

# INVITATION FOR BIDS



FOR CONSTRUCTING

## LOWER COLGAN CREEK RESTORATION- PHASE 2

CONTRACT NUMBER  
C01924

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

2020

ATTENTION  
Prebid Conference  
See Page 1



STATE OF CALIFORNIA

INVITATION FOR BIDS

CONTAINING:

NOTICE TO BIDDERS

SPECIAL PROVISIONS

BID FORMS

CONTRACT

FOR

LOWER COLGAN CREEK RESTORATION-PHASE 2

**Contract No. C01924**

# LOWER COLGAN CREEK RESTORATION-PHASE 2

## TABLE OF CONTENTS

### NOTICE TO BIDDERS

NOTICE TO BIDDERS .....	1
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### SPECIAL PROVISIONS

#### GENERAL SPECIFICATIONS

1 General.....	4
2 Bidding.....	5
3 Contract Award and Execution.....	7
4 Scope of Work .....	11
5 Control of Work .....	12
6 Control of Materials.....	15
7 Legal Relations and Responsibility to the Public .....	18
8 Prosecution and Progress.....	22
9 Measurement and Payment .....	23

TECHNICAL SPECIFICATIONS .....	26
--------------------------------	----

Section 12	Temporary Traffic Control .....	27
Section 13	Water Pollution Control .....	31
Section 14	Environmental Stewardship .....	38
Section 15	Existing Facilities .....	41
Section 16	Clearing and Grubbing.....	43
Section 19	Earthwork .....	45
Section 21	Erosion Control .....	48
Section 26	Aggregate Base .....	55
Section 40	Concrete Pavement .....	56
Section 51	Concrete Structures.....	62
Section 70	Corrugated Metal Pipe Drainage Facilities .....	63
Section 72	Slope Protection .....	64
Section 80	Fences.....	75
Section 83	Barriers.....	76
Section 121	Notification.....	77
Section 124	Material Recycling .....	78
Section A	Fees and Permits.....	79

### BID FORMS

Contract Bid .....	82
Unit Price Schedule .....	83
List of Subcontractors.....	86
List of Previous Similar Jobs.....	87
Noncollusion Declaration .....	88
Bid Bond Affidavit and Bidder's Signature.....	89

### CONTRACT

Contract .....	90
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CITY OF SANTA ROSA  
STATE OF CALIFORNIA

**NOTICE TO BIDDERS**

➤	For technical questions regarding this project, contact Greg Dwyer at (707) 543-3838.
➤	For direct access to plans, specifications and planholders' lists, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> and click on <u>Bid/Proposal Opportunities</u> or call (707) 543-3800.
➤	For direct access to bid results, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> . Under Link to Capital Projects, click on <u>Capital Projects Contracts</u> or call (707) 543-3835.

- IMPORTANT -

**Bid Acceptance Deadline**

Sealed bids will be accepted at the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California 95401 until 2:00 p.m., April 9, 2020, for Lower Colgan Creek Restoration-Phase 2, Contract No. C01924. (Engineer's Estimate: \$2,775,000.00.)

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

**Pre-Bid Meeting**

Prospective bidders, subcontractors, and material suppliers are invited to attend a pre-bid meeting scheduled to be held at 10:00 a.m., April 2, 2020, in the Transportation and Public Works Department located at 69 Stony Circle, Santa Rosa, California.

**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.

**CITY OF SANTA ROSA**  
**C01924 - LOWER COLGAN CREEK RESTORATION - PHASE 2**  
**ESTIMATED QUANTITIES**

<b>Item No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Units</b>
1	TRAFFIC CONTROL	1	LS
2	WATER POLLUTION CONTROL	1	LS
3	WORKSITE DEWATERING PLAN AND IMPLEMENTATION	1	LS
4	CREEK BYPASS PLAN AND IMPLEMENTATION	1	LS
5	SOIL DISPOSAL CLASS 2	1,350	TON
6	SOIL DISPOSAL CLASS 3	1,350	TON
7	CLEARING AND GRUBBING	1	LS
8	REMOVE NON-NATIVE VEGETATION	1	LS
9	TREE REMOVAL	1	LS
10	EXCAVATION (F)	31,000	CY
11	SOIL DISPOSAL POND 2 (F)	27,400	CY
12	SOIL STABILIZATION FABRIC	3,000	SY
13	EROSION CONTROL FABRIC	6,700	SY
14	HYDROSEEDING	415,800	SF
15	CLASS 2 AGGREGATE BASE (F)	900	CY
16	BLUE SHALE (F)	1,400	CY
17	PORTLAND CEMENT CONCRETE	250	CY
18	STORM DRAIN INLET	8	EA
19	24-INCH CMP STORM DRAIN PIPE	220	LF
20	42-INCH CMP STORM DRAIN PIPE	55	LF
21	(LWD) 1-LOG STRUCTURE	7	EA
22	(LWD) 2-LOG DEFLECTOR	3	EA
23	(LWD) 3-LOG CONSTRICTOR	7	EA
24	(LWD) 4-LOG CONSTRICTOR	4	EA
25	BOULDER CLUSTERS	24	EA
26	MEANDER BEND POOL STRUCTURES	6	EA
27	CONSTRUCTED RIFFLES	4	EA
28	WILLOW PLANTED ROCK SLOPE PROTECTION	80	LF
29	WILLOW/BRUSH BAFFLES	370	LF
30	BIO BLOCK BANK STABILIZATION	220	LF
31	TEMPORARY CONSTRUCTION FENCE	1,475	LF
32	6' CHAIN LINK FENCE	120	LF
33	SPLIT RAIL FENCE	1,300	LF
34	CTS FENCE	3,150	LF
35	REMOVABLE BOLLARD	7	EA
36	REMOVE AND REINSTALL BARRICADE	1	LS

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. Special attention is directed to section 2-1.48 of these Special Provisions.

Project plans, bid and contract forms for C01924 Lower Colgan Creek Restoration-Phase 2 may be obtained through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids). These documents can no longer be obtained at the Transportation and Public Works Department.

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

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

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

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



DAVID MONTAGUE, P.E.  
Supervising Engineer

2/26/2020

Date

# **SPECIAL PROVISIONS**

## **General Specifications**

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

#### **LOWER COLGAN CREEK RESTORATION-PHASE 2**

##### **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 29 sheets entitled Lower Colgan Creek Restoration-Phase 2, 2019-0028
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 2010 (Standard Specifications), and Amendments, and
6. State of California Department of Transportation Standard Plans 2010 (Standard Plans) and Amendments.

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 any and all claims and disputes arising under this contract.

## 2 BIDDING

**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 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.

**2-1.31 Examination of Project Plans, Specifications, City Standards, Invitation for Bids and Work Site:** Prior to submitting a bid, the bidder shall carefully examine the Project Plans, 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 96 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. A copy of such addendum will be mailed or faxed to each Planholder. The City will not be bound by any other explanations or interpretations of the Contract Documents.

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

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

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

1. Unit Price Schedule
2. List of Subcontractors
3. List of Previous Similar Jobs
4. Noncollusion Declaration
5. Bid Guaranty Information and Bidder's Information and Signature
6. Bid Guaranty (Bid Bond or alternate security)

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

**2-1.33B 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.



**2-1.33C 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.

**2-1.33E 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 Bid Guaranty:** 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 Disqualification of Bidders:** 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. The Contractor shall have extensive experience performing major creek restoration work. This includes at least three (3) projects with more than 300 linear feet of in stream restoration work. Maintenance related projects such as dredging and/or vegetation removal does not count as stream restoration work. 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 bidder within sixty 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 one-half 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 one-half 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.

**3-1.07 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. 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.
2. Business auto coverage	\$3 million	

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.

**3-1.20 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.

**3-1.21 Return of Bid Guarantees:** 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.

**3-1.22 Subcontractors:** The successful bidder shall furnish a list of all subcontractors as required under Sections 2-1.33C. 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 conform to the provisions of Section 9-1.06 of the Standard Specifications, except as modified herein.

## 5 CONTROL OF WORK

**5-1.02 Contractor's Copies of 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 29 sheets entitled Lower Colgan Creek Restoration-Phase 2, 2019-0028
3. City Standards
4. City Specifications
5. Standard Specifications
6. Standard Plans

**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:** Contractor is directed to Section 5-1.17 of the Standard Specifications which states:

"If any subcontractor or person employed by the Contractor shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the request of the Engineer, and such person shall not again be employed 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 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. Contractor shall grant such forces access to the project area as is reasonable and necessary to transport materials and equipment to the site of operations by the other forces.

**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:

- a. Stockpiling of equipment and/or materials;
- b. Staging of construction;
- c. Placement of work trailers or mobile offices;
- d. Storage of trench spoils; or
- e. Other construction related activities not specifically enumerated above.

**5-1.26 Lines and Grades:** 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.

**5-1.27B 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.

**5-1.36A 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, and any other improvements 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 a Contractor disputes the City's written response, or if the City fails to respond to a Claim within the time prescribed, the 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 the 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 the 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

**6-2.01 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.

**6-3.01 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.

**6-3.01A 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.

**6-3.05 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:

- a. 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;

- b. Contractor destroys markouts;
- c. Contractor fails to perform hand digging or probing for utilities near markouts; or
- d. 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:** Unless otherwise specified, 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.

The City will not, under any circumstances, acknowledge or consider any offers to accept substitute materials or equipment between the dates of public notice of advertisement and the bid opening.

## 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

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

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

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

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

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

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

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

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

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

- a. Promptly notify City in writing of the following conditions before any such conditions are disturbed:
  1. Material that the 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;
  2. Subsurface or latent physical conditions at the site differing from those indicated in the Invitation for Bids; and
  3. 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.
- b. 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.
- c. 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(2)(a) Patents and Royalties:** All fees, royalties, or claims for any patented invention, article, process or method that may be used upon or in any manner connected with the work under this Contract shall be paid by Contractor. Contractor and its sureties shall protect and hold harmless City and its officers, agents, and employees from any and all demands made for such fees royalties or claims brought or made by any third party, and before the final payment is made on the account of the Contract, Contractor shall, if requested by City, furnish acceptable proof of a proper release from all such claims and liabilities.

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

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

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

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

Except for projects to be performed under a minor contract, Contractor shall install and maintain project identification signs at each end of the project or as directed by the Engineer two weeks prior to any construction activity. City shall furnish the appropriate sign panels upon request from Contractor. To mount the sign panels, Contractor shall furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. These sign panels shall be returned to the City Corporation Yard at 55 Stony Point Road after completion of the project. Contractor shall install and maintain 2 grant funding signs as directed by the Engineer two weeks prior to any construction activity. Grant signs shall be mounted per FS Grant Funding Sign Detail, Sheet 24 of the Plans.

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:

100 WORKING DAYS

**8-1.05 Time:** 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 7:00 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.

## 9 MEASUREMENT AND PAYMENT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



## TECHNICAL SPECIFICATIONS

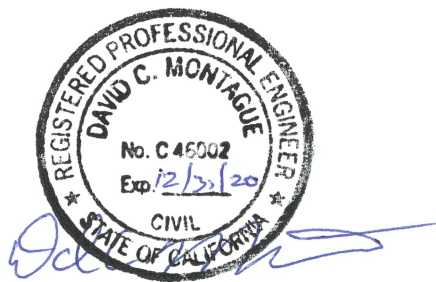
FOR

## LOWER COLGAN CREEK RESTORATION-PHASE 2

CONTRACT NUMBER

**C01924**

2020



# 12 TEMPORARY TRAFFIC CONTROL

## **12-1 General**

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

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

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

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

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

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

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

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

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

## **12-4 Maintaining Traffic**

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

1. The full width of the traveled way shall be open for use by public traffic on Saturday, Sundays and designated legal holiday(s), after 4:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress; unless work has specifically been authorized by the Engineer.

2. The location of traffic control signing, barricades, and other facilities shall be monitored frequently (four to five times per day) by the Contractor to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.
3. The Contractor shall conduct his operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units and residences adjacent to the work. The Contractor shall notify the Engineer of his planned work and utility service interruption at least five working days in advance to allow time to notify residents and businesses.
4. When construction activities will prevent vehicle access to individual driveways the Contractor shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience". **Full access shall be provided to all driveways during non-working hours.**

**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 these Special Provisions.

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

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

The Contractor shall not park construction vehicles, contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and the Contractor shall maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

On identified local/residential streets the Contractor will normally be allowed use of each block (between nearest intersections) for their sole use, without the need to provide 2-way traffic through that block. The Contractor will be required to maintain vehicle access to homes and other properties within the block where work is in progress.

Two access points will be allowed to the project site. Dutton Avenue terminates just past Duke Court. This will be the main access point where a 50-foot-wide strip will be provided to the project site. The other access point is an existing 10-foot wide Sonoma County Water Agency (SCWA) maintenance road accessible off Dutton Meadow near Bellevue Avenue. No other access will be allowed to the project site due to sensitive habitat and permit restrictions. Contractor is responsible for all fines and/or subsequent mitigation costs resulting from disturbed areas outside the construction site limits or the 50-foot-wide access strip.

The Contractor shall keep the City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, the Contractor shall call the Fire Department at 543-3535 **and** the Communications Center at 543-3666 **daily** to report any traveled way closure. This means immediately upon closure for that day and again immediately after removal of the closure.

For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane streets.

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

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

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

Notification shall be as follows:

1. A notice placed on the front door of each home or business where curb side parking will be suspended and attempt made to notify each business or resident verbally that work will be underway within the block and that curb side parking will be suspended during stated working hours and request that vehicles be parked out of the roadway by 8:00 a.m. Service of notice shall not bar use of cars within the block, as individual plans change and emergencies arise.
2. Type 1 barricades every 50 (-100 feet depending on street) 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.

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

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

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

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

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

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

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

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



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

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

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

[Version: 08/16/18 CDA STD2010]

# **13 WATER POLLUTION CONTROL**

## **13-1 General**

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

The current California Water Quality Control Board, North Coast Region Order No. R1-2009-0050 National Pollutant Discharge Elimination System Municipal Storm Water Permit No. CA0025054, commonly referred to as the "Storm Water Permit". A copy of the Storm Water Permit is available for review at the City of Santa Rosa Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, CA, and at [www.srcity.org/stormwaterpermit](http://www.srcity.org/stormwaterpermit).

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

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

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

### **13-3.01 General**

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

A Notice of Intent for coverage under the General Permit will be filed by the City. This project has been determined to be a risk level 2 traditional construction project. The City will pay the fee associated with the Notice of Intent.

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.

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 1st to June 30<sup>th</sup> (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.

### **13-3.02 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.

Prepare and revise SWPPP shall be paid for at the contract lump sum price, which price shall include full compensation for preparing and revising the SWPPP and no additional allowance will be made therefor.

### **13-3.03 Submittals**

Within 20 days of Contract approval:

1. Submit 1 copy of your SWPPP for review. Allow 10 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 Project Superintendent or Foreman's attention and Engineer and corrective action take 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 non-visible 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: Hours specified in the Special Provisions.

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.

### **13-4.03 Dewatering**

The worksite shall be de-watered, to the Engineer's satisfaction, to provide working conditions free of detrimental water. The amount of flow may fluctuate. This variance can be attributed to,

but not limited to, storms, domestic runoff from car washing, lawn watering, etc., and irrigation practices upstream.

The contractor shall investigate site conditions and be responsible for creek bypass (surface flow diversion) and groundwater dewatering as necessary.

#### **13-4.03G(1) Creek Bypass Plan and Implementation:**

The Contractor shall prepare and submit its creek bypass (surface diversion) plan to the Engineer no later than five (5) working days after the notice to proceed is issued. This time sensitive submittal requires approval from the California Department of Fish and Wildlife at least 15 days prior to the start of project activities.

The plan shall describe the major elements of the system and required backup system, such as pipe and pump sizes, anticipated flow rates, coffer dam construction methods and silt control procedures. It is the Contractor's responsibility to determine the flow rate and size their bypass system accordingly. Special attention is directed to Section A of these Special Provisions.

Flows to downstream reaches shall be provided during all times that the natural flow would have supported aquatic life.

Coffer dams and bypass pipe shall be installed and maintained such that no upstream creek water or offsite runoff from culverts enters the construction site. Cofferdams shall be constructed as close as practicable upstream and downstream of the work area using clean gravel bags or sandbags wrapped with Visqueen or a similar material. All coffer dam materials shall be removed from the creek upon project completion within a timely manner. If the coffer dams fail, they shall be repaired immediately. Diversion shall be conducted such that water at the downstream end does not scour the channel bed or banks.

The City's biologist will perform the work of fish and other aquatic organisms capture and transport. The Contractor shall provide 72 hours advanced notice to the City to have this work performed, which will take up to 3 days to complete, after June 15th.

#### **13-4.03G(2) Worksite Dewatering Plan and Implementation:**

The Contractor shall prepare and submit its dewatering plan to the Engineer no later than 5 working days after the notice to proceed. This time sensitive submittal requires approval from the California Department of Fish and Wildlife at least 15 days prior to the start of project activities.

The plan at a minimum, shall describe the major elements of the system, and backup system such as pipe and pump size, analytical test program, backup system, and discharge location. Equipment such as generators shall have sound attenuation as needed to reduce noise to 45 dB or less. The Contractor shall always have a minimum of two working pumps available for immediate use.

Water may be encountered during excavation. Water accumulated in creek channel excavations shall be discharged back into the creek. Sediment shall be removed from water to be disposed of, prior to discharge, by placing the pump inlet hose into a sump filled with clean gravel, or a perforated bucket filled with clean gravel. The outlet of the pump shall have a filter sock installed to retain residual sediment.

The discharge shall be monitored to verify the lack of contamination. If any odor, sheen or other visual discrepancy is noted during excavation or discharge, stop pumping and immediately notify the Engineer.

Contractor shall be responsible for constructing, operating and maintaining all necessary features to complete the work including furnishing, installing and maintaining all pumping and other equipment required to dewater. The dewatering system shall be maintained by the contractor until all major grading and permanent erosion control features are completely installed. The dewatering system shall not be removed until authorized in writing by the engineer.

**13-4.04 Payment:** **Worksite Dewatering Plan and Implementation** shall be paid for at the contract **lump sum** amount which price shall include full compensation for all material, labor, equipment and work as specified herein including preparing and implementing the worksite dewatering plan and no additional allowance will be made therefor.

**Creek Bypass Plan and Implementation** shall be paid for at the contract **lump sum** amount which price shall include full compensation for all material, labor, equipment and work as specified herein including preparing and implementing the creek bypass plan, and no additional allowance will be made therefor. Eighty (80) percent of the contract lump sum bid price will be paid when the Creek Bypass Plan is implemented, and such installation is approved by the Engineer. The remaining twenty (20) percent will be paid when it has been removed and such removal is approved by the Engineer.

[Revised: 12/15/16 CDA STD2010]



## 14 ENVIRONMENTAL STEWARDSHIP

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

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

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

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

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

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

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

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

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

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

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

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

Submit a Solid Waste Disposal and Recycling Report prior to Contract acceptance. 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.

### **14-11 Hazardous Waste and Contamination**

**14-11.02F(3) Hazardous Waste Transport and Disposal:** All soil excavated from the existing

channel, up to a one foot depth, will not be allowed as fill material, nor will it be allowed to be disposed of at the City of Santa Rosa Pond No. 2, regardless of soil testing. This includes all soil from the thalweg to the top of banks on both sides of the channel. This soil shall be transported to and disposed of at an approved landfill.

You will furnish completely filled out hazardous waste manifests ready for the Engineer's signature.

You are responsible for disposal of Class 2 and Class 3 soil, including trucking, disposal site fees, stock piling and testing as required by disposal sites. You shall comply with all disposal regulations, such as City, County, and/or State permits and licenses, as may be required.

Landfill availability is subject to change at any time and therefore may not be accepting soil spoils during construction. If an alternate landfill is needed, Contractor is responsible for all additional costs including testing, stock piling, transportation costs and soil disposal, regardless of distance from the project site and no additional compensation will be provided.

Prior to disposal of any excess material from the work site, submit to the Engineer written authorization for such disposal and entry permission signed by the approved disposal site. You shall disclose in landfill applications the existing conditions and the written disposal and entry permission shall include acknowledgement of such disclosure.

Pre-construction soil sampling has not been performed. Contaminants could potentially be introduced because it is an active creek channel.

City has not obtained conditional letters of landfill acceptance. You shall be aware of disposal limitations at the landfills based on weather, time of year, etc.

You shall be responsible for separating asphalt, concrete, base rock and other non-contaminated debris from the soil prior to loading the soil for transport to disposal sites. Dispose of asphalt, concrete, and base rock at a recycler of these materials as specified in Section 124 of these Special Provisions.

**14-11.06: Department Generated Contaminated Soil:** In general, the Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the City immediately upon discovery of any potential soil or groundwater contamination.

The Contractor shall provide 40-hour OSHA-HAZWOPER certified workers in the contaminated area and provide a field Site Safety Officer that is also an 8-hour OSHA-HAZWOPER Supervisor trained to directly oversee the contaminated materials removal and handling operation. All workers in this circumstance must have their initial and annual renewal refresher training, medical clearance and personal protection equipment in accordance with 8CCR Section 5192.

**14-11.07 Payment:** **Soil Disposal Class 2** shall be paid for at the contract price per **ton**, which price shall include all handling and disposal of excavated material including, but not limited to, testing, stock piling, loading, transportation costs, soil disposal fees and providing all necessary equipment, materials and labor to dispose of class 2 soil as specified herein, and no additional compensation will be made therefor.

In the event of an increase or a decrease in the amount of the Engineer's estimated quantity of Soil Disposal Class 2, such increase or decrease shall not be considered an alteration in excess of the 25 percent of the contract amount of such items under provisions of Section 4-1.05A of the Standard Specifications and no adjustment of the contract price for Soil Disposal Class 2 will be made.

**Soil Disposal Class 3** shall be paid for at the contract price per **ton**, which price shall include all handling and disposal of excavated material including, but not limited to, testing, stock piling, loading, transportation costs, soil disposal fees and providing all necessary equipment, materials

and labor to dispose of class 3 soil as specified herein, and no additional compensation will be made therefor.

In the event of an increase or a decrease in the amount of the Engineer's estimated quantity of Soil Disposal Class 3, such increase or decrease shall not be considered an alteration in excess of the 25 percent of the contract amount of such items under provisions of Section 4-1.05A of the Standard Specifications and no adjustment of the contract price for Soil Disposal Class 3 will be made.

[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. All existing active utilities found to reside in excavated areas shall be supported in place with service maintained during construction. The Contractor shall be responsible for any damage caused by their operations and any needed repairs shall be completed to the Engineer's satisfaction.

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

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

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

**15-3.03 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.

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.

Landscaping and other surfaces or structures shall be restored to original condition at no additional cost to the City.

**15-3.04 Payment:** Payment for removal and disposal of concrete shall be included in the contract prices paid for various contract items of work and no additional allowance will be made therefor.

Full compensation for repair of existing irrigation facilities damaged during any phase of the work 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.*

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

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

*The Contractor shall provide all relevant information in writing to the Engineer immediately upon discovery of any conflict. Any delay in notification to the Engineer may delay direction and/or corrective action and a delay claim due to this reason shall not be considered by the City. The Contractor shall not proceed with any work that is in conflict until direction is provided by the*

Engineer and shall redirect crews to other contract work. All the information required to be obtained per this Section and any other information not noted but relative to the project shall be provided to the Engineer on a set of Plans when the investigative effort is complete.

**15-7.01 Payment:** Full compensation for utility clearances shall be considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor.

**15-8 Tree Root Pruning:** There are trees located along both sides of the creek. All tree roots two inches and greater which are encountered during excavation must be pruned by hand. The root shall be cut cleanly with a saw to avoid splits. When digging within the drip line of trees, Contractor shall exercise extreme caution to avoid pulling on roots with excavation equipment. Hand dig around all roots greater than one inch in diameter. The Contractor shall notify the Engineer when encountering roots within the drip line of trees which are greater than one inch. If the Engineer elects to get direction from an arborist the Contractor shall redirect crews to other contract work after safeguarding the area.

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

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

## 16 CLEARING AND GRUBBING

**16-1.01 General:** Clearing and grubbing shall be confined to the limits shown on the plans. Contractor shall clear culverts, drainage structures, rock, gravel, concrete, rip-rap, existing stumps, cyclone fencing, foundations, poles, gates, salamander fencing, debris, garbage, 2 observation wells, gravel maintenance roads, and other objectionable material within the limits of construction and as shown on the plans.

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

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

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

All concrete to be removed shall be disposed by the Contractor offsite. Burying of broken concrete within the limits of the project shall not be allowed.

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

Existing stumps, large roots and other objectionable material shall be removed to a depth of 24 inches below finished grade. The resulting spaces shall be backfilled with material suitable for the planned use. Such suitable material shall be placed and compacted in layers as specified in Section 19-6 "Embankment Construction" of the Standard Specifications.

**16-1.04a Remove Non-Native Vegetation:** The natural ground surface shall be cleared of all vegetation including logs, upturned stumps, roots of down trees, brush, willow bushes/trees, grass and weeds. This includes removing all vegetation in areas where there is minimal, or no grading involved within the project limits. Those areas include the channel, top of bank along both sides of the channel, between the trees, 50-foot-wide access strip off Dutton Avenue and all other areas within the project right of way.

**16-1.04d Tree Removal:** Trees to be removed are shown on the plans. An approximate count according to size are listed below in Figure 1 – Tree Removal List. All trees within the project limits shall be removed, except for the two trees shown to be saved on the plans. Contractor shall field verify size and amount prior to submitting a bid. Stumps shall be ground to a depth of 24 inches below finished grade. Any trees not ordered removed by the Engineer which have been removed, altered, or damaged shall be repaired or mitigated to by the Contractor, before completion of the project, at the Contractor's expense, and no additional compensation will be made.

<b>FIGURE 1 - TREE REMOVAL LIST</b>	
<b><u>SIZE RANGE</u></b>	<b><u>COUNT</u></b>
2" - 6"	14
7" - 12"	35
13" - 24"	27
> 24"	5

**16-1.06 Payment:** **Clearing and Grubbing** shall be paid for at the contract **lump sum** price for clearing and grubbing, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in clearing and grubbing as specified herein, and no additional allowance will be made therefor.

**Remove Non-Native Vegetation** shall be considered as paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in removing non-native vegetation as specified herein, and no additional allowance will be made therefor.

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

[Version: 10/21/14CDA STD2010]

# 19 EARTHWORK

## **19-1 General**

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

1. Attention is directed to Section 14-11 of these Special Provisions.
2. See Section 19-2.03B, Surplus Material, of these Technical Specifications.

**19-1.01A Summary:** Excavating, constructing embankments and shoulder backing, backfilling and grading.

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

## **19-2 Excavation**

### **19-2.03A General:**

Attention is directed to Sections 14-11, 16 and 124 of these Special Provisions and Sections 19-1, 19-2, 19-3 and 19-5 of the Standard Specifications. Excavation (F) shall also conform to the applicable provisions of Section 19 of the City Standards with the following modifications.

Excavation shall include, but not limited to, all excavation of the creek channel prism within the limits for creek channel construction, site preparation and grading, fill placement including backfilling holes, compaction, rough grading, and finish grading to the lines and grades shown on the Plans and other work as specified herein. The intent of the work is to establish creek banks at elevations suitable for appropriate flows, construct the new low-flow channel, creek channel features, pools, and terraces, and to reconstruct stable channel side slopes for installation of biotechnical bank protection structures, erosion control fabric and native plantings. Cross sections are shown on the Plans to illustrate the intent.

This work shall consist of performing all operations necessary to excavate all materials of whatever nature necessary for the reconstruction of the creek channel including the maintenance road and multi-use pathway, to excavate down to the finish grade elevations plus excavation for creek channel features such as weirs, boulder placement and large woody debris structures, to place embankment to the finish grade elevations, and compact material or filter material for construction on creek banks, to prepare base material for the placement of other material thereon; all as shown on the Plans, as specified, and as directed by the Engineer.

Whenever reference to finish grade is made, it shall be considered to be the finished surface of graded channel embankments and the completed channel stabilization features (large woody debris structures, constructed riffles, boulder clusters, willow/brush baffles, willow planted rock slope protection, and bio-block bank stabilization) as shown on the Plans.

The Contractor shall note that there are trees to remain near areas intended for excavation. The Contractor's operation, including the size of the equipment, shall be such, to ensure that existing trees to remain are not damaged.

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

The work area has had an environmental assessment and geotechnical investigation. Pertinent project information may be found in:



- Phase I Environmental Site Assessment, Colgan Creek Restoration Project, Santa Rosa, California, Brunsing Associates, Inc., April 25, 2011.
- Geotechnical Investigation and Environmental Assessment, Lower Colgan Creek Restoration Project, Santa Rosa, CA, Brunsing Associates, Inc., May 5, 2011

These reports are available for review at the Public Works Office, 69 Stony Circle, Santa Rosa, CA.

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

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

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

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

**19-2.04 Payment:** **Excavation (F)** shall be a **final pay quantity (F)** paid for at the contract price per **cubic yard**, which price shall include full compensation for all work as specified herein and no additional allowance will be made therefor.

Removal of existing base materials will be paid for as roadway excavation. All grading, including fine grading, shall be paid for as Excavation.

**Soil Disposal Pond 2 (F)** shall be a **final pay quantity** paid for at the contract price per **cubic yard**, which price shall include all handling and disposal of excavated material including, but not limited to stock piling, loading, transportation costs, and providing all necessary equipment, materials and labor to dispose of soil at City's Pond 2 as specified herein, and no additional compensation will be made therefor.

### **19-5 Compaction**

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

### **19-8 Subgrade Enhancement Geotextile**

**19-8.02 Materials:** Soil stabilization fabric shall be installed per manufacturer's recommendations and shall meet or exceed the following specifications:

Grab Tensile Strength (ASTM D4632)	290 lb.
Mullin Burst Strength (ASTM D3786)	500 psi
Trapezoid Tearing Strength (ASTM D4533)	113 lb.
Modulus (Load at 10% Elongation) (ASTM D4632)	120 lb.
Apparent Opening Size (ASTM D4751)	40-70 sieve
Permittivity (ASTM D4491)	0.05 sec <sup>-1</sup>

Soil stabilization fabric shall be Mirafi 600-X, GeoTex 315ST, Carthage Mills FX-66, TerraTex HD, or approved equivalent.

The soil stabilization fabric shall be held in place with wooden stakes driven through the fabric into the subgrade at the beginning and the end of the fabric and at 50-foot intervals. A minimum of three stakes shall be placed across the width of the fabric roll at each interval. The stakes shall be a minimum length of 8-inches and shall be driven at an angle opposite to the direction of pull exerted on the fabric by the paving machine.

**19-8.04 Payment:** **Soil Stabilization Fabric** shall be paid for at the contract price per **square yard** as measured in the field, not including overlap. Payment shall include full compensation for doing all work involved in placing the fabric including root pruning labor, materials, tools and equipment, and no additional allowance will be made therefor.

[Version: 05/18/15 DCM STD2010]

## 21 EROSION CONTROL

**21-1.020 Rolled Erosion Control:** This element of work consists of furnishing and installation of Erosion Control Fabric on the slope of both banks as shown on the Plans. Hydroseed under Erosion Control Fabric prior to installation.

### **21-1.020(4) Erosion Control Fabric:**

#### **Materials**

##### **Biodegradable Erosion Control Fabric**

North American Green C125 BN, Rolanka Biomat 70 or equivalent.

1. No plastic reinforcing for the Erosion Control Fabric will be allowed.
2. Substitutions must be submitted to the Engineer for approval, and samples and manufacturer's specifications must be provided.

#### **Site Preparation**

Proper site preparation is essential to ensure complete contact of the Erosion Control Fabric with the soil. All Grading and shaping of bank slope areas shall be paid for under Excavation (F). Remove all rocks, clods, vegetative or other obstructions so that the installed fabric, or mats will have direct contact with the soil (no bridging). Hydro-seeding of slopes prior to fabric installation is a separate work item to be performed as part of Section 14.33 of these specifications.

Hydro-seeding must be performed before erosion control fabric installation using procedures/seed mix described below.

#### **Anchoring**

U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Wire staples shall be a minimum of 11 gauge. Metal stake pins shall be 3/16-inch diameter steel with a 1½-inch steel washer at the head of the pin. Wire staples and metal stakes shall be driven flush to the soil surface. All anchors shall be 10 inches long and have sufficient ground penetration to resist pullout. Longer anchors made from bent rebar may be required for loose soils.

#### **Installation**

Erosion Control Fabric shall be installed in strips running down the slope, perpendicular to the direction of creek flow in the channel and overlapped in the downstream direction by 4 inches. The bottom edge of each layer shall be anchored in a 1-foot deep, 2-foot-wide trench excavated below the toe of slope. The fabric shall be stapled according to the Plan details. The top edge of each strip of fabric shall be extended 4 feet laterally from the top of bank and anchored in a 1-foot deep by 2-foot-wide trench to be excavated at the top of the slope, as shown in the Plan details. This trench shall be backfilled with soil and compacted to make a smooth surface.

The trenches shall be compacted to 95% relative compaction, which may necessitate the use of mechanical vibratory equipment within the creek bank slope. Heavy equipment such as an excavator fitted with compaction equipment shall be used to compact trenches located at the top and toe of slopes.

Erosion Control Fabric shall be measured by the square yard of visible installed fabric, not including any overlap, as determined by the dimensions shown on the Plans or as specified in writing by the Engineer.

**21-1.02S Watering:** The contractor shall obtain water according to section 6-4.01A, construction water of these Special Provisions.

**21-1.03A General:** Hydroseeding work shall comply with Section 21, "Erosion Control," of the Standard Specifications except as specified in these Special Provisions.

**21-1.03E Hydroseeding:**

Hydroseeding is defined as the simultaneous application of seed, fertilizer and fiber in a slurry.

All areas denuded during construction, under Erosion Control Fabric, and where specified on the Plans shall be hydroseeded with the specified type of Hydroseeding and seed mix below. Hydroseeding shall be performed before installation of Erosion Control Fabric and within 5 working days of the Engineer's notification to perform the work.

The area of application shall have a firm seedbed that has previously been roughened by scarifying it to a depth of 2 to 4 inches or "track walking," unless a roughened condition already exists. No implement to be used that will create an excessive amount of downward movement of soil or clods on sloping areas. The seeding area shall be cleared of all organic material, debris, and rocks 2-1/2" or greater in diameter. Hydroseeding shall not to begin until the Engineer has inspected and approved the seedbeds.

All slurry preparation and mixing shall be performed at the job site. All ingredients shall be added to the tank simultaneously so that the finished load is a homogenous mix of the specified ingredients. Seed shall be added last and discharged within 2 hours. Loads held over 2 hours will be recharged with 1/2 the seed rate before application. Once fully loaded, the complete slurry shall be agitated for 3-5 minutes to allow for uniform mixing.

For all areas to be hydroseeded:

1. Apply specified slurry in a sweeping motion to form a uniform application and form a mat.
2. Successive applications or passes may be needed to achieve the required proportion rate.
3. Apply during dry weather or at least 24 hours before predicted rain.
4. Protection: Contractor is to stay off treated areas.
5. Unused Loads: If mixture remains in tank for more than 8 hours it shall be removed from the job site at Contractor's expense.
6. Reseeding: After "Final Acceptance", reseeding will be done at the request of the Engineer and shall be considered extra.

Do not apply hydraulic mulch if:

1. Water is standing on or moving across the soil surface
2. Soil is frozen
3. Air temperature is below 40 °F during the tackifier curing period unless allowed by the tackifier manufacturer and the approved by the Engineer

Do not over-spray erosion control materials onto the maintenance road, multi-use pathway, fencing, trees or culverts.

**Hydroseeding Work Clean-up:**

1. General: Erosion control work areas shall be maintained in a neat and orderly condition. Keep paved area free of soil.
2. Overspray: Installing contractor is responsible for washing or otherwise cleaning excess material off all area not intended to receive treatment.

**Submittals**

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for:

1. Seed Mixes
2. Humate
3. Soil Inoculant
4. Hydrostraw BFM or Equal
5. Fertilizers
6. Wood Fiber
7. Tackifiers

**Quality Control and Assurance**

Retain and submit records of erosion control materials applications including:

1. Compliance with specified rates
2. Application area
3. Application time
4. Quantity

**Seed**

All seed shall be in conformance with the California State Seed Law of the Department of Agriculture. Each seed bag shall be delivered to the site sealed and clearly marked as to species, purity, percent germination, dealer's guarantee, and dates of test. In addition, the container shall be labeled to clearly reflect the amount of Pure Live Seed (PLS) contained. Prior to seeding at the request of the Engineer, the Contractor shall provide a letter of certification, original Association of Official Seed Analysts (AOSA) seed test results, and calculations of PLS content. All legume seed shall be pellet-inoculated and provided in Bulletin AXT-280 of the University of California Cooperative Extension, "Pellet Inoculation of Legume Seed." Inoculant sources shall be species specific and shall be applied at a rate of 2 pounds of inoculant per one hundred pounds of seed. Seeds as produced by Pacific Coast Seed (<http://www.pcseed.com>) or approved equivalent.

**Seed Sampling Supplies**

At the time of seed sampling, furnish a glassine lined bag and custody seal tag for each seed mix sample. The Engineer shall take random samples and may submit them for seed quality analysis.

**Humate**

Humate shall be OMRI listed and contain at least 40 % Humic Acid. It shall be a natural granular humic acid based material that functions as an organic chelator and microbial stimulator. Humate will not burn plant material, is non-toxic and non-staining.

Shall be OMRI listed and contain at least 40 % Humic Acid. It shall be a natural granular humic acid based material that functions as an organic chelator and microbial stimulator. Humate will not burn plant material, is non-toxic and non-staining.

### Humate Soil Conditioner

Humic Acids (from Leonardite)	40 .00 %
Organic matter	40 .00 % - 50.00%
Carbon	50.00 % - 60.00%
Nitrogen	0.05 % - 1%
Phosphoric Acid	0.07 %
Potash	0.13 %
Sulfur	0.21 %
Magnesium	0.18 %
Calcium	0.32 %
pH	4.0
Soluble Salts	1.8

### Soil Inoculant

Endo (arbuscular) mycorrhizal inoculum shall be registered by the California Department of Food and Agriculture and consist of spores, mycelium, and mycorrhizal root fragments in a solid carrier suitable for handling by hydro-seeding equipment. The carrier shall be the material in which the inoculum was originally produced, and may include organic materials, vermiculite, perlite, calcined clay, or other approved materials consistent with mechanical application and with good plant growth.

Each endomycorrhizal inoculum shall carry a supplier's guarantee of 36,000 propagules minimum per pound. The minimum propagule count shall be shown on each label provided. If more than one fungal species is claimed by the supplier, the label shall include a guarantee for each species of mycorrhizal fungus claimed.

### Hydroseed - Hydrostraw BFM

For all surfaces the Contractor shall use Hydrostraw BFM or equal. The Contractor shall follow the manufactures recommendations regarding content and application, modified with the seed mix, humate, soil inoculant, organic fertilizer, and step application outlined in this specification. The area to be hydroseeded shall be in zones 2, 3 and 4 as shown on the Plans.

Seed mixes must comply with the following:

<b>Hydroseed Species Mixes</b>		
<b>Zone 2 - 0.76 acres</b>		
<b>Common Name</b>	<b>Scientific Name</b>	<b>Pounds/Acre</b>
Blue Wildrye	<i>Elymus Glauca</i>	13
Creeping Wildrye	<i>Elymus Triticoides</i>	13
Meadow Barley	<i>Hordeum Brachyantherum</i>	13
<b>Zone 3 - 0.76 acres</b>		
California Poppy	<i>Eschscholzia Californica</i>	13
Blue Wildrye	<i>Elymus Glauca</i>	12
Creeping Wildrye	<i>Elymus Triticoides</i>	12
Meadow Barley	<i>Hordeum Brachyantherum</i>	10
<b>Zone 4 - 0.83 acres</b>		
Purple Needle Grass	<i>Nasella Pulchra</i>	12
California Oatgrass	<i>Danthonia Californica</i>	12
California Brome	<i>Bromus Carinatus</i>	12
California Poppy	<i>Eschscholzia Californica</i>	12

## **Fiber**

Straw fiber must be:

1. Long strand, whole natural or recycled straw fibers.
2. Free from lead paint, printing ink, varnish, petroleum products, seed germination inhibitors, or chlorine bleach.
3. Free from synthetic or plastic materials.
4. When thoroughly mixed with seed, fertilizer, and water, in the proportions specified, will form a homogeneous slurry which is capable of being sprayed to form a porous mat.
5. Fiber coloring agent must be a biodegradable nontoxic coloring agent free from copper, mercury, and arsenic.
6. The fiber shall be accompanied by a certificate of compliance stating that the fiber conforms to these specifications and have the physical properties listed below:  
Moisture Content 10% +/- 2.0%, Organic matter 96.1% +/- 3.0%, pH 6.8 +/- .5, Water Holding Capacity 584 Saturation 309 Water Holding % Wt/Wt, Carbon/Nitrogen Ratio 39:1 +/- 2.0%, Soluble Salts 1.7% +/- .4%.

## **Organic Fertilizer**

To be used in the slurry, shall be of commercial quality, conform to the requirements of the California Food and Agriculture Code, shall have a guaranteed analysis for within 2 percent of 7 percent nitrogen, 2 percent phosphorus and 1 percent potassium. Products specified as slow-release shall have been tested and demonstrate a nearly linear release curve. Fertilizer must be a pelleted or granular form and shall be one of the following products:

### Fertilizer

Products	Guaranteed Chemical Analysis (N-P-K) (%)	Company
Biosol Mix® - Granular	7-2-1	Rocky Mountains Bioproducts Edwards, CO
Fertil-Fibers™	6-4-1	Quattro Environmental Coronado, CA
Sustane®	5-2-4	Natural Fertilizer of America Cannon Falls, MN
Approved Equal*	(N) 5 to 7 (P) 2 to 10 (K) 1 to 5	_____

\*Approved equal must be within the ranges shown for N-P-K. The cumulative N release rate must be no more than 70 percent the first 70 days after incubation (86° F) with 100 percent at 350 days or more.

### **Application**

The slurry shall be applied at a rate that is non-erosive and minimizes runoff in a two-step application process, in the proportions indicated in the tables below. Spray from multiple directions to provide complete soil cover and eliminate shadowing and then cover with Erosion Control Fabric.

#### Step 1:

Application Rate (Lbs per acre)	Material
52	Seed Mix
1500	Hydrostraw BFM or approved equivalent
1200	Organic Fertilizer
400	Humate
60	Soil Inoculant

#### Step 2:

Application Rate (Lbs per acre)	Material
2500	Hydrostraw BFM or approved equivalent

Hydroseeded areas will be inspected 30 days after the first rain (3/4" or more in a 24 hour period) or as requested by the Engineer. All areas not showing growth or showing a loss of cover shall be reseeded by the Contractor at his expense. The hydroseeding will be re-inspected as soon as possible after March 1 of the following year to determine the success of the seeding. All areas showing inadequate growth as determined by the Engineer shall be reseeded by the Contractor as soon as it is practical, at no additional cost to the City.



**21-1.04 Payment:** **Erosion Control Fabric** shall be paid for at the contract price per **square yard** of erosion control fabric. The price shall include full compensation for furnishing and installing erosion control fabric, including all labor, materials, tools, equipment, and incidentals (such as overlap, staples and trenching) and for doing all work involved in installing erosion control fabric as shown on the Plans, as specified herein, and as directed by the Engineer. Payment will be made for actual surface area placed in the field, not including any overlap.

**Hydroseeding** shall be considered as paid for at the contract **square foot** price, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in Hydroseeding as specified herein, and no additional allowance will be made therefor.

(STD2010)

## 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.

**Blue Shale:** Blue Shale shall be per current Sonoma County approved gradation for rural roadways.

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

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

**26-1.04 Payment:** **Class 2 Aggregate Base (F)** shall be a **final pay quantity** paid for at the contract price per **cubic yard**, which price shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and placing the base material as specified, including furnishing, hauling and applying water as specified and directed by the Engineer.

**Blue Shale (F)** shall be a **final pay quantity** paid for at the contract price per **cubic yard**, which price shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and placing the base material as specified, including furnishing, hauling and applying water as specified and directed by the Engineer.

# **40 CONCRETE PAVEMENT**

## **PORTLAND CEMENT CONCRETE PAVING**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. The Work to be completed under this contract includes the furnishing of all labor, materials and equipment necessary for construction of Portland Cement Concrete (PCC) pavement for the multi-use pathway shown on the Plans. Special attention is directed to MU- New Multi-Use Pathway Detail on Sheet 24 of the Plans.

#### **1.2 DEFINITIONS**

- A. Raveling: Contiguous dislodging of the surface layer of aggregate.

#### **1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-paving Meeting: Schedule a pre-paving conference at a mutually agreed upon time, prior to submission of Quality Control plan per Section 40 of the Caltrans Standard Specifications. Discuss Quality Control Plan and methods of performing each item of the work. Required attendees:
  - a. Contractor's Project superintendent.
  - b. Concrete paving subcontractor's foreman.
  - c. Foremen responsible for earthwork and pavement base.
  - d. Representatives from subcontractors for adjacent and related work.
  - e. Engineer.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For each concrete material, aggregate, admixture, curing compound, and accessory.
- B. Shop Drawings: Project-specific plans and details, including placement of joints in paving, locations of utilities within paving limits, and joints between paving and adjacent work.
- C. Mix Design:
  - 1. Proposed concrete mixture proportions including all material weights, volumes, density (unit weight), water-cement ratio, and void content. The mix design shall specify an average compressive strength that meets or exceeds the specified design strength of 5,000 psi at 28-days.
  - 2. Aggregate type, source, and gradation.
  - 3. Proposed concrete mixture shall not exceed 0.050% shrinkage.
  - 4. Proposed concrete mixture shall combat ASR per ASTM C 1778-16.

#### **1.5 CLOSEOUT SUBMITTALS**

- A. Test Results: Baseline strength test results.
- B. Operation and Maintenance Data:
  - 1. Maintenance logs recording service performed between acceptance of pavement and Project completion.

## **1.6 FIELD CONDITIONS**

### **A. Weather Limitations:**

1. Do not place concrete pavement when the ambient temperature is below 45°F, is expected to fall below 32°F within 48 hours of placement, unless otherwise permitted in writing by the Engineer.
2. Do not place concrete pavement when the ambient temperature is above 95°F unless otherwise permitted in writing by the Engineer.
3. Do not place concrete pavement when the wind, heat or humidity does not allow enough time to place, properly joint, compact, edge, finish and cure before the surface dries.

### **B. Protection of Existing Conditions:**

1. Protect adjacent Work and existing surfaces to remain.
2. Protect adjacent vegetation to remain.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

#### **A. Cement: Portland cement Type II, or V conforming to ASTM C150 or Portland cement Type IP, IL, or IS conforming to ASTM C595.**

#### **B. Chemical Admixtures: Complying with ASTM C494.**

1. Hydration Stabilizers: As required to extend working time.
2. Super-Absorbent Polymers (SAP): Allows for increased water-cement ratio to aid in workability and curing while eliminating need for water reducers and viscosity modifiers.
3. Air Entraining Admixtures: ASTM C260.
4. Latex Bonding Admixtures ASTM C1438.

#### **C. Aggregates: Per ASTM C33.**

#### **D. Reinforcing Materials:**

1. Dowels:
  - a. Dowel bars: Complying with ASTM A615, ASTM A616, or ASTM A617. 1.5-foot-long, 1.25-inch diameter smooth dowel bars spaced 1-foot on center to be used on longitudinal cold joints per Caltrans Standard Plan P10.

#### **E. Water: Per ASTM C1602.**

#### **F. Joint Sealer: Per ASTM D6690.**

#### **G. Supplementary Cementitious Materials (SCM):**

1. Fly Ash complying with AASHTO M 295, Class F.
  - a. 15% - 35% total cementitious replacement by weight allowable
2. Slag Cement (GGBFX – Ground Granulated Blast-Furnace Slag) complying with AASHTO M 302, Grade 120
  - a. 25% - 70% total cementitious replacement by weight allowable
3. Metakaolin complying with AASHTO M 295, Class N
  - a. 5% - 15% total cementitious replacement by weight allowable
4. Raw of calcinated natural pozzolans complying with AASHTO M 295, Class N
  - a. 5% - 15% total cementitious replacement by weight allowable

- 5. Silica Fume complying with AASHTO M 307.
  - a. 5% - 12% total cementitious replacement by weight allowable

## **2.2 FORMS**

- A. Forms shall be of materials capable of resisting deformation during edge compaction and to maintain grade.
- B. Forms shall be clean and free of debris, rust, and hardened concrete.
- C. Forms shall be moistened with water immediately before placing concrete.

## **2.3 JOINT MATERIAL**

- A. Pre-molded joint filler or bituminous-type joint material used for isolation and/or expansion joints shall be approved by the Engineer.

## **2.4 CURING MATERIALS**

- A. Caltrans approved curing compound no. 1 or 2. Per Caltrans Standard Specifications Section 40.

## **2.5 CONSTRUCTION EQUIPMENT**

- A. Concrete pavement shall be spread, screeded, shaped, slip formed, and/or consolidated by one or more self-propelled machines. These machines shall perform in a manner so that the completed pavement will conform to the required cross section with a minimum amount of handwork. **The use of a pumper truck will be required due to limited access.**

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that subgrade, subbase, and base work complies with requirements.
- B. Verify base elevation to ensure required thickness of concrete pavement.

### **3.2 FORMWORK**

- A. Setting Formwork:
  - 1. Set, align, and brace forms so that hardened pavement meets specified tolerances.
  - 2. Install forms to allow continuous progress of work.
  - 3. Assemble formwork to permit easy stripping and dismantling without damage to concrete.
- B. Vertical face of previously placed concrete may be used as a form. Ensure that pavement is protected from damage.

### **3.3 PLACEMENT**

- A. Inspect form work for compliance with requirements.
- B. Remove loose and extraneous material from the surface to receive concrete.

- C. Sub-Base/Subgrade Preparation: Prior to placement of concrete pavement, moisten sub-base aggregate or subgrade to provide a uniform dampened condition at the time concrete is placed, without standing or flowing water. If initial application of water is quickly absorbed, apply a second application of water just before installing concrete pavement.
- D. Placement: Concrete shall be placed to the lines and grades as shown on the plans accounting for finishing and grinding operations.
  - 1. Place consecutive concrete loads within 30 minutes of each other. Construct a transverse construction joint if the concrete placement is interrupted by more than 30 minutes. The transverse construction joint must be at the same longitudinal location as the contraction joint in the adjacent lane location(s), or you must remove the concrete pavement to the preceding transverse joint.
  - 2. Place the concrete pavement in full-lane widths separated by construction joints or monolithically with contraction joints.
  - 3. Do not re-temper concrete.
- E. Concrete Pavement Transition Panel: For concrete pavement placed in a transition panel, texture the surface with a drag strip of burlap, broom, or spring tine device the produces scoring in the finished surface. Scoring must be either parallel or transverse to the centerline in a method approved by the Engineer.
- F. Limitations on Mixing and Placing: Concrete shall not be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated. Concrete pavement shall be placed at times that ensure sawing is completed within 12 hours of placement with specialized early entry saw cutting equipment, unless approved by the Engineer.

### **3.4 FINISHING**

- A. The surface of the pavement shall be finished with a broom. The use of steel trowels or floats for finishing operations is not allowed for air-entrained concrete in freeze/thaw environments. Contractor shall take measures to make sure bleed water is not finished into the concrete surface.
  - 1. Brush or Broom Finish. The brush or broom finish shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface, providing corrugations that are uniform in appearance and approximately 1/16 of an inch in depth. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. Any imperfections resulting from the texturing operation shall be corrected.

### **3.5 CURING**

- A. The surface of the freshly place PCC shall be kept damp by water-fog or misting until curing takes place. Curing shall be accomplished immediately after the final finishing operation. The PCC shall not be left exposed for more than 30 minutes during the curing period. Cure the concrete pavement exposed area using the waterproof membrane method or curing compound method with Caltrans approved curing compounds. If you remove the side forms within 72 hours of the start of curing, also cure the pavement edges. Water curing methods must be approved by the Engineer and include a detailed plan and schedule for achieving continuous water application.

- B. Apply curing compound with mechanical sprayers. Application shall provide a full uniform coverage without spatter, streaks or blotchiness. Reapply curing compound to saw cuts and disturbed areas.

### **3.6 JOINTING**

- A. Joints shall be installed at locations and to depths shown on Plans or accepted Shop Drawings.
  - 1. Larger dimension of each slab panel shall not exceed 150 percent of smaller dimension, unless approved by the Engineer.
- B. Joint Placement: One of the following.
  - 1. Tool joints in plastic concrete immediately after concrete is compacted.
  - 2. Saw cut joints may be placed after concrete has hardened sufficiently to prevent dislodging of aggregate, but before cracking occurs.
  - 3. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions.
- C. New joints in plastic concrete or recently hardened concrete shall align with joints in older concrete when feasible. Joints abutting curbs and other fixed concrete shall be installed within 10 degrees of perpendicular to the older concrete, to extent feasible.
- D. Construction joints: Construction joints must be vertical.
  - 1. Transverse construction joints: Install whenever placing is suspended for 30 minutes or whenever concrete is no longer workable.
  - 2. Before place fresh concrete against hardened concrete, existing concrete pavement, or structures, apply curing compound to the vertical surface and allow it to dry.
  - 3. At joints between concrete pavement and asphalt concrete pavement, apply a track coat between the two pavements.
  - 4. Use a metal or wooden bulkhead to form transverse construction joints. If dowels are described, the bulkhead must allow dowel installation.
- E. Isolation joints: Use when abutting fixed structures. Place isolation material before concrete is placed and to a minimum depth of the pavement section. Before placing concrete at isolation joints, saw cut the existing concrete face (where applicable) to make a clean, flat, vertical surface and secure the joint filler.
- F. If joints are to be sealed, follow manufacturer's instructions.

### **3.7 SMOOTHNESS**

- A. Smoothness: Smoothness may be accepted based on your inertial profiler testing, as approved by the Engineer.
- B. If using a straightedge to measure smoothness, the surface must be within 0.02 foot of the straightedge's lower edge.
- C. Smoothness is often expected to fall out of compliance when matching existing infrastructure, meeting non-smooth grades, or promoting necessary drainage.

### **3.8 THICKNESS**

- A. Core pavement as directed by the Engineer for verifying thickness, unless Engineer approves alternative method for verifying thickness. Pay adjustments for deficient thickness shall be in accordance with Caltrans Standard Specification Section 40.
- B. The average concrete pavement thickness must not be deficient by more than 0.02 foot with no individual thickness deficient by more than 0.05 foot.

### **3.9 PROTECTION**

- A. Maintain the concrete pavement temperature above freezing temperatures until the concrete strength is sufficient to resist damage by freezing.
- B. Protect pavement surface from abrasion, discoloration, debris, and sediments.
- C. Clean and repair pavement that has been damaged, soiled, discolored, or contaminated.

### **3.10 REPAIR, REMOVAL, AND REPLACEMENT**

- A. Repair and Replacement of New Concrete Pavement: Per Caltrans Standard Specification Section 40.

### **3.11 OPENING TO TRAFFIC**

- A. Vehicles and equipment will be utilizing the pathway for maintenance purposes. These may be allowed on the concrete pavement once the concrete has attained a compressive strength of 2,500 psi.

### **3.12 MEASUREMENT AND PAYMENT**

**Portland Cement Concrete** shall be paid for at the contract unit price per **cubic yard** and shall include costs for all labor, materials and equipment necessary for constructing, curing, protection and finishing of the concrete pavement. Additional material and work required above and beyond the specified amount will be paid for at the contract unit price.

**END OF SECTION**



## 51 CONCRETE STRUCTURES

**51-7.01A Description:** Minor Structures shall be constructed in accordance with the applicable sections of the City Standards, Section 51-7 of the Standard Specifications, the details shown on the plans, and these Special Provisions. Minor concrete structures are pipe headwalls, end walls, drainage inlets, and manholes.

Minor Concrete shall conform to the provisions of Section 90-2 of the Standard Specifications.

Concrete shall be cured in accordance with Section 90-1.03B of the Standard Specifications.

Placing of concrete under water will not be permitted.

Storm Drain inlet shall be per modified City Standard 408 with H20 load rating, bolt down covers and 30-inch by 30-inch inside dimension.

**51-7.01D Payment:** **Storm Drain Inlet** shall be paid for at the contract price **each** as indicated on the plans, which price shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work as specified herein and as directed by the Engineer.

[Version: 10/03/14 DCM STD2010]

## 70 CORRUGATED METAL PIPE DRAINAGE FACILITIES

**70-2.01 Description:** Corrugated Metal Pipe shall be constructed in accordance with the applicable sections of the City Standards, Standard Specifications, the details shown on the plans, and these Special Provisions.

**70-2.03 Construction:** Corrugated Metal Pipe shall be constructed in accordance with the applicable sections of the City Standards, Sections 19-3 and 70-2 of the Standard Specifications, the details shown on the plans, and these Special Provisions.

Corrugated Metal Pipe, loose rock rip-rap and concrete collars shall be constructed in accordance with City Standard 407.

**70-2.04 Payment:** **24-inch CMP Storm Drain Pipe** and **42-inch CMP Storm Drain Pipe** shall be paid for at the contract price per **linear foot** as indicated on the plans, which price shall include all compensation for furnishing all labor, materials, tools and equipment and doing all the work involved as specified herein, including furnishing and placing loose rock rip-rap, trench backfill, concrete collars, corrugated metal pipe and as directed by the Engineer.

Excavation for 24-inch CMP Storm Drain Pipe and 42-inch CMP Storm Drain Pipe shall be considered as paid for in the contract cubic yard price paid for Excavation, a final pay quantity, and no additional compensation will be made.

## **72 SLOPE PROTECTION**

**72-1.01 Description:** Attention is directed to Section 19, "Earthwork" of these Special Provisions.

The Contractor shall have extensive experience performing major creek restoration work. This includes at least two (2) projects with more than 300 linear feet of in stream restoration work. Maintenance related projects such as dredging and/or vegetation removal does not count as in stream restoration work, nor does bank failure repair projects. Contractor shall list these projects in the "List of Previous Similar Jobs" sheet of these Special Provisions.

### **INSTALLATION**

#### **Construction and Placement of Meander Bend Pool Structures, Boulder Clusters Constructed Riffles and Willow Planted Rock Slope Protection**

These structures shall be constructed using the rock mixes designated and to the dimensions, elevations, and tolerances indicated on the Plans. All rock placement shall be reasonably homogeneous with larger rocks uniformly distributed and firmly in contact with one another and smaller rocks filling voids between larger rocks. Rocks shall be placed by equipment suitable for handling material of the sizes required. Hand or manual labor shall be used to place smaller rocks within the voids of the larger rocks to seal all gaps larger than 1". No placed rock shall exhibit movement when walked upon. If necessary, iron bars and other methods such as manually manipulating the rock shall be used to ensure a solid mass of interlocking rock is constructed.

#### **72-2.01a Large Woody Debris Structures**

### **GENERAL**

This work item involves furnishing and installing Large Woody Debris (LWD) Structures as shown on the Plans. Large Woody Debris Structure locations, though shown on the Plans, may be adjusted in the field by the Engineer. There are four types of LWD structures:

- 1) 1-Log Structure: This is a simple structure consisting of one footer log, two root wads and three boulders. 1-Log Structures shall be constructed per Sheet 25, Detail 1 of the Plans and at the locations specified. These structures are intended to provide some channel complexity and pool scour while not significantly increasing the channel roughness.
- 2) 2-Log Deflector: This structure also incorporates significant rock as detailed on Sheet 25, Detail 2 of the Plans. This structure is intended to provide bank stability, flow constriction, and channel complexity and is utilized in a variety of locations throughout the project.
- 3) 3-Log and 4-log Constrictors: These structures are detailed on Sheet 25, Detail 3 of the Plans. These structures are intended to provide flow constriction and floodplain habitat. In addition, they provide bank stabilization in some instances.

### **DESCRIPTION OF WORK**

This scope of work includes purchase, delivery, site preparation, and placement of Large Woody Debris Structures including all materials, excavation, fill, compaction, rock placement, and anchoring required to install the features at the elevations and locations shown on the Plans and as directed by the Engineer.

## **MATERIALS**

- 1) Logs shall be Douglas Fir, Redwood, or other species to be approved by the Engineer. Contractor must submit proposed log source and samples prior to installation.

Eucalyptus logs may be used under the following conditions:

- Harvested at least 6 months prior to installation.
  - Not allowed for use as log with attached root wad in 1-log structures.
  - Contractor responsible to inspect logs monthly and remove any re-sprouts for a period of 1-year after the filing date of the notice of completion at the Contractor's expense.
- 2) Logs shall be of sufficient quality to provide structural integrity to the Large Woody Debris Structure. No visible cracks, large knots, moldy, or decomposed wood shall be accepted.
  - 3) Log dimensions shall be determined from the Plans. In general, lengths range from 8' to 25' with minimum 1' diameter at the smallest end.
  - 4) 1" Threaded Rebar shall be Dywidag Systems #8 Grade 75 Threadbar or Equivalent.
  - 5) Nuts shall be Dywidag Systems #8 Grade 75 Cast Anchor Nut 1.75" length or equivalent.
  - 6) Square washers shall be 3" X 3" X 3/8" thick Grade 50 Steel plate washers with 1 1/2" drilled hole.
  - 7) Epoxy shall be of type Hilti C-10 or equivalent.

## **INSTALLATION**

Large Woody Debris Structure installation will be conducted as directed in the field by the Engineer. Below is a general procedure for installation.

- 1) After rough grading to the finish grades and lines shown on the plans excavate trench into bank for placement of the Large Woody Debris Structure where specified.
- 2) The trench shall be of sufficient width and depth to accommodate the appropriate anchor boulders so that the final installation elevations match the elevations on the Plans.
- 3) For 3 and 4-Log Constrictors, drill 1' diameter auger holes to approximately 6' depth and pound in 10' to 12' length logs with excavator bucket.
- 4) If anchored to rock, LWD Structure shall be placed on top of one 2-ton anchor boulder and bolted and epoxied in place as shown on the Plans and as described in the epoxy manufacturers specifications.
- 5) Where wood to wood connections are made, logs shall be pinned together with 1" threaded rebar and 3" by 3" square washers recessed into the logs as shown on the plans.
- 6) Place specified size and number of rocks around Large Woody Debris Structure as shown on Plans for anchorage so that Woody Debris Structure will not be dislodged by high flow.
- 7) Place willow cuttings in and around Large Woody Debris Structure as described below in the "Live Willow Stakes" section.

- 8) Backfill with specified rock mixes and native material as shown on the Plans.

## **72-2.01b Boulder Revetment**

### **GENERAL**

Boulders are to be furnished for the individual channel features including Meander Bend Pool Structures, Constructed Riffles, Boulder Clusters and Willow Planted Rock Slope Protection.

The overall channel design includes an assemblage of channel features that stabilize the channel grade and are the basis for constructing constrictions in the channel to maintain channel form. This scope of work includes purchase, delivery, site preparation, and placement of rock for Meander Bend Pool Structures, Constructed Riffles, Boulder Clusters and Willow Planted Rock Slope Protection at the elevations and locations shown on the Plans and as directed by the Engineer.

The various mixtures of rocks and backfill required for each structure shall be placed to the dimensions and at the locations shown on the Plans or as directed by the Engineer. The channel features on the plan sheets have a separate designated rock mix or a combination of rock mixes and native material that are to be used in their construction. The specific mix types for each feature are described below.

### **MATERIALS**

Rocks used for channel stabilization features shall conform to the provisions of Section 72, "Slope Protection" of the Standard Specifications and these specifications.

All of the rocks imported to the site shall be fresh, unweathered, hard, resistant to water action, and of a suitable quality to ensure permanence in the climate in which they are to be used. They shall be reasonably well graded and shall range in size as shown on the Plans. No broken concrete or asphalt shall be allowed. Neither the width nor the thickness of any rock shall be less than one-third of its length. The general rock specifications for all types and mixes shall be:

#### **Rock Material:**

Density (apparent specific gravity): 2.5 min per Caltrans

Gradation: Caltrans Standards 2-ton, 1.5-ton, 1-ton, ½-ton, backing #1B, Rock Weir Backing material

Placement: Method A only

Durability Index: 52 min. per Caltrans, California Test 229

Soil Material: Backfill rocks with suitable native excavated materials

Color: Rocks shall be dark brown, blue, black, green, light brown, or approved by Engineer;

Prior to commencement of the contract, the Contractor shall locate potential sources of rock. Local sources of rock are preferred. Samples or documentation of rock color and durability shall be submitted to the Engineer to determine whether the rock meets the requirements as set forth in these Specifications. The Contractor shall be responsible for obtaining, from the rock supplier, a certification that the rock meets California Department of Transportation Durability Specifications for rock riprap.

Specific rock gradations and size class are discussed in their respective sections for individual project features.

#### **72-2.01c Sand, Gravel and Cobble**

Sand, Gravel and Cobble shall be furnished for the individual project features. The provisions of this section include furnishing Caltrans Cobble Class, Roughened Channel Bed Mix, Constructed Riffle Mix and Gravelly Sand Mix.

Specific rock gradations and size class are discussed in their respective sections for individual project features.

#### **72-2.01d Buried Keyways**

Each structure with a buried keyway shall be constructed using the Keyway Mix specified below:

##### **Keyway Mix:**

- 40% - Caltrans standard size gradation – RSP 1-2 ton,
- 40% - Caltrans standard size gradation – RSP ½ ton, and
- 20% - Constructed Riffle Mix (See below)

#### **72-2.01e Boulder Clusters**

These structures are detailed on Sheet 28, Detail 11 of the Plans.

- 1) The majority of channel and stream bank grading shall be completed before placing Boulder Clusters.
- 2) Place Boulder Clusters as shown on the Plans so that the top of each boulder is 2 feet above the finish grade.
- 3) After placing Boulder Cluster, smooth surrounding grade to ensure a smooth transition between the feature and adjoining channel and banks.
- 4) Consult Engineer during Boulder Cluster installation to insure proper placement.

Boulder Clusters are intended to direct flows towards the center of the channel and create pools. At moderate flows, they combine with other channel features to constrict flows and maintain a natural pool just downstream. In other locations, they provide armoring along the outside of meander bends at the upstream and downstream extent of Willow/Brush Baffles and Bio-Block Bank Stabilization features.

Each Boulder Cluster feature shall consist of five (5) 1.5 to 2-ton boulders installed directly as shown on the Plans or as directed by the engineer. Each boulder shall be exposed 2 feet above the finished channel elevation.

#### **72-2.01f Meander Bend Pool Structures**

These structures are to be constructed per Sheet 29, Detail 14 of the Plans and as described below.

Meander Bend Pool Structures include furnishing and placing rock, cobble, boulders, roughened channel bed mix and live willow stakes at the locations shown on the Plans.

### **72-2.01g Constructed Riffles**

These structures are to be constructed per Sheet 26, Detail 7 of the Plans and as described below.

Constructed Riffles shall be constructed through a combination of upstream and downstream buried keyways and a roughened channel bed between the keyways. Each riffle has 2 keyways. The keyways shall be constructed using the keyway mix described in Section 72-2.01d of these Special Provisions. The channel bed shall be comprised entirely of constructed riffle mix, which is composed of 70% caltrans cobble class and 30% roughened channel bed mix at a thickness of 1.5 feet. The roughened channel bed mix is intended to provide a gradation of rock sizes as would naturally occur in a stream channel. The specific gradation for the roughened channel bed mix is shown below.

#### **Roughened Channel Bed Mix:**

Size (Inches)	Percent Passing
3"	95-100
2"	85-98
1.5"	51-90
1	27-60
0.75	18-45
0.5	5-25
0.25	2-18
No. 4	0-6

\*A minimum of 10% and maximum of 15% of native on-site soil shall be mixed in with the roughened channel bed mix.

- 1) Before excavating and placing the Constructed Riffles, grade to the required lines and grades shown on the Plans and cross-sections.
- 2) Compact fill required in the subgrade to a density approximating that of the surrounding undisturbed material.
- 3) Begin by installing the Buried Keyways at the upstream and downstream extent of the Riffles as shown on the Plans.
- 4) Spread Constructed Riffle Mix throughout new channel ensuring large voids are removed to form a 1.5-foot-thick layer of channel sediments.
- 5) Fill 3 inches above finish grade with Roughened Channel Bed Mix to ensure finish grade after settlement.
- 6) Install 1 row of live willow stakes at 30" depths, 3' on center longitudinal spacing, along both sides of riffles.

### **72-2.01h Willow Planted Rock Slope Protection**

Willow planted rock slope protection (RSP) provides bank stabilization at a critical location within the stream reach. These structures are to be constructed per Sheet 26, Detail 5 of the Plans and as described below.

The RSP structure shall be constructed using the RSP Mix specified below:

RSP Mix:

- 40% - Caltrans standard size gradation – RSP 1 ton,
- 40% - Caltrans standard size gradation – RSP ½ ton, and
- 20% - Caltrans standard size gradation - Cobble Class

**Installation of Willow Planted Rock Slope Protection**

- 1) Before laying riprap and filler, prepare the subgrade to the required elevations.
- 2) Compact any local fill required in the subgrade to a density approximating that of the surrounding undisturbed material. Overfill any depressions with small riprap or channel cobbles. Remove brush, trees, stumps and other objectionable material.
- 3) Cut the subgrade sufficiently deep so that the finished grade of the riprap will be at the approximate elevation of the surrounding area. Channel toe shall be excavated sufficiently to allow placement of the riprap in a manner such that the finished inside dimensions and grade of the riprap meet design specifications for toe depth and thickness as shown on the Plans. Allow for smooth transition and bank key-in at upstream and downstream extents.
- 4) Place riprap and soil backfill to its full thickness in a sequencing operation proceeding up-slope from the toe in sections no more than 3 to 4 feet in slope length. Place riprap so that it forms a dense, well-graded mass of stone with a minimum of voids. Before finishing one section and proceeding to the next, voids in the newly placed riprap shall be backfilled with soil, watered, and planted with live willow cuttings (see below).
- 5) Do not place riprap by dumping through chutes or other methods that cause segregation of stone sizes. (Use Caltrans Type A placement). Take care not to dislodge the underlying base or filter when placing the stones.
- 6) The finished slope shall be free of pockets of small stone (except where chinked into voids or clusters of large stones. Some final hand placing (with a cable or wrecking bar) may be necessary to achieve the proper distribution of stone sizes to produce a relatively smooth, uniform surface.
- 7) The finished grade of riprap shall be apparent and shall transition smoothly to adjacent slopes.
- 8) Riprap placement shall be reasonably homogeneous with larger rocks uniformly distributed and firmly in contact with one another, with smaller rocks and spills filling voids between larger rocks.
- 9) Stones shall be placed by equipment suitable for handling material of the sizes required. The intention is for the stone protection to be built to at least the grade lines, with the outer surfaces reasonably even and uniform in appearance, and without extreme ranges in tolerance between adjacent stones. Hand labor shall be utilized as required to improve rock arrangement and produce thickness and surface as specified, and a neat appearance.
- 10) Construct slope to slope gradient and dimensions shown on Plans to avoid or minimize impingement of toe section into low-flow channel.



- 11) Willow cuttings shall be installed while the rock is being placed. Spacing shall average 2 to 3 feet on center, inserted into soil. Willows shall be planted as soon as possible after harvesting. Cut willows shall be stored in water prior to planting no longer than 1 week. Willow cuttings must be harvested from local sources, either on the site or from nearby drainages. Willows shall be red, yellow or as approved by the Engineer. Arroyo willows will not be allowed. The use of boom lift equipment should be anticipated for willow harvesting.
- 12) Backfill joint/voids with soil to near top of crowns of rock after placement of willow cuttings. Cut off willow cuttings 2 foot minimum above finished grade. Minimize damage to willow cuttings by final course local hand placement of soil. If necessary, trim off damaged ends of willow cuttings.

## **72-2.01i Willow / Brush Baffles**

### **GENERAL**

This item consists of furnishing and installing Willow/Brush Baffles in locations shown on the Plans. A small excavation is made along the stream bank or Floodplain and the Willow/Brush Baffles are placed as shown on Sheet 28, Detail 13 and Sheet 27, Detail 8 of the Plans. The Baffles are constructed with a combination of branchy willow material and appropriate brushy material. There are two types of Willow/Brush Baffles:

- Baffles "Parallel" to the flow of water will be used along the outside of meander bends.
- Baffles "Perpendicular" to the flow of water will be used along the upstream extent of planting islands or other areas targeted for floodplain development.

Parallel Baffles are secured with riprap rock as shown on the Plans and keyed into a Log Deflector or Boulder Constrictor at their upstream and downstream extent. Perpendicular Baffles are installed in a deeper toe trench a may have a few small boulders placed along their creek-side extent as shown on the Plans and directed by the Engineer.

Perpendicular Baffles are installed in a deeper toe trench a may have a few small boulders placed along their creek-side extent as shown on the Plans and directed by the Engineer.

### **DESCRIPTION OF WORK**

This scope of work includes purchase, delivery, site preparation, and installation of Willow/Brush Baffles including all placement, and compaction required to install Willow/Brush Baffles at the elevations and locations shown on the Plans and as directed by the Engineer.

### **MATERIALS**

1. The City will provide the Contractor with the location of and access to a live willow source area within 10 miles of the project site, seven (7) days prior to construction.
2. Appropriate brushy material obtained during on-site clearing and grubbing.
3. Live willow branches and brush shall be 2 to 3 inches in basal diameter at the diagonal-cut end.
4. All willow and brush shall be left as bushy and branchy as possible.

5. Willows branches shall be red, yellow or as approved by the Engineer. Arroyo willows will not be allowed. The use of boom lift equipment should be anticipated for willow harvesting.
6. Willow branch lengths shall be as follows:
  - Perpendicular Baffle: 6' to 10' length; 3" spacing, alternate willow and brush.
7. Brush must remain moist at all times and be used within 48 hours.

## **INSTALLATION**

- 1) Excavate toe trench:
  - Parallel Baffle - 3' wide by 2' depth below the channel invert.
  - Perpendicular Baffle – 2' width by minimum 4' depth below floodplain. Trench must be deeper than channel invert and at least 6" below groundwater level.
- 2) Willow branches shall be collected (harvested) and soaked in water a minimum of 6 hours prior to placement, but no earlier than 2 days before placement.
- 3) The Contractor must give a minimum of 48 hours notice to the Engineer prior to construction of Willow/Brush Baffles. Engineer will inspect conditions of willow branches and ensure they are not desiccated. Failure to properly store willow branches and cause desiccation or to install properly may require the reconstruction of these features at no additional cost to the City.
- 4) When placing willow branches in the excavated toe trench, they shall be placed immediately after initial excavation so that they are in maximum contact with the underlying soil. The butt end of the willow branches must be in firm contact with the bottom of the toe trench.
- 5) Willow branches shall have a minimum of 30 inches of contact with the underlying native material.
- 6) Following placement of willow branches at the spacing described above in "Materials", the brushy material shall be placed in the trench.
- 7) The trench shall be backfilled with moist native soil or gravelly sand mixture to cover all willow branches within the trench.
- 8) Following placement of moist soil, parallel baffles shall be filled with rock as shown on the Plans; perpendicular baffles shall be filled with soil and compacted to 80% RC.
- 9) Willow baffles shall be watered until the first significant rainfall of the season to ensure survival.

### **72-2.01j Live Willow Stakes**

#### **GENERAL**

This section applies to the furnishing and planting of live willow stakes during construction of channel stabilization features. The task includes placement of live Willow stakes in voids in the Meander Bend Pool Structures, LWD Structures, Constructed Riffles, Rock Slope Protection, and Bio-Blocks and watering until the first significant rainfall of the season.

## **MATERIALS**

- 1) The City will provide the Contractor with the location of and access to a Live Willow Stake source area within 10 miles of the project site, seven (7) days prior to construction.
- 2) Live Willow Stakes shall be 2 to 3 inches in basal diameter by  $\pm$  4 feet long.

## **INSTALLATION**

- 1) Willow cuttings shall be planted during the placement of all rock and channel stabilization features. **WILLOW STAKES SHALL NOT BE PLANTED AFTER CHANNEL STABILIZATION FEATURES INCLUDING BIO- BLOCK BANK STABILIZATION ARE INSTALLED.**
- 2) Willow stakes shall be collected (harvested), kept moist and used within 24 hours if possible, and stored no longer than 7 days. Willow stakes can be stored for up to 1 week in large water tight bins (trash cans) filled with water and placed in the shade to prevent significant drying of ends. The use of boom lift equipment shall be anticipated for willow harvesting.
- 3) The Contractor must give a minimum of 48 hours notice to the Engineer prior to construction of channel stabilization features and Bio Blocks that will require Live Willow Stakes. Engineer will inspect conditions of willow stakes and ensure they are not desiccated. If Engineer approves Live Willow Stake conditions, the Engineer will direct contractor on installation procedures. Failure to properly store willow stakes and cause desiccation or to install properly may require the reconstruction of these features at no additional cost to the City.
- 4) When staking Meander Bend Pool Structures, Constructed Riffles, Boulder Clusters, Rock Slope Protection, and Large Woody Debris Structures, live willow stakes shall be placed immediately after initial excavation so that they are in maximum contact with the underlying soil. Larger rocks can then be placed in and around the stakes such that they are generally vertical and shall be trimmed as necessary to have no more than 24" inches sticking above the rock or grade line. Minimize damage to cuttings by laying final course or rock by hand placement. If necessary, trim off damaged ends of cuttings and remove and replace damaged stakes at discretion of Engineer at no additional cost to the City.
- 5) Willow stakes shall have a minimum of 30 inches of contact with the underlying native material.
- 6) Willow shall be watered until the first significant rainfall of the season to insure survival.

### **72-2.01k Bio Block Bank Stabilization**

## **GENERAL**

This item consists of furnishing and installing coir fiber Bio-Block in locations shown on the Plans. A small excavation is made along the stream bank and the Bio-Blocks are placed as shown on Sheet 25, Detail 4 of the Plans. The Bio-Blocks are placed on top of riprap rock bedding and are secured with wood stakes, compacted soil, and live willow stakes. The Bio-Block ends shall be keyed into Large Woody Debris Structures and Boulder Clusters at the upstream and downstream end as shown on the Plans.

## **DESCRIPTION OF WORK**

This scope of work includes purchase, delivery, site preparation, and installation of Coir Bio-Blocks including all excavation, fill, compaction, furnishing and installation of 500LB-1000LB

boulders along entire toe of bio blocks and ends, embedment, and staking, required to install Coir Bio-Blocks at the elevations and locations shown on the Plans and as directed by the Engineer.

## **MATERIALS**

### Coir Bio-Blocks:

Rolanka BioD-Block 16-400 or equivalent

### Riprap Rock Mix:

40% - Caltrans standard size gradation – RSP ½ ton

### Stout Stakes:

1. Stout stakes shall be constructed from 2 foot long No. 1 or No. 2 Douglas Fir 2" x 4"s. Rip each 2" x 4" diagonally to form a triangular (pointed) stake for driving into the ground as shown on the Plans.
2. No other wood species will be accepted.

## **INSTALLATION**

1. Excavate toe trench and stream bank to the dimensions, grade, and orientation shown on the Plans.
2. Install approximately 1.5' thick layer of bedding rock to the elevation specified on the Plans.
3. Place the first row of Coir Bio-Blocks on top of the rock and secure lower fabric flap with stout stakes installed at 2' on center. Stakes shall be driven into the ground a minimum of 1.5' at an angle as shown on the Plans.
4. Install 10' lengths of Bio-Block sections with overlap of 6".
5. Compact native soil behind Block and on top of fabric to 85% RC.
6. Secure upper Bio-Block fabric flap with stout stakes installed at 2' on center. Stakes shall be driven into the ground a minimum of 1.5' at an angle as shown on the Plans.
7. Install 4' length live willow stakes at 3' on center as shown on the Plans. Willow stakes must be inserted a minimum of 30 inches into the underlying native soil.
8. Repeat steps 3 - 8 above until Bio-Blocks are brought to the desired finished elevation. Generally, 3 layers of Bio-Blocks will be installed.
9. Upstream and downstream extent of Bio-Block structure shall be keyed into Boulder Clusters or Large Woody Debris Structures to prevent flanking or undercutting of the Bio-Block structure.

### **72-2.02 Materials:**

### **72-2.04 Measurement:**

Measurement for installation of Large Wood Debris Structures (LWD) shall include 1-Log Structures, 2-Log Deflectors, 3 and 4-Log Constrictors, installed each.

Measurement for installation of Meander Bend Pool Structures, Constructed Riffles and Boulder Clusters, installed each.

**72-2.05 Payment:** (LWD) 1-Log Structure, (LWD) 2-Log Deflector, (LWD) 3-Log Constrictor, (LWD) 4-Log Constrictor, Boulder Clusters, Meander Bend Pool Structures and Constructed Riffles shall be paid for at the contract price **each**, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved as specified herein, and no additional allowance will be made therefor.

Excavation for each (LWD) structure, Boulder Cluster, Meander Bend Pool Structure and Constructed Riffle shall be considered as paid for in the contract price paid per cubic yard for Excavation, a final pay quantity, and no additional compensation will be made.

**Willow Planted Rock Slope Protection, Willow/Brush Baffles and Bio Block Bank Stabilization** shall be paid for at the contract price per **linear foot** which shall include full compensation for furnishing all labor, materials, tools, and equipment, and doing all the work involved as specified herein, and no additional allowance will be made therefor.

Excavation for Willow Planted Rock Slope Protection, Willow/Brush Baffles and Bio Block Bank Stabilization shall be considered as paid for in the contract cubic yard price paid for Excavation, a final pay quantity, and no additional compensation will be made.

[Version:10/30/14DCM STD2010]

## 80 FENCES

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

**80-1.03 Connections:** Existing cross fences shall be connected to the new fences. Corner posts with braces for every direction of strain shall be placed at the junction with existing fences. The wire in the new and existing fences shall be fastened to the posts.

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

**80-3.02a Temporary Construction Fence:** Temporary Construction Fence shall be six-foot-tall chain link fence and installed at the locations shown on the plans. Contractor shall install gates as needed to maintain access.

**80-3.02b 6' Chain Link Fence:** Fencing materials shall conform to applicable type of fence described in Section 80 of the Standard Specifications and the details as shown on the plans.

**80-3.02c Split Rail Fence:** Split Rail Fence shall be a three-rail style with posts set eight feet on center. All fencing materials shall be cedar and installed per manufacturer's recommendations and per SR-Cedar Split Rail Fence Detail, Sheet 24 of the Plans.

**80-3.02d CTS Fence:** California tiger salamander (CTS) fence shall be ERTEC E-Fence or approved equal with 30" width material, installed per trenching method with 5' T-posts minimum on 10' centers with 5" climber barriers. One-way escape funnels shall be installed every 100'. CTS fence shall include 2' x 2' shade structures made from wood, fabric or similar materials, located 1.5" above the ground surface and installed every 100' midway between one-way escape funnels. Contractor shall provide the shade structure design/method of installation required to meet this objective.

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

**80-3.04 Payment:** **Temporary Construction Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing temporary construction fence and no additional allowance will be made therefor.

**6' Chain Link Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing temporary construction fence including furnishing and installing posts, wire and gates, furnishing and placing concrete footings and deadmen, and connecting new fences to existing cross fences, and no additional allowance will be made therefor.

**Split Rail Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing temporary construction fence including furnishing and installing posts and fencing, furnishing and placing concrete footings, and connecting new fences to existing cross fences, and no additional allowance will be made therefor.

**CTS Fence** shall be paid for at the contract price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in constructing CTS Fence and no additional allowance will be made therefor.

[Updated: 10/3014CDA STD2010]

## 83 BARRIERS

**83-1.02 Description:** Removable bollards shall be constructed in accordance with the Plans, these Special Provisions, and as directed by the Engineer.

Metal beam guardrail barricade shall be constructed in accordance with Section 83 of the Standard Specifications, these Special Provisions, and as directed by the Engineer.

**83-1.02a Removable Bollard:** Removable Bollards shall be constructed per BD-Removable Bollard Detail, Sheet 23 of the Plans and at the location shown on Sheet 6 of the Plans.

**83-1.02b Remove and Reinstall Barricade:** Special attention is directed to Section 12-4.02 of these Special Provisions. Dutton Avenue terminates just past Duke Court, where the main access point to the project site is located. The 65-foot metal beam guardrail barricade located at the end of Dutton Avenue will need to be removed to access the project site and reinstalled at the end of the project.

**83-2.03 Payment:** **Removable Bollard** shall be paid for at the contract price **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in installing Removable Bollards and no additional allowance will be made therefor.

**Remove and Reinstall Barricade** shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Remove and Reinstall Barricade and no additional allowance will be made therefor.

## 121 NOTIFICATION

**121-1.01:** The Contractor shall notify the Engineer of any work to be performed on any given work day either on the afternoon of the prior working day or before 8:30 a.m. on the given working day. Any work completed for which the Engineer has not received prior notification of its scheduling MAY NOT BE ACCEPTED FOR PAYMENT.

**121-3.01 Payment:** Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.



## 124 MATERIAL RECYCLING

**124-1.01 Description:** The Contractor shall dispose of all portland cement concrete, generated from removal or demolition activities on the project, at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

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

**124-1.02 Payment:** Full compensation for material recycling as specified herein shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be allowed therefor.

## A - FEES AND PERMITS

The Contractor shall obtain all necessary and required permits for the project, except as noted below. 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.

Contractor shall obtain a revocable license and/or encroachment permit from the Sonoma County Water Agency.

The City of Santa Rosa shall provide the permits listed in Table 1A.

**Table 1A:** *Permits in process for the Lower Colgan Creek Restoration Project Phase 2.*

Agency	Permit
U.S. Army Corps of Engineers	Jurisdictional Determination of Wetlands and Waters of the US
U.S. Army Corps of Engineers	404- Individual Permit
U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service	Section 7 Consultation to have project appended to the Biological Opinion for the Santa Rosa Plain
California Department of Fish and Wildlife	1600 – Streambed Alteration Agreement
California Department of Fish and Wildlife	Incidental Take Permit for CTS
North Coast Regional Water Quality Control Board	401 Water Quality Certificate
State Water Resources Control Board	Construction General Permit Notice of Intent

This section consists of a list of special conditions that are typical for construction projects within the Santa Rosa Plain that may have impacts to rare and endangered species and/or impacts to riparian habitat. These special conditions were produced with informal consultation with the regulatory agencies, but the special conditions in the final permits will supersede the special conditions and in this document.

This section identifies measures generally required to minimize individual project's direct and indirect effects on California Tiger Salamanders (CTS). The measures identified below, as well as mitigation measures necessary to bring these potential impacts to less than significant levels, shall be implemented as a part of the restoration project.

The minimization measures below shall be implemented, as appropriate, based on the project site's characteristics.

- 1) The City will provide a pre-approved United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) biologist to oversee the implementation of these minimization/mitigation measures.
- 2) Prior to construction, the City's approved biologist shall acquire approval from the USFWS and CDFG to identify a suitable location for CTS relocation if individuals are found in the project area.

- 3) The City's approved biologist will conduct a CTS training session for all lead construction workers before work begins on the project. This training must clearly outline identifying characteristics of CTS, what to do if one is found onsite and minimization measures outlined in this section.
- 4) Before the start of work each morning, and after the initial ground breaking, a trained supervisor or City inspector will check for animals under any equipment such as vehicles and stored pipes. The inspector will check all excavated steep-walled holes or trenches greater than one foot deep for any CTS. If CTS are found, the City's designated biologist must be notified immediately and will remove and relocate the animal under approval by the USFWS and CDFG. All relocated individuals must be reported to the City Engineer.
- 5) An erosion and sediment control plan must be implemented to prevent impacts to areas outside the work areas. This shall include a CTS exclusionary fence on the outside of the construction area to prevent CTS from adjacent properties from entering the site.
- 6) Access routes and number and size of staging and work areas are limited to the minimum necessary to achieve the project goals. Routes and boundaries of the roadwork will be clearly marked prior to initiating construction/grading.
- 7) All foods and food-related trash items must be enclosed in sealed trash containers at the end of each day and removed completely from the site once every three days.
- 8) No pets will be allowed anywhere in the project site during construction.
- 9) A speed limit of 15 mph on dirt roads must be maintained.
- 10) All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.
- 11) Hazardous materials such as fuels, oils, solvents, etc., must be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas must occur at least 200 feet away from any aquatic habitat.
- 12) The project must submit a dewatering and bypass plan prior to conducting any grading in the creek. This plan must adhere to the following conditions:
  - a. **Work within the riparian zone shall be confined to the dry season defined as the time from June 15 to October 15.**
  - b. Before the start of in stream work, aquatic life will be relocated by City biologist for up to 3 days.
  - c. Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter waters of the State.
  - d. Work will be performed in isolation from the flowing stream. To isolate the work area, a water tight coffer dam shall be constructed as close as practicable upstream and downstream of the work area. The coffer dam shall be constructed of non-erodible material which does not contain soil or fine sediment.
  - e. Ground disturbing activities shall not begin unless a no-precipitation forecast is obtained covering the entire project area and necessary erosion control measures are implemented. If a 40 percent or greater chance of rain is forecasted, then ground-disturbing activities shall cease 24 hours prior to the forecasted rain, unless approved in writing by the California Department of Fish and Wildlife (CDFW). If rain exceeds 0.25 inches during a 24-hour period, ground-disturbing activities shall cease. 24 hours

after the rain ceases and once there is no precipitation in the 24-hour forecast, ground disturbing activities may continue.

- f. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and which shall provide flow to downstream reaches. Any pumps used will have appropriate screens to prevent aquatic life from being pulled into the pump. When pools are drained, the contractor shall coordinate with City biologist's onsite to rescue stranded aquatic life as the water level in the developing area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Captured aquatic life shall be released immediately in the nearest body of water adjacent to the work site. The discharge pipe must flow through a sediment bag or similar device, to prevent fine sediments from being discharged downstream.
- 13) The Regional Water Board shall be notified prior to the commencement of ground disturbing activities, with details regarding the construction schedule, in order to allow Board staff to be present onsite during construction, and to answer any public inquiries that may arise regarding the project. The timeframe of this notification will be specified in the permit documents.
  - 14) No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature, other than that specified in the project plan or specifications shall be allowed to enter into or be placed where it may be washed by rainfall into waters of the United States and/or the State of California. When operations are completed, any excess material or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high-water mark of any stream.
  - 15) A copy of all of the environmental permits and orders listed in Table 1A shall be provided to all contractors and subcontractors conducting the work and shall be in their possession at the work site.
  - 16) If at any time, an unauthorized discharge to surface water (including wetlands, rivers or streams) occurs, or any water quality problem arises, the associated project activities shall cease immediately until adequate BMPs are implemented. The Regional Water Board shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.
  - 17) The City of Santa Rosa will conduct nesting bird surveys prior to construction activities. If nesting birds are found, the contractor must cease work in the nesting area (50-150 feet around nest), until further evaluation by the City Environmental Specialist and given approval to resume work in the area.

Full compensation for securing and complying with all permits shall be considered as included in the contract prices paid for the various items of work and no additional allowance will be made therefor.

[Version: 2/2/15CDA STD2010]

BID FORMS

**CITY OF SANTA ROSA**

**STATE OF CALIFORNIA**

LOWER COLGAN CREEK RESTORATION-PHASE 2

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:

**CITY OF SANTA ROSA  
C01924 - LOWER COLGAN CREEK RESTORATION - PHASE 2  
UNIT PRICE SCHEDULE**

**Bidder Name:** \_\_\_\_\_

<b>Item No.</b>	<b>Item</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Total Price</b>
1	TRAFFIC CONTROL	1	LS	\$ _____	\$ _____
2	WATER POLLUTION CONTROL	1	LS	\$ _____	\$ _____
3	WORKSITE DEWATERING PLAN AND IMPLEMENTATION	1	LS	\$ _____	\$ _____
4	CREEK BYPASS PLAN AND IMPLEMENTATION	1	LS	\$ _____	\$ _____
5	SOIL DISPOSAL CLASS 2	1,350	TON	\$ _____	\$ _____
6	SOIL DISPOSAL CLASS 3	1,350	TON	\$ _____	\$ _____
7	CLEARING AND GRUBBING	1	LS	\$ _____	\$ _____
8	REMOVE NON-NATIVE VEGETATION	1	LS	\$ _____	\$ _____
9	TREE REMOVAL	1	LS	\$ _____	\$ _____
10	EXCAVATION (F)	31,000	CY	\$ _____	\$ _____
11	SOIL DISPOSAL POND 2 (F)	27,400	CY	\$ _____	\$ _____
12	SOIL STABILIZATION FABRIC	3,000	SY	\$ _____	\$ _____
13	EROSION CONTROL FABRIC	6,700	SY	\$ _____	\$ _____
14	HYDROSEEDING	415,800	SF	\$ _____	\$ _____
15	CLASS 2 AGGREGATE BASE (F)	900	CY	\$ _____	\$ _____
16	BLUE SHALE (F)	1,400	CY	\$ _____	\$ _____
17	PORTLAND CEMENT CONCRETE	250	CY	\$ _____	\$ _____
18	STORM DRAIN INLET	8	EA	\$ _____	\$ _____
19	24-INCH CMP STORM DRAIN PIPE	220	LF	\$ _____	\$ _____
20	42-INCH CMP STORM DRAIN PIPE	55	LF	\$ _____	\$ _____
21	(LWD) 1-LOG STRUCTURE	7	EA	\$ _____	\$ _____
22	(LWD) 2-LOG DEFLECTOR	3	EA	\$ _____	\$ _____
23	(LWD) 3-LOG CONSTRICTOR	7	EA	\$ _____	\$ _____
24	(LWD) 4-LOG CONSTRICTOR	4	EA	\$ _____	\$ _____
25	BOULDER CLUSTERS	24	EA	\$ _____	\$ _____
26	MEANDER BEND POOL STRUCTURES	6	EA	\$ _____	\$ _____
27	CONSTRUCTED RIFFLES	4	EA	\$ _____	\$ _____
28	WILLOW PLANTED ROCK SLOPE PROTECTION	80	LF	\$ _____	\$ _____

29	WILLOW/BRUSH BAFFLES	370	LF	\$_____	\$_____
30	BIO BLOCK BANK STABILIZATION	220	LF	\$_____	\$_____
31	TEMPORARY CONSTRUCTION FENCE	1,475	LF	\$_____	\$_____
32	6' CHAIN LINK FENCE	120	LF	\$_____	\$_____
33	SPLIT RAIL FENCE	1,300	LF	\$_____	\$_____
34	CTS FENCE	3,150	LF	\$_____	\$_____
35	REMOVABLE BOLLARD	7	EA	\$_____	\$_____
36	REMOVE AND REINSTALL BARRICADE	1	LS	\$_____	\$_____
<b>GRAND TOTAL BID</b>					<b>\$_____</b>

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 8-1.04.



## LIST OF SUBCONTRACTORS

**NAME OF BIDDER:** \_\_\_\_\_

The following is a list of each subcontractor who will perform work or labor or render services to the undersigned for the construction of the project in an amount in excess of ½ of 1% of the total amount of this bid.

The undersigned agrees that any portion of the work in excess of ½ of 1% of the total amount of this bid and for which no subcontractor is designated herein will be performed by the undersigned.

SUBCONTRACTOR NAME	SUBCONTRACTOR LICENSE NUMBER	SUBCONTRACTOR DIR REGISTRATION NUMBER	SUBCONTRACTOR BUSINESS ADDRESS	DESCRIPTION OF WORK (ITEM NO.)

### LIST OF PREVIOUS SIMILAR JOBS

NAME OF BIDDER: \_\_\_\_\_

[illegible]

NONCOLLUSION DECLARATION  
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

NOTE:           The above Noncollusion Declaration is part of the Contract Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Declaration.

BID BOND AFFIDAVIT AND BIDDER'S SIGNATURE PAGE

Accompanying this bid is a guaranty in the form of (Notice: Insert the words "cash \$," "Cashier's Check," "Certified Check," or "Bidder's Bond" as the case may be):

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in an amount equal to at least ten percent of the total of this bid.

The undersigned further agrees that if Contractor does not execute the Contract and deliver the necessary bonds to the City within the period of time specified in this Invitation for Bids, the proceeds of the security accompanying this bid shall become the property of the City of Santa Rosa, California, and this bid and the acceptance thereof may, at the option of the City, be considered null and void.

The undersigned is licensed in accordance with an act providing for the registration of Contractors, License No. \_\_\_\_\_, Class \_\_\_\_\_, expiration date \_\_\_\_\_.

The undersigned is registered with the Department of Industrial Relations, Registration No. \_\_\_\_\_.

**IMPORTANT NOTICE:** If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager of the corporation; if a partnership, state true name of partnership, also the names of all partners in the partnership; if the bidder is a sole proprietor, state the business name and the proprietor's name in full.

Secretary of State Business Entity Number: \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Business Address

\_\_\_\_\_

Telephone Number

I declare under penalty of perjury that the foregoing is true and correct.

BIDDER'S SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

# **CONTRACT**

## **CITY OF SANTA ROSA**

### **CALIFORNIA**

#### **CONTRACT NO. C01924 LOWER COLGAN CREEK RESTORATION-PHASE 2**

This Contract is made and entered into as of \_\_\_\_\_, 20\_\_\_\_ at Santa Rosa, California, between the City of Santa Rosa ("City") and \_\_\_\_\_ of \_\_\_\_\_ ("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 Standard Specifications of the State of California Department of Transportation, dated 2010, 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, dated 2010 (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.

The work to be performed is further shown upon a plan consisting of 29 sheets entitled, Lower Colgan Creek Restoration-Phase 2, File Number 2019-0028, approved by the Deputy Director of Transportation and Public Works, hereinafter referred to as the Project Plan(s).

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

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 8-1.04C 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: \_\_\_\_\_