmit a revised SWPPP within 5 days of receiving the Engineer's comments. The City's review resumes when a complete SWPPP has been resubmitted.
3. When the Engineer authorizes the SWPPP, upload an electronic copy to the **State's Storm Water Multiple Application and Report Tracking System (SMARTS)** and submit 2 printed copies of the authorized SWPPP to the City.
4. If the Engineer requests changes to the SWPPP based on the RWQCB's comments, amend the SWPPP within 5 days.

13-3.04 Training: Employees must receive initial water pollution control training before starting work at the job site.

For project managers, supervisory personnel, subcontractors, and employees involved in water pollution control work:

1. Provide storm water training in the following subjects:
 - a. Water pollution control rules and regulations
 - b. Implementation and maintenance for:
 - i. Temporary soil stabilization
 - ii. Temporary sediment control
 - iii. Tracking control
 - iv. Wind erosion control
 - v. Material pollution prevention and control
 - vi. Waste management
 - vii. Non-storm water management

2. Conduct weekly training meetings covering:
 - a. Deficiencies and corrective actions for water pollution control practices
 - b. Water pollution control practices required for work activities during the week
 - c. Spill prevention and control
 - d. Material delivery, storage, usage, and disposal
 - e. Waste management
 - f. Non- storm water management procedures

Storm Water training shall be documented in the SWPPP.

13-3.05 Construction Site Monitoring Program: The SWPPP includes a Construction Site Monitoring Program containing instructions and forms. Monitoring and inspections will take place during normal working hours

BMP inspection shall be performed by a QSP and documented on an approved form. A copy of the inspections will be kept in the SWPPP on site. An additional copy shall be given to the City. Noted deficiencies shall be brought to the Contractor's attention and Engineer and corrective action taken within 2 working days or before any rain event.

Monitor the National Weather Service's forecast on a daily basis. For the National Weather Service's forecast, go to the Web site for the National Weather Service. Printed copies of the forecast shall be kept in the SWPPP.

The QSP shall prepare all Rain Event Action Plans (REAP) 48 hours in advance of predicted rain event with a 50% or greater probability. The REAP shall be kept on site.

Use the Storm Water Site Inspection Report form for documenting site inspections.

1. Inspections of BMPs identified in SWPPP:
 - a. On a predetermined schedule of at least once a week;
 - b. Before a forecasted storm event;
 - c. After a qualifying rain event that produces site runoff;
 - d. At 24-hour intervals during extended storm events;
2. Daily inspections of (if applicable):
 - a. Storage areas for hazardous materials and waste
 - b. Hazardous waste disposal and transporting activities
 - c. Hazardous material delivery and storage activities
3. Inspections of:
 - a. Vehicle and equipment cleaning facilities:
 - i. Daily if vehicle and equipment cleaning occurs daily
 - ii. Weekly if vehicle and equipment cleaning does not occur daily
 - b. Vehicle and equipment maintenance and fueling areas:
 - i. Daily if vehicle and equipment maintenance and fueling occur daily
4. Pre and post rain inspections:
 - a. Pre-rain event inspection within 48 hours of predicted qualifying storm to verify the site and the BMPs are ready for the predicted rain.
 - b. Post-rain event inspection within 48 hours after a qualifying storm to

observe the discharge locations and the discharge of any stored or contained rainwater; determine if BMPs functioned as designed; and identify if any additional BMPs are required.

This work includes providing a QSP, performing weekly BMP inspections, documentation, coordinating with Contractor and project inspector, providing QSD with SWPPP update information and all other work necessary to comply with the inspection requirements of the SWPPP.

Qualifying Rain Event Inspections, include both pre-rain and post-rain inspection, include providing a QSP, performing pre-rain inspections and post-rain inspections for qualified rain events as required in the SWPPP, documentation, coordinating with Contractor and project inspector and all other work necessary to comply with the qualifying rain event inspection requirements of the SWPPP.

13-3.05a Sampling: The QSP will sample for pH and turbidity during each qualifying rain event at all locations where runoff from the project is discharged offsite. Samples must be representative of the runoff flow and characteristics of the site's discharges. All locations discharging runoff from the site must be sampled. Additional samples for nonvisible pollutants may be collected for lab analysis if required.

Three measurements will be taken at each discharge location for each working day of a qualified rain event. Measurements will be taken at the beginning of the work day or discharge, in the middle and one near the end of the discharge or work day. All measurements will be documented on sampling forms with a copy kept in the SWPPP and one given to the City. Discharge locations shall be marked on the site map in the SWPPP.

Measurements will be made using portable field meters. Each meter shall have been calibrated prior to use. A meter calibration log sheet shall be kept in the SWPPP. Measurements will be made during normal working hours.

This work includes collecting samples, measuring pH and turbidity, documentation, maintaining and calibrating pH and turbidity meters, submitting data to SMARTS and all other work necessary to comply with the sampling requirements of the SWPPP and the General Permit.

13-3.06 Construction: The SWPPP shall be updated to reflect current project conditions, personnel, schedule, alterations to plans, BMP modifications or substitutions, relocation of staging and material stockpiling areas and any other changes that are not reflected in the SWPPP or on the plans. A printed copy of the authorized SWPPP shall be at the job site whenever there is project related activity at the site.

The Contractor shall:

1. Install appropriate BMP materials and devices as listed in the SWPPP, before performing work activities.
2. Install soil stabilization materials (BMPs) in all work areas that are inactive or before storm events.
3. Repair or replace water pollution control practices within 48 hours of discovering any damage, unless a longer period is authorized by the Engineer.

4. The City does not pay for the cleanup, repair, removal, disposal, or replacement of BMP devices due to improper installation or Contractor negligence.

The QSP shall report all non-compliance to the City.

13-3.07 Definitions:

Active Area: Area where soil-disturbing work activities have occurred at least once within 15 days.

Construction Phase: Includes (1) highway construction phase for building roads and structures, (2) plant establishment and maintenance phase for placing vegetation for final stabilization, and (3) suspension phase for suspension of work activities or winter shutdown. The construction phase continues from the start of work activities to Contract acceptance.

Inactive Area: Area where soil-disturbing work activities have not occurred within 15 days.

Normal Working Hours: For purposes of the Water Pollution Control, normal working hours shall be from 7 a.m. to 4 p.m., Monday through Friday, unless otherwise approved by the Engineer.

Qualifying Rain Event: Storm that produces at least 0.5 inch of precipitation with a 48-hour or greater period between rain events.

Storm Event: Storm that produces or is forecasted to produce at least 0.10 inch of precipitation within a 24-hour period.

13-3.10 Payment: Full compensation for conforming to the requirements of this Section shall be considered as paid for at the contract **lump sum** price for **Water Pollution Control**, which price shall include full compensation for all material, equipment, labor and work required as specified herein, including obtaining the General Construction Permit, preparing and revising the SWPPP and no additional allowance will be made therefor. All SWPPP permits are at the Contractor's expense.

[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 the Contractor, at their 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.

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

15 EXISTING FACILITIES

15-1.03A General: Existing facilities disturbed by construction shall conform to the applicable provisions of Section 5-1.36 of the Standard Specifications. All existing active utilities found to reside in excavated areas shall be protected 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.

The Contractor shall not remove any trees, brush, shrubs, or other natural objects outside the limits of construction as shown on the Project 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.

The Contractor shall protect all pipes, facilities and roads near the work. Any damage to facilities by the Contractor shall be repaired to an equal or better condition than what exists at the time of damage at no additional cost to the City.

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 at the Contractor's expense.

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

Existing curb and gutter reside in close proximity to the proposed work area and shall be safeguarded in an appropriate manner to prevent damage.

Equipment Sizing: It shall be incumbent on the Contractor to make a thorough investigation of the job site and to size the equipment accordingly. The Contractor shall select equipment to avoid damaging existing facilities, which include, but are not limited to: street paving, pipes, traffic controls, sidewalks, plant material, landscaping, curbs and gutters, retaining walls, etc. Any damage shall be restored by the Contractor at no cost to the City.

15-1.04 Payment: Full compensation for protecting, 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.

15-2.02C Traffic Stripes and Pavement Markings: All traffic stripes, pavement markings or any other traffic markings damaged or removed by construction shall be replaced by the Contractor to the satisfaction of the Engineer.

15-2.03 Payment: Full compensation for replacing existing stripes, pavement markers, or any other traffic markings is considered as included in the contract prices paid for various contract items of work and no additional allowance will be made 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.

Irrigation facilities may be encountered during concrete removal and replacement. The Contractor shall exercise care in this area and repair any damage done by their operations at no additional cost to the City.

Contractor shall exercise care and repair any damage done by their operations to landscaping and other surfaces or structures at no additional cost to the City.

15-3.04 Payment: Full compensation for removal and recycling of concrete, saw cutting, removal of reinforcing steel, repair of existing irrigation facilities damaged during any phase of the work, and repair of any damage to landscaping and other surfaces or structures shall be included in the 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 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: Full compensation for utility clearances shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

16 CLEARING AND GRUBBING

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

16-1.01A Items to be Protected: Tree Protection must be installed prior to clearing and grubbing. Refer to Section 112, "Tree Protection" of these special provisions.

The Contractor shall not remove any trees, brush, shrubs, or other natural objects outside the limits of construction as shown on the project 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.

16-1.03 Construction:

16-1.03A General:

The area to be cleared and grubbed shall be the area within the right-of-way shown on the project plans, unless otherwise specified in the Special Provisions.

16-1.03B Clearing:

Strip and remove vegetation and trash from unpaved areas to be improved. Leave intact shrubs and trees as identified by Engineer. The contractor shall protect surrounding areas from damage by equipment or construction operations.

1. **Removal of Invasive Species:** Completely remove all roots and shoots of woody plants classified as invasive or invasive-watch by the California Invasive Plant Council (Cal-IPC). Bag material to prevent spread during transport, and dispose of material in landfill. Do not compost, chip, or otherwise dispose of on-site. Wash boots and equipment to remove propagules following work in areas where invasive weeds occur. Target plants include but are not limited to the following:

<i>Scientific Name</i>	Common Name
<i>Acacia melanoxylon</i>	Blackwood acacia
<i>Acacia baileyana</i>	Cootamundra wattle
<i>Cytisus scoparius</i>	Scotch Broom
<i>Genista spp.</i>	Broom
<i>Hedera helix</i>	English Ivy
<i>Schinus molle</i>	California Pepper

16-1.03C Grubbing:

All stumps, roots with a diameter greater than 1 inch, and other objectionable material shall be removed to a depth of one (1) foot below finished grade in the area of construction. The resulting spaces shall be backfilled with on-site soil from trenching or other operations. Soil shall be placed and compacted in layers as specified in Section 19-6 "Embankment Construction" of the Standard Specifications.

16-1.03D Remove and Dispose of Irrigation: Shall be per project plans.

16-1.03E Tree Removal and Stump Grind: The workmanship shall be performed to the best general standards in the industry. All precautions shall be taken to ensure the protection of existing adjacent public or private property. Refer to Section 112, "Tree Protection," of these special provisions for additional requirements.

1. **Tree Removal:**
Trees to be removed are indicated on the project plans. All tree removals shall include removal of stumps per item (2), below.
2. **Stump Grind:**
All stumps encountered within the limits of clearing and grubbing are to be ground. Stumps and roots in the planter area shall be removed to a full 12-inch depth below the top of curb or finish grade, whichever is applicable.
The stump and root holes shall be backfilled and compacted as indicated in Section 16-1.03-C, above.
3. **Method of Measurement:** Trees requiring work under the terms of this contract shall be measured at a point 1.0 foot above top of curb to determine trunk diameter. Where tree limbs or projections are located in such a manner as to interfere with the measurement of the tree circumference, then, at the discretion of the Engineer, the measurement of the tree circumference will be taken at a lower point to be determined by the Engineer. Trunk diameter shall be determined by the following formula:

$$D = \frac{C}{3.1416} \quad \text{where} \quad \begin{array}{l} D = \text{trunk diameter at 1.0 foot above} \\ \text{top of curb or as directed.} \\ C = \text{trunk circumference at 1.0 foot} \\ \text{above top of curb or as directed.} \end{array}$$

Trees will be grouped as follows:

2"	-	6"	Diameter = Group A
7"	-	12"	Diameter = Group B
13"	-	24"	Diameter = Group C
		Over 24"	Diameter = Group D

Any fractional measurement will be rounded down.

16-1.03F Disposal of Materials: All materials to be removed shall be legally disposed of off-site at Contractor's expense except as otherwise noted on project plans. Items to be disposed of off-site include but are not limited to the following:

1. Weeds, roots and other organic material, trash and rubble.
2. Irrigation tubing, bubblers, valves and piping
3. Irrigation controllers
4. Backflow Preventers

Trees removed under this contract may be chipped and used as mulch on-site in accordance with Section 20-7.02-D-1 of these special provisions.

16-1.03G Review: Prior to commencement of landscape installation work the Contractor shall notify the Engineer that the site has been cleared. Installation of improvements shall not commence until the Engineer has completed review of the site and has given approval to proceed.

16-1.06 Payment: Payment for the work of this Section shall be paid for at the contract price bid as included in the bid schedule and as delineated below:

1. The Contract **lump sum** price paid for **Clear and Grub** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in clearing and grubbing, including boulders to be relocated; removal of existing stumps up to six inches in diameter; and removal and disposal of invasive species as required for soil preparation, as specified herein and as shown on the project plans.
2. The Contract price paid **per each** for **Tree Removal, Group A** shall include full compensation for furnishing all labor, materials, tools, equipment, and for doing all the work involved in removing trees in group A as defined herein, including felling the trees, removing the roots to a depth of 12 inches below top of curb or finish grade, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the tree removal operation, and disposal of tree removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
3. The Contract price paid **per each** for **Tree Removal, Group B** shall include full compensation for furnishing all labor, materials, tools, equipment, and for doing all the work involved in removing trees in group B as defined herein, including felling the trees, removing the roots to a depth of 12 inches below top of curb or finish grade, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the tree removal operation, and disposal of tree removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
4. The Contract price paid **per each** for **Tree Removal, Group C** shall include full compensation for furnishing all labor, materials, tools, equipment, and for doing all the work involved in removing trees in group C as defined herein, including felling the trees, removing the roots to a depth of 12 inches below top of curb or finish grade, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the tree removal operation, and disposal of tree removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
5. The Contract price paid **per each** for **Tree Removal, Group D** shall include full compensation for furnishing all labor, materials, tools, equipment, and for doing all the work involved in removing trees in group D as defined herein, including felling the trees, removing the roots to a depth of 12 inches below top of curb or finish grade, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the tree removal operation, and disposal of tree removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
6. The Contract price paid **per each** for **Stump Grind, Group B** shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the work involved in grinding stumps in group B as defined herein, including removing roots to the specified depths, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by

the stump removal operation, and disposal of stump removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.

7. The Contract price paid **per each** for **Stump Grind, Group C** shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the work involved in grinding stumps in group C as defined herein, including removing roots to the specified depths, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the stump removal operation, and disposal of stump removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
8. The Contract price paid **per each** for **Stump Grind, Group D** shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the work involved in grinding stumps in group D as defined herein, including removing roots to the specified depths, backfilling the stump hole and root holes with approved compacted material, repair of any damage to existing adjacent public or private property caused by the stump removal operation, and disposal of stump removal debris, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
9. The Contract **lump sum** price paid for **Remove and Dispose of Irrigation Component** shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the work involved in removal of irrigation emitters, valves and other surface appurtenances required to be removed for soil preparation and planting; removal of irrigation controllers, backflow preventers, and associated enclosures, footings, conduit and wires; repair of any damage to existing adjacent public or private property caused by the removal operation; cap and abandon associated water meter or electrical service; and disposal of components, as specified herein and as shown on the project plans, and no additional allowance will be made therefor.
10. The Contract **lump sum** price paid for **Remove and Dispose of Log Piles or Debris** shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the work involved in removal and disposal of downed or felled trees and piles of inorganic materials existing onsite prior to construction, as specified herein, and no additional allowance will be made therefor.

19 EARTHWORK

19-1 General

19-1.01 General: Non-contaminated site: See Section 19-2.03B, "Surplus Material", of these Special Provisions. The California State Water Resources Control Board Geotracker tool has been utilized to determine that within the area of the Project Plans, no records exist for sites that require cleanup.

This section includes specifications for furnishing, placing and performing earthwork for excavations, backfilling, compaction and grading, at the required lines and grades, as shown on the drawings. The excavation shall include, without classification, the removal and disposal of all materials of whatever nature encountered.

19-2.03B Surplus Material: Contractor shall comply with all disposal regulations such as City, County, and/or State permits and licenses, as may be required. All excavated material shall be the Contractor's responsibility for off-hauling to the disposal site.

19-2.04 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.

20 LANDSCAPE

20-1.03C Watering: The contractor shall obtain water according to Section 6-4.01A, "Construction Water" of the standard specifications.

20-7.01 General: Some plants required for this Contract may not be readily available and must be grown specifically for this project.

20-7.01A Submittals:

1. **Vendor Statement:** Within 30 days after Contract approval, submit a statement from the vendor that the order for the plants to be grown for this Contract, including inspection plants and replacement plants, has been received and accepted by the vendor. The statement from the vendor must include the names, sizes, and quantities of plants ordered and the anticipated delivery date. Notify the Engineer when the vendor has started to grow the plants.

At least 60 days before planting the plants, submit a statement from the vendor that the order for the plants required for this Contract, including inspection plants, has been received and accepted by the vendor. The statement from the vendor must include the names, sizes, and quantities of plants ordered and the anticipated delivery date.

2. **Soil Amendments:** Written certificates stating quantity, type, and composition, weight and origin for all amendments and chemicals shall be delivered to the Engineer before the material is used on the site. No material shall be delivered to the site until the Engineer approves the samples.
 - a. Contractor shall provide an analysis of the amendment from a Seal of Testing Assurance (STA) Certified Compost Lab, designated by the US Composting Council (USCC). Or, send a one-gallon sample of each proposed amendment to Soil Control Lab of Watsonville (831)724-5422, for their testing for conformance to this specification.
If an alternate laboratory is used, the laboratory must be STA certified by the USCC, using test methods described in the "Test Methods of the Examination of Composting and Compost" (TMECC) test methods manual.
 - b. Testing costs shall be paid for by the Contractor.
3. **Mulch:** Submit one quart-sized sample of mulch and name of supplier for approval prior to delivery of mulch to the job site.
4. **Delivery Slips:** A copy of delivery slips on all materials used on the project shall be delivered to the City.

20-7.01B Quality Control and Assurance: All plant materials shall meet the specifications of Federal, State, and County laws requiring inspection for plant diseases and insect infestations. Inspection certificates required by law shall accompany each shipment, invoice, or order of stock, and when such plants arrive at the site of work, the certificate of inspection shall be filed with the Engineer.

20-7.02 Materials:

20-7.02A. Plants

1. Nomenclature: See list of plant materials on Landscape Planting plans. Interpretations of plant names and descriptions shall reference the following documents. Where the names or plant descriptions disagree between the several documents, the most current document shall prevail.
 - a. USDA – The Germplasm Resources Information Network (GRIN) <http://www.ars-grin.gov/npgs/searchgrin.html>
 - b. Manual of Woody Landscape Plants; Michael Dirr; Stipes Publishing, Champaign, Illinois; most current edition.
 - c. New Sunset Western Garden Book, Oxmoor House, most current edition.
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 Landscape Architect. In no case shall trees be topped or pruned before delivery. Plants pruned without approval shall be replaced by the Contractor, if required. Plants shall be grown in nurseries which have been inspected by the State Department of Agriculture and have complied with its regulations.
3. Quality: Minimum quality of all plant material shall conform to prevailing published specifications of the California Association of Nurserymen and the American Association of Nurserymen's American Standard for Nursery Stock unless otherwise indicated. Additional specifications shall be indicated on the project plans.
 - a. Trees: All trees shall have straight trunks of uniform taper, larger at the bottom. Trunks shall be free of girdling roots or damaged bark, with all minor abrasions and cuts showing healing tissue. Sucker basal growth and sucker lateral growth shall be removed and treated to eliminate re-sprouting. Normal lower side branching shall remain. Trees unable to stand upright without support shall be rejected.
 - b. Health: Foliage, roots and stems of all plants shall be of vigorous health and normal habit of growth for its species. All plants shall be free of all diseases, insect stages, burns, or disfiguring characteristics.
 - c. Root Systems: Contractor shall be responsible for inspection of all root systems on plant materials. Inspection shall include, but not be limited to, checking for rootbound stock, encircling roots at the perimeter of the container, evidence of girdling roots, and other defective root conditions. Such inspections shall include the complete removal of soil from one percent of plant material containers, or at least one plant from each nursery and each plant type. If correction is possible, at planting, Contractor shall cut defective or potentially defective girdling, rootbound, and encircling roots and spread the root system into the surrounding backfill. Plants with excessively defective root systems shall be rejected by the Contractor.
4. Identification: Plants shall be of the variety and size shown on the project plans, and shall conform to the requirements herein. All plants of each clone, species, and cultivar shall be delivered to the site labeled with their full botanical names. Every plant species shall be labeled with no less than one label for every ten plants of a species.
 - a. Untrue Species: All plant material, within two years following the final acceptance of the project, determined by the Engineer to be untrue to the species, clone, and/or variety specified, shall be replaced by the Contractor, to the equal condition of adjacent plants at the time of replacement.
5. Plant Inspection and Rejection: Root condition of plants will be evaluated by the Landscape Architect 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. Any plant material, within one year following the final acceptance of the project, determined by the

Engineer to be defective, restricted, declining or otherwise deficient due to abnormal root growth, shall be replaced by Contractor to the equal condition of adjacent plants at the time of replacement.

20-7.02B. Soil Amendments: All areas to be planted and irrigated shall receive soil amendments per Section 20-7.03-H “Pit Backfill” of these special provisions.

1. Substitutions: 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 Landscape Architect.
2. Compost: Compost shall conform to the following parameters for “Compost as a Landscape Backfill Mix Component” per the US Composting Council (USCC):

Property	Test Method	Unit of Measurement	Requirement
pH	TMECC 04.11-A Elastomeric pH 1:5 slurry method pH	units	6–8.5
Soluble salts	TMECC 04.10-A Electrical conductivity 1:5 slurry method	dS/m (mmhos/cm)	0– 10
Moisture content	TMECC 03.09-A Total solids & moisture at 70 ± 5 °C	% wet weight basis	30-60
Organic matter Content	TMECC 05.07-A Loss-on-ignition organic matter method (LOI)	% dry weight basis	30–60
Maturity	TMECC 05.05-A Germination and vigor	% relative to positive control	Seed emergence 80 or above Seedling vigor 80 or above
Stability	TMECC 05.08-B Carbon dioxide evolution rate	mg CO ₂ -C/g OM per day	4 or below
Pathogen	TMECC 07.01-B Salmonella < 3 MPN per 4 grams, dry weight basis	Pass/ Fail	Pass
Pathogen	TMECC 07.01-B Fecal coliform bacteria < 1,000 MPN per gram, dry weight basis	Pass/ Fail	Pass
Physical contaminants	TMECC 02.02-C Man-made inert removal and classification: Plastic, glass, and metal % > 4 mm fraction	% dry weight basis	combined total: < 0.5%
Physical contaminants	TMECC 02.02-C Man-made inert removal and classification: Sharps (sewing needles, straight pins and hypodermic needles) % > 4mm fraction	% dry weight basis	none detected
Particle size fine for compost used as soil amendment	TMECC 02.02-B Sample sieving for aggregate Size classification	% dry weight basis	Pass 2”-inch sieve 98% min Pass 3/8-inch sieve 95% min

Heavy metals	PASS / FAIL	mg/kg (ppm), dry weight basis	All EPA 503 metal contaminant limits
Carbon: Nitrogen Ratio		Carbon : Nitrogen	≤25:1

Note: TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC). (Table modified from the US Composting Council Landscape Architectural Specifications 2005.)

20-7.02C. Commercial Fertilizer: Shall be Nitroform, 39-0-0, 28% Water Insoluble Nitrogen (WIN).

20-7.02D. Mulch: Shall be Arbor Mulch, available from Grab N' Grow Soil Products, (707) 575-7275, or approved equal. Maximum 3" grind.

1. Mulch from removal of existing trees shall be chipped to max 2"-3" particle size and retained on-site for use in finished landscape and/or tree protection measures.

20-7.02E. Jute Netting: Must be made of processed natural jute yarns woven into a matrix. Jute mesh must comply with the requirements shown in the following table:

Jute Netting		
Property	Requirements	Test method
Classification	ECTC Type 3B	--
Minimum strands per foot in each direction	14–20	--
Minimum roll width	48 inches	--
Matrix	Unbleached and undyed woven jute	--
Universal soil loss equation (USLE) C-Factor for a 1.5:1 (H:V) unvegetated slope.	≤ 0.25	--
Maximum shear stress	2.0 psf	ASTM D 6460
Minimum tensile strength	100 psf	ASTM D 5035
Functional longevity	12 months	--
Average open area	65 ± 5%	--
Minimum weight of fabric	14.4–19.2 oz/sq yd	ASTM D 3776

1. The actual quantity of jute netting to be paid for will be determined by the Engineer. Contractor shall submit delivery slips to the Engineer per section 20-7.01-A-4, above, for verification of quantity installed. The bid quantity is provided to establish a unit price only. No adjustment shall be made in this contract unit price for increases in the quantities or for deletion of the entire item.

20-7.02F. Tree Stakes: Poles shall be peeled lodgepole pine logs, clean, smooth, new, and of size indicated. Poles shall be pressure impregnated with Pentachlorophenol (Fed. Spec. TT-W-571g or TT-W-572) at rate of 5 to 5.5 percent by weight. Provide sample for approval. Install as detailed.

20-7.02G. Ties: At tree stakes shall be ¾-inch rubber hose sections with #12-gauge galvanized steel wire, or elastic webbing 1-inch wide, and minimum of ¼ inch thick.

20-7.02H Foliage Protection: At all trees planted in the Fountaingrove Area shall be per plans.

20-7.03 Construction:

20-7.03A Storage and Handling: Plant materials shall be protected and maintained in good condition. Bare root and balled materials shall be watered regularly and placed in a cool area. Plant material shall be protected at all times from animal damage, vandalism, drought damage, wind damage, frost damage, toxic irrigation water, or any other condition that would damage or reduce the viability of the plants. Plants shall be kept moist at all times and shall be completely watered twelve (12) hours or less before planting and shall be moist when installed. Contractor shall be responsible for vandalism, theft and damage to plant material until the commencement of the Establishment period.

20-7.03B 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 project 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. Plants installed without this review shall be transplanted as directed by the Engineer at no additional cost to the City.

20-7.03C. Soil Preparation:

1. **Soil Moisture:** Prior to soil work, soils shall be moisture conditioned so that it is moist but not saturated. If soils are saturated, suspend soil work operations until the soil moisture drains to below field capacity.
2. **Existing Trees:** Soil work within the dripline of existing trees shall be performed in accordance with tree protection requirements indicated on the project plans and Section 112, "Tree Protection" of these special provisions. Where requirements conflict, the more stringent requirements shall apply.
3. **Extents:** Soil disturbance and amendment shall be limited to planting pits.
4. **Pre-germination of weed seeds:** None required under these special provisions. There shall be no application of synthetic herbicides within the project area.
5. At time of planting, all areas to be planted shall be free of weeds, stones, stumps, roots, and other deleterious matter 1 inch in diameter or larger and shall be free from all wire, plaster, or similar objections that would be a hindrance to planting or maintenance.

20-7.03D. Plant Spacing: Shall be per project plans.

20-7.03E. Plant Pits: Shall have their sides and bottoms loosened or otherwise broken to prevent glazed or compacted surfaces, and shall be as shown on the planting detail.

20-7.03F. Removal from Containers: All container stock 5-gallon size and under shall be vertically cut on two opposite sides with approved instrument for the purpose. Fifteen (15) gallon size containers shall be cut on four opposite sides. Cutting with an axe or spade shall NOT be permitted.

20-7.03G. Handling and Root Correction: No canned plant material shall be planted if the root ball is broken or cracked either before or during the process of planting.

20-7.03H. Pit Backfill:

1. Only unamended soil shall be used beneath the root ball; cultivate bottom of plant pit to improve porosity. Backfill around sides of rootball shall be amended and fertilized as noted below. Spread material excavated from plant pits onto adjacent areas as replacement. Soil amendment and fertilizer shall be homogeneously blended with the top 12 inches of backfill only, at the following rates:

In all planting areas:

6 parts site soil

1 part compost

0.2 lbs. Nitroform per cubic yard of backfill

In addition, for Fountaingrove planting areas between Southridge Drive and project limits at Daybreak Court, add:

1.5 lbs. Gypsum per cubic yard of backfill

2. Backfill pit with backfill mix halfway to finish grade and water thoroughly.
3. Backfill finish to grade. Backfill finish shall be tamped firm and a shallow basin formed at the perimeter of the root ball to hold enough water to saturate the root ball and backfill mix. Basin bottoms shall drain to berm away from plant stem. Remove basins from all plants irrigated by in-line drip emitters prior to final inspection and finish grade the planting area. Basins at trees and shrubs irrigated by bubblers shall remain.
4. Water immediately to saturate entire root ball and backfill.

20-7.03I. Tree Staking: All trees shall be staked as drawn with stakes driven securely into existing soil aligned with the trunk and perpendicular to the direction of the prevailing winds. A minimum of two figure-eight rubber tree ties required per stake.

20-7.03J Mulch: Shall be per project plans.

20-7.03K Foliage Protection: Shall be installed as shown on the planting detail. For each tree requiring foliage protection, the protection shall be installed on the same day that the tree is planted.

20-7.04 Quantities: In all cases, quantities of plant material shall be furnished as needed to complete work as shown schematically on the project plans, including redressing and maintenance (replacements) during the contract period.

20-7.05 Protection: The Contractor shall carefully and continuously protect all areas included in the contract, including plant materials, supports, etc., until final acceptance of the work by the City.

20-7.06 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.

20-7.08 Inspections:

20-7.08A. Contractor shall give forty-eight (48) hour notice and set appointment for all inspections by the Landscape Architect and/or City.

20-7.08B. Inspections and/or field supervision by Landscape Architect and/or City shall be scheduled for the following operations:

1. Approval of all plant material.
2. Verification of amendment incorporation.
3. Finish grade.
4. Tree and shrub replacement PRIOR to plant pit preparation and planting. See section 20-7.03-B, "Scheduling" of this special provision.
5. Substantial completion.
6. Final inspection.

20-7.08C. Inspection shall be called for at the end of all planting operations for the purpose of determining compliance with project 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 Establishment work.

20-7.08D. A final inspection shall be made at the end of the Establishment period for full approval of the work area.

20-7.08E. In the event the Contractor requests inspection of work, and said work is substantially incomplete, the Contractor shall be responsible for inspection costs.

20-7.09 Guarantee:

20-7.09A. All shrubs, ground covers and grasses shall be guaranteed as to growth and health for a period of ninety (90) days after Contract Acceptance by the City; all trees shall be guaranteed for a period of one (1) year.

20-7.09B. Plants which die or lose more than 30 percent of their original leaves shall be replaced under this section at no cost to the City.

20-7.09C. The Contractor, within fourteen (14) days of written notification by the City, shall remove and replace all guaranteed plant materials which for any reason fail to meet the requirements of the guarantee. All plant material replaced shall be guaranteed for the original period, starting from the date of replacement.

20-7.10 Payment: Payment for the work of this Section shall be paid for at the contract unit price bid as included in the bid schedule and as delineated below:

1. The Contract price paid **per each** for **Soil Preparation** in planting pits shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in landscape soil preparation, complete in place, including soil testing, soil amendment, fertilization, and plant pit preparation, as specified herein and as shown on the project plans.
2. The Contract unit price paid **per each** for **24" Box Trees** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and plant 24" box trees, complete in place, including provision and installation of tree stakes and ties, as specified herein and as shown on the project plans.

3. The Contract unit price paid **per each** for **15 Gallon Trees** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and plant 15 gallon trees, complete in place, including provision and installation of tree stakes and ties, as specified herein and as shown on the project plans.
4. The Contract unit price paid **per each** for **5 Gallon Shrubs** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and plant 5 gallon shrubs, complete in place, as specified herein and as shown on the project plans.
5. The Contract unit price paid **per each** for **1 Gallon Shrubs** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and plant 1 gallon shrubs, complete in place, as specified herein and as shown on the project plans.
6. The Contract unit price paid **per square foot** for **Mulch** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and install mulch, complete in place, as specified herein and as shown on the project plans.
7. The Contract unit price paid **per square foot** for **Jute Netting** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and install jute netting, complete in place, as specified herein and as shown on the project plans.
8. The Contract unit price paid **per each** for **Foliage Protectors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and install foliage protectors, complete in place, as specified herein and as shown on the project plans.

20-3 IRRIGATION SYSTEM CONSTRUCTION

20-3 Scope of Work: Furnish all labor, materials, supplies, tools, and transportation; and perform all operations in connection with and reasonably incidental to the complete installation of the irrigation system from connection with backflow preventer to farthest sprinkler head or dripline as shown on the Project Plans.

20-3.02M(3) Materials:

- A. Main line (constant pressure) 2 inch and smaller shall be PVC 1120 schedule 40.
 - 1. Join lengths of pipe by means of integrally formed bell end on pipe or schedule 40 PVC coupling on schedule 40 pipe.
 - 2. At changes in direction of branch mains use appropriate schedule 40 PVC fittings.
 - 3. Solvent cement for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.
 - 4. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as teflon tape or approved equal.
- B. Lateral line (non-pressure) shall be 1120-200 psi PVC plastic pipe with schedule 40 Type
 - 1. Grade 1 PVC solvent weld fittings.
 - 2. Solvent cement for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.
 - 3. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as teflon tape or approved equal.
- C. Connections between main lines and RCV's shall be of schedule 80 PVC nipples and fittings.
- D. All fittings shall be as approved by the Uniform Plumbing Code.
- E. Riser stock shall be as follows:
 - 1. Risers connecting QCV's and sprinklers to PVC fitting shall be schedule 80 PVC nipples and 90 degree ells as shown in construction details.
 - 2. Risers shall in no case be of smaller nominal diameter than the IPS size of joint provided on the head or QCV to be installed.
- F. Quick coupling valves (QCV) shall be Rain Bird 3/4 DNP or approved equal.
- G. Controllers
 - 1. 48 Station MC-E Controller shall be Irritrol MC series.
 - 2. SiteOne Greentech Controller Assembly shall be pre-assembled by distributor and as shown on project plans.
 - 2. Provide and install automatic irrigation controller in approximate location shown on the plans. The exact location will be determined on the site by the Engineer. Provide conduit, wire, and connection to 120 volt switch accessible to controller for ease of maintenance.
 - 3. The contractor shall be responsible for coordinating and paying for the Water Audit, submitting record plans, close-out documents and at completion of the irrigation installation, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valves. Include all wrenches necessary for complete disassembly of all heads and valves.
 - 4. Controllers shall have compatible on-site weather sensors.

- H. Master control valves and Flow sensors (MV / FS)
 - 1. MV and FS shall be compatible with controllers.
 - 2. MV shall be Superior 3300 series or equal. Valve shall be normally open.
 - 3. FS shall be PVC tee type, CST FSI-T10-000 series or equal.
- I. Remote control valves (RCV)
 - 1. RCV shall be Irritrol 700 series (or equal) as part of drip zone kit.
 - 2. Drip zone valve kit components shall be as specified on Project Plans.
- J. Control wire shall be copper with UL-approval for direct burial in ground, size #14-1 AWG-UF. Common ground wire shall have white insulating jacket; control wire shall have jacket of color other than white. Splices shall be made with 3-M #3576 Scotchlok seal packs.
- K. Boxes for remote control valves shall be Carson or equal. All box lids shall be tan or black in color.
- L. Irrigation controller enclosure shall be Stainless Steel as detailed on the Project Plans.
- M. 120-volt service and connections shall be provided by the electrical contractor. Install in conduit with Carson 10" pull boxes as required. Pull boxes shall have bolt-down covers marked "electrical". Electrical conduit shall be per project plans.
- N. Lead Free Ball Valves shall be Watts LFB-6000 Lead Free Ball Valves or equal. Locate in Carson 10" valve box with bolt-down lid. Use extensions as required.
- O. Backflow preventer assembly shall be of the pressure type with gate valves. Check valve test cocks and vent to atmosphere. See plans for details of construction.
- P. Pressure regulating valves shall be Wilkins 600L or equal.
- Q. Bubblers and Dripline shall be as listed on the Project Plans or equal.
 - 1. Bubblers shall be Toro DB-PC-CV series low flow drip bubblers or equal. Bubblers shall be pressure compensating and have integral check valves.
 - 2. Dripline shall be Netafim Techline TLHCVXR series or equal. Dripline shall have 12" emitter spacing and a minimum of .5 gph and maximum .6 gph flow rate per emitter.
 - 3. Ball Valves For Flushing shall be Sch 40 PVC ball valves for manual flushing.
 - 4. Operation Indicators shall be per project plans.
 - 5. Check Valves shall be per project plans and shall be spring type valves with 5 lb. spring.
- R. Booster Pump
 - 1. Provide and install booster pump as listed on the Project Plans and per specifications provided in Appendix D.
- T. Sleeves shall be per Project Plans.

20-5.08 Layout of Work: The Contractor shall stake out the irrigation system as shown on the Project Plans, using a different color flagging for heads, valves, tie-in point and trench. These areas shall be checked by the Contractor and Engineer before construction is started. Any changes, deletions or additions shall be determined at this check. Trenching shall be started only after layout check by the Contractor and approval by the Engineer.

20-5.09 Installation:

- A. Preparation. Schedule and coordinate placement of materials and equipment in a manner to effect earliest completion of work in conformance with construction and progress schedule.
- B. Protect work and materials from damage during construction and storage.
- C. Layout:
 - 1. Layout work as accurately as possible in accordance with diagrammatic plans.
 - 2. Where site conditions do not permit locating piping and valves where shown, notify the Engineer immediately and determine relocation in joint conference.
 - 3. Run pipe lines and automatic control wiring in common trenches wherever practical.

- D. Install irrigation lines in 1120-Schedule 40 PVC plastic sleeves at street crossings.
- E. Excavation and Trenching
 - 1. Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.
 - 2. Make trenches for pipe lines deep enough to provide minimum cover from finish grade as follows:
 - a. 24-inch minimum cover over main lines to control valves and quick coupling valves.
 - b. 24-inch minimum cover over control wires from controller to valves.
 - c. 18-inch minimum cover over RCV-controlled lines to sprinkler heads.
 - d. 48-inch minimum cover over all lines inside street right of way.
 - 3. Restore surfaces, existing underground installations, etc., damaged or cut as result of excavations to original conditions in manner approved by Engineer.
 - 4. Where drainage line interferes with irrigation trenching and pipe work, adjust the trench depth as instructed by the Engineer.
- F. Assembling Pipe Lines
 - 1. All pipe shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.
 - 2. Solvent weld joint:
 - a. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning pipe and fitting of dirt, dust and moisture.
 - b. Dry-insert pipe fitting to check for mis-sizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
 - c. Coat the inside socket surface of the fitting and the external surface of the male end of the pipe with P-70 Primer (manufactured by Weld-On). Then without delay, apply Weld-On 711 cement liberally to the male end of the pipe and also apply 711 cement lightly to the inside of the socket. At this time, apply a second coat of the cement to the pipe end.
 - d. Insert pipe immediately into fitting and turn ¼ turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
 - e. Hold joint still for approximately thirty (30) seconds and then wipe excess cement from the pipe and fitting.
 - f. Cure a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.
 - 3. Threaded joint:
 - a. Field-threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.
 - b. Factory-made nipples shall be used wherever possible. Field-cut threads in metallic pipe will be permitted only where absolutely necessary. When field-threading, cut threads accurately on axis with sharp dies.
 - c. All threaded joints shall be made up with pipe joint compound. Apply compound to male threads only.
 - d. Where assembling metallic pipe to metallic fitting or valve, no more than three (3) full threads shall show when joint is made up.
 - e. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tight.
 - f. Where assembling soft metal (brass or copper) to plastic pipe, use strap type friction wrench only; do not use metal jawed wrench.
 - 4. 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.

5. Where pipes or control wires pass through sleeves, provide removable non-decaying plugs at ends of sleeve to prevent entrance of earth.
- G. Remote control valves:
1. Install where shown and group together where practical.
 2. Locate valves no closer than 12 inches from walk edges, buildings, and walls.
 3. Provide 6 inches of pea gravel in bottom of valve box. No soil shall be in contact with RCV.
 4. Support valve box with four (4) bricks (one at each corner). Maintain a minimum of 2 inches clearance between PVC pipe and valve box.
 5. Valve boxes to be located with a 4-inch clearance between the remote control valve stem in the fully open position and the underside of the valve box lid.
- H. Automatic control wiring:
1. Run lines along mains wherever practical. Tie wires in bundles at ten (10) foot intervals. Run wires along the underside of mains and allow slack for expansion and contraction of wire.
 2. Loop a minimum of three (3) feet of extra wire in each valve box; both control wire and ground wire.
 3. Connections shall be made by crimping bare wires with brass connectors and sealing with epoxy resin sealer packs.
 4. No splices shall be permitted between controllers and remote control valves.
 5. Where control lines pass under paving, they shall pass through schedule 40 electrical PVC conduit.
 6. Where control lines do not parallel mains, wires shall be protected by being strapped at ten (10) foot intervals to the underside of 2- by 6-inch redwood boards.
- I. Automatic controller:
1. Locate controllers in general locations shown with exact placement to be determined by the Engineer.
 2. Connect control lines to controller in sequential arrangement according to assigned identification number of valve. Control lines shall be labeled at controller with permanent non-fading labels indicating identification number of valve controlled.
- J. Backflow preventer shall be installed a minimum of 12" and a maximum of 30" above grade and per local codes. Backflow device shall be tested by a certified backflow tester at contractors expense.
- K. Testing: Perform test as specified. Remake any faulty joints with all new materials. Use of cement or caulking to seal leaks shall not be permitted.
- L. Backfilling:
1. Backfill only after pipe has been inspected and approved.
 2. Main line and lateral line backfill to be a 4-inch minimum sand bed on all sides of the pipe. The remaining backfill material shall be native soil excavated from the trenches.
 3. Place backfill materials in 6-inch layers and compact by jetting or tamping to a relative compaction of 90 percent.
 4. Dress off areas to finish grades and remove excess soil, rocks or debris remaining after backfill is completed.
 5. If settlement occurs along trenches, and adjustments in pipes, valves, soil, sod, or paving are necessary to bring the system, soil, sod, or paving to the proper level of the permanent grade, the Contractor, as part of the work under this Contract, shall make all adjustments without extra cost to the City.
- M. Quick coupler valves and bubblers:
1. Thoroughly flush lines before installing QCV's and bubblers.
 2. Locate QCV's as shown in the Project Plans and details.
- N. Dripline:

1. Install dripline on-grade in a grid pattern. Staple dripline to ground every 3 feet. Use 2 staples over each tee, elbow or cross.
 2. Install manual flush valve at a point farthest away from source or along exhaust header. Install in 6 inch round valve box.
- O. Booster Pump
1. Coordinate with electrical contractor for single phase 240 volt electrical power with 2-Pole, 100 amp breaker with ground to the booster pump location.
 2. Provide a level concrete pad; size 66" x 56" x 4" thick, 1 inch above grade.
 3. Install per manufacturer's instructions.

20-5.10 Tests: The Contractor shall:

1. Notify the Engineer at least three (3) days in advance of testing. Engineer shall inspect before, at intervals during, and after each test.
2. Perform testing at their own expense.
3. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
4. Apply the following tests after welded plastic pipe joints have cured at least 24 hours.
 - a. Test live (constant pressure) and QCV lines hydrostatically at 125 psi minimum. Lines will be approved if test pressure (with an allowable drip of 2 psi) is maintained for six (6) hours. The lines shall be restored to the original test pressure and the amount of water required to do so will be measured. The Contractor shall make tests and repairs as necessary until test conditions are met.
 - b. Test RCV-controller lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.

20-5.11 Inspection: The Contractor shall be subject to inspections at any and all times by authorized representatives of the City.

20-5.12 Water Audit: After completion of the irrigation, the Contractor shall be responsible for scheduling and paying for a water audit by a third-party water auditor. The auditor shall be certified by the Irrigation Association.

20-5.13 Guarantee: It shall be the responsibility of the Contractor to fill and repair all depressions and replace all necessary lawn and planting-loss due to the settlement of irrigation trenches for one year following completion and acceptance of the job.

The Contractor shall also guarantee all materials, equipment, and work furnished to be free of all defects of work and materials, and shall agree to replace at contractors expense, at any time within 90 days after completion or until the acceptance of Final Completion.

20-5.14 Record Plans:

- A. The Contractor shall maintain in good order in the field office one complete set of black line prints of all sprinkler plans which form a part of this Contract, showing all water lines, sprinklers, valves, controllers and stub-outs. In the event that any work is not installed as indicated on the plans, such work shall be corrected and dimensioned accurately from the inside curb lines on these record plans.
- B. All underground stub-outs for future connections shall be located and dimensioned accurately from inside curb lines on all record plans.
- C. Upon completion of the work, obtain reproducible prints from the Engineering Department and neatly correct the prints to show the as-built conditions and return to the Engineering Department.

20-5.15 Payment: Payment for the work of this Section shall be paid for at the contract unit price bid as included in the bid schedule and as delineated below:

1. The Contract unit price paid **per linear foot** for **2" Main Line** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to install piping and fittings, cements, primers, joint compound, tape, bolts, additional fittings, and specialty tools, including trenching and removal, disposal and repair of concrete or asphalt, as specified herein and as shown on the project plans.
2. The Contract unit price paid **per linear foot** for **Sleeve, 4"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to install piping, including fittings and trenching, as specified herein and as shown on the project plans.
3. The Contract unit price paid **per linear foot** for **Sleeve, 6"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to install piping, including fittings and trenching, as specified herein and as shown on the project plans.
4. The Contract **lump sum** price paid **Lateral Line** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and install piping and fittings, cements, primers, joint compound, tape, bolts, additional fittings, and specialty tools, including trenching and removal, disposal and repair of concrete or asphalt, as specified herein and as shown on the project plans.
5. The Contract unit price paid **per linear foot** for **Electrical Conduit**, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to install piping, and fittings, including trenching and removal, disposal and repair of concrete or asphalt, as specified herein and as shown on the project plans.
6. The Contract unit price paid **per each** for **Quick Coupling Valves** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, swing joints, and valve boxes, as specified herein and as shown on the project plans.
7. The Contract unit price paid **per each** for **48 Station MC-E Controller** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of concrete pads, enclosures, wiring, pull boxes, weather sensors, maintenance remote, and grounding, as specified herein and as shown on the project plans.
8. The Contract unit price paid **per each** for **SiteOne Greentech Controller Assembly** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain pre-assembled solar assemblies and complete in place, including provision and installation of concrete pads, enclosures, wiring, weather sensors, maintenance remote, and grounding, the water audit, record plans, close-out documents, and materials as specified herein and as shown on the project plans.
9. The Contract unit price paid **per each** for **Master Control Valves** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for

doing all the work to obtain and complete in place, including provision and installation of fittings, wiring, and valve boxes, as specified herein and as shown on the project plans.

10. The Contract unit price paid **per each** for **Flow Sensors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, wiring, and valve boxes, as specified herein and as shown on the project plans.
11. The Contract unit price paid **per each** for **Remote Control Valves, size 1"**, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of filters, regulators, ball valves, fittings, wiring, ID tags, and valve boxes, as specified herein and as shown on the project plans.
12. The Contract unit price paid **per each** for **Remote Control Valves, size 1 1/2"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of filters, regulators, ball valves, fittings, wiring, ID tags, and valve boxes, as specified herein and as shown on the project plans.
13. The Contract **lump sum** price paid for **Common and Control Wiring** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of wire connectors, as specified herein and as shown on the project plans.
14. The Contract unit price paid **per each** for **Lead Free Ball Valve** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, thrust blocks, and valve boxes, as specified herein and as shown on the project plans.
15. The Contract unit price paid **per each** for **Backflow Preventer Assembly** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, concrete pads, frost guard blankets, enclosures, and testing, as specified herein and as shown on the project plans.
16. The Contract unit price paid **per each** for **Pressure Regulating Valve** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, pressure gauges, and valve boxes, as specified herein and as shown on the project plans.
17. The Contract unit price paid **per each** for **Booster Pump** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work to obtain pre-assembled booster pump skid, including provision and installation of fittings necessary for complete installation in place, furnish and install concrete pad as specified herein and as shown on the project plans.

18. The Contract unit price paid **per each** for **Bubblers** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, flexible piping, and stakes, as specified herein and as shown on the project plans.
19. The Contract unit price paid **per linear foot** for **Dripline** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings, air relief valve, and stakes, as specified herein and as shown on the project plans.
20. The Contract unit price paid **per each** for **Ball Valve for Flushing** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, including provision and installation of fittings and valve boxes, as specified herein and as shown on the project plans.
21. The Contract unit price paid **per each** for **Operation Indicator** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, as specified herein and as shown on the project plans.
22. The Contract unit price paid **per each** for **Check Valves** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to obtain and complete in place, as specified herein and as shown on the project plans.

**APPROVED LIST OF BACKFLOW CONTRACTORS
INSTALLATION, TESTING & REPAIR**

ACCO ENGINEERED SYSTEMS 1111 ALADDIN AVE. SAN LEANDRO, CA 94577 PHONE: (510) 346-4300 LICENSE #: 120696	AIR SYSTEMS SERVICE 1900 BATES AVE., SUITE E CONCORD, CA 94520 PHONE: (888) 504-2772 LICENSE#: 406794	ALL OUT PLUMBERS/C. CROSS P.O. BOX 599 CLOVERDALE, CA 95425 PHONE: (707) 894-8434 LICENSE #: 812540
ALL PRO BACKFLOW/J.LOTITO P.O. BOX 2193 FOLSOM, CA 95763 PHONE: (916) 276-7162 FAX: (916) 435-4167 LICENSE #: 934557	APB BACKFLOW, INC. 1599 FELTA RIDGE ROAD HEALDSBURG, CA 95448 PHONE: (888) 356-7761 LICENSE: 1032328	ASTI SERVICES/M.DESCHLER 102 COUCH ST. VALLEJO, CA 94590 PHONE: (707) 645-1782 FAX: (707) 645-1807 LICENSE #: 742693
C.V. PLUMBING/C. VINE P.O. BOX 219 CLOVERDALE, CA 95425 PHONE: (707) 894-8580 FAX: (707) 894-9642 LICENSE #: 843366	CAGWIN & DORWARD P.O. BOX 1600 NOVATO, CA 94948-1600 PHONE: (800) 891-7710 FAX: (415) 897-7864 LICENSE #: 202399	CHECKRITE BACKFLOW SERV. 3618 CHANATE RD. SANTA ROSA, CA 95404 PHONE: (707) 575-5296 FAX: (707) 578-6595 LICENSE #: 836022
DEVOTO PLUMBING* 1345 TRIPLE OAK WAY FULTON, CA 95439 PHONE: (707) 545-0734 LICENSE #: 824608	ECONOMY PLUMBING 1058 N. DUTTON AVE. SANTA ROSA, CA 95401 PHONE: (707) 545-4455 FAX: (707) 543-8111 LICENSE #: 748220	GAC COMPANY P.O. BOX 5511 SANTA ROSA, CA 95402 PHONE: (707) 538-8000 LICENSE #: 927846
GROUND HOG CONSTRUCTION 5353 HESSEL RD. SEBASTOPOL, CA 95472 PHONE: (707) 529-2085 FAX: (707) 823-9389 LICENSE #: 723766	JV PLUMBING & BACKFLOW* 2911 MONTECITO AVE. SANTA ROSA, CA 95404 PHONE: (707) 799-2692 LICENSE #: 955698	LEDUC & DEXTER PLUMBING 2833 DOWD DR., SUITE A SANTA ROSA, CA 95407 PHONE: (707) 575-1500 FAX: (707) 527-0281 LICENSE #: 651401
NORTHBAY BACKFLOW P.O. BOX 2765 PETALUMA, CA 94953 PHONE: (707) 484-3949 LICENSE #: 878332	NORTHWOOD BACKFLOW 911 LAKEVILLE ST., #369 PETALUMA, CA 94952 PHONE: (800) 750-4547 LICENSE #: 749187	ONGARO AND SONS PLUMBING 2995 DUTTON AVE. SANTA ROSA, CA 95407 PHONE: (707) 579-3511 LICENSE #: 215233
PUMPMAN NORCAL 4000 S. MOORLAND AVE. SANTA ROSA, CA 95407 PHONE: (707) 584-9191 LICENSE: 200068	RH & SONS WATER SERVICES 225 GOLDEN RIDGE AVE. SEBASTOPOL, CA 95472 PHONE: (800) 675-3569 LICENSE #: 698774	ROBERTS MECHANICAL & ELECTRICAL, INC. 39 LARK CENTER DR. SANTA ROSA, CA 95403 PHONE: (707) 584-5880 LICENSE #: 556014
ROBERTSON'S BACKFLOW 3170 DEEP HAVEN RD. POLLOCK PINES, CA 95726 PHONE: (530) 306-1056 FAX: (530) 303-1497 LICENSE #: 972547	SCOTT CRAMER PLUMBING P.O. BOX 750084 PETALUMA, CA 94975 PHONE: (707) 778-8789 FAX: (707) 658-1043 LICENSE #: 889152	STEAD BACKFLOW PREVENTION 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: 11/2/2021)

20-9 PLANT ESTABLISHMENT WORK

20-9.01 General:

20-9.01A Schedule: Work in this section will not begin until the irrigation audit is complete.

1. **Time Limits:** The plant establishment period shall commence from the date of substantial completion of planting as defined in paragraph 20-9.01-A-2 below, and extend for a ninety (90) day period thereafter, or until Contract Acceptance. Attention is directed to section 5, "Control of Work" of the standard specifications.
2. **Substantial Completion:** Shall be deemed as the time all major plantings, including groundcover, are installed, and when all other work is satisfactorily completed (with the exception of minor items to be completed as noted upon a checklist compiled by the Engineer). Establishment period shall not commence until work is deemed substantially complete by the Engineer.

20-9.01B. Submittals

1. **Soil Testing:** Contractor shall collect one sample per half mile of roadway of the in-place amended backfill 20 days after completion of planting and submit to Waypoint Analytical, Inc. of Anaheim, (714)282-8777, for establishment period fertilizer recommendation. Contractor shall specifically request recommendation for minimum fertilization rates to establish California Native plant material. Test results shall be made available to the Engineer. Each sample shall be a representative composite taken from several planting areas. Cost of soil test shall be paid for by the Contractor.
2. **Herbicide/Fungicide/Insecticide:** Submit a written recommendation from an individual holding an appropriate licensure, as required by the California Department of Pesticide Regulation (DPR), along with complete product data from proposed manufacturer, for review by the Engineer and/or City's appropriately licensed individual.

20-9.02 Materials:

20-9.02A Water: The contractor shall obtain water according to Section 6-4.01A, "Construction Water" of the standard specifications.

20-9.02BFertilizer: Used during the course of the establishment period shall be determined by soils test required under Part 20-9.01-B of this specification. For bidding purposes only, assume a single application of Nitroform (38-0-0) at five (5) pounds per 1000 square feet.

20-9.02C Herbicide/Fungicide/Insecticide: Herbicide shall be organic, OMRI-approved commercially available chemical recommended for this project and these plantings by an individual holding appropriate licensure as required by the California Department of Pesticide Regulation (DPR). The licensed individual shall review all planting, including but not limited to seed, sod, groundcovers, shrubs, and trees, the types and extent of soil preparation, the irrigation systems, drainage patterns, and other project characteristics to verify type, compatibility, and recommend the appropriate organic chemical(s) for use.

20-9.03 Construction:

20-9.03A General: All planting areas shall be kept weed-free at all times during the establishment period. All pest and disease control shall be the Contractor's responsibility. All planting areas shall be kept at optimum moisture for plant growth. Settlement of soil and plants and soil erosion shall be repaired and areas replanted as required. Dying or deficient plants shall be replaced as soon as they become apparent.

20-9.03B Fertilizer: Application shall be as recommended by Waypoint Analytical, Inc. recommendations obtained under Part 20-9.01-B of this specification. For bidding purposes, assume application to be sixty days after planting.

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

20-9.03C Weed Control: Herbicide shall not be used until all plant material has been planted a minimum of 20-days. All planting areas shall be kept weed-free by non-herbicide methods during this time period. Herbicides must comply with section 20-9.02-C, above, and must be applied in conformance with all applicable laws.

20-9.03D Plant Staking: Remove support stakes, within 20 working days before the completion of the plant establishment period.

20-9.03E Replacement Plants: Work installed under this contract that is damaged or stolen prior to Substantial Completion shall be repaired or replaced by the Contractor without cost to the City. After Substantial Completion and through the establishment period, these damages and similar factors such as extensive litter, abuse and defacement shall be the City's responsibility to repair or replace and shall not be a part of this contract. No planting shall be guaranteed beyond the establishment period, except as to conformance to specified species and variety, and except as to conditions specified under "Root Systems" of Landscape section 20-7.02-A-3-c.

20-9.03F Final Inspection: Contractor shall request a final review of the project at least five days in advance of the proposed date. Failure to request this notice shall automatically extend the date of completion. The establishment period will continue until Contract Acceptance.

20-9.04 Payment: **Plant Establishment, 3 months** shall be paid for at the contract **lump sum** price for Plant Establishment.

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 compacted to 95% relative compaction. 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: 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.

39A HOT MIX ASPHALT CONCRETE TRENCH PAVING

39A-1.01 Description: Hot mix asphalt concrete surfacing and asphalt concrete base and the placing thereof shall conform to the requirements of the Standard Specifications, Section 39 of the City Specifications and these Special Provisions.

39A-2.01 Asphalts: Temporary paving on all utility trenches and any other excavated areas shall be ½-inch maximum, medium grade aggregate hot mix asphalt concrete installed a minimum of two inches thick **placed each day** over the work. Temporary paving shall be around edges of steel plates.

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

Cutback shall not be used anywhere on the job site.

39A-5.01 Spreading Equipment: When trench width is three feet or less, the asphalt concrete used for trench paving may be deposited directly from the haul vehicle into the trench. The asphalt shall then be raked smooth prior to compaction.

39A-6.01 General Requirements: Areas requiring permanent trench paving per City STD-215 shall have a minimum A.C. thickness of 0.45 feet.

The use of 12 inches of class 2 aggregate base per note 1 of STD 215 is not allowed.

The Contractor shall provide compaction of backfill and base material as the job progresses. Temporary paving, as specified in Section 39A-2.01 above, shall be placed over the work each day, leaving not more than 25 feet unpaved. This temporary paving shall be removed for final paving. The 25 feet of unpaved trench shall be covered with skid resistant steel plates (with a coefficient of friction of 0.35 or greater per CTM342), capable of sustaining normal (H20) traffic loads without shifting or bouncing and shall be secured per Caltrans requirements. Plates that have areas where the skid resistant material is missing shall not be used and must be removed from the job site. Hot mix asphalt concrete shall be placed and compacted around all edges of steel plates with a sufficient width and gradual slope in order to provide a smooth transition to existing pavement. The Contractor shall only be allowed to plate one lateral trench at a time.

Temporary and permanent asphalt trench paving shall be even and smooth riding.

The Contractor shall monitor and maintain all temporary paving to the satisfaction of the Engineer.

Asphalt concrete used for temporary trench paving shall be removed and disposed of in accordance with Section 124 "Material Recycling".

Any existing manholes or valves that are encountered within the trench paving limits must be adjusted to grade per the requirements of Section 15 of these Special Provisions. The Contractor is responsible for all coordination with the various utility company owners and their representatives, as well as the cost to adjust the various utilities to grade.

39A-6.03 Compacting: Compaction shall be in accordance with Section 39-6.03 of the City Specifications, reprinted here for clarity.

The basis for approval shall be the attainment of 97% relative compaction and satisfactory surface condition following final rolling. The number of coverages required shall be the minimum number required to obtain 97% relative compaction.

39A-8.02 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.

[Revised: 8/28/13 STD2010]

39B ASPHALT CONCRETE

39B-1.01 Description: Asphalt concrete surface and overlay and the placing thereof shall conform to the applicable requirements of Section 39 of the City Specifications with the following modifications.

39B-1.01A Remove and Replace Asphalt Concrete Surface: The contractor shall make a neat cut and remove existing pavement adjacent to curb and gutter replacements and as marked and directed by the Engineer.

The asphalt concrete surface placed shall be a minimum depth of three inches with a maximum 3/8-inch mix.

Full compensation for removal and disposal of asphalt, including removal of incidental quantities of asphalt patches from pavement, sidewalk and driveways at various locations for this project, grading compaction of subgrade to 95 percent relative compaction, and replacement of asphalt shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

Quantities of asphalt concrete measured for payment shall be the average thickness placed after approval of the subgrade.

39B-2.01 Asphalts: The amount of asphalt binder to be mixed with the aggregate will be specified by the Engineer at the time of paving. A different asphalt binder content may be specified for each lift and each location.

39B-8.02 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.

[Version: 4/13/09 STD2010]

57-2 WOOD STRUCTURES

57-2.01 General: Construction of wood structures shall conform to the requirements of the Standard Specifications, the Project Plans, and these Special Provisions.

57-2.01A Summary: Furnish and install all wood structures including, but not necessarily limited to, Vintage Place Trellis Repair.

57-2.01B Submittals:

1. Shop Drawings: The Contractor shall submit shop drawings to the Engineer for approval prior to beginning work. The Contractor is responsible for verification of conditions and dimensions of existing structures prior to production of shop drawings.
2. Certification: Written certificates stating quality, type, grade, and origin of all materials shall be delivered to the Engineer before the material is used on the site.

57-2.01C Delivery, Handling and Storage: Lumber delivered to the site shall be carefully piled off the ground in such a manner as to insure proper drainage, ventilation, and protection from the weather.

57-2.02 Materials:

57-2.02A Redwood: Redwood shall be Construction Heart, free of knots, and shall conform to the grades certified by California Redwood Association.

57-2.02B Hardware: All nails and miscellaneous fittings shall be hot dipped, galvanized steel, unless noted otherwise (stainless steel and aluminum alloy acceptable). Finishing nails shall be used on all visible nailings unless noted otherwise. Bolts shall be hot dipped galvanized.

57-2.02C Finish: Contractor shall submit a recommendation for clear sealer with shop drawings for review. All materials shall be "first line" or best quality as manufactured by Kelly-Moore, Pratt & Lambert, Sherwin-Williams, Sinclair, Dunn-Edwards, Fuller-O'Brien, Olympic, Conrad Sovig, or approved equal. Mention of these manufacturers does not necessarily constitute approval of all of their products.

57-2.03 Construction:

57-2.03A General: Contractor shall be responsible for all necessary field measurements at the construction site. All carpentry work shall be accurately fitted, vertical work shall be accurately fitted, vertical members installed plumb and evenly spaced, and end cuts made clean and square.

57-2.03B Bolting: Drill bolt holes 1/32" oversize unless otherwise noted. Tighten all nuts when placed, retighten immediately before closing with finish material or completion of the structure. Do no final bolting until structure has been properly aligned. Set threads after final tightening.

57-2.03C Washers: Mild steel washers shall be placed under the heads and nuts of all bolts.

57-2.04 Payment: The contract lump sum price paid for **Vintage Place Trellis Repair** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work to construct wooden trellises at Vintage Place, complete in place, which price shall include restoration of stone masonry as specified herein and as shown on the project plans.

60 STONE MASONRY

60-1.01 General: Furnish and install all stone veneer including, but not necessarily limited to, Vintage Place Trellis Repair.

60-1.01A Submittal: If the quantity of stone salvaged by the City and Contractor is insufficient to repair all missing, detached, or broken stone facing, the contractor shall identify an appropriate stone to match the existing walls and submit three samples, minimum of 6"x6" size, to the Engineer for review and approval. Samples shall include variations representative of the stone's typical color range.

60-1.02 Materials:

60-1.02A Stone veneer: Replacement stones for wall facing shall primarily consist of salvaged pieces as noted on the project plans. Stones may be supplemented, if required, following the Engineer's approval of submitted samples as described in section 60-1.01A, above. For bidding purposes only, assume stone shall be natural basalt, available from Johnson Ornamental & Building Stone (707) 584-7480, and replacement will be required for 20 square feet of veneer.

60-1.02B Water: Fit to drink

60-1.02C Mortar: ASTM C-270, Type S, using ASTM C-150, Type 1 Portland Cement, in the following proportions:

- a. Cement: 1 part
- b. Hydrated lime or lime putty: ¼ to ½ parts
- c. Aggregate: 2-1/4 to 3 times the volume of cement and lime

60-1.03 Construction:

60-1.03A Inspection of surfaces: Inspect masonry surfaces for suitability for application of stone veneer: joints struck flush, no dust, grease, moisture, paint or other substance present detrimental to good bonding. Check surfaces for suction appropriate for application of mortar bed. Do not proceed with installation work until unsatisfactory conditions are corrected.

60-1.03B Mortar Bed: For replacement stones shall be a minimum of one inch thick.

60-1.03C Jointing: Style and size of jointing shall be consistent with the intact veneer.

60-1.04 Payment: Payment for the work of this Section shall be included in the price bid for Vintage Place Trellis Repair described under Section 57-2 "Wood Structures" and no additional compensation will be considered.

73 CONCRETE CURBS AND SIDEWALKS

73-1.01A Summary: This work shall consist of curbs, gutters, sidewalks, driveways, island paving, curb ramps, and gutter depressions and shall be constructed in accordance with the details and in conformance to the requirements of Section 73 of the City Specifications, and Standard Specifications.

73-1.01E Color: A colored pigment designed for the integral coloring of concrete shall be added to the concrete mix. The pigment shall contain pure concentrated mineral pigments specifically processed for mixing into concrete and complying with ASTM C979. The colored pigment shall be Davis Colors color #860, applied in a dosage of 1 pound per 94 pound sack of cement (approximately 6 pounds per cubic yard of concrete for a 6 sack mix), or L. M. Scofield color #SG860 applied in a dosage to produce an equivalent color, or an approved equal.

73-2.03 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 Project 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 Project Plans and in accordance with the City Specifications.

Curb openings, for driveways, shall be constructed at existing driveways, and at locations indicated on the Project Plans or directed by the Engineer.

Median curb per City STD-242 shall be constructed in conformance to the details and at the locations shown on the Project Plans and in accordance with the City Specifications.

Curb and gutter and median curb shall be cured in accordance with the requirements of Section 90-1.03B 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.

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

Curb Ramp shall be constructed in accordance with the details and at the locations shown on the Project Plans per Caltrans Standard Plan A88A except the thickness shall be 4" minimum. For purposes of payment, curb ramp will be measured between the outside border of the ramp and landing, and exclude the curb and gutter. The area of concrete beneath the detectable warning surface shall be paid for at the contract unit price bid per square foot of Concrete Sidewalk Replacement.

No deduction in measured length of curb and gutter to be paid for will be made for curb openings for driveways.

Sidewalk, gutter depression, median curb, curb ramp, and driveway shall be constructed in accordance with the details and at the location shown on the Project Plans and in conformance

to the requirements of Section 73-1.07 of the City Specifications with the following modifications and additional requirements.

Soft or spongy material shall be removed and replaced with suitable material as required by the Engineer.

Gutter Depression shall be constructed in accordance with the details and at the location shown on the Project Plans and in conformance to the requirements of City STD-243 Standard Valley Gutter.

73-2.04 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.

88 ELECTRICAL SYSTEMS

88.01 General

88-1.01A Summary

Section 88 includes furnishing all necessary labor, materials, equipment, and incidentals required for a complete installation of the lighting systems.

The general extent of the electrical work includes among others, the furnishing and installing of the following items, but not limited to:

1. Service Meter pedestals.
2. Connections of irrigation controllers.
3. Connections of irrigation booster pumps.
4. Conduit, fittings and connectors.
5. Conductors and terminations.
6. Service equipment grounding and bonding.
7. Grounding electrode, clamps and fittings.
8. Equipment grounding conductors.
9. Concrete pull boxes and covers.
10. Trenching, backfill and pavement repairs.
11. Testing.

Where the work of several trades is involved, coordinate all related work to provide each system in complete and proper operating order.

Cooperate with all others involved in the project, with due regard to their work to promote rapid completion of the entire project.

88-1.01B References:

Work installed or material used must comply with latest rules of:

Electrical codes of authority having jurisdiction.
Insulated Cable Engineers Association (ICEA).
National Electrical Safety Code (NESC).
Institute of Electrical and Electronics Engineers (IEEE).
National Fire Protection Association, NFPA 70, National Electrical Code - NEC.
California Electrical Code (CEC).

Standards: Reference to the following standards infers that installation, equipment, and material shall be within the limits for which it was designed, tested, and approved.

1. National Electrical Contractors Association - NECA.
2. National Electrical Manufacturers' Association - NEMA.
3. Underwriters' Laboratories - UL.

Each type of material shall be of the same manufacturer and quality throughout the work.

88-1.01C Quality Control:

Comply with NETA ATS "Suitability of Test Equipment" and Test Instrument Calibration".

88-1.01C(1) Coordination with Other Work

Review civil, landscape, and irrigations drawings and specifications and plan work to conform to conditions shown and specified to provide the best assembly of the combined work.

88-1.01C(2) Workmanship:

All workmanship shall be performed in a manner satisfactory to and approved by the Engineer.

88-1.01D Submittals:

Material List: Within the time limit designated in the specifications, submit list of materials and equipment proposed for use in the work. Except as specified herein for "rough-in" materials submit complete list at one time and include all proposed alternatives.

Give name of manufacturer and where applicable, brand name, type and/or catalog number of each item. Listing of more than one manufacturer for any one item of equipment, or listing items "as specified", without both make and model or type designation, is not acceptable.

"Rough-in" materials, such as conduit, fittings, junction boxes, 600V power conductors, and outlets, need not be included in the Material List, provided that these items are as specified and are listed by UL.

Shop Drawings and Descriptive Data: After submission of Material List, submit shop drawings and descriptive data of equipment listed hereinafter, and the required wiring diagrams. Do not install materials or equipment until written approval has been obtained from the Engineer. The Engineer shall have three weeks to review shop drawings and descriptive data of equipment.

Before submitting for approval, check submittals to ascertain that materials and equipment meet all requirements of plans and specifications and conform to structural and space conditions. Mark submittal sheets covering several types or sizes of equipment to clearly indicate specific equipment being proposed.

Descriptive Data: Submit copies of catalog cuts and/or complete description, information and performance data.

88-1.01D(1) Substitutions:

Do not make substitutions for equipment, materials or devices, which are specified in Contract Drawings and Specifications, without prior approval by the Engineer.

Provide and install equipment, materials, and devices in strict accord with Contract Drawings and Specifications. Equipment, materials, or devices which are provided and/or installed by you and is not in accord with Contract Drawings and Specifications will constitute a deficiency of your contractual obligations to the owner. You must take whatever means are necessary to correct this deficiency upon notification by the engineer. This includes, but is not limited to, deployment of personnel, equipment, or other resources necessary for you to meet all project schedule obligations. You must bear all costs, both monetary and otherwise, which may result from this effort.

The engineer shall notify you of any equipment, materials, or devices that have been determined or are suspected of not being provided in accord with Contract Drawings or Specifications. This notification may be delivered at any time and without regard to whether equipment, materials, or devices are ordered, installed, or waiting to be installed.

88-1.02 MATERIALS:

88-1.02(A) Conduit and Wiring:

1. Wires:
Shall comply with NFPA 70 and be UL listed. 600 V, stranded copper, THW, THWN insulation, 75-degree C rated. Minimum wire gauge # 12 AWG. As manufactured by Southwire or equal. Color code wires: black Phase A, red Phase B, white Neutral, green-Ground.
2. Non-Metallic Conduits:
Schedule 40 and 80 PVC conduit shall conform to Article 347 of the National Electrical Code and to NEMA Specification TC-2 (conduit), TC-3 (fittings – UL 514), and UL 651 (standard for rigid nonmetallic conduit). Minimum conduit size 3/4".

Provide expansion/deflection fittings where conduits crosses expansion joints.

All conduit terminations shall be made with end-bells, and packed with non-hardening Permagum, or equal.
3. Rigid Metal Conduit:
Galvanized heavy-wall conduit, UL listed, minimum size 3/4", with threaded connectors. As manufactured by Rob-Roy, PW Pipe or equal.

Where conduit is run from pull box or buried condition to above ground it shall be protected from corrosion by wrapping with 3M pipe wrap to a minimum of 6-inches above grade. for connection from pull box to equipment, or as indicated on Drawings.
4. Detectable Marker Tape:
3-inch wide 5mil detectable marker tape to be installed above buried conduit runs, red color with marking, as manufactured by PRESCO, 3M or equal. Install with burial depth of 12" to 24" maximum.

88-1.02(B) Pull Boxes:

1. Site Pull Boxes: State #3 1/2 minimum size, or as indicated on Drawings, high density reinforced concrete box with non-setting shoulder positioned to maintain grade and facilitate back filling. Size of PG&E service boxes shall be as indicated on PG&E's engineering service drawing or as indicated on Drawings.
2. Traffic-rated Pull Boxes: Heavy-duty reinforced concrete boxes shall be used where subject to normal vehicle wheel loading. Pull box shall be H/20 rated supplied with a heavy-duty checker-plate steel cover.
3. Provide An identification on the face of each cover with the description: "Electric Service" for PGE service; "Electric" for all others.
4. As manufactured by Brooks, Christy, Jensen, or equal.
5. Electric use boxes used for distributing power to irrigation controllers and booster pumps shall have locking type copper theft protection resistant covers, as manufactured by Jensen Metal Tech "Lock lid", MR Steel, or equal.

88-1.02(C) Grounding:

1. Driven-ground rods, copper clad steel, 5/8" diameter by 8' long minimum, UL Listed, as manufactured by Eritech or equal.
2. Ground clamps and fittings, direct burial, shall be phosphor bronze, as manufactured by Eritech, Blackburn, Burndy or equal.

88-1.02(D) Service Meter Pedestals:

Meter enclosure shall meet EUSERC and PG&E requirements, fabricated from 1/8' aluminum, clear anodized finish. Enclosure interior shall be fabricated from 14 gauge cold rolled steel and painted white. Enclosure shall have full length dead front with stainless steel hinge and label for service entrance equipment. Removable back pan shall be mounted on 4 welded studs. Circuit breakers shall be factory standard. All bussing shall be UL approved fully rated copper. Enclosure shall be completely prewired NEMA IIB standard in the factory.

Service enclosure shall be Tesco Type III AF, Millbank or City approved equal.

88-1.03 EXECUTION:

88-1.03(A) Tests:

Perform tests to prove installation is in accordance with contract requirements. Perform tests in presence of the Engineer, and furnish test equipment, facilities, and technical personnel.

1. Request for Tests:
Notify the Engineer a minimum of 24 hours in advance of tests. In the event the Engineer does not witness the test, certify in writing that all specified tests have been made in accordance with the specifications.
2. Deficiencies:
Immediately correct all deficiencies, which are evidenced during the tests and repeat tests until system is approved. Do not cover or conceal electrical installations until satisfactory tests are made and approved.
3. Tests:
Test panel and circuits for grounds and shorts with mains disconnected from feeder, branch circuits connected, and circuit breakers closed, all fixtures in place and permanently connected, without lamps, all switches closed.

Test each individual circuit at the panel with equipment connected for proper operation. Record all test values and provide certified copies to the Engineer.

4. Cables:
Make insulation resistance tests on all power cables, using a self-contained instrument such as the direct-indicating ohmmeter of the generator type, or "megger". Insulation resistance values shall be at least 75% of shop test records.
Apply the following test voltages for 1 minute, except where specified otherwise herein, in accord with procedure recommended by manufacturer of test equipment and as specified herein.

Rated Circuit Voltage	Megger Voltage (DC)	Min. Megger Reading
600 Volts	500 Volts	600 Kilohms

5. Grounds:
Make earth to ground resistance tests at all service meter pedestals using standard Ground Test Megger, to assure that ground resistance is below 25ohms per code. Should higher resistance be found install additional ground rod, or rods, spaced 8ft minimum apart, retest, until less than 25ohms is achieved.

Record all test values and provide certified copies to Engineer.
Replace cables not meeting specified resistance values.

6. Test Reports:
Submit test reports for all tests within 30 days of completion of the test.

88-1.03(B) Cleaning:

After other work such as sanding, painting, etc., has been completed, clean service meter cabinets and other electrical equipment to remove dust, dirt, grease, or other marks, and leave work in clean condition.

88-1.03(C) Voltage Check:

At completion of job, check voltage at several points of utilization on the system that has been installed under this contract. During test, energize all loads installed.

88-1.03(D) Project Record Documents:

Mark Project Record Documents daily to indicate all changes made in the field.

1. In addition to general requirements of Project Record Documents, indicate on drawings changes on equipment locations and alterations in raceway runs and sizes, changes in wire sizes.
2. Use green to indicate deletions and red to indicate additions.
3. Use same symbols and follow as much as possible the same drafting procedures used on Contract Drawings.

88-1.01 Measurement and Payment: Payment for the work of this Section shall be paid for at the contract unit price bid as included in the bid schedule and as delineated below:

1. The Contract unit price paid **per each** for **new service meter pedestal** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of new service meter pedestals, inclusive of service equipment, alterations, concrete base, circuit breakers, grounding, bonding, ground rods, site coordination with PGE, and inspections, and no additional allowance shall be made therefor.
2. The Contract unit price paid **per each** for **upgrade of service meter pedestal** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in upgrading the existing service meter pedestal at Rincon Ridge Park from 100 Amp to 200 Amp, inclusive of new main circuit breaker, new manufacturer's certification and inspection, new circuit breakers for city pump and irrigation controller, and related PG&E meter service cable upgrade, and no additional allowance shall be made therefor.
3. The Contract unit price paid **per linear foot** for **trenching and backfilling** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals,

and for doing all the work involved in trenching and backfilling related to conduit installation, inclusive of all cutting, excavation, hauling, dump fees, pavement repairs, imported materials, traffic control, and trench covers and no additional allowance shall be made therefor.

4. The Contract unit price paid **per linear foot** for **1" conduit installation** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of 1" conduit, inclusive of connectors, fittings, end bells, field bends, cutting, factory elbows, trace tape, capping, caulking, clearing, and testing and no additional allowance shall be made therefor.
5. The Contract unit price paid **per linear foot** for **1.25" conduit installation** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of 1.25" conduit, inclusive of connectors, fittings, end bells, field bends, cutting, factory elbows, trace tape, capping, caulking, clearing, and testing, and no additional allowance shall be made therefor.
6. The Contract unit price paid **per linear foot** for **1.5" conduit installation** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of 1.5" conduit, inclusive of connectors, fittings, end bells, field bends, cutting, factory elbows, trace tape, capping, caulking, clearing, and testing, and no additional allowance shall be made therefor.
7. The Contract unit price paid **per linear foot** for **2" conduit installation** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of 2" conduit, inclusive of connectors, fittings, end bells, field bends, cutting, factory elbows, trace tape, capping, caulking, clearing, and testing, and no additional allowance shall be made therefor.
8. The Contract unit price paid **per linear foot** for **3" conduit installation** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of 3" conduit, inclusive of connectors, fittings, end bells, field bends, cutting, factory elbows, trace tape, capping, caulking, clearing, and testing, and no additional allowance shall be made therefor.
9. The Contract unit price paid **per each** for **electrical wiring connection for irrigation controller and booster pumps** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of electrical connections at irrigation controllers with associated booster pumps, inclusive of disconnect switches, support materials, conduit connections, and wire terminations, equipment grounding, and testing, and no additional allowance shall be made therefor.
10. The Contract unit price paid **per each** for **electrical wiring connection for irrigation controllers** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of electrical wiring connections for irrigation controllers with no associated booster pump, inclusive of disconnect switches, support materials, conduit connections, and wire terminations, equipment grounding, and testing, and no additional allowance shall be made therefor.

11. The Contract unit price paid **per each** for **Caltrans 3.5 concrete electrical pull boxes** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of Caltrans 3.5 concrete electrical pull boxes, inclusive of base, riser, lid, excavation, and backfill, and no additional allowance shall be made therefor.
12. The Contract unit price paid **per each** for **Caltrans 5 concrete electrical pull boxes** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of Caltrans 5 concrete electrical pull boxes, inclusive of base, riser, lid, excavation, and backfill, and no additional allowance shall be made therefor.
13. The Contract unit price paid **per each** for **Caltrans 6 concrete electrical pull boxes** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of Caltrans 6 concrete electrical pull boxes, inclusive of base, riser, lid, excavation, and backfill, and no additional allowance shall be made therefor.
14. The Contract unit price paid **per each** for **Caltrans 3.5T concrete electrical pull boxes** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of Caltrans 3.5T concrete electrical pull boxes, inclusive of base, riser, lid, excavation, backfill, and grounding of metal lid, and no additional allowance shall be made therefor.
15. The Contract unit price paid **per each** for **Caltrans 5T concrete electrical pull boxes** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of Caltrans 5T concrete electrical pull boxes, inclusive of base, riser, lid, excavation, backfill, and grounding of metal lid, and no additional allowance shall be made therefor.
16. The Contract unit price paid **per linear foot** for **No.12 AWG conductors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of No. 12 AWG conductors, copper, bare and insulated types, inclusive of wire, terminations, waterproof splices, markers, and insulation testing, and no additional allowance shall be made therefor.
17. The Contract unit price paid **per linear foot** for **No.10 AWG conductors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of No. 10 AWG conductors, copper, bare and insulated types, inclusive of wire, terminations, waterproof splices, markers, and insulation testing, and no additional allowance shall be made therefor.
18. The Contract unit price paid **per linear foot** for **No. 3 AWG conductors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of No. 3 AWG conductors, copper, bare and insulated types, inclusive of wire, terminations, waterproof splices, markers, and insulation testing, and no additional allowance shall be made therefor.

19. The Contract unit price paid **per linear foot** for **No. 2 AWG conductors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of No. 2 AWG conductors, copper, bare and insulated types, inclusive of wire, terminations, waterproof splices, markers, and insulation testing, and no additional allowance shall be made therefor.
20. The Contract unit price paid **per linear foot** for **No.1 AWG conductors** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installation of No. 1 AWG conductors, copper, bare and insulated types, inclusive of wire, terminations, waterproof splices, markers, and insulation testing, and no additional allowance shall be made therefor.

90 CONCRETE

90-1.01C(6) Mix Design: The proportions of the water, sand and aggregate shall be regulated so as to produce a plastic, workable and cohesive mixture.

90-1.01D(2) Cementitious Material Content: 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.

90-1.01D(5) Compressive Strength: The 28 day compressive strength of concrete shall be 4000 pounds per square inch (psi) or greater.

90-1.01D(6) Curing Compound: Concrete shall be cured per Section 90-1.03B of the Standard Specifications. 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.

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 project 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.

Tree surgery may be necessary, requiring work ranging from minor root pruning and top thinning to complete removal. Each tree will be evaluated and the necessary work determined by the Engineer. Work required herein does not include removal of trees, stumps or roots indicated on the project plans for removal under section 16, clearing and grubbing.

112-1.011A Qualifications: The successful bidder or the successful bidder's subcontractor must be able to demonstrate knowledge and abilities to perform the required work by possessing a valid California D49 Tree Service Contractor's License and possess the tools and equipment necessary to perform the required work.

112-1.01B Certified Arborist: The contractor shall retain a Certified Arborist as required to perform the work shown in the project plans and these special provisions. The Certified Arborist shall hold one or more of the following qualifications: Certified Arborist with the International Society of Arboriculture (ISA), ISA Board Certified Master Arborist, or American Society of Consulting Arboriculture (ASCA) Registered Consulting Arborist.

112-1.01D Disposal: All debris from Tree Surgery shall become the property of the contractor and shall be disposed of by the contractor at a site away from the work area.

112-1.02 Tree Protection: 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 project 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 or irrigation shall avoid major support and absorbing tree roots of protected trees. Where trenching is required within root protection zones, tunnels shall be made below the roots. Trenches shall be consolidated to serve as many units as possible. Trenching within the drip line of the tree shall be avoided and only be done at the approval and direction of the Engineer. Where approved by the Engineer, root pruning shall be performed in accordance with Section 112-1.03, "Tree Surgery," of this special provision.

No concrete or asphalt paving shall be placed over the root zones of protected trees. No artificial irrigation shall occur within the root zone of oaks.

No compaction of the soil within the root zones of protected trees shall occur.

112-1.02A Sudden Oak Death (SOD) Prevention:

- a. During the rainy season, Oak trees will not be pruned until there is a dry spell
- b. Before pruning and when moving between Oak trees, sanitize saws and pruning tools with a recommended solution, such as a 1:9 solution of Chlorine Bleach: Water, Clorox Cleanup, or Lysol spray
- c. Prunings from Oaks with SOD, California Bay Laurel, or other SOD host plant will not be dragged within 15' of the trunk of an oak.

112-1.03 Tree Surgery

1. Tree and Stump Removal: If required as a result of utility trenching operations, shall be per Section 16-1.03-E "Tree and Stump Removal" of these special provisions.
2. Root Pruning with Top Thinning or Pollarding: The work shall be performed to the best general standards in the industry. Materials shall be of first quality. All precautions shall be taken to ensure the protection of existing adjacent public or private property.

All root pruning shall be accomplished by use of sharp tools appropriate for the size of root to be cut. Each cut shall be clean with no torn bark or splintered wood remaining on the tree. All cuts shall be sealed with an approved wound dressing.

At the discretion of the Certified Arborist, in cases where root pruning is done, symmetrical top pruning may be required so as to maintain a balance between root system and above ground branching. Above ground cuts do not require sealing.

112-1.04 Payment: Except as follows, full compensation for operations taken to protect trees during construction, including hand trenching, tunneling, and tree surgery, shall be considered as included in the prices paid for the various contract items of work and no additional allowances will be made therefor.

The Contract price paid **per linear foot** for **Tree Protection Fencing** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in installation and maintenance of tree protection measures, as specified herein and as shown on the project plans.

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 the Contractor, at their 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.

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: 1.5" Water Service shall be paid for at the contract price bid **each** for the specified sizes and types, which price shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and doing all work involved in water service installation on an existing main, including but not limited to: excavation and disposal of excavated materials; dewatering and disposal of trench groundwater; contamination awareness; hot tap preparation (City to perform actual hot tap); saddle, valve and necessary fittings on existing main; proper size penetration in main; water service tubing and fittings *as required*; meter box and lid to grade; meter shut off valves; tie-in at back of sidewalk; meter transfer; abandoning old water service, including removing meter boxes, valves and saddles and installing a full circle stainless steel clamp; placing and compacting all required bedding and backfill; trench plates *as needed*; testing and chlorination; temporary trench paving; removal and replacement of median curb and island, curb, gutter, sidewalk and driveways *as needed*; restoration/reconstruction of landscaping/irrigation *as needed*; as specified herein, and no additional allowance will be made therefor.

Version Date: 11/28/17

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.

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 they propose 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 their 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.

[Version: 2/2/15CDA STD2010]

D - IRRIGATION PUMP SPECIFICATIONS



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WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC I1
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 38 PSI boost

Dynamic Inlet Pressure = 32 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-1.5-240-1-19-70 (19gpm @ 70psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics.....	Included
<ul style="list-style-type: none"> • Includes one trip to site, one day on site by PSN provider or WT technician • Site must be fully ready to avoid additional trips and further charges 	
Off-Load and Set Pump Station.....	Not Included
Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory.....	Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
3. Any work performed on the pump station must be provided by a Watertronics recognized PSN (Pump Service Network) service provider and documentation of all work performed within the warranty period must be on file at the factory. Any maintenance or repairs done without the pre-authorization of Watertronics, or its recognized service providers shall void this warranty.
4. This warranty does not cover damages under the following conditions, unless otherwise specified in writing: (1) Misapplied or inappropriate incoming power, improper grounding, vandalism, or any incidental damage, consequential damage, or act of God, (2) repairs or replacements made without the pre-authorization of Watertronics, or its recognized service providers, (3) exposure to destructive gaseous or chemical solutions, (4) exposure to water pH levels of less than 6.0 which is typically the result of SO2 burner or sulfuric acid injection, (5) water salinity levels greater than 2000 parts per million, (6) water from a reverse osmosis process plant, (7) unusually high dirt load or abrasives in the water, or (8) pumping water not suitable for turf irrigation.
5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
 - a. Lost engineering and order administration time will be charged to the purchaser at \$150.00 per hour.
 - b. Purchase orders to vendors perfected by Watertronics made invalid by the Change Order will incur charges against the purchaser equal to any penalties levied against Watertronics. To include, re-stocking charges, lost freight charges or return goods freight charges and any vendor administrative costs.
 - c. Watertronics lost manufacturing time will be charged to the purchaser at \$100.00 per hour. Additional labor to satisfy the Change Order will be estimated at \$100.00 per hour and added to the total Change Order amount.
 - d. Materials made unusable or scrapped because of the Change Order will be charged to the purchaser at actual sale value as originally assigned to the job.
Replacement materials or goods will be valued as required by the Change Order and be shown in its total.



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WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 16, 2021
Attn:	Janet Luehrs	Quotation #:	021621
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC I2-H
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 68 PSI boost

Dynamic Inlet Pressure = 32 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-5-240-1-19-100 (19gpm @ 100psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 32 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics..... **Included**

- Includes one trip to site, one day on site by PSN provider or WT technician
- Site must be fully ready to avoid additional trips and further charges

Off-Load and Set Pump Station..... Not Included

Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory.....Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

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1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
3. Any work performed on the pump station must be provided by a Watertronics recognized PSN (Pump Service Network) service provider and documentation of all work performed within the warranty period must be on file at the factory. Any maintenance or repairs done without the pre-authorization of Watertronics, or its recognized service providers shall void this warranty.
4. This warranty does not cover damages under the following conditions, unless otherwise specified in writing: (1) Misapplied or inappropriate incoming power, improper grounding, vandalism, or any incidental damage, consequential damage, or act of God, (2) repairs or replacements made without the pre-authorization of Watertronics, or its recognized service providers, (3) exposure to destructive gaseous or chemical solutions, (4) exposure to water pH levels of less than 6.0 which is typically the result of SO2 burner or sulfuric acid injection, (5) water salinity levels greater than 2000 parts per million, (6) water from a reverse osmosis process plant, (7) unusually high dirt load or abrasives in the water, or (8) pumping water not suitable for turf irrigation.
5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
 - a. Lost engineering and order administration time will be charged to the purchaser at \$150.00 per hour.
 - b. Purchase orders to vendors perfected by Watertronics made invalid by the Change Order will incur charges against the purchaser equal to any penalties levied against Watertronics. To include, re-stocking charges, lost freight charges or return goods freight charges and any vendor administrative costs.
 - c. Watertronics lost manufacturing time will be charged to the purchaser at \$100.00 per hour. Additional labor to satisfy the Change Order will be estimated at \$100.00 per hour and added to the total Change Order amount.
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WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC J1
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 45 PSI boost

Dynamic Inlet Pressure = 50 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-1.5-240-1-19-95 (19gpm @ 95psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics.....	Included
• Includes one trip to site, one day on site by PSN provider or WT technician	
• Site must be fully ready to avoid additional trips and further charges	
Off-Load and Set Pump Station.....	Not Included
Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory.....	Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
3. Any work performed on the pump station must be provided by a Watertronics recognized PSN (Pump Service Network) service provider and documentation of all work performed within the warranty period must be on file at the factory. Any maintenance or repairs done without the pre-authorization of Watertronics, or its recognized service providers shall void this warranty.
4. This warranty does not cover damages under the following conditions, unless otherwise specified in writing: (1) Misapplied or inappropriate incoming power, improper grounding, vandalism, or any incidental damage, consequential damage, or act of God, (2) repairs or replacements made without the pre-authorization of Watertronics, or its recognized service providers, (3) exposure to destructive gaseous or chemical solutions, (4) exposure to water pH levels of less than 6.0 which is typically the result of SO2 burner or sulfuric acid injection, (5) water salinity levels greater than 2000 parts per million, (6) water from a reverse osmosis process plant, (7) unusually high dirt load or abrasives in the water, or (8) pumping water not suitable for turf irrigation.
5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
 - a. Lost engineering and order administration time will be charged to the purchaser at \$150.00 per hour.
 - b. Purchase orders to vendors perfected by Watertronics made invalid by the Change Order will incur charges against the purchaser equal to any penalties levied against Watertronics. To include, re-stocking charges, lost freight charges or return goods freight charges and any vendor administrative costs.
 - c. Watertronics lost manufacturing time will be charged to the purchaser at \$100.00 per hour. Additional labor to satisfy the Change Order will be estimated at \$100.00 per hour and added to the total Change Order amount.
 - d. Materials made unusable or scrapped because of the Change Order will be charged to the purchaser at actual sale value as originally assigned to the job.
Replacement materials or goods will be valued as required by the Change Order and be shown in its total.



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WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC J2
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 45 PSI boost

Dynamic Inlet Pressure = 50 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-1.5-240-1-19-95 (19gpm @ 95psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics..... **Included**

- Includes one trip to site, one day on site by PSN provider or WT technician
- Site must be fully ready to avoid additional trips and further charges

Off-Load and Set Pump Station..... **Not Included**

Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory..... Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
3. Any work performed on the pump station must be provided by a Watertronics recognized PSN (Pump Service Network) service provider and documentation of all work performed within the warranty period must be on file at the factory. Any maintenance or repairs done without the pre-authorization of Watertronics, or its recognized service providers shall void this warranty.
4. This warranty does not cover damages under the following conditions, unless otherwise specified in writing: (1) Misapplied or inappropriate incoming power, improper grounding, vandalism, or any incidental damage, consequential damage, or act of God, (2) repairs or replacements made without the pre-authorization of Watertronics, or its recognized service providers, (3) exposure to destructive gaseous or chemical solutions, (4) exposure to water pH levels of less than 6.0 which is typically the result of SO2 burner or sulfuric acid injection, (5) water salinity levels greater than 2000 parts per million, (6) water from a reverse osmosis process plant, (7) unusually high dirt load or abrasives in the water, or (8) pumping water not suitable for turf irrigation.
5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
 - a. Lost engineering and order administration time will be charged to the purchaser at \$150.00 per hour.
 - b. Purchase orders to vendors perfected by Watertronics made invalid by the Change Order will incur charges against the purchaser equal to any penalties levied against Watertronics. To include, re-stocking charges, lost freight charges or return goods freight charges and any vendor administrative costs.
 - c. Watertronics lost manufacturing time will be charged to the purchaser at \$100.00 per hour. Additional labor to satisfy the Change Order will be estimated at \$100.00 per hour and added to the total Change Order amount.
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WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC K1
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 42 PSI boost

Dynamic Inlet Pressure = 18 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-1.5-240-1-19-60 (19gpm @ 60psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics..... **Included**

- Includes one trip to site, one day on site by PSN provider or WT technician
- Site must be fully ready to avoid additional trips and further charges

Off-Load and Set Pump Station..... **Not Included**

Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory..... Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
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5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
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WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC K2
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 42 PSI boost

Dynamic Inlet Pressure = 18 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: WMBV-5000-7A-1.5-240-1-19-60 (19gpm @ 60psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics..... **Included**

- Includes one trip to site, one day on site by PSN provider or WT technician
- Site must be fully ready to avoid additional trips and further charges

Off-Load and Set Pump Station..... **Not Included**

Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory.....Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
7. Customer will be responsible for primary electrical hookup to pump station.
8. Customer will be responsible for making all piping connections.
9. Customer will be responsible for building modifications if required for installation.
10. Customer will be responsible for wet well, slab, or concrete work.

START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

1. Watertronics warrants its pump station products to be free of defects in materials and workmanship for a period of two (2) years from the date of startup, but not later than 27 (27) months from the date of invoice, unless modified by customer with the selection of the extended warranty option. Stations deemed delivery complete and invoiced accordingly, at Watertronics' factory and stored there, shall have the warranty period commence as of the invoice date. Should the system require storage before startup after leaving the Watertronics' facility, the system must be stored in a secured, climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.
2. This warranty is limited to replacing or repairing any defective component supplied by Watertronics at Watertronics' sole discretion and does not apply to equipment that has been damaged, misapplied or has been modified in any way.
3. Any work performed on the pump station must be provided by a Watertronics recognized PSN (Pump Service Network) service provider and documentation of all work performed within the warranty period must be on file at the factory. Any maintenance or repairs done without the pre-authorization of Watertronics, or its recognized service providers shall void this warranty.
4. This warranty does not cover damages under the following conditions, unless otherwise specified in writing: (1) Misapplied or inappropriate incoming power, improper grounding, vandalism, or any incidental damage, consequential damage, or act of God, (2) repairs or replacements made without the pre-authorization of Watertronics, or its recognized service providers, (3) exposure to destructive gaseous or chemical solutions, (4) exposure to water pH levels of less than 6.0 which is typically the result of SO2 burner or sulfuric acid injection, (5) water salinity levels greater than 2000 parts per million, (6) water from a reverse osmosis process plant, (7) unusually high dirt load or abrasives in the water, or (8) pumping water not suitable for turf irrigation.
5. Watertronics will not accept liability for any costs associated with the removal or replacement of equipment in difficult to access locations. This includes, but is not limited to, the use of cranes larger than 15 tons, scuba divers, barges, helicopters, or other unusual means. These extraordinary costs shall be borne by the owner, regardless of the reason necessitating removal of the product from service.
6. THIS WARRANTY IS ABSOLUTELY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES. THIS INCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF WATERTRONICS. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF WATERTRONICS HAS ANY AUTHORITY TO BIND WATERTRONICS TO AN AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE PRODUCT SOLD UNDER THIS WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
Proper Storage: Should the system require storage before startup, it must be stored in a secured climate controlled environment that will not allow for degradation of the system due to moisture, extreme temperature variations, or human negligence.

POWER SUPPLY:

1. **The pump station proposed herein is designed for a 240 volt, 1 phase power supply. The acceptable voltage range is 220 volts (min) – 250 volts (max).**
2. If the supply voltage is not within this acceptable range, the purchaser is responsible for making the necessary corrections. This may include re-tapping or replacing the primary transformer. If the supply voltage is outside the stated range, electrical components such as VFD's, fuses, breakers, overloads, motors, power supplies may intermittently trip or prematurely fail and will not be considered for warranty coverage.
3. The use of generator power is not recommended. If a generator is required as a temporary power supply, the pump station will be covered under Watertronics' limited warranty provided that their "Engine Driven Generator Power Warranty Policy and Operation Guidelines" document is strictly adhered to.
4. Proper electrical grounding of the pump station is a requirement. Station will not operate properly and could pose a health hazard if not properly grounded. Failures of any magnitude due to improper grounding will not be covered under warranty.

CHANGE ORDERS:

1. Change Orders initiated by parties outside of Watertronics, after an order has been entered, may require additional charges to the purchaser regardless of the reason or initiating party. A minimum administrative fee of \$ 150.00 will be charged.
 - a. Lost engineering and order administration time will be charged to the purchaser at \$150.00 per hour.
 - b. Purchase orders to vendors perfected by Watertronics made invalid by the Change Order will incur charges against the purchaser equal to any penalties levied against Watertronics. To include, re-stocking charges, lost freight charges or return goods freight charges and any vendor administrative costs.
 - c. Watertronics lost manufacturing time will be charged to the purchaser at \$100.00 per hour. Additional labor to satisfy the Change Order will be estimated at \$100.00 per hour and added to the total Change Order amount.
 - d. Materials made unusable or scrapped because of the Change Order will be charged to the purchaser at actual sale value as originally assigned to the job.
Replacement materials or goods will be valued as required by the Change Order and be shown in its total.

WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC L1
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

STATION PERFORMANCE: 19 GPM @ 40 PSI boost

Dynamic Inlet Pressure = 20 PSI

POWER REQUIREMENT: Power shall be 240 volt, 1 phase, 60 hertz.

Note: See Power Supply in the Terms and Conditions Section below for further information.

MODEL DESCRIPTION: **WMBV-5000-7A-1.5-240-1-19-60** (19gpm @ 60psi discharge)

Project Scope: This will be a prefabricated, self-contained, variable speed, (VFD), **1.5 HP** horizontal centrifugal pump station with piping, valves, and enclosure. The controls will be an operator interface with software programming written specifically for this project. A formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pump, motor, and control panel (disconnect mounted externally) to provide an integral unit ready for easy installation, anchored to a concrete pad. **Full load amps = 18 (est). Pressure drop start configuration.**

Note: This Proposal was formulated to meet the customer supplied design specifications. Watertronics is not responsible for meeting any specifications that were not presented prior to submitting this proposal.

STANDARD CONTROLS & EQUIPMENT INCLUDE:

- External Dead-Front Main Disconnect Panel
- U.L listed control panel
- Microprocessor controlled pump sequencing
- 3.5" backlit LED Color Touch Screen Operator Interface Display Featuring:
 - Flow readout
 - Pressure readout
 - Flow totalizer
 - Elapsed run time display
- Alarm conditions with safety shutdown:
 - Low discharge pressure shutdown
 - High discharge pressure shutdown
 - VFD fault shutdown
 - High pump temperature shutdown
- Overload, single phase, phase imbalance/low voltage protection
- Surge protection for main station and solid-state controls
- Variable Frequency Drive pressure regulation
- **Pressure Drop**, Flow, or 24v Relay Start
- Stainless steel pressure transducer

- Data Industrial 220B flow sensor mounted inside enclosure
- Optocoupler to share flow sensor signal
- 1 ea. **1.5 HP**, 3600 RPM horizontal centrifugal pump and EISA compliant ODP motor. Pump to be cast iron with a bronze impeller and mechanical seal
- Silicone filled pressure gauges with isolation valve on suction and discharge piping
- Station discharge isolation valve
- Full flow by-pass piping with QTY (3) isolation valves inside station enclosure
- Force fan air cooled ventilated **marine grade aluminum** pump station enclosure and **stainless-steel** base (unpainted), with lockable access cover
- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
- One operator and maintenance manual
- Two-year limited warranty on mechanical and electrical components
- Access to Watertronics customer service technical phone support, technicians on call 24/7
- Access to Watertronics factory authorized service technician

ADDITIONAL EQUIPMENT & SERVICES INCLUDED WITH PUMP STATION:

- Fabricated steel inlet drop pipe with swivel connection, 2" FLG Connection
- Fabricated steel discharge drop pipe with swivel connection, 1" blowout, 2" FLG Connection

Local Start-Up by Watertronics..... **Included**

- Includes one trip to site, one day on site by PSN provider or WT technician
- Site must be fully ready to avoid additional trips and further charges

Off-Load and Set Pump Station..... Not Included

Domestic US - Packaging & Freight from Factory to Job Site: FOB Factory..... Included

Shipment: Estimated 5 weeks after receipt of signed submittal and drawing. A firm delivery date will be established and transmitted within 5 days of receipt of all final details and documents.

DELIVERY AND SET-UP: (installer responsibility)

1. All reasonable efforts will be made to meet the requested delivery date after the receipt of a signed submittal however; Watertronics will not be liable for delays in delivery.
2. Pump station components shipped separately from the station, at the Customer's request, may incur additional freight charges, payable by the Customer.
3. Customer will be responsible for having job site readily accessible for station delivery.
4. Customer will provide the equipment and personnel required to unload and/or set the pump station.
5. Station Set-up: not included.
6. Customer will be responsible for electrical permit if required.
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START-UP: Contact - PUMP SERVICE NETWORK at Watertronics 262-367-1000

1. Start-up: included - if more than one trip and day is required, additional charges per day will be assessed if the customer caused the delay.
2. Purchaser will notify Watertronics two weeks in advance of the desired start-up date.

WARRANTY:

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Watertronics
P.O. Box 530
Hartland, WI 53029
262-367-5000 PH
262-367-5551 FX

WATERTRONICS Rep: Phil Vangene Sales, tel: 925-250-5885, EM: pvangene@gte.net

WATERMAX 5000 SERIES 7A DESIGN PROPOSAL
Booster Variable Speed Pumping System

Customer:	Brookwater Design	Date:	February 15, 2021
Attn:	Janet Luehrs	Quotation #:	021521
Phone #:	925-855-0417, (m)510-703-0447	Project Name:	Fire Damaged Roadways POC L2
Fax #:		Location:	Santa Rosa, CA
Email:	janet@brookwater.com	Quoted By:	P Beaudoin / B Campbell
Cc:		Sales Email:	pvangene@gte.net

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- Baked and cured two-part polyurethane ultraviolet insensitive paint
- Factory certified dynamic run testing of pump station up to full flow and pressure prior to shipment
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BID FORMS

CITY OF SANTA ROSA

STATE OF CALIFORNIA

FIRE DAMAGED ROADWAY LANDSCAPING

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
C02300 - FIRE DAMAGED ROADWAY LANDSCAPING**

Item No.	Item	Quantity	Units	Unit Price	Total Price
1	MOBILIZATION	1	LS	\$ _____	\$ _____
2	TEMPORARY TRAFFIC CONTROL	1	LS	\$ _____	\$ _____
3	WATER POLLUTION CONTROL	1	LS	\$ _____	\$ _____
4	CLEAR AND GRUB	1	LS	\$ _____	\$ _____
5	TREE REMOVAL - GROUP A	34	EA	\$ _____	\$ _____
6	TREE REMOVAL - GROUP B	90	EA	\$ _____	\$ _____
7	TREE REMOVAL - GROUP C	26	EA	\$ _____	\$ _____
8	TREE REMOVAL - GROUP D	20	EA	\$ _____	\$ _____
9	STUMP GRIND, GROUP B	169	EA	\$ _____	\$ _____
10	STUMP GRIND, GROUP C	49	EA	\$ _____	\$ _____
11	STUMP GRIND, GROUP D	38	EA	\$ _____	\$ _____
12	REMOVE AND DISPOSE OF IRRIGATION COMPONENT	1	LS	\$ _____	\$ _____
13	REMOVE AND DISPOSE OF LOG PILES OR DEBRIS	1	LS	\$ _____	\$ _____
14	SOIL PREPARATION	30300	EA	\$ _____	\$ _____
15	24" BOX TREES	82	EA	\$ _____	\$ _____
16	15 GALLON TREES	172	EA	\$ _____	\$ _____
17	5 GALLON SHRUBS	4501	EA	\$ _____	\$ _____
18	1 GALLON SHRUBS	18	EA	\$ _____	\$ _____
19	MULCH	570263	SF	\$ _____	\$ _____
20	JUTE NETTING	20500	SF	\$ _____	\$ _____
21	FOLIAGE PROTECTOR	222	EA	\$ _____	\$ _____
22	2" MAIN LINE	25800	LF	\$ _____	\$ _____
23	SLEEVE 4"	1225	LF	\$ _____	\$ _____
24	SLEEVE 6"	4570	LF	\$ _____	\$ _____
25	LATERAL LINE	1	LS	\$ _____	\$ _____
26	ELECTRICAL CONDUIT	170	LF	\$ _____	\$ _____
27	QUICK COUPLING VALVE	121	EA	\$ _____	\$ _____
28	48 STATION MC-E CONTROLLER	12	EA	\$ _____	\$ _____
29	SITEONE GREENTECH CONTROLLER ASSEMBLY	8	EA	\$ _____	\$ _____
30	MASTER CONTROL VALVE	20	EA	\$ _____	\$ _____
31	FLOW SENSORS	20	EA	\$ _____	\$ _____
32	REMOTE CONTROL VALVE, SIZE 1"	207	EA	\$ _____	\$ _____
33	REMOTE CONTROL VALVE, SIZE 1.5"	38	EA	\$ _____	\$ _____
34	COMMON AND CONTROL WIRING	1	LS	\$ _____	\$ _____
35	LEAD FREE BALL VALVE	85	EA	\$ _____	\$ _____
36	BACKFLOW PREVENTER ASSEMBLY	20	EA	\$ _____	\$ _____
37	PRESSURE REGULATING VALVE	31	EA	\$ _____	\$ _____

NAME OF BIDDER: _____

**CITY OF SANTA ROSA
UNIT PRICE SCHEDULE
C02300 - FIRE DAMAGED ROADWAY LANDSCAPING**

Item No.	Item	Quantity	Units	Unit Price	Total Price
38	BOOSTER PUMP	8	EA	\$ _____	\$ _____
39	BUBBLERS	22004	EA	\$ _____	\$ _____
40	DRIPLINE	140675	LF	\$ _____	\$ _____
41	BALL VALVE FOR FLUSHING	116	EA	\$ _____	\$ _____
42	OPERATION INDICATOR	116	EA	\$ _____	\$ _____
43	CHECK VALVE	148	EA	\$ _____	\$ _____
44	PLANT ESTABLISHMENT, 3 MONTHS	1	LS	\$ _____	\$ _____
45	VINTAGE PLACE TRELLIS REPAIR	1	LS	\$ _____	\$ _____
46	NEW SERVICE METER PEDESTAL	11	EA	\$ _____	\$ _____
47	UPGRADE OF SERVICE METER PEDESTAL	1	EA	\$ _____	\$ _____
48	TRENCHING AND BACKFILLING	2300	LF	\$ _____	\$ _____
49	1" CONDUIT INSTALLATION	580	LF	\$ _____	\$ _____
50	1.25" CONDUIT INSTALLATION	370	LF	\$ _____	\$ _____
51	1.5" CONDUIT INSTALLATION	390	LF	\$ _____	\$ _____
52	2" CONDUIT INSTALLATION	950	LF	\$ _____	\$ _____
53	3" CONDUIT INSTALLATION	500	LF	\$ _____	\$ _____
54	ELECTRICAL WIRING CONNECTIONS FOR IRRIGATION CONTROLLERS AND BOOSTER PUMPS	8	EA	\$ _____	\$ _____
55	ELECTRICAL WIRING CONNECTIONS FOR IRRIGATION CONTROLLERS	4	EA	\$ _____	\$ _____
56	CALTRANS 3.5 CONCRETE ELECTRICAL PULL BOXES	9	EA	\$ _____	\$ _____
57	CALTRANS 5 CONCRETE ELECTRICAL PULL BOXES	10	EA	\$ _____	\$ _____
58	CALTRANS 6 CONCRETE ELECTRICAL PULL BOXES	2	EA	\$ _____	\$ _____
59	CALTRANS 3.5T CONCRETE ELECTRICAL PULL BOXES	2	EA	\$ _____	\$ _____
60	CALTRANS 5T CONCRETE ELECTRICAL PULL BOXES	2	EA	\$ _____	\$ _____
61	NO. 12 AWG CONDUCTORS	4000	LF	\$ _____	\$ _____
62	NO. 10 AWG CONDUCTORS	2000	LF	\$ _____	\$ _____
63	NO. 3 AWG CONDUCTORS	2500	LF	\$ _____	\$ _____
64	NO. 2 AWG CONDUCTORS	5500	LF	\$ _____	\$ _____
65	NO. 1 AWG CONDUCTORS	2000	LF	\$ _____	\$ _____
66	TREE PROTECTION FENCING	15630	LF	\$ _____	\$ _____
67	1.5" WATER SERVICE	20	EA	\$ _____	\$ _____
Total FIRE DAMAGED ROADWAY LANDSCAPING					\$ _____
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:

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):

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: _____

Name and Title of Authorized Representative: _____

Signature of Authorized Representative: _____

Date: _____

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. C02300

**FEDERAL PUBLIC ASSISTANCE PROJECT CONTRACT NO. 36360, 36380, 64204
FIRE DAMAGED ROADWAY LANDSCAPING**

This Contract is made and entered into as of _____ 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: _____